Local Employment Opportunities and Corporate Retention Policies

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Abstract

We construct a measure of employees' outside opportunities within the local labor market and examine how firms choose policies to retain employees with such opportunities. We find that firms grant more rank and file stock options, provide a more employee-friendly work environment, and maintain higher levels of financial flexibility (higher cash balances and lower financial leverage) when employees have more outside options in the local labor market. These relations are stronger among firms relying more on high skill workers and investing more in research and development. In a quasi-natural experiment involving employee mobility shocks following the adoption of Inevitable Disclosure Doctrine by U.S. state courts, we further show that the recognition of the doctrine attenuates the effects of our measure of employees' outside opportunities on the retention policies.

1. Introduction

Labor markets are segregated by geographic location, and local labor markets are heterogeneous with respect to the skill composition of their labor force.[1] Accordingly, employees in these markets are exposed to different employment opportunities depending on their skill sets and localities. For instance, computer programmers in Silicon Valley may find more local employers to which they can sell their skills, compared to those in Idaho. Likewise, workers with different skills residing in the same location can have different local job opportunities. Such heterogeneity in employment opportunities may pose a challenge to firms that desire stable supply of quality labor as input for production. In this paper, we examine how employees' outside opportunities in the local labor market affects corporate policies.

Using detailed occupation-level data, we develop a novel measure of employees' outside options in the local labor market (i.e., local labor market depth) for a large sample of firms in the U.S. We show that our measure of local labor market opportunities strongly affects policy choices relevant for employee retention; when employees on average have greater outside opportunities in the local labor market, firms grant more rank and file stock options, provide a higher quality work environment, and maintain greater financial flexibility. All these results become stronger among firms relying on high skill workers and R&D intensive firms. Our findings are overall consistent with the notion that high employee mobility in the thick local labor market exposes firms to the risk of losing employees, despite its potential benefits (Almazan, De Motta, and Titman (2007)).

The presence of many neighboring employers that use the same worker skills (i.e., workers have more outside opportunities in the local labor market) may provide several advantages to the

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[1] The economics literature documents low geographic labor mobility in the US since the 1980s due to family-related constraints, socioeconomic factors, and regulations (see, e.g., Kaplan and Schulhofer-Wohl (2017), Molloy et al. (2011), and Molloy et al. (2014)).

firm. In such a thick local labor market, it is relatively easy for the firm to hire workers, therefore reducing concerns about labor shortage (see, e.g., Moretti (2011)). In addition, employees may be more willing to invest in human capital, which may also be valued at another local employer. This facilitates high quality firm-worker matches that leads to higher productivity (Acemoglu (1997)). However, workers' many outside opportunities can also present substantial disadvantage; it is hard for the firm to retain employees who can easily move to another local employer along with their skills (valued at a competitive market). Such high labor motility can be costly for the firm, in particular, due to a labor market friction - labor adjustment costs. In addition to output losses caused by labor turnover, firms incur the costs of search, hiring, and training when they replace departing employees. Prior research (see, e.g., Douglas (1918), Oi (1962), and Shapiro (1986)) documents *de facto* sizable costs associated with labor adjustment, especially with training. Further, the theoretical model in Almazan et al. (2007) shows that employees' outside opportunities in conjunction with training costs can create hold-up problems, and the resulting underinvestment in human capital may impose additional costs on the firm and the economy on top of explicit expenses related to employee turnover.

The above arguments lead to the following hypothesis; when there are many neighboring firms competing on the same set of employee skills, the firm may optimally choose its policies to retain employees and prevent costly employee turnover. In particular, we expect that firms strategically use policies on: (1) compensation, (2) work environment, (3) cash holdings, and (4) financial leverage for employee retention.

Employee stock options granted with a vesting period can incentivize employees to stay with the firm. Among other types of deferred compensation, Oyer (2004) and Oyer and Schaefer (2005) suggest that stock options can be particularly powerful for employee retention if the current

firm's stock price is positively related to employees' outside employment opportunities. This is because stock options index the value of employees' deferred compensation to their outside opportunities. Therefore, the use of employee stock options may increase with employees' outside opportunities in the local labor market.

Labor is distinct from capital due to the inalienable nature of human capital; firms need to provide incentives and satisfying working conditions to employees in contrast to other types of capital that firms can use as they wish (Akerlof (1982)). Satisfying working conditions, such as organizational higher purpose, financial information sharing and employee involvement in management decision making, may be helpful in motivating and retaining employees (Douglas (1918), Freeman (1978), Shapiro and Stiglitz (1984), Akerlof et al. (1988), and Edmans (2011), Thakor and Quinn (2019)). In particular, Freeman (1978) and Akerlof et al. (1988) provide evidence that employees highly satisfied with the current working conditions (e.g., non-pecuniary benefits such as congenial coworkers, manageable workloads, challenging but interesting work, etc.) are less likely to quit. Hence, firms may provide a more employee-satisfying work environment in order to retain employees from local competitors.

In addition, firms may build up financial flexibility in the presence of local labor market threats (see, e.g., Graham and Harvey (2001)). When hit by negative cash flow shocks, financial slack allows the firm to cover the expenses related to employee retention and recruitment. By so doing, the firm can maintain their desired labor force, not losing to neighboring employers. Financial flexibility could be of various forms (Denis (2011)). For instance, firms may use cash reserves for employee retention when faced with shortage of internal funds (Ghaly, Dang, and Stathopoulos (2017) and Bolton et al. (forthcoming)). Alternatively, firms can tap unused debt capacity (low financial leverage ratios) to raise capital for labor-related expenses. The latter is also

consistent with the notion that financial distress could make it difficult for firms to retain and recruit high quality workers (Baghai, Silva, Thell, and Vig (2015), Brown and Matsa (2016), and Bolton et al. (forthcoming)).

To test our hypotheses, we begin by constructing a measure of employees' outside opportunities in the local labor market for each firm. Specifically, we create a measure of similarity in skill composition between a firm's employees and the entire labor force in the local area. Using data from the Occupational Employment Statistics (OES) of the Bureau of Labor Statistics (BLS), we first construct firms' employee skill profiles based on the industry membership of a firm's business segments and the associated industry employee skill profiles from OES. The OES data define industries by three-digit SIC codes (up until year 2001) and four-digit NAICS codes (from year 2002), and the employee skill profiles are vectors containing fractions of a given industry's workers in approximately 800 different occupations. We compute the firm's employee skill profile as the segment sales-weighted average of its segments' OES industry employee skill profiles. Next, our relevant local labor markets are Metropolitan Statistical Areas (MSAs), and we obtain employee skill profiles for each MSA from the OES data. Likewise, the MSA employee skill profiles from OES are vectors containing fractions of a given MSA's workers in different occupations. Based on a firm's headquarters' zip code from Compustat and the crosswalk between zip code and MSA code from the Office of Workers' Compensation Programs (OWCP), we identify the MSA employee skill profile relevant for the firm.

Our *Local employment opportunities* (*LEO*) between each pair of firm and MSA is computed as the scalar product of the firm´s employee skill profile vector and the MSA employee skill profile vector divided by the product of their lengths. It is a continuous variable increasing in the similarity of the firm employee skill profile and the MSA employee skill profile (i.e., *LEO* is

high, when many other employers in the MSA are using similar employee skills) and is bounded between 0 and 1.

Using panel regressions controlling for a wide range of firm characteristics and industry, state, and year fixed effects, we provide empirical evidence on how *LEO* affects employee stock options, work environment, and financial flexibility.[2] Following Kedia and Rajgopal (2009) and Call, Kedia, and Rajgopal (2016), we estimate the number of stock options granted to rank and file employees using ExecuComp and Compustat. We find that rank and file employee option grants are strongly increasing with *LEO*. For the average firm in our sample, a one-standard deviation increase in *LEO* leads to about a 10% increase in rank and file stock options, compared to its industry peers in another MSAs. The result is consistent with our hypothesis that firms use stock options to retain employees having many outside opportunities. Next, for a subset of firms covered by the MSCI KLD data, we find that a firm is more likely to have strength in employee relations, in particular, employee involvement, when its employees have many outside options in the local area. Additionally, a firm exhibits stronger corporate social responsibility and is more likely to be included in the "100 Best Companies to Work for in America" (Edmans (2011)) when *LEO* is high. The results are consistent with our prediction; firms provide a better work environment for retention, when employees have many outside options. All the above-mentioned results are more pronounced among firms facing higher labor adjustment costs; firms relying on high-skill workers and/or firms investing heavily on R&D.

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[2] Our *LEO* is highly persistent. Firm-fixed effects, in such case, result in low power tests plagued by weak signal versus noise. In untabulated results, we re-estimate the main regressions with firm fixed effects and find that *LEO* is significantly positively (at 5% to 10% levels) related to employee stock options, *BCW*, and *Cash holdings*; significantly negatively related to *Net debt*. Although the relations between *LEO* and the other variables (*Employee involvement*, *CSR*, *Book leverage*) are consistent with our predictions, they are not significant at conventional levels. The results are available upon request.

Further, we find that firms' financial flexibility is strongly increasing with *LEO*; firms have higher cash holdings and lower financial leverage ratios, when local labor mobility is high. The result is economically significant. For the average firm in the sample, a one-standard deviation increase in *LEO* results in approximately a 4% increase in cash holdings and a 6% decrease in book leverage. Again, the result on financial flexibility becomes stronger for firms relying on high-skill workers and/or investing more in R&D. This suggests that firms use financial slack as a buffer against negative cash flow shocks and/or a strategic resource, so that they can maintain the desired workforce.

To establish the causal relation between employees' outside opportunities and policies on stock options, work environment, and financial flexibility, we follow Png and Samila (2015) and Klasa et al. (2018) and use the staggered adoption of the Inevitable Disclosure Doctrine (IDD) by the US state courts as a quasi-natural experiment. The adoption of IDD is plausibly exogenous and prevents the former employee from working for another firm if he or she has the information that constitutes the former employer's trade secrets. Png and Samila (2015) and Klasa et al. (2018) show that IDD reduces labor mobility by curtailing employees' outside opportunities. After the adoption of IDD, job positions offered by other local firms, which are included in our *LEO* calculation, may no longer represent valid outside options. Accordingly, we expect that IDD will mitigate the aforementioned effects of our *LEO* on retention policies. Consistent with our prediction, we find the effects of *LEO* on stock options, work environment, financial policies are significantly weakened after the adoption of IDD.

