Too Many Managers:
Strategic Use of Titles to Avoid Overtime Payments

Abstract

We exploit a federal law that affords firms the ability to avoid paying overtime wages when an employee is classified as a manager and paid a salary above a pre-defined dollar threshold. We show that listings for salaried managerial positions exhibit an 89% increase around the regulatory threshold, including the listing of managerial positions such as "directors of first-impression," "lead reservationists," and "coffee cart managers." Overtime avoidance is more pronounced when firms have stronger bargaining power and employees have weaker rights. Moreover, it is more pronounced for firms with financial constraints, and when there are weaker labor outside options in the region. We find stronger results for occupations in industries that are penalized more often for overtime violations. Our results suggest broad usage of overtime avoidance using job titles across locations and over time, persisting through the present day.

Within organizations, managerial roles are traditionally thought to encompass increased responsibility and oversight scope. In line with this enhanced responsibility, compared to their non-managerial employees, managers often receive higher salaries, larger non-salary pay (e.g., bonuses), and higher levels of other non-salary compensation and perquisites. For example, managers are often in charge of budgets and schedules, thus determining the workload and pay of others. They interview people and decide whom to hire, promote, or fire, and as such, they shape the company's employee quality.[1] Even the Federal Government recognizes the special position and class of being a "manager." In fact, the federal government has gone further to establish a law to delineate a manager from a regular employee to decide who is entitled to overtime pay.

In this paper, we exploit that federal law in investigating whether firms appear to strategically assign titles to exploit regulatory thresholds in order to pay less for "overtime" work. Specifically, we make use of a federal wage law that allows firms the ability to _not_ have to pay employees overtime wages if they hire a "manager" and pay that manager just above a certain threshold wage.[2] We investigate the extent to which companies hire employees with potentially deceptive managerial job titles (e.g., front desk ambassador) with otherwise equivalent work parameters as other non-managers in order to avoid having to pay overtime for extra hours worked. As an example, consider the Family Dollar Store,[3] which was alleged to have given a disproportionate share of employees managerial titles

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[1] According to "Exemption for Executive Employees Under the Fair Labor Standards Act (FLSA)" regulation of U.S. Department of Labor Wage and Hour division, a manager is someone whose "primary duty must be managing the enterprise, or managing a customarily recognized department or subdivision of the enterprise", "customarily and regularly direct the work of at least two or more other full-time employees", "have the authority ... for the hiring, firing, advancement, promotion or any other change of status of other employees".
https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/fs17b_executive.pdf

[2] The law – and threshold nonlinearity - are components of the Fair Labor Standards Act (FLSA), which we discuss in detail in Section 1.

[3] https://abelllaw.typepad.com/files/morgan-v.-family-dollar-stores-inc.-no.-07-12398-11th-cir.-december-16-2008.pdf

such as "Store Managers." While these employees occasionally performed managerial duties, they essentially spent 60 to 90 hours a week performing manual labor tasks such as: "stocking shelves, running the cash registers, unloading trucks, and cleaning the parking lots, floors and bathrooms," according to a class-action suit filed in 2008.[4] The plaintiffs also claimed that "store managers spent only five to 10 hours of their time managing anything." In this particular case, the court ruled that these employees' job titles didn't accurately describe what the employees did in their daily routines and awarded 1,424 "managers" $35 Million in unpaid overtime pay due to the fabricated job titles.

Such lawsuits are not rare. In fact, "overtime avoidance" ranks among the top corporate violations, as seen in Figure 1, after workplace safety violations. Perhaps more strikingly, overtime violations exceed environmental and employment discrimination violations (combined) – being more than twice as prevalent. These overtime violation lawsuits are also seen widely across industries, locations, and time (see Appendix A for a list of such overtime violations).

<Insert Figure 1 here>

Our first finding is that there is a sharp jump in firms' usage of managerial titles around the federal regulatory threshold allowing avoidance of overtime pay. In particular, we see almost a doubling (t=6.16) in the use of managerial titles just above the managerial threshold for salaried workers – allowing the firms to avoid paying overtime compensation to these workers. In contrast, we see no similar jump at other salaries near this regulatory threshold (of $23,660). In addition, many of these "managerial" titles are questionable (such as director of first impression and assistant bingo manager).

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[4] Ibid.

In sharp contrast, while unsurprisingly we observe the prevalence of managerial positions increasing as average wage levels increase, we do not observe "spikes" in the prevalence of managers around any other placebo salary thresholds nearby. In order for firms to avoid paying overtime to a managerial employee, the employee must not only be above the regulatory threshold but also be a *salaried* employee. We thus also explore the prevalence of managerial titles for hourly employees as a placebo group. We find that holding the exact same compensation threshold fixed ($23,660), we see *no* such spikes in the use of managerial titles for hourly employees (whose overtime cannot be avoided) by these same firms.

We then move on to explore in more depth the characteristics of which firms appear to utilize managerial titles most intensively just above the threshold (vs. below, and hourly) in this marked pattern, avoiding the need to pay overtime. We find first that the probability of firms' strategic use of managerial titles increases when they appear to have more bargaining power and laws governing employee protection is weaker. Specifically, strategic use of managerial titles is 30-60% (t=7.68-8.34) higher in places where union membership is lower and unemployment is higher, state laws are less protective of worker rights, and where right-to-work laws are adopted. Moreover, to explore if certain industries appear to have the willingness (or ability) to utilize this more, we begin by identifying industries with the largest number of FLSA Act violations over our sample period. These are the retail, food/drink services, janitorial/housekeeping, hotel and accommodation, and warehousing industries. We then subset the data to these industries to see if they indeed appear to be utilizing managerial titles more intensively in a manner consistent with the strategic use of titles for overtime avoidance. This appears to be the case – these industries' strategic use of managerial titles appears to be over twice that of the average industry in the sample.

In other cross-sectional tests, we find that the effect is larger in states that have lower minimum wages. Furthermore, using local credit supply shocks from shale well discoveries, we find evidence that firms' financial constraints play a role in their usage of overtime avoidance practices.

We also find that overtime avoidance is higher when firms face less competition in the labor market for the positions they are hiring, consistent with firms using the overtime rule exemption rules more intensively when they have more bargaining power vis-à-vis labor supply.

One might still ask if some industry or firm level characteristic (observable or unobservable) could be driving the relationships we see regarding the seemingly strategic use of managerial titles. For this to be the case, the characteristic would have to occur: i.) solely at the $23,660 threshold, but not at other nearby thresholds; ii.) occur only for salaried (but not hourly) employees even at this exact threshold; iii.) be stronger (more prevalent) in instances where employees have less bargaining power, where firms have more bargaining power, and even within the same locations, be more present for firms facing financial constraints.

To attempt to close this channel even more carefully, we examine a subset of our sample firms that operate establishments in multiple states simultaneously. For these firms, we are able to run a finer test, including firm fixed effects, to see whether *within* the same firm, we see evidence of more overtime avoidance through the strategic use of titles in the places where the firm's bargaining power is greater. The clear advantage of this test is that because it is exploiting variation within the same firm, it controls for cross-firm (and industry) variation, as we are examining a firm engaging in the same activities in different states. This is particularly true for the more homogeneous unit economic firms we observe (e.g., Family Dollar stores in Milton, VT vs. Tuscaloosa, AL). We find strong evidence that the same firms appear to engage significantly more in the strategic use of titles for overtime pay avoidance in states where they have relatively greater bargaining power. This is on the order of 80-90% more (t=2.10-5.30). Moreover, firms in the sub-sample of high FLSA violation industries (many

of which happen to also be in more homogenous production structures such as retail and food service) exhibit even larger effects. Lastly, we find that our results persist strongly and significantly through the present-day, in fact being even larger in point estimate in the recent period.

Our study adds to the literature that explores the effects of bright-line thresholds on firm behavior by altering managerial incentives. Many studies use such thresholds in order to establish whether regulatory policies, such as R&D tax subsidies (Dechezleprêtre, Einiö, Martin, Nguyen, and Van Reenen, 2016), regulations around pollution (Chay and Greenstone, 2005), or housing (Avery, and Brevoort, 2015) create the intended incentives for firms. More closely related to our study are the papers that examine changes in firm behavior to avoid dropping below or exceeding such thresholds. Examples include labor laws based on firms' employee count distorting firms' hiring decisions (Garicano, Lelarge, and Van Reenen, 2016), limits specified in Section 179 for bonus depreciation affecting firm investment behavior (Zwick and Mahon, 2017), 20% rule incentivizing managers in high agency cost/low institutional holding firms to structure acquisition deals in order to avoid shareholder voting (Li, Liu, and Wu, 2018), and disclosure requirements tied to public float leading firms to increase payouts to shareholders and reduce the number of shares held by affiliates (Gao, Wu, and Zimmerman, 2009). In our setting, the FLSA threshold incentivizes firms that try to avoid mandatory overtime payments to alter the job characteristics, and possibly leads to an implicit wealth transfer from employees to the firms.

Our study is also related to the literature on overtime, which essentially focuses on the effects of overtime regulations on (a) compensation, (b) employment level, and (c) labor health and well-being. On the first aspect, in one of the earlier studies on the effects of overtime on labor compensation, Trejo (1991) investigates whether increasing overtime costs indeed incentivizes firms to substitute employment for overtime hours, and finds that firms adjust base salaries to offset the additional cost of an expanded overtime pay rule. Hamermesh (2014) discusses that imposing a penalty

on employers to pay for overtime work discourages employers from demanding long hours of individual employees, and argues that policies that increase labor costs (e.g., overtime, the minimum wage, and payroll taxes) can substantially affect both employment levels and work hours. Barkume (2010) studies the effects of FLSA overtime pay regulation firms' labor costs and finds that overtime pay regulation affects the structure of compensation as jobs requiring more overtime work are often the lower-wage jobs (see also, Bell and Hart 2003, Kuroda and Yamamoto 2009, 2012). On the second aspect, the employment level, several studies test whether imposing a penalty on employers for overtime indeed increases the incentive for firms to hire more workers to undertake the tasks that could be done over time. Along these lines, a series of papers provide evidence that overtime related laws reduce firms' willingness scheduling long workdays (see Costa 2000, Hamermesh and Trejo 2000, Hart and Ma 2010, 2013, Askenazy 2013), whereas Trejo (2003) finds that increasing the statutory overtime premium or expanding FLSA coverage does not increase employment. Finally, on the effect of overtime regulations on worker well-being, Hamermesh et al. (2014) shows a positive association between overtime penalty and labor life satisfaction.

The paper proceeds as follows. Section I provides institutional background on the Fair Labor Standards Act, along with what provisions specifically we explore related to firms' obligation (and avoidance of obligation) in having to pay overtime compensation. Section II describes the multiple datasets used. Section III provides the main empirical analyses of the paper. This includes the main results regarding firms' usage of "managerial" titles, the spike in usage just around the threshold over which they allow firms to avoid paying for overtime, and which firms utilize these titles most intensively (and when). Lastly, Section IV concludes.

