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Abstract

We measure the real effects of private equity buyouts on worker outcomes by building a new database that links transactions to matched employer-employee data in the United States. To guide our empirical analysis, we derive testable implications from three theories in which private equity managers alter worker outcomes: (1) exertion of monopsony power, (2) breach of trust of implicit contracts with workers, and (3) efficient reallocation of workers across plants. We do not find any evidence that private equity-backed firms vary wages and employment based on local labor market power proxies. Moreover, layoffs and wage losses are very similar across occupation and employee characteristics, suggesting a rejection of the breach of trust hypothesis. We find strong evidence that private equity managers downsize less productive plants relative to productive plants while simultaneously reallocating high-wage workers to more productive plants. We conclude that post-buyout employment and wage dynamics are consistent with professional investors providing incentives to increase productivity and monitor the companies in which they invest.

Keywords: Private equity, employment, wages, monopsony, market power, productivity.

JEL classification: G20, G34, L1

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1 Introduction

The ten-fold growth of the private equity (PE) industry since the Global Financial Crisis has triggered a flurry of attention to its consequences. However, academic consensus about the role of this financial intermediary has been elusive. While a growing literature documents detrimental effects on employment (Davis et al. (2014); Olsson and Tåg (2017); Antoni et al. (2019)), a series of industry studies — ranging from airports (Howell et al. (2022)) to banks (Johnston-Ross et al. (2021)) to newspapers (Ewens et al. (2022)) to restaurants (Bernstein and Sheen (2016)) to for-profit schools (Eaton et al. (2020)) — has come to widely divergent conclusions about the consequences of these transactions. Even across studies of the same industry, such as nursing homes (e.g., Gandhi et al. (2023); Gupta et al. (2023)), consensus has been hard to reach. Policymakers, on the other hand, appear to have been influenced more by popular accounts of these transactions (Ballou (2023); Morgenson and Rosner (2023); Olson (2022)), which emphasize the detrimental effects of individual transactions on workers and customers, as well as the market power of PE groups. For example, the 2023 Merger Guidelines from the Department of Justice and the Federal Trade Commission added new language that may be used to challenge private equity-sponsored acquisitions.

Thus, gaining a better understanding of the role of private equity firms is of first-order importance for policymakers and regulators. To do so requires tests of explicit, competing theories of where any ex post changes in performance might come from and also more granular data than the firm- and establishment-level information upon which many of the studies rely, at least those using U.S. data (e.g., Davis et al. (2014, forthcoming)). In this paper, we exploit worker-level data to undertake an in-depth exploration of the effects of private equity on labor markets. The focus on broad labor market (as opposed to consumer) outcomes allows us to avoid the interpretative issues of the specific industry studies above.

We seek to formalize and test three views of the role of private equity groups. The first is that the groups have gained substantial market power within industries in localized markets, which allows them as monopsonists to reshape labor contracts. The impact of monopsonistic behavior on workers has increasingly been appreciated by labor economists (see, for instance, the papers summarized in Ashenfelter et al. (2022)). Second, we test the "breach of trust" hypothesis of Shleifer and Summers (1988). They argue that buyouts can generate private value if the new ownership breaches implicit or explicit contracts with stakeholders — including laborers — to shift rents toward shareholders. Lastly, we examine the possibility that these transactions are driven by efficiency considerations. Managers in protected industries do not have competitive pressure to adopt the latest management practices, so the effects should be stronger there. And given the difficulty of achieving productivity gains in existing facilities (a literature summarized in Foster et al. (2019)), we should also see a reallocation of employees from less to more efficient facilities.

Unlike most of the existing literature, our data allows us to follow individual workers after private equity buyouts and to analyze the fate of workers in different labor markets and with different skill levels. Since our data covers every labor market in the United States — by far the largest market for private equity investment worldwide — we can test for monopsony by comparing how firms alter wages and employment in markets where they control large and small shares of local payroll and employment.

We first confirm the existing literature's finding of significant employment losses after private equity buyouts. We identify the effects of private equity by comparing a group of workers employed in the quarter before the buyout (the treatment group) to a carefully chosen set of control workers. Unlike existing studies that rely on Propensity Score Matching (preserving sample size at the expense of balance), we use Coarsened Exact Matching (prioritizing balance at the expense of sample size) to mitigate selection issues that plague other matching estimators (see Iacus et al. (2012)). We impose strict calipers and match on a rich set of national-level firm characteristics, state-level firm characteristics, and worker-level wage histories. With our matched treatment and control group in hand, we show that three years after a private equity deal, treated workers suffer roughly 20% earnings losses relative to control workers. Treated workers are also less likely to obtain subsequent employment after a buyout. These results suggest that at least a subset of workers are indeed harmed by post-buyout layoffs.

While existing work has already documented significant productivity gains occurring through labor reallocation, plant closures, and subsequent acquisitions and divestitures,[1] there is little understanding of what drives the wage and employment responses at continuing plants. To guide our empirical exploration of the mechanisms, we formalize and derive testable implications from three theories in which private equity managers alter worker outcomes: (1) exertion of monopsony

[1] See Kovenock and Phillips (1997) and Davis et al. (2014).

power, (2) breach of trust, and (3) efficient reallocation of workers across plants.

Using rich data on market characteristics and demographics, we test for monopsony by comparing the way firms alter wages and employment in markets where they control large and small shares of local payroll and employment. Following much of the existing literature, we define a market as a NAICS3 industry code within a commuting zone and compute each firm's employment and wage bill share of the local labor market (see Berger et al. (2022)). Our identification approach compares treated workers in the same firm but in differentially concentrated labor markets. This within-firm-across-market identification approach does not rely on a control group of workers and thus harnesses the full set of approximately two million treated workers in our sample. However, in all specifications, we recover precisely estimated null effects of private equity on wages and employment in more concentrated markets. This result is robust to stratifying markets by local payroll shares, local Herfindahl–Hirschman indexes (henceforth Herfindahls), shares of new hires, and worker outflow rates. We conclude that the exertion of monopsony power is an unlikely explanation for the large earnings and employment losses after private equity buyouts.

We then test the "breach of trust" hypothesis of Shleifer and Summers (1988). They argue that buyouts can generate private value if the new ownership breaches implicit or explicit contracts with stakeholders – including laborers – in order to shift rents toward shareholders.[2] Our unique linkage with the 2000 Decennial Census long form provides a rich set of proxies for laborer rents based on occupation and demographic data. We document a common incidence of layoffs and wage losses across wage levels, occupations, genders, and races, suggesting a rejection of the "breach of trust" hypothesis.

Finally, we examine evidence that the post-buyout employment and wage dynamics are driven by efficiency concerns. Our triple-difference identification strategy compares the employment outcomes across treatment and control workers at productive and unproductive plants. We find that private equity managers downsize less productive plants relative to productive plants and reallocate high-wage workers to more productive plants. Our evidence suggests that post-buyout employment and

[2]Note that breach of trust is distinct from monopsony power. Breach of trust concerns rent extraction in existing relationships (among incumbents). Employment may be at the socially efficient level. Monopsony power on the other hand involves rent extraction from incumbents and potential hires. Monopsonists cut employment below efficient levels in order to extract rents from incumbent workers. While the concepts are related, breach of trust requires a notion of "trust," which is a trait of existing relationships. Monopsonists extract rents by underhiring and thus harming unemployed workers in their local labor market, with which they may have no existing relationship.

wage dynamics are driven by efficiency considerations. This is consistent with professional investors providing incentives to increase productivity and monitoring the companies in which they invest (Bloom et al. (2015)).

Our approach has several advantages over the existing literature. We look at the full sample of buyouts in the U.S., by far the largest such market globally. This breadth can be contrasted with several of the industry-specific studies cited above, whose samples are dominated by a small number of transactions (even if they comprise many establishments). Our focus on the labor market consequences of these transactions allows us to create a theoretical framework to formalize several hypothesized impacts of these investments more formally. Finally, the implications of private equity investments for labor have frequently been articulated as a concern by industry critics. At the same time, we are necessarily limited in the scope of the questions that we ask, not examining questions about product market behavior and the welfare implications for consumers that have been the focus of many industry studies.

Literature. In terms of theory, our article links two literatures. The first is the well-developed literature on agency costs and the theory of the firm (Jensen and Meckling (1976), Jensen (1986), Hart (1995)), which has been extended in numerous directions, such as mergers, takeovers, and private equity buyouts (Hart (1995), Axelson et al. (2009), and Cuny and Talmor (2007) among others).