One may argue that our measure of local employment opportunities, *LEO*, may be more closely related to the benefits of a deep local labor market (e.g., as discussed above, the ease of hiring from the local labor market and the reduced concern over unemployment) than to the risk

of losing employees. However, if that was the case, we would find the *opposite* results; high *LEO* firms would be less concerned about local labor supply and therefore have weaker incentives to appear attractive to workers, compared to low *LEO* firms. Our claim is further corroborated by the quasi-natural experiment, IDD. Overall, all our results strongly indicate that our *LEO* is a measure of the risk of employee departure.

All our results stand up to various robustness checks. One assumption underlying the way we construct *LEO* is that the firm's employment occurs only within the MSA, which does not hold for geographically diversified firms. We find similar results when we exclude the largest firms, likely candidates for geographically diversification (Tuzel and Zhang (2017)). Another issue regarding the validity of our *LEO* is that it could be mechanically high when the MSA is dominated by few local firms. Our results remain similar when excluding such cases. In addition, the effects of *LEO* on retention variables are stronger among high-tech industries. Last but not least, our results are more pronounced for industrial clusters such as Silicon Valley but are not limited to them.

This paper contributes to the literature that studies the link between firms' location, labor, and corporate policies. Prior research has shown that the firm's geographic location has an economically important influence on various firm policies such as director appointment, employee compensation, investment, and financing (see, e.g., Kedia and Rajgopal (2009), Almazan et al. (2010), and Dougal et al. (2015)). Our main contribution is that we develop a measure to quantify employees' outside opportunities in the local labor market for a large sample of U.S. firms and show that our measure is associated with firms' variety of retention policies.

We also contribute to the literature on how firms pay and treat their employees, especially employee stock options. Oyer (2004) argues that stock options can be an efficient compensation

form if retaining employees with outside opportunities is a firm´s major concern.[3] Kedia and Rajgopal (2009) show that the practice of rank and file option grants varies by firm location, and such practice is more prevalent in local areas where local firms' stock prices co-move with one another, and where the enforcement of non-compete agreements is difficult. Consistent with these studies, we show that employee retention in the presence of local labor market threats is an important factor for broad based option grants. In addition, we show that local employee mobility strongly influences firms' corporate social responsibility programs, especially those related to work environment.

Finally, our research is related to the literature that studies the connection between competition among firms and firm policies (e.g., Haushalter et al. (2007), Hoberg et al. (2014), and Fresard (2010)). Our study highlights that the competition for firms' labor input can importantly affect firm policies, whereas others mostly focus on the competition in product (output) markets. Recent studies by Azar et al. (2018) and Benmelech et al. (2018) document that labor market concentration varies across locations in the U.S. In particular, Benmelech et al. (2018) find that local labor market concentration is significantly associated with wages. Our paper differs from them in that (1) we attempt to measure employees' outside opportunities in the local labor market, and (2) we focus on firms' retention policies such as rank and file options, work environment, cash holdings, and financial leverage.

The remainder of the paper proceeds as follows. Section 2 describes the data. Section 3 reports the results, and Section 4 concludes.

2. Data and variables

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[3] The findings in Aldatmaz, Ouimet, and Van Wesep (2018) suggest, however, that the effect of stock options on retention may be short-lived, lasting less than 3 years.

2.1. Sample construction

We construct a panel database of firm-year observations in Compustat. Our sample begins at 1997 from which the Occupational Employment Statistics (OES) program of the Bureau of Labor Statistics (BLS) provides the MSA-level occupational data and ends at 2017.[4] We exclude firm-years with a book value of total assets less than $500,000 or a negative market value of equity. As is standard in the literature, we exclude firms in the utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) industries. The final sample consists of 18,720 firm-years for which we can construct our *LEO* and calculate employee stock options. The sample sizes in our regressions vary across different dependent variables due to missing data.

2.2. Measure of local employment opportunities (LEO)

Our key independent variable is a measure of employees' outside opportunities in the local labor market. To construct such a measure, we calculate the similarity in employee skill profile between a firm and its local labor market.

2.2.1. Occupational data from OES

We obtain occupation title data from the OES program of BLS. The OES program collects employment and wage data surveying approximately 1.2 million US business establishments. This occupational data is reported at various levels; by industry, by MSA, and by state. Prior to 1999, occupations are defined using the OES taxonomy of occupations, which has 258 occupation titles.

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[4] Our dependent variables (i.e., retention policies) are from year t+1, while our regressors are from year t. Accordingly, our main sample consists of firm-years from 1997 to 2017, and the associated retention variables span the period of 1998 to 2018.

From 1999 onward, the OES program uses the Office of Management and Budget (OMB) Standard

Occupational Classification (SOC) taxonomy, which has more than 800 detailed occupations.

We use the industry-level occupational data and the Compustat Industry Segment (CIS)

files to construct a proxy for a firm's employee skill profile based on the industry membership of

its segment(s). [5] Industries in the OES data are defined by three-digit Standard Industrial

Classification (SIC) code prior to 2002, and by four-digit North American Industry Classification

System (NAICS) code from 2002.

We use the MSA-level occupational data to construct a proxy for the employee skill profile

of the MSA where the firm is headquartered. The United States Office of Management and Budget

(OMB) defines metropolitan area as "a core urban area containing a substantial population nucleus,

together with adjacent communities having a high degree of economic and social integration with

that core". Each MSA contains a single core of 50,000 or more population.

2.2.2. Firm-level employee skill profile

In each year and for each industry, we obtain an industry-level employee skill profile vector

from the OES program. For industry i in year t, we obtain the vector $H_{i,t} = (H_{i1}, \dots, H_{in})_t$ where

element H_{ik} is the proportion of the total number of workers in industry i assigned to occupation

k. We use these industry employee skill profiles and a firm's industry membership to construct a

firm's employee skill profile. When a firm is covered by the CIS database, we compute the firm's

employee skill profile, $H_{a,t}$, as $H_{a,t} = \sum_{i=1}^{I} w_{i,t} H_{i,t}$ (i.e., segment sales weighted-average of its

industry employee skill profiles), where a segment's weight, $w_{i,t}$, is segment sales to total segment

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[5] If a firm is not covered by CIS, we treat it as a single-segment firm.

sales, and I is the number of industries. The industry employee skill profile of a segment is matched based on three-digit SIC codes prior to 2002 and four-digit NAICS codes from 2002.

2.2.3. MSA-level employee skill profile

In each year and for each MSA, we obtain an MSA employee skill profile vector from the OES program. For MSA m in year t, we obtain the vector $H_{m,t} = (H_{m1}, \ldots, H_{mn})_t$ where element H_{mk} is the proportion of the total number of workers in MSA m assigned to occupation k. To identify the MSA in which the firm's headquarters is located, we obtain a firm's zip code from Compustat and match it to the MSA using the crosswalk between zip code and MSA code from the Office of Workers' Compensation Programs (OWCP).

2.2.4. LEO between for a pair of firm and MSA

We construct a measure of employees' outside opportunities, LEO, for firm a whose headquarters is located in MSA m using the angular separation (or uncentered correlation) of the firm's employee skill profile vector, $H_{a,t}$, and the MSA employee skill profile vector, $H_{m,t}$. This angular separation was employed to measure the similarity in policies between a pair of firms by prior research (e.g., Jaffe (1986) and Lee, Mauer, and Xu (2018)). Specifically, we calculate local employment opportunities, LEO, as the scalar product of the firm's employee skill profile vector and the MSA employee skill profile vector divided by the product of their lengths:

$$LEO_{a,m,t} = \frac{H_{a,t}H'_{m,t}}{\sqrt{H_{a,t}H'_{a,t}}\sqrt{H_{m,t}H'_{m,t}}}$$

LEO is bounded between zero and one. It is close to zero when the two occupation profile vectors are close to orthogonal, and one when the two vectors are identical. It is closer to unity when a firm and the other firms in the same MSA have similar employee skill profiles.[6] Appendix B provides a simple example and the discussion of our *LEO* measure.

2.3. Firm retention policies

Our baseline analysis examines how employees' outside options in the local labor market influence firms' retention policies. Specifically, we focus on the following three corporate policies: rank and file employee stock options, work environment policies, and financial decisions.

2.3.1. Rank and file employee stock options

We follow Kedia and Rajgopal (2009) and Call et al. (2016) and estimate the number of options granted to rank and file employees as the total number of options granted by the firm minus the number of options granted to the firm's top executives. We first estimate the total options granted by the firm by using the information on (1) the options granted to the executive (NUM-SECUR) and (2) the executive's share of total option grants (PCTTOTOPT), both items are from ExecuComp. We then obtain an estimate of the total options granted by the firm from each of top five executive's share of the total options granted. We only use estimates of the total option grants that are within 1% of each other and use the average value as the measure for the total options granted by the firm. After 2006, ExecuComp does not report the percentage of total options granted

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[6] Our measure of local employment opportunities has the following underlying assumptions. First, the local labor market is segmented by worker skill but not by industry (see Moretti (2011) for further discussions on labor market segmentation). For example, a firm geographically isolated from its industry peers could have high *LEO* if other local employers (from different industries) rely on the same set of worker skills. Second, a firm's employees are all located in the headquarters MSA (see the robustness tests section in which we address the concern about geographically diversified firms).

to each top executive. Thus, from year 2007, we use Compustat item "OPTGR" to identify the total number of options granted by the firm. We create the following two variables:

RFEO1 is defined as the number of rank and file option granted during the fiscal year scaled by the number of shares outstanding (CSHO):

$$RFEO1_{i,t} = \left[\frac{Number\ of\ option\ grants\ in\ the\ year}{Number\ of\ shares\ outstanding} \right] i, t$$

RFEO2 is defined as the number of rank and file option granted during the fiscal year scaled by the number of employees (EMP):

$$RFEO2_{i,t} = \left[\frac{Number\ of\ option\ grants\ in\ the\ year}{Number\ of\ employees} \right] i, t$$

RFEO3 is defined as the dollar value of rank and file option granted during the fiscal year scaled by the number of employees (EMP):[7]

$$RFEO3_{i,t} = \left[\frac{Value\ of\ option\ grants\ in\ the\ year}{Number\ of\ employees} \right] i, t$$

2.3.2. Work environment

We consider the following categories to assess firms' work environment: employee involvement, corporate social responsibility, and *Fortune* magazine's 100 best company to work for. We collect data on employee involvement and overall corporate social responsibility from the Kinder, Lydenberg, and Domini (KLD) dataset that starts in 1991 and provides ratings on firm's environmental, social, and corporate governance policies. KLD covers approximately 650 US firms from 1990-2000, 1100 US firms in 2001 and 2002, and 3100 US firms since 2003. We primarily use the rating (either zero or one) of a firm's strengths and concerns along six dimensions: community, diversity, employee relations, environment, human rights, and product.