I. Institutional Background

The origins of overtime regulations in the United States go back to financial reforms and regulations enacted by President Franklin D. Roosevelt between 1933 and 1939 as a part of the New Deal. Before and during the great depression, employers in the US had more power compared to the workers. Firms could set wages as low as they wish, and few employers offered pensions and benefits. Anecdotal evidence suggests that workplace safety was not a priority, and unions had only limited legal protection.[5] Working hours were long (up to 16 hours a day), and many employers took advantage of high poverty rates to force their employees to work around the clock.[6] In response to deteriorating working conditions, Franklin Roosevelt wrote: "*Today there is general recognition that there should be a floor to wages and a ceiling to hours...that working conditions should be safe and healthy and that child labor should be eliminated from industry.*"[7]

The landmark labor law, Fair Labor Standards Act (FLSA), enacted in 1938, aimed to establish a national minimum wage and a forty-hour week for industry workers, but not for workers in agriculture, domestic service, and some other service areas. In addition, a set of overtime pay regulations were set to discourage companies from overworking their employees and encourage additional hiring to cover for the remaining hours not worked by their existing employees.

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[5] The great steel strike of 1919 organized by Amalgamated Association of Iron, Steel, and Tin Workers and joined by close to half of all of the steelworkers in the US, demanded higher wages, shorted work hours, and better working conditions. Neither the senate nor the employers responded to any of the employee demands. The strike was a major defeat for workers, which also led to a vast decline in union membership and strikes.

[6] For instance, a bill introduced to the senate in 1907 forbid more than sixteen consecutive hours on duty for railway employees. Railway employees expressed mixed support to the bill because it lowered their earnings too much (Aldrich, 1987 p.172).

[7] Letter of greeting on the twenty-fifth anniversary of the Department of Labor, available at https://www.presidency.ucsb.edu/documents/letter-greeting-the-twenty-fifth-anniversary-the-department-labor

Although the federal overtime provisions of FLSA has changed several times since the 1940s, the general principle remained the same: employees must receive overtime pay for hours worked over forty hours in a workweek at a rate not less than time and one-half their regular rates of pay, except for exempt employees. Currently, FLSA defines an exempt employee as one that passes the following three tests. First is the "salary basis test," which requires the employee to receive a pre-determined and fixed salary on a weekly or less frequent basis, independent of the number of hours or quantity of work performed (i.e., must be salaried as opposed to hourly). Second is the "salary test," which requires that the amount of salary the employee receives to meet the exemption threshold, which is $455/week ($23,660/year) during our sample period. Third is the "duties test," which requires the employee's work to primarily involve executive, administrative, or professional duties as defined by the regulations.

To satisfy executive duties criteria, a position's primary duty must be to manage the business or a customarily defined department or subdivision. The position must also involve supervision of two or more employees and providing some input in hiring/firing decisions. A position satisfies the administrative duties criteria if it involves office/non-manual work directly related to management or business operations and requires judgment and discretion about significant business decisions. The professional exemption applies to learned professions such as teachers, professors, doctors, dentists, registered nurses, lawyers, and clergy, which require advanced knowledge acquired through a prolonged course of intellectual instruction.[8]

While salary, pay frequency, and whether a position is a learned profession are typically externally verifiable, whether a position satisfies the executive or administrative duties criteria depends

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[8] FLSA also provides more specific exemptions based on job duties within some occupations. Details of the primary and additional exemptions are available from
https://www.dol.gov/agencies/whd/fact-sheets/17a-overtime.

on the employer's assessment of the position's responsibilities and are difficult to verify externally. Often, the only piece of directly observable information suggestive of a position's duties is the job's title. Thus, employers can strategically choose job titles to imply that a position involves managerial duties, and as such exempt from mandatory overtime payments, although the actual responsibilities of the position do not satisfy the executive or administrative duties tests.

II. Data and Sample Construction:

The primary data source for our analyses is Burning Glass Technologies dataset on job listings. In this section, we describe this and other data sources and outline our sample construction. Further detail is provided in the Appendix D.

II.1. Data Sources:

We obtain data on job listings from Burning Glass Technologies (BGT)'s online postings database for the period between January 2010 and February 2019. BGT collects data on online job postings from over 40,000 online job boards and company websites.[9] The dataset starts in 2007 but lacks postings from 2008 and 2009. Therefore, we begin our sample in 2010. Our analyses focus on full-time positions with valid data on salary, title, and pay frequency that are located in the US and posted by for-profit entities.[10] Because our interest lies in examining firms' strategic use of job

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[9] Hershbein and Kahn (2018) provides a detailed discussion of this dataset.

[10] We exclude non-business entities using NAICS codes, employer names, and position titles. In particular, we exclude all entities in NAICS codes 92-Public Administration, 813-Religious, Grantmaking, Civic, and similar Organizations, 61-Educational Services, and 62-Social Assistance and Healthcare, and employer names or position titles that include words that are typically used by government or non-profit institutions but not commonly used by businesses (e.g., "Federal Bureau

characteristics to avoid mandatory overtime payments, we examine 2,785,910 job listings that have an annualized salary within 15% above or below $23,660, which is the FLSA's salary threshold for mandatory overtime payments during our sample period.[11] Appendix B provides details of the sample selection process.

We source states' rankings based on the protection of worker rights from OXFAM America, a nonprofit organization specializing in reducing injustice and poverty. OXFAM America compiled the rankings for 2018 and 2019, and we use the 2019 rankings for our analyses. Our private-sector union membership and coverage data come from unionstats.com. This website compiles annual estimates of union membership from the monthly household Current Population Survey (CPS) using the US Bureau of Labor Statistics' (BLS) methods. The data on the enactment of right-to-work laws by state is sourced from the National Conference of State Legislatures (NCSL) 's website. NCSL compiles this data from the US Department of Labor and states' websites. In addition, we obtain data on state-level unemployment and job opening rates from the BLS's Local Area Unemployment Statistics and Job Opening and Labor Turnover Surveys, respectively.

We use the annual estimates of state population from the US Census Bureau and annual data on minimum wage by state from the US Department of Labor's website. Data on anti-immigration policies by state comes from the State Immigration Enforcement Policies report prepared by the Urban Institute, a nonprofit organization that carries out economic and social policy research to measure policy effects. The state-level data compiled for the Urban Institute report provides annual information on immigration policies up to 2016. Finally, in our tests of financial constraints, we use shale well activities studied in Gilje (2019).

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of", "Department of", "National Guard", "City/State/Town/District of", "Girl/Boy Scouts", "High School", "College", "Church", "Museum", "Institute")

[11] This threshold was set in 2004 and used until 2020. In 2020 it was increased to $35,568.

II.2. Sample Construction:

We conduct our analyses using two separate samples of job listings. The first sample includes all job listings. We define positions with managerial titles as those that include one of the following terms: "Manager," "Supervisor," "Leader," "Coordinator," "Lead," "Head," or "Director."[12] Panel A of Table 1 provides descriptive statistics for this sample. The table shows that the average annualized salary in our sample is $23,809, just above the FLSA threshold. 1.65% of the positions (about 46,000) are salaried managerial positions that pay right above the FLSA threshold, such that they marginally avoid mandatory overtime payments. Nearly half of the positions in our sample (47.9%) are located in states that passed right-to-work laws. Since information on required *Education* and *Experience* are not reported for all job listings, the observation count is lower for these variables. The average position requires two years of experience and a little less than nine years of education.

The second sample, which we refer to as the top violation industries sample, focuses on directly comparable positions and titles and includes five occupations from sectors that rank among the highest based on FLSA overtime violations according to data from the Department of Labor's Wage and Hour division. We focus on the following NAICS sectors: (44) Retail, (72) Accommodation and Food Services, (56) Administrative and Support Services, and (48) Transportation and Warehousing. These sectors rank in the top six in terms of overtime violations. The other two sectors are (62) Social Assistance and Healthcare, and (23) Construction. We exclude hospitals and medical

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[12] We do not include "President", "Chairman", "Executive", or "Chief" because these terms are common among top-executive or high-level manager titles rather than entry- or mid-level managerial titles that we focus on. We caveat that there are over 600,000 unique titles in our sample and our classifications may have some inaccuracies. However, we believe such inaccuracies are not material because after manually sorting the most common 200 titles in our sample (which represent about a third of our sample) we have not identified any misclassification of managerial titles as non-managerial or vice-versa.

institutions from our sample since we cannot distinguish among for-profit, nonprofit, and public institutions. We do not examine occupations in construction since most of the occupations in this sector involve independent contractors and do not have an identifiable manager-worker separation based on titles (e.g., welders, plumbers, carpenters, electricians).

From the top violation industries, we choose occupations that are well represented in our sample and may be more prone to misclassification due to blurrier boundaries between managerial and worker level duties. These are (i) customer-facing retail store employees, (ii) customer-facing food and drink service employees, (iii) housekeepers and janitors, (iv) hotel front-desk/reception employees, and (v) non-driving warehouse workers. Arguably, it is easier for a firm to label a receptionist as a front desk coordinator or director of first-impressions, or a restaurant host as an assistant restaurant manager, than to label a more specialized position such as CNC operators as managers. While not as comprehensive as the general sample, the top violation industries sample allows us to focus on comparable positions and reduce noise. To identify managerial and worker titles in each occupation in the top violation industries sample, we search for key terms associated with managerial and worker titles within the occupation and then comb through the results to eliminate irrelevant titles. In Appendix C, we provide a detailed description of search terms and most common managerial and worker titles by occupation.

The second sample that contains job postings from the five occupations has 215,284 job postings. Panel B of Table 1 provides descriptive statistics for this sample. Positions that avoid mandatory overtime payments are more than three times more common in this sample relative to the full sample. Specifically, 5.62% of the positions in this sample avoid mandatory overtime payments. This is consistent with our surmise that due to blurrier lines between managerial and worker level positions in these professions, it can be easier to use job titles to structure positions that avoid mandatory overtime payments in this sample. Additionally, the average position in this sample requires

less education (7.4 years) and experience (1.6 years) than that in the full sample. Statistics for firm power proxies are generally similar to those in the full sample.

<Insert Table 1 here>

III. Empirical Analysis

III.1. Diagnostics Analysis

We begin our analysis with a simple histogram of the salaried managerial positions around the FLSA threshold ($23,660) to observe whether the job postings around this cut-off exhibit an abnormal jump that is not present at other salary levels. In Figure 2, we plot the percentage of salaried managerial positions around the FLSA threshold. To do this, we first rank all job listings based on salary and graph the four million observations centered at the FLSA threshold. For each million observations, the graph presents the average realized (red bars) and unexpected (blue bars) percentage of salaried managerial positions.[13] The results show that the realized percentage of salaried managerial positions starts at 1.0% for the salary range of $16,641 - $20,800 and then increases to 1.8% in the bin immediately before the FLSA threshold ($20,801-$23,659). The percentage jumps to 3.4% in the first bin after the FLSA threshold ($23,660-$26,000) and remains at that level in the second bin after the FLSA threshold ($26,001-$29,120). The pattern indicates a marked increase in salaried managerial positions at the FLSA threshold – a jump of 89% in usage - consistent with the interpretation that firms seek to hire employees with a manager title to avoid overtime payments.

<Insert Figure 2 here>

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[13] The actual number of observations in each bin differs from a million due to ties.

Naturally, positions with a higher salary can be more likely to be managerial positions. To account for the confounding effect of salary on managerial position, we estimate an unexpected percentage of salaried managerial positions for each bin. To estimate the unexpected percentage of salaried managerial positions, we first estimate the probability of a position being a salaried managerial position based on the other observable characteristics of the position and then subtract this probability from the realization. In particular, we first estimate the following logistic model using all four million observations around the FLSA threshold:

$$SalariedManager_j = \gamma_1 + \gamma_2 Salary_j + \gamma_3 Experience_j + \gamma_4 Education_j + year_t + occ_j + ind_j + \varepsilon_{jt} \quad (1)$$

where $SalariedManager_j$ is an indicator variable equal to one if job listing j is a salaried managerial position, and zero otherwise. $Salary$ is the annualized salary of listing j. $Experience_j$ and $Education_j$ are as defined previously, and $year_t$, occ_j, and ind_j are fixed effects for year, two-digit standard occupational classification (SOC) code, and three-digit NAICS codes, respectively.[14] We then subtract the predicted values from the realization of $SalariedManager$ to arrive at our estimate of the unexpected component of $SalariedManager_j$.