A second, equally well-developed literature exists on monopsony power. The original theory of neoclassical monopsony by Robinson (1933) has been extended in many ways, including to dynamic settings (e.g., Burdett and Mortensen (1998) and Manning (2011)) and theories of oligopsony (Berger et al. (2022), Jarosch et al. (2024), Gottfries and Jarosch (2023), Berger et al. (2024)). Despite the potential importance of rent extraction in private equity deals (e.g., Shleifer and Summers (1988)), the theoretical literature has largely ignored the way ownership structure affects monopsony power. Recently, Berger et al. (2023) has linked the extent of neoclassical monopsony power to ownership structure in the context of mergers. Berger et al. (2023) argue that when profit maximizing managers control multiple plants within a local labor market, they exploit their larger market share and pay workers less, ceteris paribus. In contrast, we posit a theory in which transfers of ownership through private equity buyouts directly alter the objectives of managers, independent of whether the buyout consolidates ownership of multiple plants within the same labor market. This theory yields novel predictions that we test using the newly linked data about U.S. buyouts on the one hand and matched employers and employees on the other.

In terms of empirical studies, our paper contributes to a nascent but growing literature that measures the effects of private equity buyouts on labor market outcomes. Early firm-level analysis of leveraged buyouts is summarized by Wright et al. (2009). Influential work by Kaplan (1989) found positive effects of buyouts on employment, whereas Lichtenberg and Siegel (1990) found sizeable reductions in white-collar employment after buyouts in U.S. manufacturing.

As identification methods and data improved, subsequent work on private equity and employment bifurcated into economy-wide and industry-specific studies. Influential economy-wide studies outside the U.S. include Amess and Wright (2007), who report significant employment declines after buyouts in the U.K., while Boucly et al. (2011) attribute post-buyout employment gains in France to the relaxation of financing constraints. In the U.S., Davis et al. (2014) use matching techniques and find moderate annual employment losses of about one percent in the five years after a buyout. Follow-on work by Davis et al. (forthcoming) documents the heterogeneous effects of buyouts by type of deal. A number of influential industry-specific studies have also measured the employment effects of buyouts. Ewens et al. (2022) document declines in reporter employment after newspaper buyouts, Gupta et al. (2023) report moderate reductions in nurse hours after nursing home buyouts, and Howell et al. (2022) find small declines in airport employees per passenger after airport buyouts.

While the majority of the existing literature has focused on firm-level data, there are a handful of primarily non-U.S. studies that have successfully linked buyouts to worker-level panels.[3] Olsson and Tåg (2017) argue that private equity buyouts trigger offshoring and routinization in Sweden. Antoni et al. (2019) use a matching estimator on German data and find employment losses of approximately 12% and earnings losses of about 20% three years after a buyout. They also explore the heterogeneous effects of buyouts on workers, finding larger layoffs among low-tenure workers, white collar workers, and low-wage workers. They find no effects on manager employment levels, but they do find evidence of pay reductions among managers. In related work, Fang et al. (2023)

[3] In terms of U.S. studies, Agrawal and Tambe (2016) use resume data from an online job board and estimate positive employment effects when IT investments are significant after acquisition. Nelson (2022) uses SDC platinum and the LEHD to study LBOs and pay in a smaller subset of states, focusing only on public deals and an orthogonal set of hypotheses to this paper.

study the effects of buyouts on wage gaps across demographic groups in French data. They find that wage inequality falls after buyouts, as PE firms replace expensive employees with cheaper ones. While existing work provides related tests (and rejections) of "breach of trust" theories, our primary contribution is proposing and testing theories of monopsony and efficient reallocation.

While there is a rapidly growing literature on labor dynamics after mergers (e.g. Arnold (2020), Arnold et al. (2023), Lagaras (forthcoming), He and Le Maire (2020)), there are no systematic studies, to our knowledge, linking private equity buyouts to monopsony power. Despite the rollout of new merger guidelines designed to mitigate market power stemming from private equity buyouts (DOJ and FTC, 2023b), we provide the first tests of the way private equity ownership interacts with labor market power.

The remainder of the paper is organized as follows. Section 2 formalizes theories of private equity and labor. Section 3 describes our data construction. Section 4 summarizes our main analysis samples. Section 5 describes the average effects of buyouts on workers. Section 6 tests for monopsony effects of buyouts. Section 7 tests the breach of trust hypothesis. Section 8 tests for efficient reallocation. Finally, Section 9 concludes the paper.

2 Theory

To guide our empirical exercises, we consider several theories about how private equity managers affect worker outcomes.

Our first theory explores the idea that managerial and shareholder incentives are misaligned (Jensen and Meckling (1976)) and that incumbent managers have relationship capital with workers, which limits the extent to which they exert monopsony power. We assume that private equity managers are offered incentive contracts that better align managerial incentives with profit maximization (Kaplan (1989)). After a private equity buyout, our theory predicts that markdowns (the gap between what a worker produces and is paid) widen, employment falls, and output per worker increases.[4]

Our second theory explores the "breach of trust" hypothesis of Shleifer and Summers (1988). We assume that, due to prior long-term implicit or explicit commitments, incumbent managers

[4]A parallel logic applies to monopoly power, as opposed to monopsony power. After a buyout, the weight placed on consumer welfare prior to the buyout mitigates markups and increases employment and output.

suffer reputational costs from layoffs. We assume that reputational costs of layoffs are increasing in wages, reflecting the idea that there are greater costs of breaching implicit contracts such as lifetime employment among senior managers or back-loaded pay contracts that facilitate training (Shleifer and Summers, 1988). Our theory predicts that private equity managers concentrate layoffs among higher-wage workers.

Our third theory is based on managerial ability and efficient reallocation (Maksimovic and Phillips (2002), Bloom et al. (2015)). We assume that incumbent managers operate multiple plants and that they have noisy signals about relative plant productivity when making hiring decisions. Private equity managers have more precise signals about relative plant productivity, which can be thought of as reflecting greater incentive pay tied to gathering and interpreting regional demand forecasts and having higher skill to improve productivity at the target plants. Our theory predicts that private equity managers are more responsive to productivity differentials across plants. Relative to incumbent managers, the prediction is that private equity managers reallocate employment by upscaling productive plants and downscaling unproductive plants.

2.1 Monopsony and manager incentives

First, we develop a simple model to quantify the effects of a private equity buyout on worker pay, wages, and monopsony power.

Workers. The stand-in worker takes prices as given.[5] The worker consumes final goods and has linear utility over consumption, and a Frisch labor supply elasticity of ϵ. Profits are rebated to the household lump sum and are denoted as Π. The stand-in worker solves the following problem:

$$\max_{l} \quad c - \frac{1}{1+\frac{1}{\epsilon}} l^{1+\frac{1}{\epsilon}}, \quad s.t. \qquad c \leq wl + \Pi$$

The worker's first-order conditions yield the inverse labor supply curve ($w = l^{\frac{1}{\epsilon}}$) and labor supply curve ($l = w^{\epsilon}$). Worker welfare can be written $W = wl + \Pi - \frac{1}{1+\frac{1}{\epsilon}} l^{1+\frac{1}{\epsilon}}$.

Incumbent manager. The stand-in incumbent manager has managerial ability (productivity) z and operates a non-increasing returns to scale production function $y = zl^{\alpha}$, where $\alpha \in (0, 1]$. The manager places weight $\pi \in [0, 1]$ on profits and $1 - \pi$ on worker welfare. This weighting is designed

[5] The stand-in worker problem can be micro-founded using discrete choice tools as in Berger et al. (2022).

to capture the misalignment of manager and shareholder objectives (Jensen and Meckling (1976)), and can be viewed as the perquisites of managers or "relationship capital" between managers and workers. Incumbent managers internalize their effect on labor supply, yielding monopsony power (Robinson (1933)).[6] The incumbent manager's problem is,

$$\max_{l} \ \pi \left(zl^{\alpha} - w\left(l\right)l\right) + \left(1-\pi\right) \underbrace{\left[zl^{\alpha} - w\left(l\right)l + w\left(l\right)l - \frac{1}{1+\frac{1}{\epsilon}} l^{1+\frac{1}{\epsilon}}\right]}_{\text{Worker welfare } W}, \quad s.t. \qquad w = l^{\frac{1}{\epsilon}}$$

The solution to the incumbent manager's problem is to set wages as a constant markdown μ of the worker's marginal revenue product of labor ($mrpl$):

$$w = \mu \cdot mrpl, \quad \mu = \frac{\epsilon}{\pi + \epsilon}, \quad \epsilon = \frac{d \log l}{d \log w}, \quad mrpl = z\alpha l^{\alpha - 1}.$$

The novel aspect of these wage-setting formulas is the presence of the manager's profit weight in markdowns. Managers that value profits more have wider markdowns. See Appendix 1 for derivations and related proofs.