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[7] Up to 2005 the value of stock options is based on the Black-Scholes model, while it is based on FAS 123R from 2006.

We use the KLD strength indicator "employee involvement (EMP-STR-D)" in the employee relation area to define *Employee involvement.* KLD defines this dummy variable (i.e., EMP-STR-D) based on the assessment that "the company strongly encourages worker involvement and/or ownership through stock options available to a majority of its employees gain sharing, stock ownership, sharing of financial information, or participation in management decision-making".

We use all KLD strength and concern indicators in the area of employee relations to define *Employee relations,* which is the sum of strength indicators (with respect to union relations, no-layoff policy, cash profit sharing, employee involvement, retirement benefits strength, health and safety strength, and other strength) minus the sum of concern indicators (with respect to union relations, health and safety concern, workforce reductions, retirement benefits concern, and other concern) regarding employee relations.

Following Di Giuli and Kostovetsky (2014), we define *Corporate social responsibility* (*CSR*) as the sum of strength indicators minus the sum of concern indicators for each firm and each year. In particular, we use 30 strength and 26 concern indicators along six dimensions; community, diversity, employee relations, environment, human rights, and product.

Following Edmans (2011), we define *Best companies to work for* (*BCW*) using the list of "100 Best Companies to Work for in America".[8] The list is produced by the Grate Place to Work For Institute based on employee survey responses and evaluation of firms' overall work environment and is annually available during the period of 1998-2012.[9] *BCW* is a dummy variable

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[8] The list can be found on Edman's website http://alexedmans.com/data/. We thank him for making the list available.

[9] The survey questions range from job satisfaction and fairness to attitudes toward management. Firms' overall work environments are evaluated on four categories: credibility (communication to employees), respect (opportunities and benefits), fairness (compensation, diversity), and pride/camaraderie (teamwork, philanthropy, celebrations). Prior to

that equals one if a firm is listed in the "100 Best Companies to work for in America", and zero otherwise.

2.3.3. Financial flexibility

We follow the literature and use two empirical measures of financial flexibility; cash holdings and book leverage. *Cash holdings* is defined as the ratio of cash and short-term investments to the book value of assets. *Book leverage* is defined as the ratio of long-term debt plus debt in current liabilities to the book value of assets.

2.4. The adoption of Inevitable Disclosure Doctrine as an exogenous shock

To tackle endogeneity that arises from unobservable firm characteristics, we exploit an exogenous variation in labor mobility using the adoption of inevitable disclosure doctrine (IDD) at the state-level. IDD prohibits an employee with trade secrets from working for another firm or founding a rival firm.[10] IDD provides an effective setting to test our hypotheses for several reasons. First, compared to alternative legal means that protect patents, copyrights, and trademarks, IDD is more enforceable in that it protects any knowledge that is not known to others but can derive economic values. Second, the decision to embrace the IDD depends on court jurisdiction that is independent of firm-level characteristics. Lastly, the staggered adoptions of IDD that occur in

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1998, the list of "100 Best Companies to Work for in America" was published only twice, one in 1984 and the other in 1993.

[10] According to Uniform Trade Secrets Act, Trade secret is defined as "the information that can derive economic value, is not generally known, and is treated as secrets".

multiple states at different times alleviates the concern about the violation of parallel trends assumption.

Following Klasa et al. (2018), we identify the U.S. states that have adopted (or rejected) the *IDD* through court rulings. We then create a dummy variable *IDD* that is equal to one if the state of the firm's headquarters has adopted the IDD by the beginning of the year, and zero otherwise.

2.5. Descriptive statistics

In panel A of Table 1, we report the descriptive statistics and the Pearson correlations for the main sample. All variables are winsorized at the 1 and 99 percentiles of their distributions, except local employment opportunities (*LEO*) and dummy variables. Note that firm policy variables (i.e., dependent variables) are from year t+1, while *LEO* and firm characteristics (i.e., independent variables) are from year t.

The mean and median *LEO* are 0.322 and 0.307, respectively. On average, firms in our sample have a leverage ratio of 22.3% and a cash ratio of 16%. The stock option grant of the average (median) firm in our sample to rank and file employees is $4,969 ($742) per employee.

Panel B performs univariate tests in which we divide the sample into high versus low *LEO* groups based on the sample median. Panel C of Table 1 shows the Pearson correlations between *LEO* and corporate retention policies. Both univariate tests and correlations suggest that *LEO* is significantly *positively* correlated with rank and file stock options and most work environment measures. In addition, consistent with our prediction that firms with greater local labor mobility build more financial flexibility, we find a positive correlation between *LEO* and cash holdings and

a negative correlation between *LEO* and financial leverage. Although the results here are consistent with our hypotheses, we perform multivariate tests as a more rigorous approach in the next section.

3. Results

In this section, we present our estimation results. We first examine the effects of local employment opportunities on employee compensation, work environment, and financial decisions to mitigate the risk of employee turnover. We then test whether the aforementioned effects differ across different skill groups and different industries. Lastly, we use Inevitable Disclosure Doctrine as a quasi-natural experiment to identify the causal effects of local employment opportunities on corporate policies. Our sample size varies across different dependent variables due to data availability, in particular, smaller sample sizes for work environment.

3.1. Employee stock options and work environment

As discussed earlier, when a firm is located in a thick labor market where its employees possess more outside opportunities (i.e., high *LEO*), the firm faces greater risk of losing their employees, and therefore adopts a variety of employee retention and motivation policies. We therefore predict that a firm uses more stock options, creates more employee-satisfying work environment, and maintains more financial slack as *LEO* increases.

3.1.1. Rank and file stock options

In Table 2, we report ordinary least square (OLS) regressions of rank and file stock options against local employment opportunities. Stock options serve as an effective means for employee retention because they vest over a long time period and index employees outside options. In

Columns 1 and 2, our dependent variable is *RFEO1*, the ratio of the number of rank and file options to the number of shares outstanding. In Columns 3 and 4, the dependent variable is *RFEO2*, the ratio of the number of rank and file options to the number of employees. Columns 5 and 6 use the ratio of the dollar value of rank and file options to the number of employees as a dependent variable (*RFEO3*). In all regressions, we cluster standard errors by firm.[11] Columns 1, 3, and 5 report the baseline regression estimates with industry fixed effects (in addition to year fixed effects), by which we compare firms in the same industry but different locations. In Columns 2, 4, and 6, we add state fixed effects, by which we compare firms from the same industry and the same state, but different MSAs. Across all regressions, we observe a positive and statistically significant relation between *LEO* and rank and file stock options. The results are also economically significant; take Columns 3 and 5 as an example, a one-standard deviation increase in *LEO* increases mean *RFEO2* by 12.7% and *RFEO3* by 11.9%. The result holds when we include state fixed effects based on the firm´s headquarters, which suggests that even in the same industry and the same state, firms under different local labor market threats adopt different compensation policies for employees. This is consistent with our prediction that firms grant significantly more rank and file options to retain human capital when employee mobility is high in the local labor market.

3.1.2. Work environment

Table 3 examines the impact of firm local labor mobility on work environment. As discussed above, we predict that firms exposed to more competitive local labor market will provide a more employee-friendly work environment and cultivate better employment relationship, which we attempt to measure using employee involvement, corporate social responsibility *(CSR)*, and

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[11] Our results are robust to clustering standard errors at alternative levels, for instance, industry or state. The results are available upon request.

Specifically, we use OLS models (i.e., linear probability models when a dependent variable is an indicator variable) to test if firms with higher *LEO* are more likely to involve workers in important corporate decision making, to have better corporate social responsibility initiatives, and/or to be recognized as one of the best company to work for.[12]

In Columns 1 and 2, the dependent variable is an indicator equal to one if a firm listed in the "100 Best Companies to Work for in America", and zero otherwise. We find a positive and significant effect of employees´ outside opportunities on *BCW*. For instance, in Column 1, a one-standard deviation increase in *LEO* increases the likelihood of *BCW* by 1.2%. This is economically meaningful given that only 2.6% of our sample firms are listed as *BCW*. In Column 2, we control for state fixed effects and continue to find supporting evidence.[13]

In Columns 3 and 4, the dependent variable is *Employee involvement*, a dummy equal to one if a firm is considered to have strengths in employee involvement, and zero otherwise. We find that *LEO* significantly increases the likelihood of having such strengths.

In Columns 5 and 6, we consider *CSR*, a firm´s overall corporate social responsibility program. We find that firms with higher *LEO* have a stronger social responsibility program. A one-standard deviation increase in *LEO* increases mean *CSR* by 15.4%.

In Columns 7 and 8, our dependent variable is *Employee relations.* None of the columns show a meaningful relation between *LEO* and this variable. However, our later analysis reveals that *Employee relations* is significantly positively related to *LEO* only when firms rely on high-skill employees (see Tables 4 and 8).

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[12] In untabulated results, we have estimated probit and logit models for *BCW* and *Employee involvement* (i.e., dummy variables). Given that our later analysis involves many interaction terms, we mainly use a linear probability model for ease of interpretation. The results using the non-linear probability models are similar and available upon request.

[13] Interestingly, we find that the effects of *LEO* on work environment measures are stronger in more recent periods (available upon request).

Overall, the results presented here are consistent with our prediction that when the local labor market is more competitive, the firm provides a better work environment to retain employees.