The blue bars in Figure 2 show that the average unexpected percentage of salaried managerial positions is 0.7% in the bin just after the threshold. Stated differently, there are moresalaried managerial positions right above the FLSA threshold than would be expected based on observable position characteristics. In the remaining bins, we observe slightly less than expected salaried managerial positions.

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[14] For observations with missing SOC or NAICS codes we generate a separate category.

In Table 2, we test whether the jump in salaried managerial positions at the FLSA threshold is statistically significant and whether a similar jump exists for other types of positions or at alternative thresholds. In particular, we regress the percentage of salaried managerial and non-salaried managerial positions on an indicator variable (*AboveThreshold*) that takes the value of one if the observations are above the specified threshold and zero otherwise, and control variables (*Experience$_j$, Education$_j$, year$_t$, occ$_j$,* and *ind$_j$*). For each threshold, we fix the band in each direction to 15% of the original threshold of $23,660 (i.e., $3,549).[15] We find that salaried managerial positions experience a significant spike at the FLSA threshold, but not at the alternative thresholds. The coefficient of 0.017 (*t*=6.16) implies a doubling of the number of "manager" titles directly over the threshold, but no other similar spike is observed at other thresholds.

Column 6 of Table 2 then runs another placebo test surrounding the observed spike in managerial titles used at the threshold. In particular, using the exact *same* jump in compensation, we examine whether there is an equivalent spike in managerial titles for hourly employees. From Section 1, one of the three criteria for exemption involves the worker being salaried (as opposed to hourly). So if the jump we observe is due to firms' attempts to avoid overtime, we would not expect to observe the same jump for hourly employees. Column 6 tests this, showing the change in managerial title usage around the identical compensation threshold as in Column 3 of $23,660, but for hourly workers as opposed to salaried. From Column 6, non-salaried managerial positions do not display any significant increase at the FLSA threshold.

<Insert Table 2 here>

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[15] Our inferences are not sensitive to the use of 10% or 20% instead of 15%.

III.2. Overtime Avoidance:

Next, we analyze whether avoidance of mandatory overtime payments is associated with firms' bargaining power relative to employees. To do so, we first need to identify job postings that are strategically structured to avoid mandatory overtime payments. For this purpose, we rely on the FLSA overtime exemption criteria, as described in Section 2 and job description information provided in BGT dataset. Specifically,

we define job listings that marginally avoid mandatory overtime payments (*OvertimeAvoided*=1) as salaried positions with managerial titles and an annualized salary within 15% above the $23,660 threshold. We classify the remaining positions within 15% above or below the $23,660 threshold as those that do not avoid mandatory overtime payments (*OvertimeAvoided*=0). We define *OvertimeAvoided* using salary, pay frequency, and title information from BGT (*Minsalary, Payfreq,* and *Cleantitle*).

Next, armed with this measure, we estimate the following logit model to investigate whether the likelihood of observing positions that avoid mandatory overtime payments is associated with firms' power relative to employees.

$$OvertimeAvoided_j = \alpha + \beta RelPow_{st} + \delta \mathbf{K} + year_t + occ_j + ind_j + \varepsilon_{jt} \tag{1}$$

where *OvertimeAvoided_j* is an indicator variable equal to one if the job listing j marginally avoids mandatory overtime payments, and zero otherwise. *RelPow*$_{st}$ is one of the three proxies of firm power relative to employees (*FirmPowerIndex, WorkerProtectionRank,* or *RTW*) in the state s where the position is located for year t, K is the set of control variables, and *year_t*, *occ_j*, and *ind_j* are fixed effects for year, two-digit SOC codes, and three-digit NAICS codes, respectively.[16]

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[16] As reported in Appendix E Tables A1 and A2, our main inferences remain qualitative and quantitatively similar using an OLS model.

Our first firm/employee relative power proxy is *FirmPowerIndex,* which is a self-constructed index that takes a value between zero and four based on four characteristics of the state that the job is located. These characteristics are whether the state: has a lower average union membership than the median state in the same year; has a higher average annual unemployment rate than the median state in the same year; has a lower job opening rate as of the end of the year than the median state in the same year; and has right-to-work laws in place. Unions often promote labor rights by acting as a countervailing power that forces firms to bring labor standards to a competitive level (e.g., Kaufmann, 2005; Caskey and Ozel, 2017). Stronger job market conditions can also improve workers' bargaining power by providing them with more opportunities (e.g., Bils, 1985). Finally, right-to-work laws are often viewed as improving firms' bargaining power by reducing union power (e.g., Holmes, 1998; Johnson, 2020). Thus, we surmise that firms have greater bargaining power over employees for positions located in a state with a high value of the index than for positions located in a state with a low value.

Our second firm/employee relative power proxy is *WorkerProtectionRank*, rankings of each state based on its worker rights protection laws as measured by OXFAM America. In 2018 and 2019, OXFAM America ranked each state in three dimensions: wages, worker rights protection, and the right to organize. The wage dimension assesses a state's minimum wage laws and the standing of minimum wages relative to the living wage. The worker rights dimension assesses laws that protect workers' rights, such as fair scheduling, equal pay, paid/sick leaves, and protection from harassment. The right to organize dimension focuses on collective bargaining and union membership, mainly in the public sector. We use OXFAM America's 2019 rankings on workers' rights dimension as a proxy for the extent to which a state has laws aimed at protecting employee rights. Higher values for rankings imply weaker employee rights protection. Figure 3 presents the distribution of rankings across states.

Our last firm/employee relative power proxy, *RTW*, an indicator that takes a value of one for states that enacted right-to-work laws and zero otherwise. Right-to-work laws ban union security agreements that require all employees in a bargaining unit to either join the union or pay their dues for representation by the union as a condition of employment. Prior studies find that right-to-work laws have a substantial negative impact on union organization and union power in workplaces (e.g., Ellwood and Fine, 1987; Moore, 1998), and some negative effect on employee wages (Farber, 1984; Garofalo and Malhotra, 1992). These laws are correlated with policies that disproportionately benefit employers over workers, and they are used as a proxy for low employee bargaining power in prior studies (e.g., Holmes, 1998; Johnson, 2020). As such, we use right-to-work laws as an indicator of less labor-friendly sentiment in a state. As of 2019, 27 states have enacted right-to-work laws, of which five (Indiana, Michigan, Kentucky, Wisconsin, and West Virginia) occurred during our sample period.

Finally, the other variables used as control variables in our analyses are *Education* (*Experience*), which is the number of years of education (experience) required for the position as provided in the job listing. These variables have missing values for a substantial portion of observations in our sample. Therefore, we generate a missing value indicator for each of these variables and set the value of the missing value indicator (variable itself) to one (zero) when the variable's value is missing. We report our estimates from Equation (2) and marginal effects for the proxy for firm power in Table 3 using the full sample and in Table 4 using the top violation industries sample. Each column for each sample corresponds to a proxy for firm power relative to employees. All standard errors are clustered at the year level.[17]

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[17] Our inferences remain unchanged when we cluster standard errors by firm (See Appendix E Tables A3 and A4). We note, however, that while we attempt to standardize firm names across observations, firm names are incomplete or missing for a material portion of the sample, which may affect the accuracy of estimated standard errors when clustering by firm in our panel setting.

In our specification, the correlation between our main explanatory variable, state level relative firm power index, and the error term may arise if an unobserved omitted variable is confounding both the state level relative firm power index and the overtime avoidance at the same time (simultaneity bias). We think this scenario is unlikely under the assumption that no single firm is economically or politically sufficiently influential in determining the state level relative firm power index. Under this assumption, the results we documented between overtime avoidance and firm power can be interpreted as causal relations. Using a state level relative firm power index also helps mitigate another form of endogeneity concern – namely reverse causality - which would arise if we were to use a firm level index. This is again due to the plausible assumption that an individual firm cannot influence state level relative firm power index due to its size, political connections, or through other channels. Having said these, in the following section, we provide a within-firm analysis to investigate whether overtime avoidance of the same firm varies across states that have different relative firm power index.

<Insert Table 3 here>

Table 3 shows that each firm power proxy is statistically significantly and positively associated with the probability of observing overtime avoiding positions. In Column 1, the marginal effect of *FirmPowerIndex* is 0.25%. Since *FirmPowerIndex* ranges between zero and four, this estimate suggests that the probability of observing overtime avoiding positions increase by approximately 1% moving from a state with the lowest power to a state with the highest power. To put this value into perspective, given the unconditional mean of observing an overtime avoiding position in the sample is 1.64%, the size of the effect corresponds to a 61% increase relative to the unconditional mean. In Column 2, the marginal effect of *WorkerProtectionRank* is 0.02%. This suggests that the size of the effect differs by about 1.02% between the highest and the lowest-ranked states, which is comparable to the estimated effect using *FirmPowerIndex*. Finally, Column 3 shows that in states that enacted *RTW* the probability

of observing overtime avoiding positions are higher by 0.45%, which corresponds to 27.4% of the unconditional mean.

Table 4 shows that our inferences from Table 3 hold in each of the five occupations. The marginal effect of *FirmPowerIndex* is 1.89%, 2.04%, 0.50%, 0.26%, and 0.13% in occupations in retail, food/drink services, janitorial/housekeeping, hotel, and warehousing industries. Comparing these values to the unconditional means of *OvertimeAvoided* in each of these samples, moving from a state with the lowest *FirmPowerIndex* to a state with the highest *FirmPowerIndex* is associated with an increase that is equal to 82%, 45%, 141%, 41%, and 101% of the unconditional mean in retail, food/drink services, janitorial/housekeeping, hotel, and warehouse subsamples. Thus, the effect size is notably larger than the full sample in retail, janitorial/housekeeping, and warehouse subsamples. These conclusions hold for *WorkerProtectionRank (RTW)*, where the marginal effects are 0.17%, 0.18%, 0.03%, 0.02% and 0.01% (3.65%, 4.24%, 0.78%, 0.45%, and 0.18%), for the five occupations.

<center>**<Insert Table 4 here>**</center>

III.3.   Within-Firm Variation in Overtime Avoiding Positions

As we discussed above, we interpret the evidence presented in Table 3 and 4 as causal effect of relative firm power over overtime avoidance behavior because we surmise individual firms can not affect the state level relative firm power index, i.e. they take the hiring environment exogenous and decide on the overtime practices based on the policies of the states they are operating. In this section, we dig into causal effect of state level relative firm power index on overtime avoidance using a within firm specification, i.e. we investigate whether overtime avoidance of the *same firm* varies across states that have different relative firm power index. The idea here is that keeping the firm constant help us mitigate the possibility of a firm level unobserved variable (such as CEO characteristics or firm

investment opportunities) driving the results due to its correlation to state level relative firm power index.