Private equity manager. We assume that when the private equity manager takes over an incumbent manager's operation (i.e., a buyout occurs), they create value for shareholders by aligning manager incentives with profit maximization. To capture this shift in incentives, we model private equity as an increase in the profit weight, π. This is a reduced-form way of capturing private equity's common practice of offering high-powered contracts that incentivize profit maximization (e.g., Kaplan (1989), Bloom et al. (2015)). Our assumption is that $\pi_p > \pi_m$, where π_p is the private equity manager's weight on profits and π_m is the incumbent manager's weight on profits.

With this notation in hand, we establish the following characterization of private equity buyouts.

Proposition 1: Following a private equity buyout ($\pi_p > \pi_m$),

1. markdowns widen (i.e., $\frac{d\mu}{d\pi} < 0$ and workers take home less of the marginal revenue product of labor);

[6] Under perfect competition, managers take the wage w as given. The equilibrium choice of employment is given by

$$\left(\alpha z l^{\alpha-1} - w\right) + \left(1-\pi\right)\left(w - l^{\frac{1}{\epsilon}}\right) = 0$$

The second term is equal to zero (since households optimize), and the firm problem is undistorted by the presence of π. Likewise, the worker problem is undistorted, and thus the efficient allocation is attained.

2. employment and wages decrease (i.e., $\frac{dw}{d\pi} < 0$, $\frac{dl}{d\pi} < 0$);

3. if $\epsilon > \pi$, markdowns widen more in less competitive, low labor supply elasticity ϵ markets (i.e., $\frac{d}{d\epsilon}\left[\frac{d\mu}{d\pi}\right] > 0$);

4. in competitive markets ($\epsilon \to \infty$), there are no employment or wage losses post-buyout;

5. under decreasing returns to scale, $\alpha < 1$, output per worker ($\frac{y}{l}$) increases as firms cut employment.

This proposition establishes key testable implications. In more competitive markets (i.e., higher labor supply elasticity markets), we expect markdowns to widen less after buyouts, implying smaller employment and wage cuts. When we turn to the data, we use a number of proxies for labor market power, including wage bill shares (Berger et al. (2022)), labor market Herfindahls (Azar et al. (2022)), shares of new hires (Jarosch et al. (2024)), and outflow rates of workers from the market (Arnold (2020)).

2.1.1 Monopoly (not monopsony)

Rather than monopsony, consider imperfect competition in product markets, *monopoly* (i.e., firms now face downward-sloping demand curves and internalize their effects on prices). Similar to the logic of a monopsonist (cut employment to lower wages), a monopolist attempts to restrict quantities to raise prices. Both channels would result in employment losses under fairly general production functions. A similar logic based on Proposition 1 suggests that aligning manager incentives with profit maximization will result in higher prices and production reductions in less competitive *product* markets post-buyout.

2.2 Breach of trust

We modify our setup to capture the "breach of trust" hypothesis of Shleifer and Summers (1988). As a reduced-form way of modeling the costs of breaking commitments and implicit contracts, we assume that incumbent managers suffer greater reputational costs from layoffs than private equity managers.

Environment. We extend the previous model to include two periods, $t \in \{0, 1\}$. In the initial period, productivity is unknown, and managers make an initial hiring commitment, l_0 (i.e., there is an implicit promise to maintain this level of employment). In the second period, productivity is drawn from a distribution, $z \sim^{iid} F(z)$. After productivity is realized, managers can re-optimize employment, $l_1 \leq l_0$, subject to a reputational cost, $\mathrm{c}(l_1, l_0, w)$. We assume that incumbent managers have a particular type of reputational cost, which we refer to as "layoff aversion." Let $\delta(w)$ govern the strength of the layoff aversion, so that the reputational cost of firing workers is $c(l_1, l_0, w) = \mathbb{I}(l_1 < l_0)\,\delta(w)(l_0 - l_1)$. We assume that reputational costs are increasing in the wage rate, $\delta'(w) > 0$, to capture the idea that there are greater costs of breaching implicit contracts such as lifetime employment among senior managers or back-loaded pay contracts that facilitate training. We also assume that the labor market is competitive, so managers take the wage w as given.

Incumbent manager. Let $V(z, l_0)$ denote the second period payoff when productivity is z and l_0 workers are initially hired. Then the manager's problem can be written as

$$\max_{l_0} \int V(z, l_0)\, dF(z)$$

$$V(z, l_0) = \max_{l_1 \leq l_0} (z l_1^{\alpha} - w l_1) - \mathbb{I}(l_1 < l_0)\,\delta(w)(l_0 - l_1).$$

Private equity manager. We assume that private equity takes over an incumbent manager's operation at $t = 1$. The new private equity manager has a lower cost of breaching their employment commitments from $t = 0$ (i.e., private equity managers have lower layoff aversion). Let $\delta_p(w)$ denote the layoff aversion of private equity managers, and let $\delta_m(w)$ denote the layoff aversion of incumbent managers. We assume $\delta_p(w) < \delta_m(w) \quad \forall w$, and for simplicity, we impose $\delta_p(w) = 0 \quad \forall w$. Let $l_{1,m}$ ($l_{1,p}$) denote the $t = 1$ employment decision of the incumbent (private equity) manager.

With this notation in hand, we characterize the private equity manager's layoff decisions.

Proposition 2: Suppose there is a private equity buyout at $t = 1$.

1. Conditional on initial employment (l_0), after any realization of productivity (z), the private

equity manager (weakly) fires more workers:

$$l_{1,m} \geq l_{1,p}$$

2. If reputational costs are increasing relative to wages for incumbent managers ($d(w) \equiv \frac{\delta_m(w)}{w}$ and $d'(w) > 0$) then workers with higher pre-buyout wages will have larger post-buyout layoffs.

Conditional on productivity and initial employment, Proposition 2 establishes that post-buyout employment layoffs will be more severe among high-wage workers as long as reputational costs of layoffs are increasing in wages.

2.3 Efficient reallocation

Our final theory formalizes the idea that private equity managers implement better monitoring and measurement of plant productivity. Thus, they have a higher skill that enables them to make efficient allocations of workers across plants.

Information environment. Managers operate two plants. Managers must make hiring decisions before knowing productivity realizations at each plant. However, before hiring, managers receive a signal about each plant's productivity. Managers then hire workers based on their best forecast of plant productivity given their signals.

Formally, suppose productivity is given by e^{a_i}, where a_i is a random variable. At the start of the period, nature draws a_i from a normal distribution $a_i \sim^{iid} N(\mu_a, \sigma_a^2)$. After productivity at each plant is determined, managers receive two signals $\{s_1, s_2\}$ about productivity at each plant. The signals are unbiased, Gaussian, and independent. Both the incumbent and private equity manager have normally distributed priors with mean μ_a and variance σ_a^2.

Incumbent managers are defined by their ability to discern economic information from signals (i.e., their signal precision), $\sigma_m > 0$. Private equity managers receive more precise signals, $0 < \sigma_p < \sigma_m$. This better signal could be the result of greater incentive pay (i.e., managers exert more effort to monitor and process signals, as their pay is more closely tied to profits), industry know-how, or innate managerial talent.[7] Putting this together, incumbent managers receive signals $s_1 \sim^{iid}$

[7]Extending this model to include a pre-period in which managers exert effort to hone signal precision would not

$N(a_1, \sigma_m^2)$ and $s_2 \sim^{iid} N(a_2, \sigma_m^2)$ and private equity managers receive signals $s_1 \sim^{iid} N(a_1, \sigma_p^2)$ and $s_2 \sim^{iid} N(a_2, \sigma_p^2)$.[8]

Once signals are received, managers update their priors about relative productivity at each plant. They then make hiring decisions based on their posterior expectations of productivity: $z_1 \equiv E\left[e^{a_1}|s_1\right]$ and $z_2 \equiv E\left[e^{a_2}|s_2\right]$.

Manager problem. To simplify the analysis, we assume that labor markets are competitive and wages are exogenous and equal at both plants. Therefore, managers solve the following problem:

$$\max_{l_1, l_2} \; z_1 l_1^{\alpha} - w l_1 + z_2 l_2^{\alpha} - w l_2.$$

We characterize this problem in Appendix 1, yielding Proposition 3.

Proposition 3: Without loss, suppose nature's realizations are such that plant 1 is more productive than plant 2, i.e., $a_1 > a_2$.

1. Untalented managers ($\sigma_m \to \infty$) allocate equal levels of employment to both plants.

2. Assuming $\sigma_p < \sigma_m$ and that a sufficiently large productivity gap exists between the two plants (see Appendix 1 for formal parameter restrictions), private equity managers allocate more employment to the more productive plant 1 and less employment to the less productive plant 2, on average.