3.1.3. High skill workers

So far, we find that *LEO* has a positive impact on rank and file stock options and employee-friendly environment. Given the particularly high turnover costs of high-skill employees (Belo et al. (2017) and Ghaly et al. (2017)) and firms' strong incentive to retain them, the above mentioned results should be stronger when firms rely on high-skill employees. In particular, we test if the impact of *LEO* on stock options and work environment is more pronounced when a firm depends more on high-skill employees and/or invests more on R&D.

Following Belo et al. (2017) and Ghaly et al. (2017), we first combine industry employee skill profile vectors from BLS and the classification of occupation based on required skill-level from the U.S. Department of Labor's O*NET program (ranging from 0 (no skill) up to 5 (high skill)). For each industry, we take the employee-weighted average of required skills, which is bounded between 0 and 5. Then we combine a firm´s business segments from CIS and the associated industries´ required skill-levels to calculate the firm´s required skill-level. Specifically, we take the segment sales-weighted average of its segments' required skill-levels. We define *High skill* as a dummy that equals one if the firm´s required skill-level is above the median during the fiscal year, and zero otherwise. In addition, we define *High R&D* as a dummy equal to one if a firm's ratio of R&D to total assets is above the median within the 2-digit SIC industry, and zero otherwise. To capture the cross-sectional variation, we re-estimate the regression models while including the interaction term; $LEO \times High\ skill$ (or $LEO \times High\ R\&D$). .

Table 4 presents the estimation results. Panel A reports regressions where *LEO* is interacted with *High skill*, while Panel B reports regressions where *LEO* is interacted with *High R&D*. Across Columns (1)-(7) of Panel A, the coefficients on the interaction term are positive and significant, which suggests the positive effect of *LEO* on rank and file stock options and work environment is amplified when firms heavily rely on high-skill workers. As noted earlier, we find that the positive effect of *LEO* on *Employee relations* is limited to high-skill employees (Column 7). We find a similar pattern in Panel B. R&D intensity accentuates the effects of *LEO* on the variables related to employee stock options and work environment.

Overall, the result here lends further support for our main hypothesis; firms choose stock options and work environment as retention policies and respond to local labor market threats, especially when employee turnover can be particularly costly.

3.1.4. Financial flexibility

Not only broad based employee stock options and better work environment help firms retain employees, firms could also use financial slack to buffer against negative cash flow shocks so that they could make optimal employment decisions. We, therefore, posit that firms with more mobile labor force will hold larger cash reserves and have lower financial leverage.

In Table 5, we examine the effect of local employment opportunities on financial policies. Columns 1, 3, and 5 report baseline regressions, and Columns 2, 4, and 6 report the ones with state dummies. In Columns 1 and 2, the dependent variable is *Cash holdings* defined as the ratio of cash and short-term investments to the book value of assets. The coefficients on *LEO* are significantly positive supporting our prediction that firms hold larger cash balances as the mobility of their labor

force increases. The results are also economically significant. A one-standard deviation increase in *LEO* leads to about 4.2% increase in *Cash holdings* compared to the sample mean.

Columns 3 and 4 reports regressions of financial leverage against *LEO*. The coefficient on *LEO* is negative and significant suggesting that firms with high *LEO* tend to maintain low leverage ratios. Columns 5 and 6 present a linear probability model in which the dependent variable is a dummy variable, *Net debt*. We find that firms with high *LEO* are less likely to have net debt on their balance sheet. In sum, the results are consistent with our prediction that firms build up financial slack to maintain their desired workforce when facing stiff local labor market competition.

Further, in Table 6 we examine whether the positive effect of *LEO* on financial flexibility is more pronounced among firms with high labor adjustment costs (i.e., firms that heavily depend on high skill employees and/or that heavily invest in R&D). We re-estimate the models in Table 5 while including an additional variable; *LEO* interacted with *High skill* (with *High R&D*). As shown in Columns 1-4, we find supportive evidence that the impact of employees' local job opportunities on financially flexibility is stronger among firms facing higher labor adjustment costs.

3.2. Inevitable Disclosure Doctrine

Although we have documented a strong relation between employees' local labor market opportunities and firms' retention policies, it is possible that our results are subject to endogeneity. For example, firms with more employee-friendly policies may attract employees with more outside options, or both employees' outside options and corporate policies are associated with some unobservable variables. In such a case, the coefficients derived from the OLS specifications are biased. To establish the causal relation between *LEO* and corporate retention policies, we rely on a quasi-natural experiment: The adoption of Inevitable Disclosure Doctrines (*IDD*), which reduces

employee mobility across firms.[14] This experiment directly affects employee mobility, and since the adoption of the law depends on court rulings, it is exogenous to firm policies. More importantly, the staggered nature of the IDD allows us to not only address the endogeneity concerns, but also mitigate omitted variable biases, given that the IDD was adopted in multiple states at different times.

The embracement of IDD restricts employees' labor mobility to competing firms. Post-IDD, job positions at neighboring firms (included in the calculation of our *LEO*) may no long represent outside opportunities, which therefore mitigates the employer's concern about losing employees. Accordingly, we would expect that the IDD *attenuates* the aforementioned effects of *LEO* on firm policies.

Table 7 reports the augmented regressions for employee stock options (Columns 1 through 3), work environment (Columns 4 through 7), and financial flexibility (Columns 8 and 9) in which we include the interaction term $LEO \times IDD$. All regressions include the control variables and industry and year fixed effects, as well as state fixed effects which control for time-invariant (un)observable state characteristics.

In Panel A, we find that the adoption of IDD significantly weakens the effects of employees' local opportunities on firm retention policies. The coefficients on the interaction term (i.e., $LEO \times IDD$) are negative for employee stock options and work environment (Columns 1 through 7); negative for cash holdings (Column 8); and positive for book leverage (Column 9). The results are consistent with our prediction that post- IDD, firms have less incentives to choose employee-friendly policies due to employees' reduced outside opportunities.

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[14] The literature has documented *de facto* a negative effect of the IDD on employee mobility (see, e.g., Png and Samila (2015) and Klasa et al. (2018))

However, one may still raise a concern that firms could relocate to another state, therefore being unaffected by IDD. This relocation issue may be more relevant for young firms that have recently located their headquarters (Almazan et al. (2010)). Accordingly, we exclude young firms from our sample and re-estimate the models. We sort all firm-years into quartiles and classify those in the bottom quartile as *young firms*. Then, our re-estimated difference-in-differences results are reported in Panel B of Table 7. Our findings remain similar to that of Panel A. In sum, the results provide strong support for the causal inferences regarding how employees' local mobility affects firms' retention policies.

The adoption of IDD may be more relevant for high skill employees who can depart with knowledge of valuable trade secrets. To examine this possibility, in Panel A Table 8, we interact three variables ($LEO \times IDD \times High\ skill$) and estimate triple differences (i.e., difference in differences in differences), while in Panel B, we interact *LEO, IDD,* and *High R&D*. Our analysis in Table 8 reveals that the attenuating effects of IDD on the retention policies are overall stronger for high-skill and high-R&D firms.

3.3. Robustness tests

In this section, we perform a battery of robustness tests and present results in Table 9. In Panel A, we adjust our *LEO* to incorporate the size of MSA labor market relative to the firm´s labor force. Given the same level of *LEO*, a larger local labor market should provide more employment opportunities. We scale *LEO* by the ratio of the number of MSA employees to the number of firm employees, which we denote as *adjusted LEO*. To reduce skewness, we take the natural logarithm of *adjusted LEO* plus one. We find similar results using the adjusted *LEO*.

One underlying assumption of our *LEO* measure is that the firm's all employees are located within the MSA where the firm is headquartered. If a firm is geographically diversified and hire from multiple locations, our *LEO* may not be informative about the firm's true employees. To address this concern, we exclude firms in our sample that are geographically diversified. We follow Tuzel and Zhang (2017) and define geographically diversified firms based on firm size (total assets); larger firms tend to be more geographically diversified. We sort all firms into deciles and exclude firms in the top decile (i.e., largest firms) from our sample. We re-estimate our baseline regressions and present our results in Panel B. Across all the models, we consistently find the evidence that support our hypotheses.[15]

If anything, *LEO* should have stronger effects in high-tech industries where talent retention plays a critical role in a firm′s success. The results presented in Panel C lend support to this notion.

Additionally, our *LEO* can be mechanically high in the MSA whose local labor market is dominated by very few firms. In such a case, *LEO* may not be a good measure for outside opportunities, because other local employers barely exist. To alleviate this problem, we first calculate the ratio of a firm's employees to the MSA total employees for all firms and sort them into deciles, next we exclude from our sample the firms in the top decile and re-estimate regressions in Panel D. We continue to find robust results.

Lastly, we examine whether our results are stronger for industrial clusters, such as, Silicon Valley. We follow Kedia and Rajgopal (2009) and classify an MSA as an industrial cluster if 10% of the 2-digit SIC industry's market value is located in the MSA, and 10% of the market value of that MSA is coming from that industry. We add to the baseline specifications *LEO* interacted with *Industrial cluster* and *Industrial cluster* alone and re-estimate the regressions. Panel E of Table 9

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[15] In untabulated results, we re-estimate the regressions after removing retail (NAICS codes 44-45), transport (48), and wholesale (42) industries which are likely to have employees in multiple locations. Our results remain robust.

shows the results. We find that the effects of local employment opportunities tend to be more pronounced for but are not limited to industrial clusters.

4. Conclusions

In this paper, we examine the influence of employees' outside opportunities in the local labor market on firms' retention policies. Our evidence strongly supports our hypotheses. Firms choose various policies in order to respond to local labor market threats; rank and file stock options, work environment, and financial flexibility. The relationship between employee's outside opportunities and firm policies are stronger among firms depending on high skill workers and firms with large R&D expenses. Using the adoption of IDD as an exogeneous shock to employee mobility, we document the causal effect of employees' local opportunities on firm retention policies. We conclude that the competition for worker skills in the local labor market importantly affects corporate policies.