We examine within-firm variation in overtime avoiding positions by including firm-year fixed effects in our specifications. This specification allows us to tease out variation in overtime avoidance that is driven by variation in firms' power in different states. As we mention in Footnote 15 above, while firm name information can be noisy or missing, we attempt to create entire firm-time panel data for as much of our data as possible. With this data, we then explore within-firm (across location and time) strategies that firms may be implementing. While firms may have policies in place to standardize human resources activities across different locations, regional conditions can influence the specifics of the hiring decisions. To the extent regional labor market conditions influence hiring decisions, we predict a higher likelihood of observing overtime avoiding positions when the position is located in a state where firms have a relatively stronger bargaining position than their employees.

We report results from the within-firm analyses in Table 5. In this table, we estimate conditional (i.e., fixed effects) logistic regressions of *OvertimeAvoided* on proxies for firms' power over employees using both the full sample and subsamples of job listings that satisfy data requirements. All models include firm-year fixed effects such that coefficients on variables of interest represent differences across states within the same firm. We find that within the same firm, there is a statistically significantly higher probability of observing positions that potentially avoid mandatory overtime payments when the position is in a state with stronger firm power over employees. The economic magnitude of the effects is significant. In the full sample analyses, the marginal effects for *FirmPowerIndex*, *WorkerProtectionRank*, and *RTW* are 2.0%, 0.28%, and 5.23%, respectively. When using the top violation industries sample, they are 3.80%, 0.40%, and 7.73%. Thus, the full (top violation industries) sample estimates suggest that, within the same firm, establishments in the highest *FirmPowerIndex* state are 8% (15.2%) more likely to offer positions that avoid mandatory overtime

payments than establishments that are in the lowest *FirmPowerIndex* states. These values correspond to 92% and 84% of the unconditional probability of observing such positions in the full and top violation industries samples, respectively.

<Insert Table 5 here>

III.4. Right-to-work Laws and Overtime Avoiding Positions

As our second identification test, we use the enactment of right-to-work laws in five states during our sample period as a positive shock to firm power relative to employees and examine whether the likelihood of observing overtime avoiding positions increase following the enactment of these laws. This analysis is essentially a difference-in-differences analysis in which five states enacted right-to-work laws during our sample period (Indiana, Michigan, Wisconsin, West Virginia, and Kentucky) serve as the treated sample. The treatment period for these states are determined by the enactment of right-to-work laws. Indiana and Michigan passed the right-to-work laws in 2012. Wisconsin, West Virgina and Kentucy passed the same law in 2015, 2016, and 2017, respectively.[18]

Since these laws are considered to shift power from employees to firms, we use the enactment of these laws as a shock to relative firm power. To examine whether these laws had any impact on the likelihood of observing overtime avoiding positions, we restrict our sample to firms that operate in at least one of the five states that enacted right-to-work laws and at least one other state. We further require that the sample firms have at least one job listing before and one job listing after the enactment of the RTW laws. Next, we calculate the average value of *OvertimeAvoided* by firm-year-state and, in the

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[18] Since Michigan (West Virginia) enacted its right-to-work laws on December 11, 2012 (July 1, 2016) we consider 2013 (2017) as the first year of post-enactment period. The remaining three states enacted these laws in the first three months of the year and therefore we consider the year of enactment as the first year of post-enactment.

spirit of Bertrand and Mullainathan (2001), regress this value on *RTW* indicator and state and year fixed effects. To control for firm characteristics, we include firm fixed effects.

We report results from the right-to-work enactment analysis in Table 6. The coefficient on *RTW* in the first column indicates that relative to its establishments located in states with no change in right-to-work status, a firm's establishments located in a state that enacts right-to-work laws see a 1.27% increase in overtime avoiding positions in the post-enactment period. Given that the average value of the dependent variable in this sample is 3.96%, the relative size of the effect is comparable to that we document in Table 3. In the top violation industries sample, we also find an economically and statistically significant coefficient of 5.30% on *RTW*. These values correspond to 32% and 48% of the unconditional means of the dependent variable in the full and top industries samples, respectively. Overall, in the two settings (within-firm and RTW enactment) that provide better identification of the relationship between overtime avoidance and firm power relative to employees, our results strongly support our conclusions from our baseline analyses.

\<Insert Table 6 here\>

III.5. Cross-Sectional Variation in Overtime Avoidance

The evidence we have documented thus far provides the firm/employee relative power and overtime avoidance is positive for the average firm. In this section, we turn out attention to a set of cross-sectional tests in which we compare whether the documented effect is stronger in places where firm power relative to employees is likely to be higher due to structural reasons. For this analysis, we split our sample based on three features of labor markets: size, competition and wage. The idea behind the first metric, size, is straight forward: in places where labor pool size is large, firms are more likely to engage in overtime violation because they are more likely to attract someone who is willing to

respond to the firms' job postings. We use state population, the coarsest measure of labor pool size for this purpose. Our second measure, minimum wage, is a metric that captures the level of competing wage employees can get in the state. Again, holding other factors constant, the lower the minimum wage is, the more likely for firms to find a group of people who are likely to go along with firms' overtime practices. The last measure, regarding immigration policy, aims to capture differences in labor market competition created by immigration-related policies.

We obtain annual estimates of state population from the US Census Bureau and annual data on minimum wage by state from the US Department of Labor's website. We measure anti-immigration policies of the state as the sum of three indicator variables: (i) whether employers in the state are required to verify the identity and employment eligibility of some or all newly hired employees, (ii) whether some or all counties in the state partnered with the US Immigration and Customs Enforcement to identify and remove illegal immigrants and (iii) whether the state disallows illegal immigrants to receive a driver's license. Using states' population, minimum wage, and anti-immigration policies, we split the sample from the median in each year and replicate the analyses in Table 3 and Table 4 for each subsample. Additionally, we split the sample into two from the end of 2015 to test whether our findings vary over the sample period. We report findings from each of these splits in Table 7. For brevity's sake, we report the findings using only *FirmPowerIndex*; however, unless noted otherwise, our inferences remain unchanged using *WorkerProtectionRank* or *RTW*.

<Insert Table 7 here>

Panel A of Table 7 presents findings based on the full sample. The first two columns show that our findings exhibit little variation between states with relatively high and low populations. The marginal effect of *FirmPowerIndex* and the unconditional mean of *OvertimeAvoided* are comparable between the two subsamples. Columns 3 and 4 presents the splits based on the states' minimum wage.

While we find a statistically significant relation between *FirmPowerIndex* and *OvertimeAvoided* in both columns, the marginal effect of *FirmPowerIndex* is notably stronger in states with a lower minimum wage (0.25%) relative to states with a higher minimum wage (0.08%). One potential explanation for this finding is that lower minimum wage is associated with generally weaker employee protection. As such, differences in employee protection has a stronger effect on overtime avoidance. Indeed, we observe that the average *FirmPowerIndex* is higher in the low minimum wage subsample relative to the high minimum wage subsample (2.4 vs. 1.8).

Columns 5 and 6 present splits based on the anti-immigration score of states. Since our data source for the inputs of the anti-immigration score, the Urban Institute, provides the data until 2016, our sample for this analysis ends in 2016 and contains fewer observations than the other splits. We find that the relation between *FirmPowerIndex* and *OvertimeAvoided* is statistically significant in both columns. However, the marginal effect of *FirmPowerIndex* is greater in less immigrant-friendly states (0.32%) compared to immigrant-friendly states (0.11%). One possible explanation for these results is that to the extent illegal immigrants provide cheap workforce for businesses, employers in less immigrant-friendly states face greater difficulty in hiring such workers and seek alternative ways to lower their labor costs. Thus, they resort to avoiding overtime payments more often. In our final sample split, reported in Columns 7 and 8, we do not observe any notable differences in our findings between earlier and later years of our sample period. In both periods, the relation between *FirmPowerIndex* and *OvertimeAvoided* is significant, and the marginal effects of *FirmPowerIndex* are comparable between the samples.

Panel B of Table 7 confirms our inferences from Panel A regarding the state population. Regarding the splits based on minimum wage, we find that marginal effects are lower in high minimum wage states, but the unconditional averages are also smaller for these states. Similar to Panel A, we find that results are stronger in states with high anti-immigration policies. In more immigrant-friendly

states, the results are statistically insignificant. However, we caveat that when using *WorkerProtectionRank* and *RTW,* we find that the coefficient and marginal effects are comparable between the two subsamples based on anti-immigration scores. Results based on the periods also yield similar marginal effects, albeit the unconditional averages are larger for the latter part of the sample period.

III.6. Overtime Avoidance and Firm Incentives

The evidence presented thus far suggests that overtime avoidance exists and is more likely to be related to relative bargaining power of the firm over employees. We now turn our attention to firms' incentives to engage in such practices. One potential reason why a firm chooses to use regulatory thresholds to avoid paying overtime is simply incentives. We examine two forms of incentives. First, experiencing greater competition in hiring specific employees can restrict firms' ability to avoid offering mandatory overtime paying positions. As a result, firms may become less likely to offer positions that avoid mandatory overtime payments when facing stronger competition from other firms for the same position. Second is financial constraints, which are important determinants of hiring decisions. Disruption in access to financing is associated with contractions in demand for labor (e.g., Benmelech, Bergman, and Seru, 2011; Popov and Rocholl, 2018; Benmelech, Bergman, and Papanikolaou, 2019). Thus, firms become more likely to conduct their operations with fewer workers, potentially resulting in a greater need for overtime.

To test the effect of competition for hiring on overtime avoidance, we examine the relationship between the total demand for similar occupations in the region and overtime avoidance. We measure the demand for similar occupations in the region as the total number of job listings in a given state-year-complete SOC code in our sample scaled by the total population (in millions) of the

state in the same year (*LaborDemand*). We predict that firms will be less likely to offer positions that avoid mandatory overtime payments when there is a higher demand for the occupation.

We present results from the analyses of the relationship between labor demand and overtime avoidance in Table 8. Using the full sample in the first column, we find a statistically significant and negative coefficient on *LaborDemand*. In terms of marginal effects, the estimates suggest that a 100% increase in mean *LaborDemand* (from 0.3 basis points to 0.6) is associated with 0.27% decline in the probability of observing overtime-avoiding positions. We reach similar conclusions using the top violation industries sample. The coefficient on *LaborDemand* remains statistically significant, and the marginal effect is larger compared to the full sample at 2.06% per 100% increase in mean *LaborDemand*. Overall, these findings suggest the weakening of overtime avoidance when firms face stiffer competition for the positions they are planning to hire.

<div align="center">**<Insert Table 8 here>**</div>

To test the effect of financial constraints on overtime avoidance, we follow Gilje (2019) and use natural gas shale discoveries as a shock to the availability of local credit that is exogenous to the local communities' underlying characteristics. Gilje (2019) shows that following new shale discoveries, annual deposit growth in the local banks' triples, and the number of new establishments significantly increase. To test whether the relaxation of financing constraints affects overtime avoidance, we use the following model:

(1) $$OvertimeAvoided_j = \phi + \varphi ShaleBoom_{f,t} + \eta \mathbf{K} + year_t + fips_f + occ_j + ind_j + \varepsilon_{jt}$$

where *ShaleBoom*$_{f,t}$ equals to the natural logarithm of one plus total wells discovered in the region specified by federal information processing code (FIPS) *f* from 2003 to time *t* and *fips*$_f$ is fixed effects

for FIPS codes. We define *ShaleBoom* following Gilje (2019).[19] In addition to *Experience_j, Education_{j,}* control variables include *NFirms*, the natural logarithm of the total number of firms with a job posting in the FIPS-year, to control for the number of firms hiring in the FIPS code-year. We report results from the analyses of financial constraints in Table 9.