The key testable implication of Proposition 2 is that private equity managers will, on average, expand employment at the more productive plant and reduce employment at the less productive plant. Unlike layoff aversion, which does not result in reallocation across plants, greater managerial talent and signal precision among private equity managers will result in labor reallocation across plants.

alter the testable implications. Suppose now that the manager chooses the signal precision σ, subject to net cost $c(\sigma)$. Private equity management could be thought of as reducing this cost (equivalently, an increase in the reward to better signal precision via incentive pay),

$$\max_{l_1, l_2, \sigma} E\left[z_1 l_1^{\alpha} - w l_1 + z_2 l_2^{\alpha} - w l_2 | \sigma\right] - c(\sigma).$$

[8] We can write $s_1 = a_1 + u_1$ where $u_1 \sim^{iid} N(0, \sigma_m^2)$ and $s_2 = a_2 + u_2$ where $u_2 \sim^{iid} N(0, \sigma_m^2)$.

2.4 Summary of theoretical predictions

We consider three channels – monopsony, breach of trust, and efficient reallocation – through which private equity managers may affect worker outcomes:

1. If private equity managers generate value by exerting monopsony power, post-buyout employment losses and wage losses will be more severe in less competitive labor markets.

2. If private equity managers generate value by breach of trust, private equity managers will primarily fire higher wage workers and older workers.

3. If private equity managers generate value by improved monitoring and measurement of plant productivity, employment will be reallocated from less productive to more productive plants.

These theoretical predictions provide the roadmap for our subsequent empirical tests. Next, we describe the data and regression specifications designed to test these predictions.

3 Data construction

We begin by summarizing our data and matching procedures. At a high level, our data links a sample of private equity buyouts from CapitalIQ to the Longitudinal Employer-Household Dynamics database (LEHD). Our data covers all workers involved in private equity deals from 1993 to 2013.

CapitalIQ tracks private equity deals globally and has constructed a list of M&A deals closed between January, 1980 and December, 2013. We use the Davis et al. (2014) and Davis et al. (forthcoming) merge of these private equity deals to firm identifiers ("firmids") in the Census Bureau. We successfully link 6,200 deals from 1992 to 2013. We refer readers to Davis et al. (2014) and Davis et al. (forthcoming) for details on the matching procedure and classification of private equity deals.[9]

The novelty of our paper stems from merging these deals to the LEHD. States continually enter the LEHD from 1990 to 2004, but by 1998, roughly 80% of private QCEW employment is covered

[9] In short, we use M&A transactions that are classified as "leveraged buyout," "management buyout," or "JV/LBO" (which means joint venture or leveraged buyout), as well as M&A transactions by sponsoring entities that are classified as "buyouts." We exclude management buyouts that are not sponsored by a private equity firm. We use the business press, DealLogic, Preqin, and Thomson Reuters for additional coverage in the early years of the sample. Appendix A of Davis et al. (forthcoming) provides much greater detail.

by the LEHD (Abowd et al. (2018)). A small subset of 13 states enters the database between 1998 and 2004, and by 2004, LEHD coverage is complete. In addition to the restrictions below, when we exploit within-firm, across-market variation in the monopsony and reallocation sections (Sections 6 and 8), we limit the sample to transactions that closed in 2001 or later in order to avoid any left-censoring of specific markets caused by state entry into the LEHD.

Our analysis relies on three data samples: (1) the full set of treated workers involved in private equity buyouts (regardless of matching), (2) a matched sample of treatment and control workers, and (3) a matched subsample of treatment and control workers who appear in the Census of Manufactures.

3.1 Sample 1: All treated workers

We merge the private equity deals to the LEHD using the Title 26 firm identifiers provided by the LEHD. Our resulting sample includes 2.5 million workers between 1990 and 2016 who were affected by 3,600 deals.[10] For treated firms with multiple private equity deals, we consider only the earliest deal.[11]

Our main analysis of monopsony power in Section 6 relies on variation within treated firms across markets. Treated workers in less concentrated markets act as the comparison group to treated workers in more concentrated markets. We isolate workers who were employed (earned more than $1,000 in 2009 dollars) at target firms as of the quarter prior to the closing of the private equity deal, and we further condition on having remained at the same job throughout the eight quarters prior to closing.[12] To avoid any bias from retirement flows, we also drop workers 58 years old or older as of the quarter prior to the deal closing. Following a worker's final appearance in the data, defined as the last quarter of positive earnings, only the subsequent quarterly observation

[10]Note that despite our deal data ending in 2013, worker histories are available through 2018. Our main specifications look at a 3-year window around PE deals, thus we only use data up until 2016.

[11]We limit the sample to the earliest deal for each firm as well as the earliest deal for each SEIN. Because the SEIN identifiers can change for a variety of administrative reasons, we utilize the Successor-Predecessor File created by the Census Bureau to improve the longitudinal consistency of the identifiers. This file was created by tracking worker movement across SEINs to isolate and document pairs of SEINs exhibiting significant overlap among their employees. We include workers from such linked SEINS in our analyses and consider the earliest deal for each set of linked SEINs. For additional detail regarding the SEIN identifiers and the creation of the Successor-Predecessor File, please refer to Graham et al. (2022).

[12]To define a job, we utilize the longitudinal employment identifiers created by the Census Bureau. These job identifiers were generated based on SEIN links from the Successor-Predecessor File and other administrative records to maintain longitudinal consistency in cases where SEINs changed over time. Section 2.1.2 of Graham et al. (2022) contains further information on the creation of these "FID" identifiers.

is kept, and all later observations are dropped. These age and flow restrictions are imposed in all samples.

3.2 Sample 2: Matched treated and control workers

For analysis of "breach of trust" hypotheses in Section 7, our causal interpretation relies on a judiciously chosen control group of workers and an assumption of "ignorability" (treatment randomly assigned conditional on covariates, see Iacus et al. (2012)). To construct the control group, we follow the seminal work of Iacus et al. (2012) and adopt a Coarsened Exact Matching (CEM) estimator based on nine key firm and worker characteristics. CEM estimators prioritize sample balance (and hence the best chance of finding workers comparable on unobservables) at the expense of sample size. This tradeoff is necessary to mitigate the selection issues inherent in merger-matching studies. We provide further discussion of this method below.

We build the control group of workers in three steps. First, we broadly match treated firms to control firms, nationally. Second, within those national firms, we match treated SEINs (state-level employment identification numbers) to control SEINs. Third, within matched SEIN pairs, we match treated workers to control workers. This three-tier matching procedure ensures comparable national-level, state-level, and worker-level observables prior to the buyout. These three steps involve **nine** different matching variables at the firm and worker level and also involve matching in ex ante quarters in the year prior to the deal.

In the first step, we match treated and control firms in the year before the private equity deal. We match firms across states on (1) firm size bins: 1-4, 5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1000-2499, 2500-4999, 5000-9999, and 10000 or more employees, (2) firm age bins: 0-5 years, 6-10, 11-15, 16-20, 21-25, 25-30, and 31 or more years, and (3) multiunit status.

In the second stage, we match treated SEINs to control SEINs based on calipers. We impose calipers of 15% and we match on SEIN-level (1) employment, (2) employment growth (year-over-year), (3) wage bill, (4) wage growth (year-over-year), and (5) four-digit NAICS industry codes,. We do not match with replacement; however, we allow one control SEIN to match to multiple treated SEINs only if the treated SEINs all had the same deal year and quarter. We then select the closest three matches based the difference in firm size, employment growth, and firm age.

In the third step, we match workers within the matched SEIN pairs in quarters t_{-8} to t_{-5}

relative to the quarter in which the private equity deal closes. We require both treated and control worker to be working at the firm for at least one year as of t_{-5} and match on wage levels using 15% calipers. We match with replacement and keep no more than three matches per treated worker. Since we match with replacement, the matched sample contains 0.73 average matches per treated worker.

The three-step matching procedure ensures that matches are truly representative of the PE focal firms and their employees; however, we are left with a small sample of matched PE deals relative to the original sample. This tradeoff is necessary to directly compare treated and control workers and mitigate sample selection issues that plague earlier work.

3.3 Sample 3: Matched treated and control workers in the Census of Manufactures

For the analyses of efficient reallocation in Section 8, we require productivity data. Our preferred measure of productivity is log total factor productivity (TFP), which is available from the Census of Manufactures. We therefore restrict the sample to firms represented in this dataset. Within each firm, log TFP is calculated at the labor market level as the weighted average of the establishment-level log TFP measures, where the number of workers at the establishment is used as the weight.