Appendix A. Variable definitions

Local employment opportunities (LEO)
- The similarity between the firm's employee skill profile and the metropolitan statistical area's (MSA) employee skill profile where the firm is headquartered. For each pair of a firm and its MSA, we calculate the similarity between the employee skill profiles of the firm and the MSA as a cosine product between the firm-level employee skill profile vector and the MSA-level employee skill profile vector. A firm's employee skill profile vector is constructed as the segment-sales-weighted average of its industry segments' employee skill profile vectors, where the weights are segment sales to total segment sales. Industry employee skill profile vectors are from the Occupational Employment Statistics (OES) of the Bureau of Labor Statistics. For each 3-digit SIC code for years 1989-2001 and 4-digit NAICS code thereafter, OES reports an industry employee skill profile vector where the elements are the number of industry workers assigned to an occupation divided by the total number of workers in the industry. The MSA's employee skill profile vectors are from the Occupational Employment Statistics (OES) of the Bureau of Labor Statistics. The elements of the MSA employee skill profile vector are the number of industry workers assigned to an occupation title divided by the total number of workers in the industry. *LEO* is bounded between 0 and 1.

Log(1+adjusted LEO)
- Natural logarithm of one plus adjusted *LEO* in year t. *Adjusted LEO* is defined as *LEO* scaled by the ratio of the number of all MSA employees to that of the firm's employees. (Source: Compustat)

Log sale
- Natural logarithm of sales (SALE) in year t. (Source: Compustat)

Market-to-book
- Total assets (AT) minus the book value of equity (CEQ) plus the market value of equity (PRCC_F*CSHO), all scaled by total assets (AT). (Source: Compustat)

Log firm age
- Natural logarithm of one plus the number of years a firm has appeared in Compustat. (Source: Compustat)

Book leverage
- Ratio of long-term debt (DLTT) plus debt in current liabilities (DLC) to the book value of assets (AT), measured at year t. (Source: Compustat)

Stock return
- Stock return over fiscal year t. (Source: CRSP)

Log stock volatility
- Natural logarithm of one plus the variance of daily stock returns during fiscal year t. We require at least 200 trading days. (Source: CRSP)

Cash holdings
- Ratio of cash and short-term investments (CHE) to the book value of assets (AT), measured at year t. (Source: Compustat)

R&D/Sales
- Research and development expenditures (XRD) scaled by sales (SALE); all items from year t. If XRD is missing, we set it equal to zero. (Source: Compustat)

Sales growth
- Sales (SALE) in fiscal year t minus sales in fiscal year t-1, scaled by sales in fiscal year t-1. (Source: Compustat)

Net working capital
- Ratio of net working capital (WCAP) minus cash and short-term investments (CHE) to total assets (AT). (Source: Compustat)

Cash flow to assets
- Earnings after interest, dividends, and taxes but before depreciation all scaled by book assets ((OIBDP-XINT-TXT-DVC)/AT). (Source: Compustat)

State GDP growth
- A firm's headquarters state's per capital GDP growth rate from year t-1 to year t (Source: BEA)

Log employees
- Natural logarithm of the number of employees in year t. (Source: Compustat)

State GDP growth
- GDP growth rate of the firm´s headquarters state during the year. (Source: BEA)

State unemployment rate
- Unemployment rate of the firm´s headquarters state during the year (Source: BEA)

MSA hourly wage
- Average hourly wage across occupation titles in the firm´s headquarters MSA during the year (Source: BLS)

Firm employees to MSA employees
- Ratio of a firm's employees to MSA total employees. (Source: BLS)

RFEO1
- Number of rank-and-file employee options granted in the year scaled by the number of shares outstanding. We follow Call, Kedia, and Rajgopal (2016) to calculate this variable using Execucomp and Compustat. (Source: Execucomp and Compustat)

RFEO2

- Number of rank-and-file employee options granted in the year scaled by the number of employees. (Source: Execucomp and Compustat)

RFEO3
- Dollar value of rank-and-file employee options granted in the year scaled by the number of employees. (Source: Execucomp and Compustat)

BCW
- Dummy variable equal to one if a firm is listed in the "100 Best Companies to Work for in America". This dataset is available up through 2012. (Source: Alex Edmans' webpage)

CSR
- The sum of KLD strength indicators minus the sum of KLD concern indicators along six major dimensions (community, diversity, employee relations, environment, human rights, and product) for each firm in each year. (Source: KLD)

Employee involvement
- Dummy variable equal to one if a firm is considered to have strengths in employee involvement (EMP-STR-D) and zero otherwise. (Source: KLD)

Employee relations
- The sum of KLD strength indicators minus the sum of KLD concern indicators in the area of employee relations. Strength indicators include union relations, no-layoff policy, cash profit sharing, employee involvement, retirement benefits strength, health and safety strength, and other strength. Concern indicators include union relations, health and safety concern, workforce reductions, retirement benefits concern, and other concern. (Source: KLD)

High skill
- Dummy equal to one if the firm´s required skill-level is above the median in the year, and zero otherwise. We combine industry employee skill profile vectors from BLS and the classification of occupation based on required skill-level from the U.S. Department of Labor's O*NET program (ranging from 0 up to 5). For each industry, we take the employee-weighted average of required skills. Then, for each firm, we calculate the segment sales-weighted average of its segments' required skill-levels.

High R&D
- Dummy equal to one if a firm's ratio of R&D to total assets is above the median within the 2-digit SIC industry, and zero otherwise. (Source: Compustat)

High tech
- Dummy equal to one if a firm's industry is one of the high-tech industries provided by Eckbo et al. (2018).

Industrial cluster
- Dummy equal to one if at least 10% of the 2-digit SIC industry's market value is located in the MSA, and at least 10% of the market value of that MSA comes from the industry.

Appendix B. Example of the computation of LEO

We provide a simple example to illustrate the calculation of our local employment opportunities (*LEO*) measure. Firms A and B operate in the same industry but in different locations, the former in MSA X and the latter in MSA Y. The firms have the exactly same laborforce; 2 computer scientists, 1 cashier, and 1 dietary cook. The two MSA´s have the same size of local labor market, albeit different laborforce compositions. Both locations have a total of 100 employees. MSA X has 2 computer scientists (2% of all local employees in MSA X), 50 cashiers (50%), and 48 dietary cooks (48%). That is, Firm A is the only business in MSA X employing computer scientists. On the other hand, MSA Y has 40 computer scientists (40% of all local employees in MSA Y), 20 cashiers (20%), and 40 dietary cooks (40%).

Panel A. Firm A in MSA X

	Firm A		MSA X	
	No. employees	%	No. employees	%
Computer scientist	2	50 %	2	2 %
Cashier	1	25 %	50	50 %
Dietary cook	1	25 %	48	48 %
Total	4	100 %	100	100 %
LEO		**0.60**		

Panel B. Firm B in MSA Y

	Firm B		MSA Y	
	No. employees	%	No. employees	%
Computer scientist	2	50 %	40	40 %
Cashier	1	25 %	20	20 %
Dietary cook	1	25 %	40	40 %
Total	4	100 %	100	100 %
LEO		**0.95**		

We calculate *LEO* for each firm. Firm A´s *LEO* is 0.60, while Firm B´s *LEO* is higher at 0.95. Firm B´s employees, on average, have more local outside opportunities than do Firm A´s employees, in particular, the computer scientists. Accordingly, Firm B may find it more difficult to maintain its desired laborforce compared to Firm A.

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Table 1. Descriptive statistics and correlation

The sample includes all firm-years in the Compustat database during the period 1997 to 2017, where data are available to compute *Local employment opportunities* (*LEO*). We exclude firm-years with a book value of total assets less than $500,000 or a negative market value of equity. We exclude firms in the utility (SIC codes 4900-4999) and financial (SIC codes 6000-6999) industries. Panel A reports descriptive statistics. Panel B divides the sample into two groups based on *LEO* (above versus below the sample median) and performs univariate tests. ***, **, * indicate significance of difference at the 1%, 5%, and 10% levels, respectively. Panel C reports Pearson correlation coefficients between *LEO* and firm policy measures. Italicized are p-values. *LEO* and firm characteristics are measured in year t, whereas firm policy measures are measured in year t+1. All variables are winsorized at the 1 and 99 percentiles of their distributions, except *LEO* and dummy variables. Refer to Appendix A for definitions of variables.

Panel A. Descriptive statistics

	Mean	Std. Dev.	25th Pctl.	Median	75th Pctl.	Obs.
Local emp. opportunities (*LEO*) in year t	0.322	0.118	0.239	0.307	0.395	18,720
Firm policies (in year t+1)						
RFEO1 (thousands per 1 million shares)	11.784	16.093	1.145	6.572	15.468	18,720
RFEO2 (thousands)	0.486	1.354	0.008	0.053	0.236	18,720
RFEO3 ($thousands)	4.969	12.663	0.066	0.742	3.356	18,720
BCW	0.026					14,022
Employee involvement	0.111					9,926
CSR	0.154	2.484	-1.000	0.000	1.000	9,926
Employee relations	0.024	1.061	0.000	0.000	0.000	9,926
Cash holdings	0.160	0.170	0.032	0.096	0.231	18,719
Book leverage	0.223	0.183	0.063	0.209	0.332	18,685
Firm characteristics (in year t)						
Sale	5418.390	15721.650	468.965	1298.020	3963.400	18,720
Market-to-book	2.091	1.325	1.268	1.673	2.404	18,720
Firm age	25.667	16.934	12.000	21.000	39.000	18,720
Stock return	0.143	0.551	-0.181	0.071	0.340	18,720
Log stock volatility	2.040	0.752	1.481	1.960	2.516	18,720
R&D	0.053	0.108	0.000	0.005	0.058	18,720
Sales growth	0.113	0.256	-0.006	0.075	0.182	18,720
Net working capital	0.075	0.144	-0.017	0.069	0.165	18,720
Cash flow to assets	0.084	0.078	0.055	0.087	0.121	18,720
State GDP growth	1.249	2.292	0.000	1.500	2.800	18,720
No. employees	20.149	51.252	1.660	5.377	16.000	18,720
State unemployment rate (%)	6.123	2.024	4.700	5.500	7.100	18,720
MSA hourly wage	21.620	4.935	17.950	20.750	24.380	18,720
Firm employees to MSA employees	0.029	0.156	0.001	0.005	0.018	18,720