<div align="center">**<Insert Table 9 here>**</div>

Consistent with the argument that following greater availability of credit after discoveries of new shale wells, financial constraints become less binding for local businesses, and the demand for positions that avoid mandatory overtime payments is reduced*,* we find a negative and statistically significant coefficient on *ShaleBoom.* The marginal effect on *ShaleBoom* is -0.13% in the full sample and -0.94% in the top violation industries sample, suggesting a modest effect of financial constraints on overtime avoidance.

IV. Conclusion

In this paper, we find evidence that firms strategically use titles to exploit regulatory thresholds in order to avoid paying for overtime work. Specifically, we exploit a federal wage law that allows firms not to have to pay employees overtime wages if they have a "managerial title" and are just above a certain threshold wage. We show a sharp jump in firms' usage of managerial titles around the regulatory threshold regarding mandated overtime, but not at alternative thresholds. This is true even for jobs that appear otherwise identical (except one employee is termed "manager" while the other is not).

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[19] Our inferences remain identical when we use the alternative definition of shale boom in Gilje (2019) based on an indicator variable of high well counts.

We also show that the probability of firm strategic use of managerial titles increases when they have more bargaining power and when they face tighter financial constraints. Moreover, their strategic use of titles persists through the present day, being even stronger in point estimate in the most recent period.

Stepping back, we believe that the importance of this firm-employee power dynamic is becoming, if anything, more important over time. A number of industries have been characterized by dominant firms growing larger in size and scope – seen, for instance, in their concentrating share of profits (Kahle and Stulz (2017)) – in the past decades. This, coupled with a declining private sector unionization rate since its 1950's peak, and more recent technological advances that have made contractor work more prevalent economy-wide (Chen, Chevalier, Oehlsen, and Rossi (2019)), combine in ensuring that the dynamic power relationship continues to evolve. While this changing dynamic might be optimal economy-wide, we believe it is important to keep careful track of the changing behaviors and the potential transfers between firms and employees, which occur as a result.
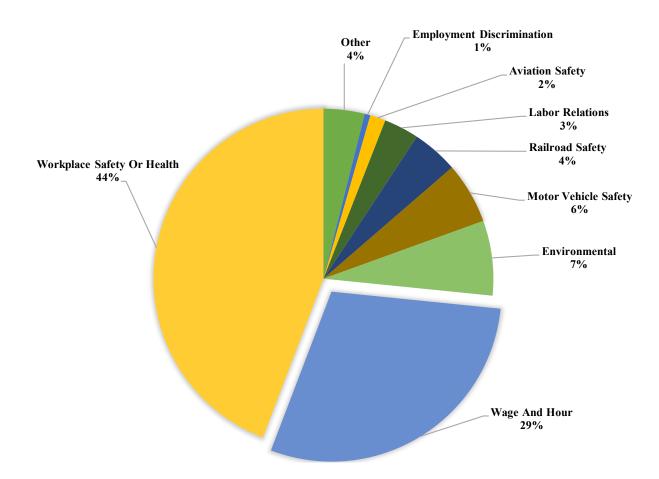
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This figure presents the distribution of the count of corporate violations by primary offense type for all offenses compiled by Good Jobs First for years 2004 through 2014. Overtime violations are included under Wage and Hour violations. According to data from the Bureau of Labor Statistics' Wage and Hour division, during this period overtime violations accounted for 57% of all back wages and penalties assessed for Wage and Hour violations.

FIGURE 2: DISTRIBUTION OF SALARIED MANAGERIAL POSITIONS AROUND FLSA THRESHOLD

This figure presents the percentage of salaried managerial positions for four million observations centered at the FLSA cut-off. The graph presents the average realized (red bars) and unexpected (blue bars) percentage of salaried managerial positions for each million observation. To estimate the unexpected percentage of salaried managerial positions, we estimate the probability of observing a salaried managerial position based on the other observable characteristics of the position using Equation (1) and then subtract this probability from the realization.
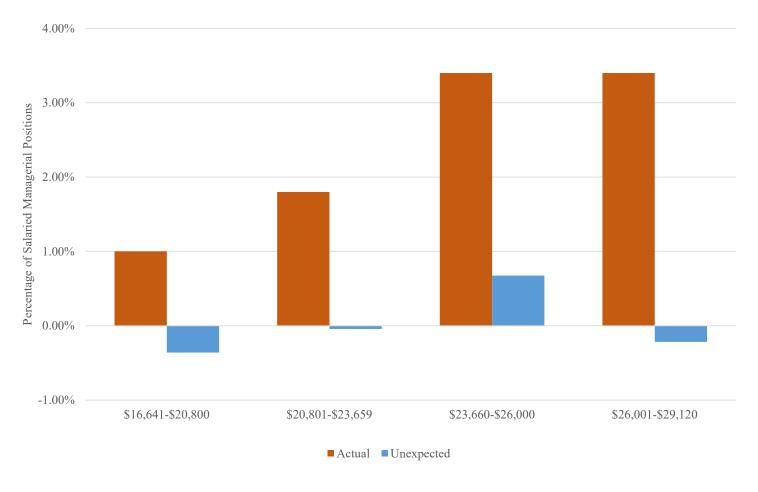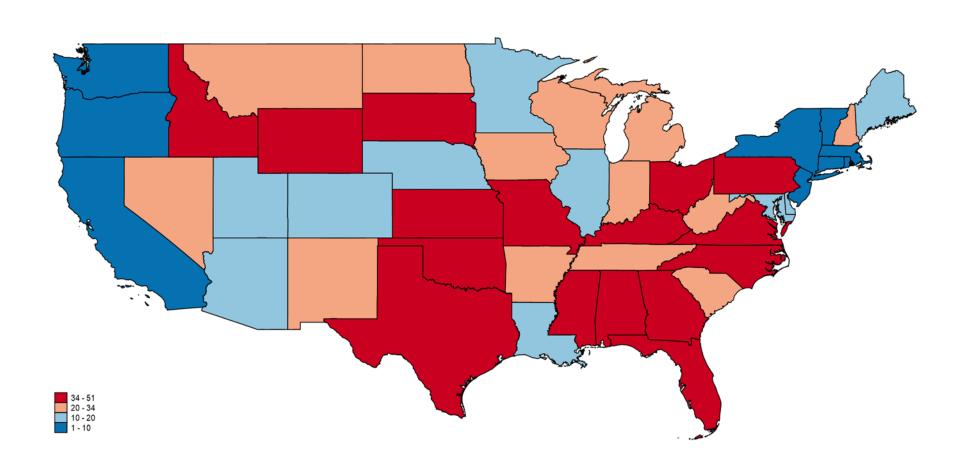
FIGURE 3: OXFAM AMERICA 2019 WORKER PROTECTION RANKINGS BY STATE

34 - 51
20 - 34
10 - 20
1 - 10

This table presents descriptive statistics for the full sample and a subsample of occupations from the top violation industries. The subsample includes listings in the five occupations listed in Appendix C. Detailed definition of each variable is reported in Appendix D.

Panel A: Full sample

	Observations	Mean	St.dev	25%	50%	75%
Salary	2,785,910	$23,809	$2,205	$21,736	$24,000	$25,000
OvertimeAvoided	2,785,910	0.016	0.127	0.0	0.0	0.0
FirmPowerIndex	2,785,910	2.1	1.0	2.0	2.0	3.0
WorkerProtectionRank	2,785,910	23.5	13.9	11.0	25.0	35.0
RTW	2,785,910	0.479	0.500	0.0	0.0	1.0
Education	1,490,314	8.8	5.8	0.0	12.0	12.0
Experience	930,071	2.0	1.9	1.0	1.0	2.0

Panel B: Top violation industries

	Observations	Mean	St.dev	25%	50%	75%
Salary	215,284	$23,489	$2,131	$21,000	$23,000	$24,960
OvertimeAvoided	215,284	0.056	0.230	0.0	0.0	0.0
FirmPowerIndex	215,284	2.1	1.0	2.0	2.0	3.0
WorkerProtectionRank	215,284	22.4	14.3	10.0	24.0	35.0
RTW	215,284	0.452	0.498	0.0	0.0	1.0
Education	133,313	7.4	6.0	0.0	12.0	12.0
Experience	62,820	1.6	1.5	1.0	1.0	2.0

TABLE 2: CHANGES IN SALARIED MANAGERIAL POSITIONS AROUND ALTERNATIVE THRESHOLDS

This table presents linear regressions of *SalariedManager* (*HourlyManager*), an indicator equal to one for salaried (hourly/daily paid) managerial positions and zero otherwise, on an indicator *AboveThreshold*, which is equal to one if the annualized salary for the position is above the specified multiple of FLSA threshold ($23,660). The band above and below each threshold is set equal to $3,549 (i.e., 15% of $23,660). Standard errors are clustered by year. t-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

Dep. Variable:	*SalariedManager*					*HourlyManager*
Threshold (multiple of $23,660):	x1.5	x1.3	Threshold	x0.7	x0.5	Threshold
AboveThreshold	-0.005	-0.025***	0.017***	-0.006**	-0.008*	0.004
	(-0.80)	(-5.04)	(6.16)	(-2.70)	(-2.12)	(1.11)
Experience	0.003***	0.003***	0.000	0.002***	0.000	0.004***
	(3.97)	(5.24)	(0.98)	(4.11)	(0.18)	(7.44)
Education	0.002***	0.002**	0.001***	0.001**	0.000	0.000**
	(3.58)	(2.94)	(3.22)	(2.42)	(0.09)	(2.31)
Year FE	✓	✓	✓	✓	✓	✓
Occupation FE	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓
Observations	1,612,809	2,103,403	2,785,910	895,847	159,530	2,785,910

TABLE 3: RELATION BETWEEN OVERTIME AVOIDING POSITIONS AND FIRM POWER

This table presents estimates from logistic regressions of *OvertimeAvoided* on proxies for firms' power over employees using all job listings that satisfy data requirements and have a salary within 15% of the FLSA overtime non-exemption threshold of $23,660 per year. We classify salaried managerial positions that pay above the threshold as positions that avoid mandatory overtime payments (*OvertimeAvoided* =1) and all other positions as overtime non-avoiding positions (*OvertimeAvoided* =0). We predict overtime-avoiding positions to be more common when firms' power relative to employees is greater. We use three state-level proxies for firms' power relative to employees: *FirmPowerIndex* (ranges from 0 to 4), *WorkerProtectionRank* (ranges from 1 to 51), and *RTW* (ranges from 0 to 1), where higher values of each proxy indicate weaker employee protection and stronger firm power. Detailed definition of each variable is reported in Appendix D. All models include years of education (*Education*) and experience (*Experience*) requirements for the job, as well as fixed effects for years, two-digit SOC codes, and three-digit NAICS industry codes as control variables. All models also include a missing value indicator for *Education* and *Experience*. We find a statistically significant positive association between each proxy for firm power and the probability of observing a position that potentially avoids mandatory overtime payments. The effects are also economically significant, as an increase in *FirmPowerIndex*, *WorkerProtectionRank*, and *RTW*, from their lowest possible values to the highest possible value implies 1.00%, 1.02%, and 0.45% increase in the probability of suspect positions, respectively, whereas the unconditional probability of observing such positions in our sample is 1.64%. Standard errors are clustered by year. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	(1)	(2)	(3)
FirmPowerIndex	0.181***		
	(7.68)		
WorkerProtectionRank		0.015***	
		(8.48)	
RTW			0.319***
			(8.34)
Education	0.030***	0.029***	0.029***
	(4.83)	(4.60)	(4.77)
Experience	0.016	0.018	0.018
	(1.27)	(1.38)	(1.42)
Year FE	✓	✓	✓
Occupation FE	✓	✓	✓
Industry FE	✓	✓	✓
Observations	2,785,910	2,785,910	2,785,910
Marginal effect of the main var.:	0.25%	0.02%	0.45%
<u>*OvertimeAvoided*</u>		1.64%	