Since the Census of Manufactures covers fewer buyout deals than our overall sample, we loosen our matching criteria in this segment of the paper. We match in three steps. First, we isolate never-treated firms from the Census of Manufactures. Second, we randomly assign them treatment dates based on the distribution of closing dates in the target sample.[13] Third, we match to the nearest target firm by treatment date and the firm-level number of workers. The nearest four matches for each target firm are chosen without replacement.

We impose the same worker attachment restrictions as Sample 1. Given that our analyses exploit within-firm variation in productivity levels, we restrict the sample to firms with workers in at least two commuting zones and with at least two distinct log TFP levels across markets.

[13]We identify the closing dates of the target firms, use these dates to create a probability distribution, and choose a date for each control firm by drawing from this distribution.

4 Summary statistics

Firm-level summary statistics for all target firms (Sample 1). Table 1 describes firm-level summary statistics for Sample 1. The average target firm in our sample employs 678 workers, has an annual wage bill of $39 million, and pays their workers $66,160 per annum. The size distribution of targeted firms is highly skewed, with a fat right tail. Among target firms, median employment is 80 employees, median payroll is $4.8 million, and median pay per worker is $58,000.[14] Most target firms operate across state lines. The average target firm operates across seven states and territories. In our empirical analyses that follow, we exploit the fact that firms simultaneously operate in many labor markets in order to gauge changes in monopsony power.

Table 1: **Summary statistics for sample of target firms.** All statistics are calculated by aggregating the worker-level data to the firm level. The number of workers and the number of states and territories are calculated as of the quarter prior to closing, and wages are summed over the four quarters prior to closing. Wage-bill shares, HHIs, and shares of new hires are calculated at the CZ-NAICS3 level and aggregated to the firm level by taking weighted averages across the markets in which each firm had in-sample workers, using the number of workers in each market as the weight.

Variable	Mean	SD	Pseudo-Median
Number of Workers	678	4,139	80
Annual Wage Bill	39,210,000	257,900,000	4,761,000
Mean Annual Wage	66,160	31,240	58,310
Number of States & Territories	7	9	3
Deal Year	2006	5	2006
Wage-Bill Share	5.7%	12.5%	0.9%
HHI Based on Wages	893	1,281	392
Share of New Hires	4.6%	11.3%	0.6%
Total Number of Target Firms: N=3,600			
Range of Deal Years: 1993-2013			

In order to discuss monopsony power, we must define a local labor market. We follow the majority of U.S.-based studies and define a local labor market to be a NAICS3 industry within a commuting zone (e.g., Berger et al. (2022) and Arnold (2020)).[15] Let n_{ij} and w_{ij} denote employment and wages at firm i in market j, respectively. We define the wage-bill share (s_{ij}) of firm i in market

[14] Due to Census disclosure rules, we report the pseudo-median. The pseudo-median is calculated as a) the mean of the middle eleven values if the total number of observations is odd, or b) the mean of the middle twelve values if the total number of observations is even.

[15] Unfortunately, occupation codes are not available for the universe of workers in the LEHD or any U.S. dataset, as would be required to compute market shares or Herfindahls with an occupation-based market definition. In Norway, Berger et al. (2024) demonstrate similar "leakage" rates for naive occupation and industry codes, with industry codes performing marginally worse.

j and the wage-bill Herfindahl in market j (HHI_j) as follows:

$$s_{ij} = \frac{w_{ij} n_{ij}}{\sum_{i \in j} w_{ij} n_{ij}}, \quad HHI_j = \sum_{i \in j} s_{ij}^2. \tag{1}$$

Since firms operate in many local labor markets, we first compute wage-bill shares and Herfindahls in each market in which they operate, and then we aggregate those statistics to the firm level by using the number of workers as weights.

Table 1 shows that target firms control 5.7% of the wage-bill in their local labor markets. The average local labor market Herfindahl of target firms is 893. This is equivalent to the Herfindahl of a market with eleven equally sized firms.[16] Lastly, target firms account for 4.6% of new hires in the local labor markets in which they operate.

Table 2 describes the industry composition of Sample 1. Roughly 30% of our sample is in manufacturing, while 20% of the sample is in wholesale and retail trade, combined. The next largest industry code is professional, scientific, and technical services (examples of subindustry codes include accounting, legal services, and technical consulting), and information services make up roughly 6% of the sample (examples of subindustry codes include telecoms, broadcasting, and data processing).

Table 2: **Industry distribution of target firms.** A firm's industry is defined as its employment-modal NAICS2.

Top Industries (NAICS2)	Share of Target Firms
Manufacturing (31-33)	33.3%
Wholesale Trade (42)	13.9%
Professional, Scientific, and Technical Services (54)	11.1%
Retail Trade (44-45)	6.9%
Information (51)	5.6%

Worker-level summary statistics for (un)matched workers (Samples 1 and 2). Table 3 describes worker level statistics for Samples 1 and 2 in the year prior to the buyout. Our full sample of workers is comprised of 2.5 million workers. After we perform our three-step matching procedure, we left with 58,000 treated workers and 42,500 control workers. This implies an aggregate matching rate of 2.3% (=58,000/2,470,000).

[16] With equally sized firms, $s_{ij} = \frac{1}{N}$, and $HHI_j^{-1} = N$. In our data, $HHI_j^{-1} = \frac{1}{0.0893} = 11.2$.

Some discussion of our low matching rate is warranted. Rather than adopt a method that preserves treatment group sample size and then attempts to reduce imbalance (e.g., nearest-neighbor Propensity Score Matching (PSM)), we follow Iacus et al. (2012) and adopt Coarsened Exact Matching (CEM), prioritizing balance over sample size. As Iacus et al. (2012) argue in their seminal paper, "The key goal of matching is to prune observations from the data so that the remaining data have better balance between the treated and control groups..." Iacus et al. (2012) argues that PSM and related methods "... guarantee the matched sample size ex ante (thus fixing most aspects of the variance) and produce some level of reduction in imbalance between the treated and control groups (hence reducing bias and model dependence) *only as a consequence and only sometimes* [Emphasis added]." PSM often *increases* imbalance between the treatment and control groups (King and Nielsen (2019)). Iacus et al. (2012) and King and Nielsen (2019) propose Coarsened Exact Matching (CEM) as the preferred alternative to PSM.

Given our large pool of covariates and strong priors on matching variables, we chose to adopt the CEM estimator. The calipers imposed during our matching process place bounds on the possible imbalance across the treatment and control groups (Iacus et al. (2012)). We require exact industry matches and tight calipers on firm size and growth trajectories, as well as histories of wages and wage growth rates at the individual level. We believe that by imposing these strict calipers, our estimator more credibly mitigates selection issues relative to other matching estimators. While we argue CEM gives us the best chance at minimizing the distance of unobservables across the treatment and controls groups, the main tradeoff is that the CEM estimator is *local*. With our strict calipers, our estimates correspond to the "local sample average treatment effect on the treated," commonly abbreviated as the local SATT (see Iacus et al. (2012) for more discussion).

Turning back to Table 3, real annual earnings is $57,530 among all treated workers (note that this is a worker-level average whereas Table 1 reports firm-level averages). After matching, the remaining treated workers earn $45,250 on average, and the control workers earn $48,210. Our sample is paid more than the nationwide average wage of $39,000 in 2009, as reported by the Social Security Administration.[17] Wage growth rates are higher in the sample of all treated workers, but the matched sample exhibits extremely similar wage growth rates (2.1% in the matched treated

[17] Nationwide wages are based on the raw Social Security Administration data, *https://www.ssa.gov/oact/cola/awidevelop.html*.

Table 3: **Worker-level summary statistics as of one year prior to buyout.** The summary statistics below are calculated based on two quarterly worker panels: 1) the panel of all treated workers, which does not include matched control workers, and 2) the panel of matched treated and control workers.

		Panel of Matched Treated and Control Workers	
	Panel of All Treated Workers	Treated Workers	Control Workers
Number of Workers	2,470,000	58,000	42,500
Real Earnings (Annualized Quarterly Earnings):			
Mean	$57,530	$45,250	$48,210
(SD)	(43,470)	(29,210)	(31,580)
1-Year Arc Growth of Real Quarterly Earnings:			
Mean	5.603%	2.089%	2.286%
(SD)	(26.40%)	(17.02%)	(16.30%)
Share of Workers by Employment Transition (Status as of Quarter -8 – Status as of Quarter -4):			
Employed – Employed	100.0%	100.0%	100.0%
Age:			
Mean	40.00	40.07	41.54
(SD)	(9.636)	(9.646)	(9.552)
Share of Minority Workers	20.53%	18.97%	15.76%
Share of Female Workers	41.90%	42.24%	41.18%
Most Common Occupation Categories as of 2000 (Among Workers With Occupation Data):			
Category 1	Production Occupations (15.46%)	Production Occupations (18.42%)	Production Occupations (17.24%)
Category 2	Office and Administrative Support Occupations (14.67%)	Office and Administrative Support Occupations (13.16%)	Office and Administrative Support Occupations (14.66%)
Category 3	Sales and Related Occupations (10.57%)	Sales and Related Occupations (13.16%)	Sales and Related Occupations (12.93%)
Category 4	Transportation and Material Moving (9.148%)	Transportation and Material Moving (8.553%)	Transportation and Material Moving (8.621%)
Category 5	Management Occupations (8.675%)	Management Occupations (7.237%)	Management Occupations (7.759%)

sample vs. 2.3% in the matched control sample). By construction, all workers are employed in the quarter prior to the deal. Across all samples, the female share is approximately 42%, and the average age of workers is approximately 40 years old. The share of minority workers in the matched treated sample is 19% versus 16% in the control sample.