Table 1. Continued

Panel B. Univariate tests

	High *LEO* (above the median)	Low *LEO* (below the median)	Difference
RFEO1	13.061	10.507	2.554***
RFEO2	0.489	0.484	0.005
RFEO3	4.985	4.953	0.032
BCW	0.034	0.018	0.016***
Employee involvement	0.123	0.100	0.024***
CSR	0.296	0.011	0.284***
Employee relations	0.048	0.001	-0.047**
Book leverage	0.209	0.237	-0.028***
Cash holdings	0.159	0.161	-0.002
Sale	5941.550	4895.230	1046.320***
Market-to-book	2.099	2.084	0.015
Firm age	24.779	26.554	-1.775***
Stock return	0.134	0.153	-0.019**
Log stock volatility	2.034	2.046	-0.012
R&D	0.049	0.057	-0.008***
Sales growth	0.115	0.112	0.003
Net working capital	0.081	0.069	0.012***
Cash flow to assets	0.085	0.082	0.003**
State GDP growth	1.391	1.107	0.284***
No. employees	24.691	15.607	9.084***
State unemployment rate (%)	6.106	6.141	-0.036
MSA hourly wage	21.797	21.444	0.353***
Firm employees to MSA employees	0.034	0.024	0.011***

Table 1. Continued

Panel C. Pearson correlations

		1	2	3	4	5	6	7	8	9	10
1	*LEO*	1.000									
2	*RFEO1*	0.131	1.000								
		(0.00)									
3	*RFEO2*	0.065	0.579	1.000							
		(0.00)	(0.00)								
4	*RFEO3*	0.056	0.451	0.613	1.000						
		(0.00)	(0.00)	(0.00)							
5	*CSR*	0.082	0.051	0.012	0.014	1.000					
		(0.00)	(0.00)	(0.25)	(0.16)						
6	*Emp. Relations*	-0.017	0.006	0.021	0.047	0.584	1.000				
		(0.10)	(0.54)	(0.04)	(0.00)	(0.00)					
7	*Emp. Involvement*	0.051	0.114	0.096	0.099	0.400	0.470	1.000			
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)				
8	*BCW*	0.066	0.026	0.028	0.071	0.320	0.268	0.293	1.000		
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			
9	*Book leverage*	-0.124	-0.075	-0.088	-0.156	-0.008	-0.042	-0.039	-0.039	1.000	
		(0.00)	(0.00)	(0.00)	(0.00)	(0.43)	(0.00)	(0.00)	(0.00)		
10	*Cash holdings*	0.059	0.232	0.430	0.383	0.054	0.080	0.080	0.030	-0.360	1.000
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	

Table 2. Rank and file stock options

This table reports panel regressions of rank and file employee stock options on *Local employment opportunities* (*LEO*), control variables, and fixed effects. *RFEO1* is defined as the number of rank and file option granted scaled by the number of shares outstanding. *RFEO2* is defined as the number of rank and file option granted scaled by the number of employees. *RFEO3* is defined as the value of rank and file option granted scaled by the number of employees. Dependent variables are from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. All variables are defined in Appendix A. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and unreported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

	RFEO1 (t+1)		RFEO2 (t+1)		RFEO3 (t+1)	
	1	2	3	4	5	6
LEO	**3.475*****	**2.651****	**0.523****	**0.424****	**5.015*****	**5.597*****
	(2.64)	**(2.23)**	**(2.53)**	**(2.10)**	**(2.91)**	**(3.12)**
Log sale	0.545	0.474	0.150	0.146	2.086	2.039
	(1.80)	(1.57)	(4.27)	(4.12)	(6.93)	(6.64)
Market-to-book	0.222	0.164	0.091	0.087	2.582	2.569
	(1.32)	(0.98)	(4.67)	(4.54)	(10.44)	(10.53)
Log firm age	-1.515	-1.411	-0.040	-0.036	-0.217	-0.167
	(-5.34)	(-5.00)	(-1.42)	(-1.25)	(-0.85)	(-0.64)
Stock return	-0.629	-0.556	-0.065	-0.064	0.767	0.760
	(-2.74)	(-2.44)	(-2.95)	(-2.90)	(3.19)	(3.18)
Log stock volatility	3.903	3.563	0.263	0.249	2.666	2.561
	(12.05)	(11.69)	(8.96)	(8.59)	(9.41)	(9.24)
R&D	18.450	17.077	5.119	5.080	19.669	19.279
	(7.65)	(7.15)	(10.92)	(10.74)	(5.85)	(5.69)
Sales growth	1.530	1.682	0.200	0.208	2.941	2.932
	(2.43)	(2.69)	(2.82)	(2.93)	(4.35)	(4.37)
Net working capital	-4.720	-4.321	-0.950	-0.952	-2.393	-2.004
	(-3.13)	(-2.93)	(-5.53)	(-5.44)	(-1.68)	(-1.39)
Cash flow to assets	-3.997	-5.485	-1.911	-1.901	0.633	0.326
	(-1.46)	(-2.07)	(-5.93)	(-5.95)	(0.23)	(0.12)

38

Table 2. Continued

State GDP growth	0.339	-0.033	0.019	0.000	0.296	0.126
	(4.60)	(-0.50)	(2.77)	(0.03)	(4.22)	(2.07)
Log employees	-0.663	-0.529	-0.276	-0.277	-3.374	-3.307
	(-2.26)	(-1.79)	(-7.40)	(-7.25)	(-10.74)	(-10.28)
State unemp. rate	0.735	-0.299	0.044	-0.029	0.363	-0.110
	(4.76)	(-1.50)	(3.01)	(-1.67)	(2.59)	(-0.67)
MSA hourly wage	0.152	-0.171	-0.001	-0.018	-0.110	-0.395
	(2.86)	(-2.04)	(-0.17)	(-1.91)	(-2.24)	(-4.72)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	-	Yes	-	Yes	-	Yes
Adj. R-Squared	0.35	0.37	0.41	0.42	0.34	0.35
No. observations	18,720	18,720	18,720	18,720	18,720	18,720

Table 3. Work environment

This table reports panel regressions of the 100 Best Companies to Work for in America (BCW), *Employee involvement*, *Corporate social responsibility* (*CSR*), and *Employee relations* on *Local employment opportunities* (*LEO*), control variables, and fixed effects. Dependent variables are from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. All variables are defined in Appendix A. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

	BCW (t+1)		Emp. Involvement (t+1)		CSR (t+1)		Emp. Relations (t+1)	
	1	2	3	4	5	6	7	8
LEO	0.105***	0.091**	0.013**	0.061*	0.512**	0.545**	-0.208	-0.262
	(2.59)	*(2.30)*	*(2.17)*	*(1.77)*	*(1.98)*	*(2.00)*	*(-1.01)*	*(-1.24)*
Log sale	0.036	0.036	0.067	0.067	0.629	0.608	0.262	0.252
	(5.72)	(5.76)	(6.44)	(6.20)	(7.37)	(7.22)	(8.64)	(8.15)
Market-to-book	0.022	0.021	0.021	0.020	0.223	0.210	0.057	0.054
	(6.25)	(6.23)	(3.25)	(3.21)	(6.24)	(5.86)	(4.30)	(4.11)
Log firm age	-0.007	-0.007	-0.011	-0.009	-0.048	-0.042	-0.036	-0.029
	(-1.73)	(-1.64)	(-1.08)	(-0.92)	(-0.57)	(-0.51)	(-1.22)	(-0.99)
Stock return	-0.012	-0.012	-0.007	-0.006	-0.155	-0.134	-0.021	-0.019
	(-5.36)	(-5.46)	(-1.28)	(-1.01)	(-3.99)	(-3.46)	(-1.28)	(-1.12)
Log stock volatility	0.001	-0.001	-0.009	-0.012	-0.366	-0.354	-0.104	-0.109
	(0.16)	(-0.13)	(-0.87)	(-1.15)	(-4.48)	(-4.35)	(-3.53)	(-3.70)
R&D	0.090	0.088	0.351	0.308	2.454	2.462	0.930	0.852
	(3.37)	(3.38)	(5.05)	(4.51)	(4.95)	(4.72)	(5.04)	(4.66)
Sales growth	-0.026	-0.027	-0.027	-0.025	-0.461	-0.411	-0.090	-0.087
	(-4.41)	(-4.51)	(-1.65)	(-1.61)	(-4.09)	(-3.72)	(-2.12)	(-2.12)
Net working capital	0.020	0.020	-0.079	-0.082	-0.728	-0.724	-0.058	-0.085
	(0.85)	(0.84)	(-1.54)	(-1.62)	(-1.74)	(-1.77)	(-0.39)	(-0.58)
Cash flow to assets	0.056	0.050	0.248	0.231	2.272	2.103	1.149	1.135
	(1.46)	(1.34)	(2.95)	(2.80)	(4.16)	(3.82)	(4.94)	(4.97)

Table 3. Continued

State GDP growth	0.0001	-0.001	0.001	-0.003	0.043	0.020	0.001	-0.001
	(0.01)	(-1.76)	(0.48)	(-1.40)	(2.52)	(1.39)	(0.15)	(-0.10)
Log employees	-0.013	-0.012	-0.027	-0.025	-0.123	-0.087	-0.183	-0.171
	(-3.02)	(-2.84)	(-2.88)	(-2.64)	(-1.76)	(-1.25)	(-6.95)	(-6.24)
State unemp. rate	-0.0001	-0.0001	0.010	0.002	0.059	0.009	0.012	0.031
	(-0.15)	(-0.14)	(2.19)	(0.23)	(1.41)	(0.20)	(0.85)	(1.63)
MSA hourly wage	0.0002	-0.001	0.002	0.003	0.056	0.055	0.009	0.014
	(0.04)	(-0.48)	(0.91)	(0.86)	(3.38)	(2.43)	(1.46)	(1.49)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	-	Yes	-	Yes	-	Yes	-	Yes
Adj. R-Squared	0.11	0.13	0.12	0.14	0.25	0.27	0.23	0.24
No. observations	14,022	14,022	9,926	9,926	9,926	9,926	9,926	9,926