This table presents estimates from logistic regressions of *OvertimeAvoided* on proxies for firms' power over employees using job listings in five subsamples that satisfy data requirements. The subsamples examined are positions in customer-facing retail store employees, customer-facing food and drink service employees, janitors/housekeepers, hotel front desk/reception employees, and non-driving warehouse employees. The model and variables employed are the same as those in Table 3. Detailed definition of each variable is reported in Appendix D. In all subsamples, we find a statistically significant positive association between each proxy for firm power and the probability of observing a position that potentially avoids mandatory overtime payments. The economic magnitude of the effects relative to unconditional probabilities, which are reported at the bottom of each column, are significant and mostly larger than those observed in the full sample. Standard errors are clustered by year. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Retail			Food and Drink Serv.			Janitors/Housekeepers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FirmPowerIndex	0.291***			0.198***			0.362***		
	(5.15)			(4.49)			(7.56)		
WorkerProtectionRank		0.026***			0.018***			0.022***	
		(13.99)			(8.17)			(3.65)	
RTW			0.563***			0.413***			0.564***
			(8.31)			(6.57)			(3.50)
Education	0.026*	0.023*	0.025*	-0.015	-0.015	-0.014	0.041***	0.035***	0.038***
	(1.96)	(1.78)	(1.91)	(-1.27)	(-1.38)	(-1.30)	(2.92)	(2.80)	(2.92)
Experience	0.131***	0.125***	0.129***	-0.089	-0.085*	-0.093*	0.202***	0.194***	0.209***
	(4.15)	(3.91)	(4.20)	(-1.59)	(-1.75)	(-1.81)	(5.35)	(4.83)	(5.71)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	49,934	49,934	49,934	31,354	31,354	31,354	28,351	28,351	28,351
Marginal effect of main var.:	1.89%	0.17%	3.65%	2.04%	0.18%	4.24%	0.50%	0.03%	0.78%
$\overline{OvertimeAvoided}$		9.23%			18.14%			1.42%	

TABLE 4: RELATION BETWEEN OVERTIME AVOIDING POSITIONS AND FIRM POWER IN TOP VIOLATION INDUSTRIES (CONT'D)

	Hotel				Warehouse		
	(10)	(11)	(12)		(13)	(14)	(15)
FirmPowerIndex	0.124**				0.283***		
	(2.08)				(4.27)		
WorkerProtectionRank		0.010**				0.009**	
		(2.02)				(2.46)	
RTW			0.212***				0.380***
			(3.04)				(4.10)
Education	-0.011	-0.011	-0.010		0.056***	0.054***	0.053***
	(-1.55)	(-1.52)	(-1.57)		(3.13)	(3.15)	(3.06)
Experience	0.124**	0.113**	0.124**		0.098***	0.096***	0.102***
	(2.48)	(2.27)	(2.39)		(4.35)	(4.47)	(4.78)
Year FE	✓	✓	✓		✓	✓	✓
Occupation FE	✓	✓	✓		✓	✓	✓
Industry FE	✓	✓	✓		✓	✓	✓
Observations	27,580	27,580	27,580		69,983	69,983	69,983
Marginal effect of main var.:	0.26%	0.02%	0.45%		0.13%	0.01%	0.18%
$\overline{OvertimeAvoided}$		2.57%				0.51%	

TABLE 5: WITHIN-FIRM VARIATION IN OVERTIME AVOIDING POSITIONS

This table presents estimates from conditional (i.e., fixed effects) logistic regressions of *OvertimeAvoided* on proxies for firms' power over employees using both the full sample and subsamples of job listings that satisfy data requirements. All models include firm-year fixed effects such that coefficients on variables of interest represent differences across states within firms. We classify salaried managerial positions that pay above the threshold as positions that avoid mandatory overtime payments (*OvertimeAvoided* =1) and all other positions as overtime non-avoiding positions (*OvertimeAvoided* =0). We predict that a firm that operates in multiple states is more incentivized to offer suspect positions in states where the firm has greater power over its employees. We use three state-level proxies for firms' power relative to employees: *FirmPowerIndex* (ranges from 0 to 4), *WorkerProtectionRank* (ranges from 1 to 51), and *RTW* (ranges from 0 to 1), where higher values of each proxy indicate weaker employee protection and stronger firm power. Detailed definition of each variable is reported in Appendix D. All models include years of education (*Education*) and experience (*Experience*) requirements for the job. All models also include a missing value indicator for *Education* and *Experience*. We find that there is a statistically significantly higher probability of observing positions that potentially avoid mandatory overtime payments within the same firm when the position is in a state with stronger firm power over employees. The economic magnitude of the effects is significant. For example, an increase in *FirmPowerIndex*, *WorkerProtectionRank*, and *RTW*, from their lowest possible values to the highest possible value in top violation industries samples implies a 15.2%, 20.40%, and 7.73% increase in the probability of suspect positions, respectively, whereas the unconditional probability of observing such positions in the sample is 18.17%. Standard errors are clustered by year. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Full sample			Top violation industries		
	(1)	(2)	(3)	(4)	(5)	(6)
FirmPowerIndex	0.086**			0.174***		
	(2.10)			(2.79)		
WorkerProtectionRank		0.012***			0.018***	
		(5.30)			(4.51)	
RTW			0.226***			0.359***
			(4.28)			(3.53)
Education	0.043***	0.043***	0.043***	0.030**	0.029**	0.029**
	(6.37)	(6.35)	(6.36)	(2.00)	(1.96)	(1.97)
Experience	0.149***	0.149***	0.150***	0.228***	0.225***	0.230***
	(7.12)	(7.14)	(7.13)	(3.22)	(3.21)	(3.29)
Firm-Year FE	✓	✓	✓	✓	✓	✓
Observations	254,643	254,643	254,643	29,832	29,832	29,832
Marginal effect of main var.:	2.00%	0.28%	5.23%	3.80%	0.40%	7.73%
OvertimeAvoided		8.69%			18.17%	

This table presents estimates from linear regressions of firm-state-year averages of *OvertimeAvoided* on *RTW*, an indicator variable that takes the value of one if the state has enacted *RTW* and zero otherwise. The samples consist of firms that posted job listings in a state that enacted RTW and at least one control state with no change in RTW status during our sample period. We require firms to have at least one job listing before and one listing after the RTW enacted in the treatment and control state(s). We predict and find a statistically significant increase in the percentage of positions that potentially avoid mandatory overtime payments in treatment states following RTW enactment relative to control states with no change in RTW status. Detailed definition of each variable is reported in Appendix D. All models include state and year fixed effects. Standard errors are clustered by year. t-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Full sample	Top violation industries
RTW	0.013***	0.053***
	(4.36)	(4.43)
State FE	✓	✓
Firm FE	✓	✓
Year FE	✓	✓
Observations	20,395	1,568
OvertimeAvoided	3.96%	11.00%

TABLE 7: SAMPLE SPLITS BASED ON STATE POPULATION, MINIMUM WAGE, ANTI-IMMIGRATION LAWS, AND TIME-PERIOD

This table replicates the main analyses in Table 3 and Table 4 for subsamples based on state population size, minimum wage, anti-immigration laws, and period. Panel A presents estimates using splits based on the full sample, and Panel B presents them using splits based on the top violation industries sample. For the state population, minimum wage, and anti-immigration scores, we split the sample from the median in each year. For the period, we split the sample from the end of 2015. Detailed definition of each variable is reported in Appendix D. All models include years of education (*Education*) and experience (*Experience*) requirements for the job, as well as fixed effects for years, two-digit SOC codes, and three-digit NAICS industry codes as control variables. All models also include a missing value indicator for *Education* and *Experience*. We find that our inferences from Table 3 and Table 4 hold in all subsamples. Our findings are somewhat stronger in states with lower minimum wage and in states that are less illegal-immigrant-friendly. For brevity's sake, results are tabulated using only *FirmPowerIndex*. All inferences remain the same using *WorkerProtectionRank* and *RTW*. Standard errors are clustered by year. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

Panel A: Full sample

	State Population		Minimum Wage		Anti-Immigration Score		Period	
	>Median	<Median	>Median	<Median	>Median	<Median	Pre-2016	Post-2015
FirmPowerIndex	0.165***	0.190***	0.067***	0.156***	0.241***	0.087**	0.173***	0.183***
	(5.15)	(7.95)	(3.15)	(4.36)	(9.68)	(2.10)	(7.68)	(3.63)
Education	0.031***	0.028***	0.035***	0.026***	0.055*	0.133***	0.117***	0.024***
	(4.48)	(4.89)	(4.07)	(5.18)	(1.89)	(8.83)	(11.57)	(8.19)
Experience	0.002	0.031***	0.017	0.018	0.030	0.014	0.022	-0.005
	(0.11)	(2.77)	(1.24)	(1.06)	(1.10)	(1.11)	(1.24)	(-0.52)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	1,324,813	1,456,286	1,252,382	1,531,295	577,554	1,131,615	1,394,921	1,387,131
Marginal effect of main var.:	0.23%	0.27%	0.08%	0.25%	0.32%	0.11%	0.25%	0.24%
OvertimeAvoided	1.61%	1.69%	1.31%	1.93%	1.69%	1.48%	1.56%	1.74%

TABLE 7: SAMPLE SPLITS BASED ON STATE POPULATION, MINIMUM WAGE, ANTI-IMMIGRATION LAWS, AND TIME-PERIOD (CONT'D)

Panel B: Top violation industries

	State Population		Minimum Wage		Anti-Immigration Score		Period	
	>Median	<Median	>Median	<Median	>Median	<Median	Pre-2016	Post-2015
FirmPowerIndex	0.294***	0.213***	0.148***	0.154***	0.274***	0.067	0.203***	0.290***
	(3.24)	(4.82)	(3.94)	(2.70)	(5.80)	(0.85)	(3.87)	(5.12)
Education	0.016	0.005	0.017	0.004	0.281***	0.197***	0.238***	0.001
	(1.15)	(0.50)	(1.29)	(0.39)	(2.58)	(2.81)	(3.89)	(0.14)
Experience	0.038	0.083***	0.113***	0.021	-0.031	0.104***	0.067**	0.065***
	(1.29)	(2.59)	(2.78)	(0.92)	(-0.53)	(3.82)	(2.03)	(3.08)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	101,727	110,704	100,298	111,909	34,129	67,684	80,464	131,667
Marginal effect of main var.:	1.09%	0.85%	0.41%	0.73%	1.21%	0.27%	0.97%	0.91%
OvertimeAvoided	5.57%	5.66%	3.62%	7.42%	8.50%	6.05%	4.06%	8.13%