The LEHD lacks occupation codes; however, for those workers in the Decennial Census long form survey, we observe their occupation code in the year 2000. Occupation shares across the matched treated and control samples are extremely similar. Among the workers in the treatment (control) group, 18% (17%) are in production, 13% (15%) are in support occupations, 13% (13%) are in sales, 9% (9%) are in transportation, and 7% (8%) are in management. Overall, we view our matched sample as well-balanced.

Table 4: **Worker-level summary statistics as of one year after closing.** The summary statistics below are calculated based on two quarterly worker panels: 1) the panel of all treated workers, which does not include matched control workers, and 2) the panel of matched treated and control workers. Following a worker's final quarter of positive earnings, only one additional quarterly observation is kept, and all subsequent quarters are dropped. As a result, there are fewer workers in the sample one year after closing than one year prior to closing.

		Panel of Matched Treated and Control Workers	
	Panel of All Treated Workers	Treated Workers	Control Workers
Number of Workers	2,440,000	57,500	42,000
Real Earnings (Annualized Quarterly Earnings):			
Mean	$55,750	$43,660	$47,300
(SD)	(46,320)	(32,570)	(34,160)
1-Year Arc Growth of Real Quarterly Earnings:			
Mean	-8.498%	-9.087%	-6.113%
(SD)	(58.15%)	(56.36%)	(48.74%)
Share of Workers by Employment Transition (Status as of Quarter 0 – Status as of Quarter +4):			
Employed – Employed	92.87%	93.04%	94.05%
Employed – Unemployed	5.082%	4.870%	3.571%
Unemployed – Employed	1.230%	1.130%	0.8333%
Unemployed – Unemployed	0.8197%	0.7826%	0.5952%

Table 4 describes worker-level statistics for Samples 1 and 2 in the year *after* the buyout. Compared to Table 3, earnings fall in the treatment group *and* the control group, but losses are the largest among the treatment group. 4.8% of treated workers transition from employment to unemployment over the subsequent year versus 3.5% of the control group. The spike in post-buyout layoffs is consistent with earlier work in other countries (Olsson and Tåg (2017), Antoni et al. (2019)).

Firm-level summary statistics for manufacturing (Sample 3). Table 5 shows that our matched manufacturing sample consists of 200 target firms and 900 control firms. The average target firm employs 1,359 workers versus 436 workers at control firms. The average pay per worker is $52,170 at target firms and $50,140 at control firms. Target firms operate across five states on average, whereas control firms operate across three states on average. The smaller sample size required us to loosen our matching calipers, resulting in more imbalance in the manufacturing sample.

Table 5: **Summary statistics for firms in manufacturing sample.** The table below presents summary statistics for the firms represented in the sample linked to the Census of Manufactures, which is used for the analyses related to worker reallocation. All statistics are calculated by aggregating the worker-level data to the firm level. The number of workers and the number of states and territories are calculated as of the quarter prior to closing, and wages are summed over the four quarters prior to closing.

	Target Firms	Control Firms
N (Number of Firms)	200	900
Number of Workers Per Firm:		
Mean	1,359	435.6
(SD)	(4,266)	(760.6)
Mean Annual Wage:		
Mean	$52,170	$50,140
(SD)	(15,380)	(13,830)
Number of States & Territories Per Firm:		
Mean	5.063	3.126
(SD)	(4.999)	(2.527)

5 Earnings and employment

We begin by documenting worker-level paths of earnings and employment after private equity deals in our matched sample (Sample 2). We identify the effects or private equity using a distributed lag difference-in-difference regression that compares workers at the plants where the private equity deal occurs (the *treatment group*) to workers at the matched control plants (the *control group*) in a window around the private equity deal.

Let n denote individual, t denote time (quarters), and k denote event-time (where $k = -1$ means 1 quarter before the private equity buyout). Let T_n be a treatment group dummy. To implement the distributed lag difference-in-difference estimator, we must include worker fixed effects (α_n, which subsume treatment dummies), quarter fixed effects (α_t), a quadratic in age (X_{nt}), event-time fixed effects (D^k_{nt}), and an interaction between treatment status and event-time fixed effects ($T_n \times D^k_{nt}$). The "distributed lag" dummies D^k_{nt} equal one when individual n is k quarters before or after the private equity buyout. We estimate the following distributed lag difference-in-difference specification:[18]

$$y_{nt} = \alpha_n + \alpha_t + \sum_{k=-10}^{12} \gamma_k D^k_{nt} + \sum_{k=-10}^{12} \beta_k T_n \times D^k_{nt} + \Gamma X_{nt} + \epsilon_{nt} \quad (2)$$

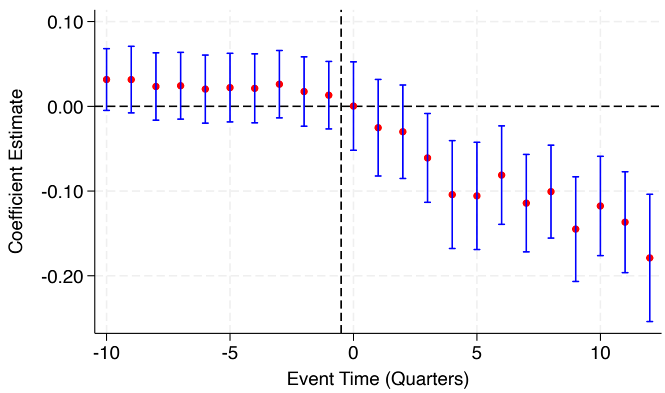
The coefficients of interest are $\{\beta_k\}$, which, under the assumption of "ignorability" (random treatment conditional on observables) and in the absence of pre-trends and other confounders (general equilibrium spillovers, for instance), can be interpreted as the causal effect of the private equity buyout on the treatment group relative to the control group. Throughout our paper, we cluster standard errors at the firm level.

Figure 1 summarizes the negative effects of private equity on earnings and employment. In Panel (a), we estimate equation (2) using log earnings plus one (*henceforth log earnings*) as the dependent variable and we plot the resulting difference-in-difference estimates, $\{\beta_k\}$. After the private equity buyout, the earnings of treated workers fall by roughly 10% after one year and 18% after three years. Panel (b) shows that the results are similar when the dependent variable is the inverse hyperbolic sine of earnings instead of the logarithm of earnings. Thus, the large earnings losses are robust to the treatment of zeros. Unlike firm-level studies that uncover more muted effects of private equity on the wages of workers who *remain* at target firms (Davis et al. (2014)), our study measures the subsequent employment trajectories of workers, regardless of where they are subsequently employed. Using worker-level data from Germany, Antoni et al. (2019) report similar post-buyout log earnings losses of 7% after one year and 20% after three years (Figure 5, Panel B of Antoni et al. (2019)).

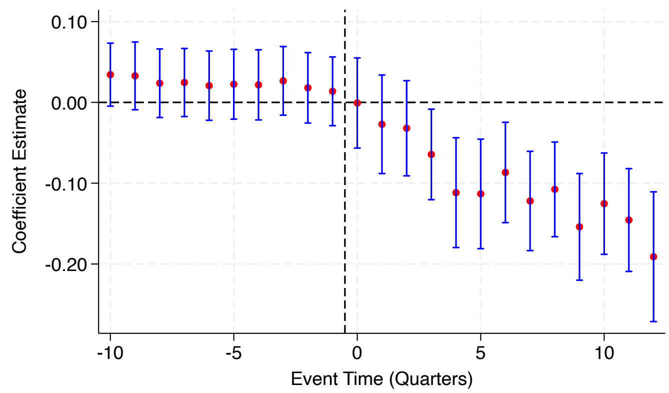
Panel (c) of Figure 1 plots the effects of private equity on the employment trajectories of workers who were employed at target firms in the quarter prior to the buyout. We classify a worker as employed in a given quarter if they earn more than $1,000. After the private equity buyout, treated workers are 1% less likely to be employed after one year and 2% less likely to be employed

[18] We follow Callaway and Sant'Anna (2021) and compare our treatment group to a "never treated" control group. We do not bin any of our distributed lag dummies to mitigate any concern over dynamic treatment effects.