Table 4. Employee options and work environment for high skill employees

This table examines the interactive effects of *LEO* and high-skill employees on retention policies. In Panel A, *High skill* is a dummy equal to one if the firm´s required skill-level is above the median during the year. In Panel B, *High R&D* is a dummy equal to one if a firm's ratio of R&D to assets is above the industry median based on 2-digit SIC codes during the year. Dependent variables are from year t+1. Independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. All variables are defined in Appendix A. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. High skill firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Emp. Relations
	1	2	3	4	5	6	7
LEO × High skill	**9.877*****	**0.135****	**7.454****	**0.139****	**0.256****	**1.008****	**0.746****
	(2.84)	**(2.35)**	**(2.38)**	**(2.07)**	**(2.06)**	**(2.05)**	**(2.12)**
LEO	-3.668*	0.189	0.518	0.040	-0.176*	-0.029	-0.598**
	(-1.68)	(1.15)	(0.28)	(0.90)	(-1.88)	(-0.04)	(-2.34)
High skill	-1.730	-0.076	-1.883*	-0.028	-0.017	0.191	-0.001
	(-1.54)	(-0.65)	(-1.84)	(-1.41)	(-0.40)	(0.59)	(-0.01)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.36	0.43	0.34	0.14	0.14	8.00	0.24
No. observations	16,482	16,482	16,482	11,862	9,164	9,164	9,164

Table 4. Continued

Panel B. High R&D firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Emp. Relations
	1	2	3	4	5	6	7
LEO × High R&D	**8.972*****	**0.199***	**5.515*****	**0.223*****	**0.173****	**0.821****	**0.722****
	(2.72)	*(1.75)*	*(2.98)*	*(3.54)*	*(2.04)*	*(1.99)*	*(2.15)*
LEO	-1.952	0.333**	2.843	-0.018	-0.150**	0.117	-0.627***
	(-0.80)	(1.98)	(1.51)	(-0.62)	(-1.97)	(0.19)	(-2.82)
High R&D	-0.915	-0.147	-1.422	-0.059***	0.012	0.148	-0.068
	(-0.83)	(-1.03)	(-1.53)	(-2.75)	(0.29)	(0.49)	(-0.60)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.42	0.35	0.11	0.14	0.27	0.24
No. observations	18,720	18,720	18,720	14,220	9,926	9,926	9,926

Table 5. Financial Policies

This table reports panel regressions of a firm´s financial policies on *Local employment opportunities* (*LEO*), control variables, and fixed effects. In Columns 1 and 2, *Cash holdings* is defined as the ratio of cash and short-term investments to the book value of assets. In Columns 3 and 4, *Book leverage* is defined as the ratio of long-term debt plus debt in current liabilities to the book value of assets. In Columns 5 and 6, *Net debt* is a dummy equal to one if long term debt plus debt in current liabilities minus cash and short-term investments is positive, and zero otherwise. The dependent variable is from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Cash holdings (t+1)		Book leverage (t+1)		Net debt (t+1)	
	1	2	3	4	5	6
LEO	**0.058****	**0.056****	**-0.115*****	**-0.125*****	**-0.307*****	**-0.304*****
	(2.30)	*(2.27)*	*(-3.45)*	*(-3.59)*	*(-3.95)*	*(-3.87)*
Log sale	0.002	0.002	0.022	0.021	0.027	0.027
	(0.50)	*(0.45)*	*(3.78)*	*(3.65)*	*(2.24)*	*(2.25)*
Market-to-book	0.026	0.026	-0.010	-0.010	-0.061	-0.059
	(12.59)	*(12.41)*	*(-3.37)*	*(-3.30)*	*(-11.80)*	*(-11.56)*
Log firm age	-0.001	0.001	-0.011	-0.011	0.005	-0.001
	(-0.03)	*(0.39)*	*(-2.04)*	*(-2.12)*	*(0.42)*	*(-0.02)*
Stock return	-0.003	-0.003	-0.002	-0.002	0.014	0.012
	(-1.41)	*(-1.28)*	*(-0.61)*	*(-0.77)*	*(2.57)*	*(2.14)*
Log stock volatility	0.016	0.015	0.012	0.012	-0.040	-0.037
	(4.53)	*(4.30)*	*(2.42)*	*(2.44)*	*(-3.90)*	*(-3.63)*
R&D	0.366	0.345	-0.128	-0.128	-0.605	-0.554
	(12.17)	*(11.60)*	*(-2.94*	*(-3.33)*	*(-8.85)*	*(-8.30)*
Sales growth	-0.024	-0.024	0.027	0.027	0.095	0.092
	(-4.48)	*(-4.45)*	*(3.74)*	*(3.76)*	*(7.04)*	*(6.93)*
Net working capital	-0.178	-0.171	-0.186	-0.187	0.026	0.031
	(-9.10)	*(-8.65)*	*(-7.24)*	*(-7.27)*	*(0.46)*	*(0.54)*
Cash flow to assets	-0.025	-0.032	-0.332	-0.322	-0.612	-0.565
	(-0.79)	*(-1.03)*	*(-7.84)*	*(-7.64)*	*(-7.80)*	*(-7.39)*
State GDP growth	0.003	0.001	-0.003	-0.001	-0.009	-0.003
	(4.26)	*(1.53)*	*(-2.66)*	*(-1.32)*	*(-3.73)*	*(-1.57)*
Log employees	-0.028	-0.028	0.004	0.003	0.049	0.047
	(-6.56)	*(-6.41)*	*(0.62)*	*(0.57)*	*(4.01)*	*(3.90)*
State unemp. rate	0.006	-0.001	0.001	0.001	-0.006	0.004
	(3.00)	*(-0.68)*	*(0.21)*	*(0.17)*	*(-0.99)*	*(0.58)*
MSA hourly wage	0.005	0.003	-0.004	-0.001	-0.012	-0.008
	(6.29)	*(2.57)*	*(-3.74)*	*(-0.99)*	*(-5.19)*	*(-2.68)*

Table 5. Continued

Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
State FE	-	Yes	-	Yes	-	Yes
Adj. R-Squared	0.52	0.53	0.26	0.28	0.36	0.38
No. observations	18,719	18,719	18,685	18,685	18,683	18,683

Table 6. High skill employees for financial policies

This table examines whether the effect of local employment opportunities on financial flexibility is stronger for firms using high skill employees and R&D intensive firms. We follow Ghaly et al. (2017) and classify industries into high skill versus low skill. *High skill* is a dummy equal to one if the firm´s required skill-level is above the median during the year. *High R&D* is a dummy equal to one if a firm's ratio of R&D to assets is above the industry median based on 2-digit SIC codes during the year. Dependent variables are from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. All variables are defined in Appendix A. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Cash (t+1)		Book leverage (t+1)	
	1	2	3	4
LEO	-0.078*	-0.038	0.001	0.035
	(-1.69)	(-0.99)	(0.04)	(0.68)
LEO×High skill	**0.090***		**-0.136***	
	(2.63)		**(-2.67)**	
LEO×High R&D		**0.073**		**-0.140***
		(2.23)		**(-3.14)**
High skill	0.045		-0.005	
	(2.75)		(-0.24)	
High R&D		0.042		-0.039
		(3.15)		(-2.20)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Adj. R-squared	0.53	0.53	0.28	0.28
No. observations	16,481	18,719	16,451	18,685

Table 7. Inevitable Disclosure Doctrine

This table examines whether the adoption of Inevitable Disclosure Doctrine (IDD) changes the effects of *Local employment opportunities* (*LEO*) on firm policies. We report difference-in-differences estimates. We obtain the year of IDD adoption across states from Klasa et al. (2018). *IDD* is a dummy equal to one if the state of the firm's headquarters has adopted the *IDD* by the beginning of the year, and zero otherwise. In Panel A, we run difference-in-differences tests for the full sample. In Panel B, we sort all firm-years based on firm-age, and exclude the bottom decile (i.e., the youngest firms). Dependent variables are from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. All variables are defined in Appendix A. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Full sample

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Emp. Relations	Cash	Book leverage
	1	2	3	4	5	6	7	8	9
LEO×IDD	-9.687***	-0.446***	-6.069***	-0.078***	-0.233**	-1.269*	-0.391	-0.016**	0.048**
	(-3.17)	(-2.58)	(-2.57)	(-3.06)	(-2.47)	(-1.85)	(-1.30)	(-2.46)	(2.36)
LEO	6.674**	0.609**	8.119***	0.125**	0.036	1.070**	-0.098	0.060***	-0.118***
	(2.57)	(2.41)	(3.39)	(2.46)	(1.38)	(2.56)	(-0.39)	(2.71)	(-2.88)
IDD	3.683	0.222	2.003	0.027	0.055	0.439	0.061	-0.005	0.012
	(3.13)	(2.21)	(2.27)	(1.74)	(1.30)	(1.41)	(0.54)	(-0.37)	(0.68)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-Squared	0.37	0.42	0.35	0.13	0.14	0.27	0.24	0.53	0.28
No. observations	18,720	18,720	18,720	14,022	9,926	9,926	9,926	18,719	18,685

Table 7. Continued

Panel B. Excluding young firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Emp. Relations	Cash	Book leverage
	1	2	3	4	5	6	7	8	9
LEO×IDD	**-9.377*****	**-0.397****	**-4.935****	**-0.083***	**-0.251****	**-1.275***	**-0.400**	**-0.017****	**0.030****
	(-3.08)	**(-2.39)**	**(-2.10)**	**(-1.74)**	**(-2.48)**	**(-1.78)**	**(-1.27)**	**(-2.20)**	**(2.19)**
LEO	5.226***	0.458***	6.337***	0.146***	0.047	1.045	-0.081	0.062**	-0.129***
	(2.89)	(2.80)	(2.66)	(2.63)	(1.45)	(1.42)	(-0.30)	(2.02)	(-3.03)
IDD	3.694	0.214	1.753	0.029	0.056	0.414	0.059	-0.004	0.004
	(3.10)	(2.08)	(1.97)	(1.68)	(1.27)	(1.27)	(0.50)	(-0.35)	(0.23)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.36	0.42	0.34	0.13	0.14	0.27	0.24	0.52	0.26
No. observations	17,219	17,219	17,219	12,935	9,134	9,134	9,134	17,218	17,185