This table presents estimates from logistic regressions of *OvertimeAvoided* on *LaborDemand*, which is the total number of in-sample job listings that are in the same state-soc code-year divided by the state's population (in millions), using both the full sample and subsamples of job listings that satisfy data requirements. Detailed definition of each variable is reported in Appendix D. All models include *FirmPowerIndex*, years of education (*Education*) and experience (*Experience*) requirements for the job, as well as years, two-digit SOC codes, and three-digit NAICS industry codes as control variables. For brevity's sake, results are tabulated using only *FirmPowerIndex* to measure firms' power over their employees. All inferences remain the same using *WorkerProtectionRank* and *RTW*. All models also include a missing value indicator for *Education* and *Experience*. We predict a lower probability of observing a position that potentially avoids mandatory overtime payments when firms face greater competition in hiring for a position, which we proxy with the *LaborDemand*. As predicted, we find a statistically significant negative association between *LaborDemand* and the probability of observing a position that potentially avoids mandatory overtime payments. Standard errors are clustered by year. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Full sample	Top violation industries
LaborDemand	-0.006***	-0.027***
	(-3.96)	(-3.23)
FirmPowerIndex	0.180***	0.240***
	(7.50)	(5.63)
Education	0.030***	0.010
	(4.98)	(0.91)
Experience	0.013	0.046**
	(1.01)	(2.15)
Year FE	✓	✓
Occupation FE	✓	✓
Industry FE	✓	✓
Observations	2,785,910	215,284

TABLE 9: THE EFFECT OF FINANCIAL CONSTRAINTS

This table presents from logistic regressions of *OvertimeAvoided* on *ShaleBoom*, the natural logarithm of one plus total shale wells discovered in the FIPS from 2003 until the year of observation. Detailed definition of each variable is reported in Appendix D. All models include years of education (*Education*) and experience (*Experience*) requirements for the job, the natural logarithm of the total number of firms with a job posting in the FIPS-year (*NFirms*) as well as fixed effects for years, two-digit SOC codes, FIPS codes, and three digit NAICS industry codes as control variables. All models also include a missing value indicator for *Education* and *Experience*. We use shale well discoveries data made available by Erik Gilje. We predict that the local credit supply shocks from shale well discoveries, as documented in Gilje (2019), would lead to a decrease in local firms' financial constraints and reduce firms' need for avoiding overtime payments. We find results consistent with this conjecture. Standard errors are clustered by year. t-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Full sample	Top violation industries
ShaleBoom	-0.096***	-0.268***
	(-3.27)	(-6.97)
Year FE	✓	✓
FIPS FE	✓	✓
Occupation FE	✓	✓
Industry FE	✓	✓
Observations	2,785,910	215,284

Panera franchisee must pay $4.6M to settle overtime suit
(6/2/2020, Restaurant Business Magazine)

The country's largest Panera Bread franchisee, Covelli Enterprises, must pay $4.6 million to settle a class-action case involving overtime pay, according to a deal that received final judicial approval late last week.

The lawsuit dates back to January 2018 when a group of Panera assistant managers in Ohio filed suit against the operator claiming that they were being forced to work without overtime pay after being wrongly classified as exempt from overtime protections.

Under the settlement, Covelli must pay $4.62 million into a settlement fund for members of the protected class, made up of more than 900 assistant managers

Collective Action Claims Publix Misclassified Certain Employees as 'Managers' to Avoid Paying Overtime (10/31/2019, Classaction.org)

Publix Super Markets, Inc. faces a proposed collective action over its alleged misclassification of certain department managers as overtime-exempt under the Fair Labor Standards Act (FLSA).

The case concerns Publix deli, bakery and meat managers given the title of "Department Manager" who were allegedly classified as overtime-exempt before April 2019. The lawsuit claims that the employees often worked over 40 hours in a week yet were not provided with time-and-a-half overtime pay due to their improper managerial exemption under FLSA standards. Moreover, the defendant also failed to keep accurate records of all hours worked, the case alleges.

According to the complaint, Publix department managers were not given the type of executive responsibilities that typically accompany overtime-exempt jobs, including tasks that require the "exercise of meaningful judgment and discretion." Department managers' duties consisted primarily of manual tasks typically reserved for non-exempt employees, such as preparing and stocking food, servicing customers and cleaning, the lawsuit says.

JPMorgan agrees to $16.7 mln settlement in overtime lawsuit
(11/6/2017, Reuters)

JPMorgan Chase & Co has agreed to pay $16.7 million to resolve a lawsuit accusing it of violating federal law by misclassifying assistant branch managers at its banks across the country and failing to pay them overtime.

The settlement, which was disclosed in a court filing on Friday, resolves two lawsuits filed in Manhattan federal court in 2014 and 2015 that were consolidated last year and certified as a nationwide collective action. The plaintiffs, claimed that even though they had no management duties, Chase classified them as exempt from overtime in violation of the Fair Labor Standards Act and New York, Connecticut and Illinois laws.

NY Judge OKs $7.8M Avis Shift Managers OT Deal
(4/28/2016, Law360.com)

Nearly 250 shift managers who sued Avis Budget Car Rental LLC over unpaid overtime wages scored final approval of a $7.8 million settlement to end two long-running Fair Labor Standards Act collective actions, according to a New York federal court order made public Thursday.

The deal closes out a pair of long-running and hard-fought collective actions filed by 249 Avis shift managers and operations managers who alleged they were wrongfully classified as exempt employees under the FLSA and, accordingly, were not paid overtime for the time they worked in excess of 40 hours a week, according to court documents.

Verizon Accused Of Misclassifying Employees To Avoid OT
(7/16/2015, Law360.com)

Verizon Communications Inc.'s New York subsidiary was hit with a proposed wage and hour class action in New York federal court Tuesday from an employee who says the company misclassifies its logistics workers as supervisors to avoid paying overtime.

Plaintiff Thomas Dillon said that he's been classified as a supervisor in Verizon New York Inc.'s logistics services division since 1993 even though in all that time he's never overseen anyone but himself. Instead, Dillon alleged, he and others like him were classified as supervisors to make them exempt employees; workers Verizon didn't have to pay for dozens of hours of overtime each week accrued over the course of years or decades.

Lowe's Settles for $9.5M in Class Action Wage Suit
(8/28/2014, Remodeling Magazine)

Nationwide retailer Lowe's struck a $9.5 million deal on Aug. 22 to end a two-year class action lawsuit alleging the company "misclassified" up to 1,750 of its human resource managers in violation of the Fair Labor Standards Act (FLSA).

The original complaint—filed by former employee and plaintiff Lizeth Lytle on Aug. 15, 2012—claimed that Lowe's violated FLSA overtime wage provisions by hiring employees as "human resources managers" but giving them the clerical duties of "low-level" human resources workers without the eligibility for overtime pay. Though her job title was that of a manager, Lytle says she lacked the authority to fire or hire, promote, discipline, or give raises to workers. Additionally, Lytle says that she and other similarly-titled employees were required to work 55 hours of work per week, but received no overtime compensation as a result.

Lytle also alleged Lowe's failed to track the hours of most, if not all of the company's human resource managers, and that the act of paying those employees on a salary basis did not meet the requirements of an FLSA-exempt status.

This isn't the first time in recent history the company has settled for a big sum. In May of this year, the retailer agreed to pay $6.5 million to settle a case alleging the company treated independent contractors like company employees without giving them any of the benefits.

Walmart Fined By Labor Department For Denying Workers Overtime Pay, Agrees To Pay $4.8 Million In Back Wages (5/22/2012, HuffPost)

On Tuesday, the Department of Labor announced that Walmart had agreed to pay $4.83 million in back wages and damages to employees it had illegally denied overtime, following an agency investigation. More than 4,000 workers, all vision center managers or asset protection coordinators, will receive money from the settlement.

While all U.S. workers are legally entitled to overtime when they work more than 40 hours a week, certain salaried managerial employees in "executive, administrative or professional" roles, are exempt from this provision under the Fair Labor Standards Act. Prior to 2007, Walmart considered its vision center managers and asset protection coordinators exempt, a policy the Department of Labor now calls a "misclassification."

Staples settles overtime lawsuits for $42M
(1/29/2010, ChainStoreAge.com)

Staples said Friday that it has agreed to pay $42 million to settle several class-action lawsuits related to overtime pay violations.

The retailer was accused of misclassifying assistant store managers as exempt from overtime compensation.

Staples will also drop its appeal of a verdict against the company last year in New Jersey; the $42 million settlement amount includes those associated with the prior New Jersey verdict. "The global settlement involves no admission of wrongdoing in connection with the allegations, which claimed that assistant store managers were misclassified as exempt from overtime pay," Staples said in a statement.

APPENDIX B: SAMPLE CONSTRUCTION

This table details the sample construction process for the job listings from the Burning Glass database.

Exclusion criteria	Remaining observations
Job postings between Jan. 2010 and Feb. 2019 with valid salary, pay frequency, and title data	26,766,972
- Positions in US territories	26,755,347
- Positions at federal/state/local government organizations and armed forces	23,165,146
- Positions at non-profit organizations	22,723,118
- Positions at elementary/middle/high schools, colleges, universities, and hospitals	18,440,018
- Positions with commission, premium, or short-term incentive-based salaries	18,334,165
- Contractor and self-employment positions	17,464,485
- Internships and part-time positions	15,839,586
- Possible duplicates (same position/job characteristics/employer/location/post week)	<u>14,716,554</u>
Full Sample	14,716,554
Positions with a salary in the range of $23,660 +/- 15%	2,785,910

Position Type (Search Terms*)	Managerial titles	Worker titles
Customer-facing Retail Store Employees (Retail, Shop, and Store)	Search Term + (Coordinator, Director, Head, Lead, Leader, Keyholder, Management, Manager, Supervisor)	Search Term + (Agent, Assistant, Associate, Attendant, Clerk, Crew, Employee, Labor, Member, People, Person, Personnel, Professional, Specialist, Sales Consultant, Sales Representative, Storekeeper, Staff, Teammate, Worker); Cashier
Top 3 Most Common Titles:	Assistant Store Manager; Store Manager; Store Team Lead	Cashier; Retail Sales Associate; Store Associate
Customer-facing Food and Drink Services Employees (Restaurant, and NAICS=722)	Search Term + (Captain, Coordinator, Director, Head, Lead, Leader, Management, Manager, Supervisor	Search Term + (Assistant, Associate, Crew member Employee, Host, Hostess, Labor, Teammate, Team member, Staff, Waiter, Waitress, Worker)
Top 3 Most Common Titles:	Assistant Manager; Restaurant Manager; Shift Manager	Host/Hostess; Crew Member; Team Member
Janitors/Housekeepers (Housekeep, Janitor, Custodia)	Search Term + (Coordinator, Director, Head, Lead, Leader, Management, Manager, Supervisor)	Search Term + (Agent, Assistant, Associate, Attendant, Cleaner, Custodian, Employee, Housekeeper, Janitor, Labor, Maid, Member, Personnel, Professional, Specialist, Staff, Worker)
Top 3 Most Common Titles:	Housekeeping Supervisor; Janitorial Supervisor; Lead Custodian	Housekeeper; Janitor; Custodian
Hotel Receptionists (Front desk, Reception, Front Office, Guest Services, Hotel, Motel, Lodge, Resort, Inn)	Search Term + (Coordinator, Lead, Head, Manager, Supervisor)	Search Term + (Agent, Associate, Concierge, Night Auditor, Receptionist, Representative)
Top 3 Most Common Titles:	Front Desk Coordinator; Front Desk Supervisor; Front Office Coordinator	Front Desk Agent; Receptionist; Night Auditor
Non-Driving Warehouse Employees (Warehouse)	Search Term + (Coordinator, Lead, Leader, Manager, Supervisor)	Search Term + (Assistant, Associate, Attendant, Clerk, Employee, Labor, Member, Person, Staff, Specialist, Warehouseman, Worker)
Top 3 Most Common Titles:	Warehouse Lead; Warehouse Manager; Warehouse Supervisor	Warehouse Associate; Warehouse Worker; Warehouse Clerk

* We manually go through all search results to eliminate irrelevant titles.