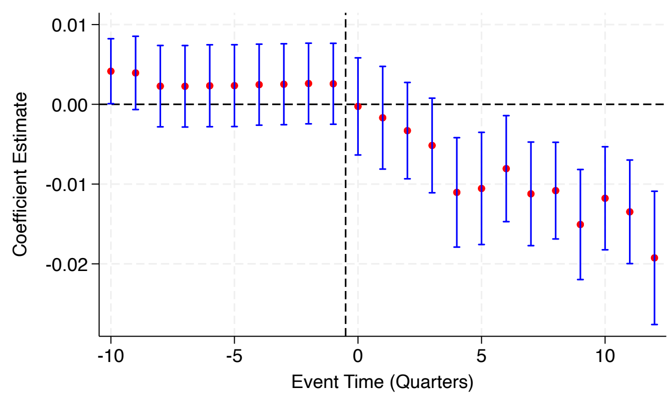
Figure 1: **Baseline treated vs. control event studies.** The below plots illustrate the coefficient estimates from the event study specifications comparing the outcomes of workers from target firms to the outcomes of matched control workers. The point estimates for the treated-event time interaction terms are displayed in red, and 95% confidence intervals are illustrated in blue. In all specifications, quarter 0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters -12 and -11 comprising the omitted categories. In Panels (a) and (b), the dependent variable is quarterly earnings, with Panel (a) utilizing log-transformed earnings and Panel (b) utilizing the inverse hyperbolic sine transformation. The outcome for Panel (c) is an indicator for full employment, which we define throughout as real quarterly earnings exceeding $1,000 in 2009 dollars. Table A.1 presents the coefficient estimates in numeric form.



(a) Log Earnings



(b) IHS Earnings



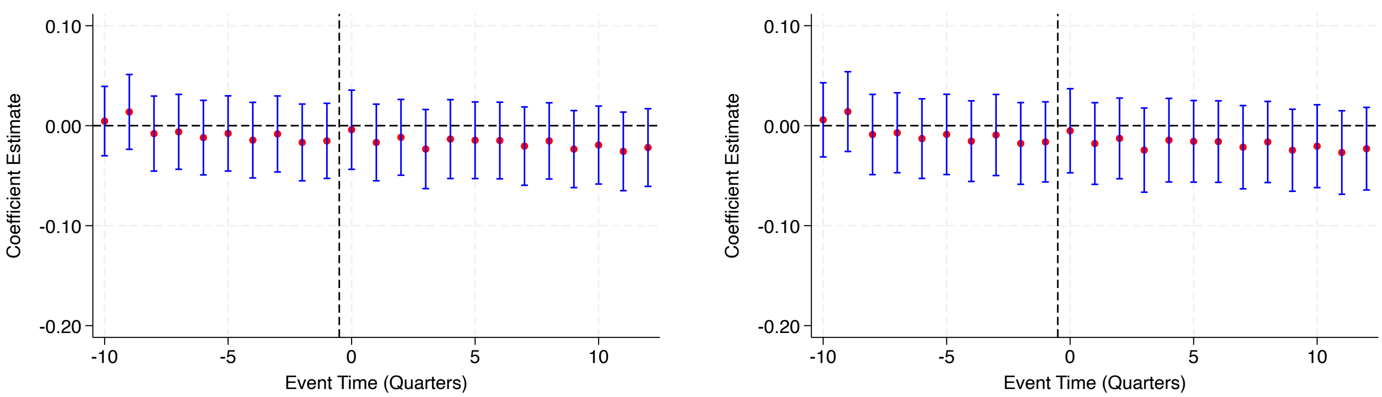
(c) Employment

after three years. In the German context, Antoni et al. (2019) reports post-buyout log employment losses of 4% after one year and 12% after three years. We hypothesize that the more fluid labor market in the U.S. dampens the negative employment effects relative to Germany.

To better understand the role of the intensive margin earnings losses and extensive margin earnings losses, we split our sample into stayers and movers. Figure 2 reports the effects of private equity buyouts on stayers, who we define as workers who remain at their $t-1$ job for 12 quarters after the event. We impose this restriction on treatment workers and control workers alike.

Panel (a) of Figure 2 demonstrates that there is no significant difference in log earnings across treated stayers and control stayers. While the point estimates have fairly wide error bounds, the point estimates themselves are roughly one-tenth of those in Panel (a) of Figure 2, and the confidence intervals are non-overlapping for the latter portion of the event window. In Panel (b) of Figure 2, we re-estimate our stayer regressions using the inverse hyperbolic sine of earnings as the dependent variable. We find a similar null effect. With relatively muted net employment losses on the order of 2%, but relatively large wage losses on the order of 20%, Figure 1 in conjunction with Figure 2 establishes that there is significant churn and large earnings losses among job movers (as stayers do not suffer significant losses).

Figure 2: **Treated vs. control event studies subset to workers who remained at their jobs.** The below plots illustrate the coefficient estimates from event study specifications that are identical to those illustrated in Figure 1 with the exception that this sample is limited by imposing the requirement that each worker must have remained at the same job throughout the three years after closing in order to be included. The point estimates for the treated-event time interaction terms are displayed in red, and 95% confidence intervals are illustrated in blue. Table A.2 presents the coefficient estimates in numeric form.



(a) Log Earnings

(b) IHS Earnings

In the next three sections, we test three explanations for the observed employment and wage losses: (1) exertion of monopsony power, (2) breach of trust (Shleifer and Summers (1988)), and (3) efficient reallocation of workers.

6 Labor market power

Our theory of private equity and monopsony predicts that private equity managers cut employment and wage payments by more in less competitive markets (see Section 2). We rely on the near-national coverage of our dataset to build various proxies for labor market competitiveness including a firm's local wage bill share s_{ij} (Berger et al. (2022)), local labor market Herfindahls HHI_j (Azar et al. (2022)), the firm's share of new hires in the local labor market (Jarosch et al. (2024)), and outflow rates of workers from the market (Arnold (2020)). Our identification strategy exploits within-firm-across-market variation to test whether firms cut wages and employment by more in markets where they are more likely to have labor market power. In this analysis, we use the full sample of 1.9 million treated workers since we do not need matched controls for within-firm comparisons.[19]

As discussed in Section 4, we follow the large and growing literature on monopsony in the United States by defining a local labor market j to be a NAICS3 industry code within a commuting zone.[20] Following Berger et al. (2022), we combine all plants in a given commuting zone owned by a given firm in order to define local labor market shares. Thus employment n_{ij} in equation (1) is total employment at firm i summed across all plants in market j (e.g., all employment across all establishments of Company A in Minneapolis are aggregated into $n_{A,Minneapolis}$), and the wage w_{ij} is their corresponding LEHD earnings.

As before, let n denote individual, t denote time, and k denote event-time. The dummies D^k_{nt} equal one when individual n is k quarters before or after the private equity buyout. Let $\overline{s}$ denote the threshold for a "high concentration" local labor market and let $s_{i,j,Pre}$ denote the firm i's local labor share in market j in the quarter prior to the buyout.

To implement our empirical strategy, we must include a fully interacted set of target firm by event-time fixed effects, $\alpha_{i,k}$.[21] These fixed effects remove common, within-firm fluctuations in wages around the buyout (i.e., if a given firm was failing prior to the buyout in every market, this removes that firm-specific downward trend in wages). We then measure deviations from this firm-specific trend in highly concentrated markets by including an interaction between distributed lags of event time and a high concentration indicator, $D^k_{nt} \times \mathbf{1}\left(s_{i,j,Pre} > \overline{s}\right)$. The coefficients on this interaction term capture the added effect of buyouts on workers in high concentration markets

[19] We require firms to operate across at least ten commuting zones prior to the buyout. We also only keep deals that closed in 2001 or later to avoid issues related to state entry into the LEHD. Our final sample thus includes 1.9 million treated workers.

[20] We obtain worker locations in the LEHD from the Unit-to-Worker (U2W) file in the LEHD. At a high level, place-of-work is imputed based on place-of-residence. In Minnesota, where place-of-work is known, the Census Bureau trains an imputation algorithm in combination with tax returns and other available information on workers and firms. This algorithm is then applied to all states (see Abowd et al. (2009)). See Deb et al. (2024) for more discussion of this imputation and its usage in defining local labor markets.