Table 8. Inevitable Disclosure Doctrine for high skill employees

This table examines whether the interactive effects of Inevitable Disclosure Doctrine (IDD) and *LEO* on firm policies vary across high skill *versus* low skill employees. We report difference-in-differences-in-differences estimates. *IDD* is a dummy equal to one if the state of the firm's headquarters has adopted the IDD by the beginning of the year, and zero otherwise. *High skill* is a dummy equal to one if the firm´s required skill-level is above the median during the year. *High R&D* is a dummy equal to one if a firm's ratio of R&D to assets is above the industry median based on 2-digit SIC codes during the year. In Panel A, we present triple differences (i.e., difference in differences in differences) estimations interacting *LEO, IDD,* and *High skill*. In Panel B, we present estimation results based on *High R&D*. Dependent variables are from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 8. Continued

Panel A. High skill firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Emp. Relations	Cash	Book leverage
	1	2	3	4	5	6	7	8	9
LEO × IDD × High skill	**-15.639****	**-0.456***	**-1.549****	**-0.110**	**-0.055****	**-0.362*****	**-1.809*****	**-0.049*****	**0.241****
	(-2.57)	**(-1.82)**	**(-2.31)**	**(-1.05)**	**(-2.28)**	**(-3.02)**	**(-2.90)**	**(-2.59)**	**(2.15)**
LEO×IDD	0.281	-0.213**	-3.590	-0.053	-0.206**	-0.906	0.363	0.031	-0.123*
	(0.09)	(-1.98)	(-1.46)	(-0.91)	(-1.98)	(-0.82)	(0.95)	(0.70)	(-1.67)
LEO×High skill	15.033***	0.222	7.100*	0.168*	0.206***	1.026*	1.362***	-0.048	-0.117*
	(3.38)	(1.48)	(1.67)	(1.83)	(2.23)	(1.82)	(2.98)	(-0.85)	(-1.79)
High skill×IDD	4.187**	0.065	-0.001	0.035	-0.053	0.230	0.428**	0.037	-0.108***
	(2.14)	(0.26)	(0.01)	(1.17)	(-0.81)	(0.41)	(2.12)	(1.34)	(-2.90)
LEO	-4.192	0.287	2.285	0.064	-0.067	0.402	-0.796**	0.072*	-0.066
	(-1.46)	(1.28)	(0.89)	(1.13)	(-0.56)	(0.44)	(-2.43)	(1.74)	(-1.06)
High skill	-3.063**	-0.065	-1.526	-0.038	0.036	0.122	-0.130	0.023	0.051*
	(-2.10)	(-0.41)	(-1.07)	(-1.39)	(0.64)	(0.28)	(-0.83)	(1.20)	(1.89)
IDD	1.578	0.149	0.992	0.024	0.092**	0.376	-0.117	-0.019	0.056**
	(1.21)	(1.51)	(0.94)	(1.29)	(2.14)	(0.95)	(-0.84)	(-1.25)	(2.25)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.36	0.43	0.34	0.14	0.14	0.28	0.24	0.53	0.28
No. observations	16,482	16,482	16,482	11,862	9,164	9,164	9,164	16,481	16,451

Table 8. Continued

Panel B. High R&D firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Emp. Relations	Cash	Book leverage
	1	2	3	4	5	6	7	8	9
LEO × IDD × High R&D	**-13.562****	**-0.497***	**-3.452***	**-0.088****	**-0.180****	**-2.376****	**-0.467***	**-0.034****	**0.036****
	(-2.42)	**(-1.94)**	**(-1.82)**	**(-2.14)**	**(-2.10)**	**(-2.03)**	**(-1.86)**	**(-2.27)**	**(2.50)**
LEO×IDD	-0.879	-0.169*	-3.468**	0.002	-0.092	0.245	0.010	0.057	-0.101
	(-0.21)	(-1.67)	(-2.19)	(0.05)	(-0.86)	(0.23)	(0.03)	(0.86)	(-1.08)
LEO×High R&D	12.693***	0.256***	5.699**	0.254***	0.185**	1.520**	0.840**	-0.060	0.069
	(3.14)	(2.65)	(2.52)	(3.28)	(2.34)	(2.42)	(2.04)	(-1.24)	(1.06)
High R&D×IDD	2.455	-0.042	0.022	0.025	0.0001	0.549	0.095	-0.017	0.018
	(1.32)	(-0.21)	(0.02)	(0.95)	(0.01)	(1.07)	(0.52)	(-0.75)	(0.54)
LEO	-1.540	0.430**	4.612*	-0.020	-0.101	-0.014	-0.628**	0.081*	-0.158***
	(-0.50)	(1.97)	(1.70)	(-0.52)	(-1.11)	(-0.02)	(-2.19)	(1.95)	(-2.71)
High R&D	-1.181	-0.059	-0.924	-0.067***	0.038	0.018	-0.080	0.049***	-0.043*
	(-0.86)	(-0.42)	(-0.73)	(-2.61)	(0.76)	(0.04)	(-0.54)	(2.90)	(-1.85)
IDD	1.575	0.215**	1.601	0.004	0.030	0.023	-0.049	0.004	0.001
	(1.08)	(2.33)	(1.58)	(0.25)	(0.68)	(0.06)	(-0.36)	(0.23)	(0.05)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.42	0.35	0.13	0.15	0.27	0.24	0.53	0.28
No. observations	18,720	18,720	18,720	14,220	9,926	9,926	9,926	18,719	18,685

Table 9. Robustness checks

This table presents robustness tests. In Panel A, *LEO* is scaled by the ratio of the number of MSA employees to the number of firm employees. In Panel B, we sort all firms into deciles based on total assets, and then we exclude firms in the top decile that are likely to operate across multiple locations. In Panel C, we interact *LEO* with *High tech*, a dummy equal to one if a firm operates in one of high-tech industries in Eckbo et al. (2018). In Panel D, we exclude the firms in which the ratio of the firm's employees to the MSA total employees belongs to the top decile (i.e., dominant local employers). In Panel E, we add *Industrial cluster* interacted with *LEO*. An MSA is classified as an industrial cluster, if 10% of the 2-digit SIC industry's market value is located in the MSA, and 10% of the market value of that MSA is accounted for by that industry. Dependent variables from year t+1, while independent variables are from year t. Industry fixed effects are defined using 2-digit SIC codes. T-statistics are reported in parentheses and computed using robust standard errors with clustering of observations at the firm level. An intercept is included and not reported. ***, **, * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. LEO adjusted for MSA size relative to firm size

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Cash	Book leverage
	1	2	3	4	5	6	7	8
Log(1 + Adjusted LEO)	0.520*	1.011***	8.048***	0.007***	0.039*	0.053***	0.042***	-0.035***
	(1.70)	(7.07)	(6.54)	(2.76)	(1.87)	(3.33)	(3.65)	(-2.85)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.45	0.37	0.12	0.14	0.27	0.53	0.28
No. observations	18,720	18,720	18,720	14,022	9,926	9,926	18,719	18,685

Table 9. Continued

Panel B. Excluding the largest firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Cash	Book leverage
	1	2	3	4	5	6	7	8
LEO	2.717**	0.380***	5.365***	0.036**	0.083**	0.696**	0.059**	-0.128**
	(2.17)	(3.19)	(2.79)	(2.45)	(2.10)	(2.27)	(2.16)	(-3.53)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.43	0.35	0.11	0.11	0.24	0.53	0.29
No. observations	16,778	16,778	16,778	12,592	8,720	8,720	16,777	16,744

Table 9. Continued

Panel C. High-tech industries

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Cash	Book leverage
	1	2	3	4	5	6	7	8
LEO	-1.622	0.259	2.125	0.078*	-0.050	-0.245	-0.133	0.109*
	(-0.72)	(1.16)	(1.14)	(1.66)	(-0.56)	(-0.21)	(-1.31)	(1.76)
LEO × High tech	**15.040*****	**0.647*****	**12.683*****	**0.047**	**0.104****	**0.605***	**0.087*****	**-0.152*****
	(2.92)	**(3.19)**	**(2.67)**	**(1.44)**	**(2.24)**	**(1.95)**	**(3.30)**	**(-3.91)**
High tech	-2.161	-0.264	-2.974	-0.009	0.094	0.594	0.079	-0.057
	(-1.32)	(-1.40)	(-1.97)	(-0.29)	(1.58)	(1.47)	(3.91)	(-2.56)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.42	0.35	0.13	0.14	0.27	0.53	0.28
No. observations	18,720	18,720	18,720	14,022	9,926	9,926	18,719	18,685

Table 9. Continued

Panel D. Excluding dominant local firms

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Cash	Book leverage
	1	2	3	4	5	6	7	8
LEO	**2.438****	**0.401*****	**5.868*****	**0.051***	**0.123****	**0.440***	**0.047*****	**-0.099*****
	(2.00)	*(2.73)*	*(3.85)*	*(1.82)*	*(2.47)*	*(1.79)*	*(2.66)*	*(-3.67)*
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.42	0.35	0.11	0.14	0.26	0.53	0.28
No. observations	16,722	16,722	16,722	12,529	8,662	8,662	16,721	16,687

Table 9. Continued

Panel E. Industrial clusters

	RFEO1	RFEO2	RFEO3	BCW	Emp. Involvement	CSR	Cash	Book leverage
	1	2	3	4	5	6	7	8
LEO	1.939*	0.090**	2.277**	0.043*	0.155*	0.542*	0.059**	-0.122***
	(1.67)	(2.04)	(2.24)	(1.89)	(1.78)	(1.90)	(2.11)	(-3.23)
LEO × Industrial cluster	**12.491***	**0.941**	**11.231***	**0.185****	**0.107****	**0.066**	**-0.052**	**0.039**
	(3.18)	***(1.58)***	***(2.83)***	***(2.21)***	***(2.20)***	***(0.06)***	***(-1.11)***	***(0.66)***
Industrial cluster	-2.568	-0.127	-2.917	-0.062	-0.082	-0.041	0.033	-0.033
	(-1.77)	(-0.59)	(-2.26)	(-2.21)	(-1.60)	(-0.10)	(1.88)	(-1.42)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R-squared	0.37	0.42	0.35	0.13	0.14	0.27	0.53	0.28
No. observations	18,720	18,720	18,720	14,022	9,926	9,926	18,719	18,685