APPENDIX D: VARIABLE DEFINITIONS

Variable name	Description	Data source (Source variable)
OvertimeAvoided	Indicator variable equal to one if the job listing is for a salaried managerial position that pays just above the overtime payment avoidance threshold (i.e., within 15%, between $23,660 and $27,209), and zero otherwise.	Burning Glass (Minsalary, PayFreq and CleanTitle)
FirmPowerIndex	A state-level index of firms' power over employees that takes a value between 0 (Weak firms) and 4 (Powerful firms). The index is a sum of four indicator variables that indicate whether: - the state has right-to-work laws in place - the average union membership in the state is below the median state in the same year - the state's annual average unemployment rate is above the median state in the same year - the job opening rate as of the year end in the state is below the median state in the same year	Authors' calculations using data from National Conference of State Legislatures, UnionStats, Bureau of Labor Statistics
WorkerProtectionRank	A state's annual ranking among all 51 states based on the strength of its worker protection laws as of 2019	OXFAM America (Worker Protection Rankings)
RTW	Indicator variable equal to one if a state has right-to-work laws in place in a given year, and zero otherwise	National Conference of State Legislatures
LaborDemand	The total number of in-sample job listings in the same state-soc code-year divided by the state's population (in millions), using both the full sample and subsamples of job listings that satisfy data requirements	Burning Glass and Census
ShaleBoom	Natural logarithm of one plus total shale wells discovered in the FIPS code from 2003 until the year of observation.	Gilje (2019)
Education	The number of years of education required for the position as provided in the job listing. When missing it is set equal to zero.	Burning Glass (Minedu)
Experience	The number of years of experience required for the position as provided in the job listing. When missing it is set equal to zero.	Burning Glass (Minexp)
MissEdu(MissExp)	Indicator variable equal to one if the number of years of education (experience) required is missing from the job listing, and zero otherwise.	-

TABLE A1: RELATION BETWEEN OVERTIME AVOIDING POSITIONS AND FIRM POWER (WITH OLS)

This table presents estimates from OLS regressions of *OvertimeAvoided* on proxies for firms' power over employees using all job listings that satisfy data requirements and have a salary within 15% of the FLSA overtime non-exemption threshold of $23,660 per year. We classify salaried managerial positions that pay above the threshold as positions that avoid mandatory overtime payments (*OvertimeAvoided* =1) and all other positions as overtime non-avoiding positions (*OvertimeAvoided* =0). We predict overtime-avoiding positions to be more common when firms' power relative to employees is greater. We use three state-level proxies for firms' power relative to employees: *FirmPowerIndex* (ranges from 0 to 4), *WorkerProtectionRank* (ranges from 1 to 51), and *RTW* (ranges from 0 to 1), where higher values of each proxy indicate weaker employee protection and stronger firm power. Detailed definition of each variable is reported in Appendix D. All models include years of education (*Education*) and experience (*Experience*) requirements for the job, as well as fixed effects for years, two-digit SOC codes, and three-digit NAICS industry codes as control variables. All models also include a missing value indicator for *Education* and *Experience*. Standard errors are clustered by year. t-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	(1)	(2)	(3)
FirmPowerIndex	0.0024***		
	(7.56)		
WorkerProtectionRank		0.0002***	
		(6.35)	
RTW			0.0044***
			(7.74)
Education	0.0008**	0.0008**	0.0008**
	(2.78)	(2.69)	(2.74)
Experience	0.0006	0.0006	0.0006
	(1.66)	(1.64)	(1.72)
Year FE	✓	✓	✓
Occupation FE	✓	✓	✓
Industry FE	✓	✓	✓
Observations	2,785,910	2,785,910	2,785,910

TABLE A2: RELATION BETWEEN OVERTIME AVOIDING POSITIONS AND FIRM POWER IN TOP VIOLATION INDUSTRIES (WITH OLS)

This table presents estimates from OLS regressions of *OvertimeAvoided* on proxies for firms' power over employees using job listings in five subsamples that satisfy data requirements. The subsamples examined are positions in customer-facing retail store employees, customer-facing food and drink service employees, janitors/housekeepers, hotel front desk/reception employees, and non-driving warehouse employees. The model and variables employed are the same as those in Table 3. Detailed definition of each variable is reported in Appendix D. Standard errors are clustered by year. t-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Retail			*Food and Drink Serv.*			*Janitors/Housekeepers*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FirmPowerIndex	0.0208***			0.0219***			0.0058***		
	(6.90)			(5.65)			(3.29)		
WorkerProtectionRank		0.0018***			0.0018***			0.0003***	
		(8.83)			(7.91)			(3.28)	
RTW			0.0410***			0.0460***			0.0080**
			(8.29)			(5.89)			(2.46)
Education	0.0023*	0.0020*	0.0022*	-0.0007	-0.0009	-0.0008	0.0006	0.0005	0.0005
	(2.22)	(1.94)	(2.20)	(-0.50)	(-0.70)	(-0.63)	(1.20)	(1.07)	(1.13)
Experience	0.0082	0.0076	0.0080	-0.0068	-0.0069	-0.0073	0.0097**	0.0096**	0.0098**
	(1.32)	(1.20)	(1.27)	(-0.82)	(-0.90)	(-0.92)	(2.61)	(2.59)	(2.62)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	49,934	49,934	49,934	31,354	31,354	31,354	28,351	28,351	28,351

TABLE A2: RELATION BETWEEN OVERTIME AVOIDING POSITIONS AND FIRM POWER IN TOP VIOLATION INDUSTRIES (WITH OLS) (CONT'D)

	Hotel				Warehouse		
	(10)	(11)	(12)		(13)	(14)	(15)
FirmPowerIndex	0.0023				0.0011**		
	(1.61)				(2.57)		
WorkerProtectionRank		0.0002**				0.0000	
		(2.48)				(1.41)	
RTW			0.0044**				0.0016**
			(3.05)				(2.76)
Education	-0.0002	-0.0002	-0.0002		0.0005*	0.0005*	0.0005*
	(-0.59)	(-0.66)	(-0.61)		(1.93)	(1.93)	(1.92)
Experience	0.0044*	0.0042*	0.0044*		0.0020**	0.0020**	0.0020**
	(2.18)	(2.08)	(2.18)		(2.68)	(2.65)	(2.67)
Year FE	✓	✓	✓		✓	✓	✓
Occupation FE	✓	✓	✓		✓	✓	✓
Industry FE	✓	✓	✓		✓	✓	✓
Observations	27,580	27,580	27,580		69,983	69,983	69,983

This table presents estimates from logistic regressions of *OvertimeAvoided* on proxies for firms' power over employees using all job listings that satisfy data requirements and have a salary within 15% of the FLSA overtime non-exemption threshold of $23,660 per year. We classify salaried managerial positions that pay above the threshold as positions that avoid mandatory overtime payments (*OvertimeAvoided* =1) and all other positions as overtime non-avoiding positions (*OvertimeAvoided* =0). We predict overtime-avoiding positions to be more common when firms' power relative to employees is greater. We use three state-level proxies for firms' power relative to employees: *FirmPowerIndex* (ranges from 0 to 4), *WorkerProtectionRank* (ranges from 1 to 51), and *RTW* (ranges from 0 to 1), where higher values of each proxy indicate weaker employee protection and stronger firm power. Detailed definition of each variable is reported in Appendix D. All models include years of education (*Education*) and experience (*Experience*) requirements for the job, as well as fixed effects for years, two-digit SOC codes, and three-digit NAICS industry codes as control variables. All models also include a missing value indicator for *Education* and *Experience*. Standard errors are clustered by firm, where listings with missing firm names are treated as a separate cluster. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	(1)	(2)	(3)
FirmPowerIndex	0.181***		
	(8.54)		
WorkerProtectionRank		0.015***	
		(10.12)	
RTW			0.319***
			(7.35)
Education	0.030***	0.029***	0.029***
	(6.22)	(6.02)	(6.19)
Experience	0.016	0.018	0.018
	(0.72)	(0.80)	(0.81)
Year FE	✓	✓	✓
Occupation FE	✓	✓	✓
Industry FE	✓	✓	✓
Observations	2,785,910	2,785,910	2,785,910
Marginal effect of main var.:	0.25%	0.02%	0.45%
OvertimeAvoided		1.64%	

This table presents estimates from logistic regressions of *OvertimeAvoided* on proxies for firms' power over employees using job listings in five subsamples that satisfy data requirements. The subsamples examined are positions in customer-facing retail store employees, customer-facing food and drink service employees, janitors/housekeepers, hotel front desk/reception employees, and non-driving warehouse employees. The model and variables employed are the same as those in Table 3. Detailed definition of each variable is reported in Appendix D. Standard errors are clustered by firm, where listings with missing firm names are treated as a separate cluster. z-stats are reported in parentheses. ***, **, and * indicate statistical significance at a two-sided 1%, 5% and 10% level, respectively.

	Retail			Food and Drink Serv.			Janitors/Housekeepers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FirmPowerIndex	0.291***			0.198***			0.362***		
	(5.94)			(2.97)			(5.77)		
WorkerProtectionRank		0.026***			0.018***			0.022***	
		(9.03)			(4.03)			(7.91)	
RTW			0.563***			0.413***			0.564***
			(8.03)			(3.56)			(5.26)
Education	0.026	0.023	0.025	-0.015	-0.015	-0.014	0.041**	0.035**	0.038**
	(1.39)	(1.23)	(1.34)	(-0.89)	(-0.97)	(-0.90)	(2.40)	(2.09)	(2.24)
Experience	0.131***	0.125***	0.129***	-0.089	-0.085	-0.093	0.202***	0.194***	0.209***
	(2.92)	(2.79)	(2.83)	(-0.78)	(-0.75)	(-0.82)	(12.14)	(11.55)	(11.28)
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Occupation FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industry FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	49,934	49,934	49,934	31,354	31,354	31,354	28,351	28,351	28,351

TABLE A4: RELATION BETWEEN OVERTIME AVOIDING POSITIONS AND FIRM POWER IN TOP VIOLATION INDUSTRIES (FIRM CLUSTERS) (CONT'D)

	Hotel				Warehouse		
	(10)	(11)	(12)		(13)	(14)	(15)
FirmPowerIndex	0.124**				0.283***		
	(2.57)				(4.99)		
WorkerProtectionRank		0.010***				0.009*	
		(2.60)				(1.87)	
RTW			0.212**				0.380***
			(2.38)				(3.16)
Education	-0.011	-0.011	-0.010		0.056***	0.054***	0.053**
	(-0.81)	(-0.82)	(-0.81)		(2.62)	(2.60)	(2.53)
Experience	0.124*	0.113*	0.124*		0.098***	0.096***	0.102***
	(1.89)	(1.67)	(1.87)		(3.79)	(3.69)	(3.97)
Year FE	✓	✓	✓		✓	✓	✓
Occupation FE	✓	✓	✓		✓	✓	✓
Industry FE	✓	✓	✓		✓	✓	✓
Observations	27,580	27,580	27,580		69,983	69,983	69,983