[21] The firm identity i and state S correspond to their pre-buyout values and they are thus fixed throughout the event study window.

relative to low concentration markets, *within the same firm.* We also include worker fixed effects α_n to remove any fixed unobserved attributes that determine worker wages, and we include a fully interacted set of state-year fixed effects $\alpha_{S,y(t)}$ to remove any state-level trends in worker outcomes.[22]

Putting this together, we estimate the following regression specification in our tests of monopsony power:[23]

$$y_{nt} = \alpha_n + \alpha_{S,y(t)} + \alpha_{i,k} + \sum_{k=-10}^{12} \beta_k D_{nt}^k \times \mathbf{1}\left(s_{i,j,Pre} > \overline{s}\right) + \Gamma X_{nt} + \epsilon_{nt}. \quad (3)$$

The coefficients of interest in equation (3) are $\{\beta_k\}$. They capture the differential effect of buyouts on workers in high concentration markets relative to low concentration markets.

To visualize the variation that we exploit in equation (3), we begin by estimating a version of equation (3) that stratifies markets by deciles of wage-bill shares, $s_{i,j,Pre}$, and includes minimum fixed effects.[24] These regressions allow us to compare the within-firm response of employment across the top and bottom deciles of concentration. The bottom decile of wage bill shares corresponds to firms that control roughly 0.03% of the local labor market payroll, whereas the top decile corresponds to firms that control roughly 50% of the local labor market payroll.[25]

Figure 3 illustrates the distinct lack of variation in worker outcomes across extremely different degrees of local labor market concentration. Importantly for our identification assumption, we observe parallel trends across high and low concentration markets. However, contrary to our theory in Section 2, the coefficients in Panel (a) indicate that post-buyout earnings growth in more

[22] In quarter t, we let $y(t)$ denote the corresponding year.

[23] We note that identification requirements for individual and firm-time effects models are demanding, including limiting the data to the connected set of workers and firms. However, we are not interested in identifying these fixed effects separately. Thus, we do not limit our sample to the connected set of workers and firms, but rather drop redundant fixed effects (see the user manual for STATA command *reghdfe* by Correia (2016)).

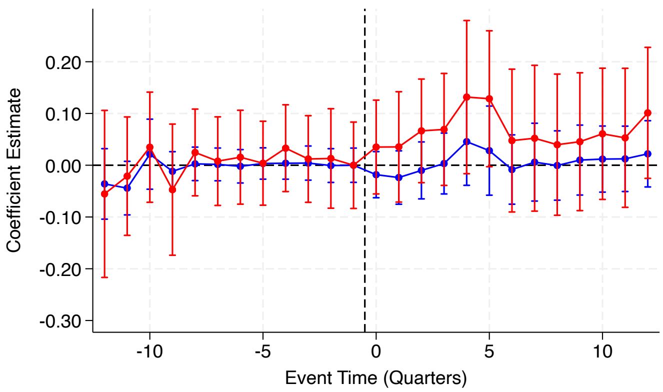
[24] Let d denote deciles of the local wage-bill share distribution. We only include the full interaction of firm by event-time. We estimate

$$y_{nt} = \alpha_{i,k} + \sum_{d\in\{1,3,\ldots,10\}} \sum_{k=-10}^{12} \beta_{dk} D_{nt}^{dk} \times \mathbf{1}\left(s_{i,j,Pre} \in d\right) + \epsilon_{nt}. \quad (4)$$

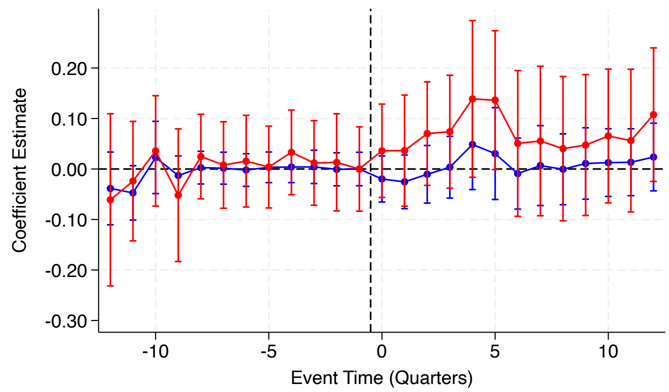
We omit the second decile, and thus the coefficient can be interpreted as deviations from the second decile of market concentration.

[25] Due to Census disclosure rules, we are unable to release percentile values. However, we fit a Beta distribution to the first four moments of the wage-bill share distribution across markets within our sample. We use this fitted distribution to provide approximate percentiles.

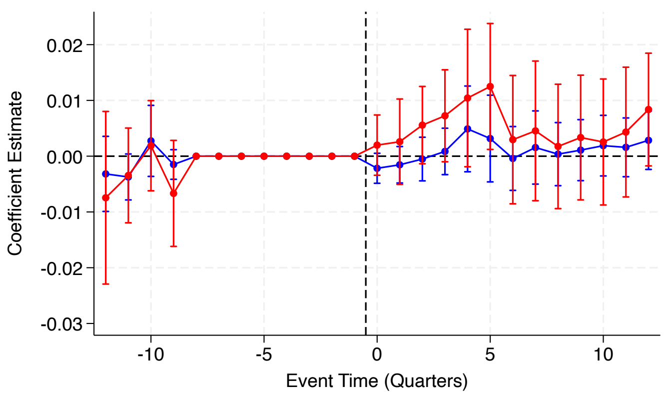
Figure 3: **Within-firm, across-market outcomes by decile of wage-bill share.** The figures below illustrate the estimates from regressions of wage and employment outcomes on interactions between event quarter and wage-bill-share decile indicators, using a quarterly worker panel containing only the employees of target firms. Workers are assigned to deciles based on the wage-bill shares of their employers, calculated at the CZ-NAICS3 level as of the quarter prior to closing, with Decile 1 corresponding to the lowest wage-bill shares. With the exception of Decile 2, which represents the omitted category, interactions for all deciles are included in the specification. The point estimates and 95% confidence intervals for the interactions of the Decile 1 indicator with the event time indicators are illustrated in blue, and the corresponding estimates and confidence intervals for Decile 10 are shown in red. Terms corresponding to quarters -8 through -1 are omitted from the specification that uses an employment indicator as the outcome, as the sample is restricted to workers who were fully employed throughout the two years prior to closing. In all cases, Quarter -1 is normalized to zero. Table A.3 presents the coefficient estimates in numeric form.



(a) Log Earnings



(b) IHS Earnings



(c) Employment

concentrated markets (red line) is *stronger* than low-concentration markets (blue line). The two sets of point estimates are not statistically distinguishable from zero, and their confidence intervals significantly overlap, including one another's point estimates. Panels (b) and (c) show that the null result extends to the inverse hyperbolic sine of earnings, as well as employment.

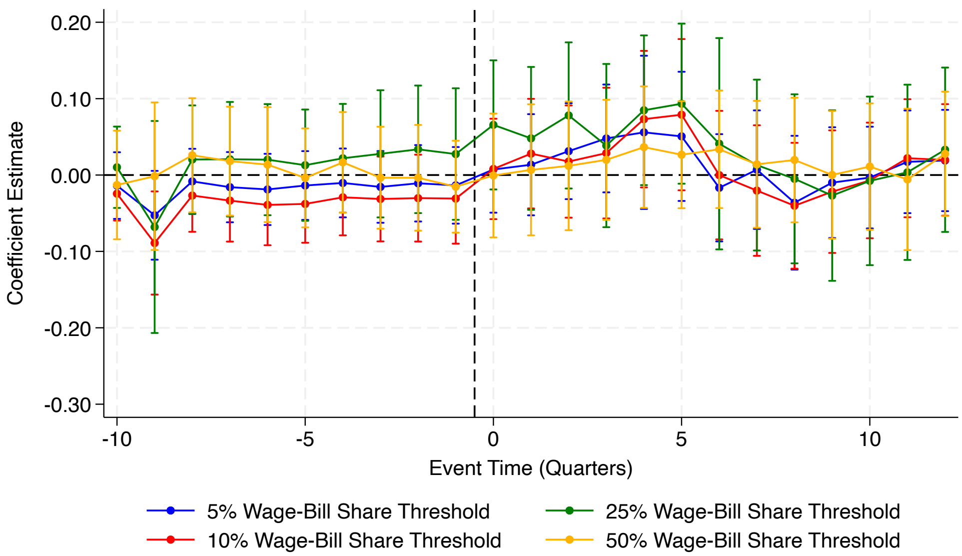
In Figure 4, we show the results from estimating equation (3) with the full set of fixed effects. We consider earnings (Panel (a)) and employment (Panel (b)) as dependent variables. Each line in Figure 4 corresponds to a different "high concentration" cutoff of 5% (blue line), 10% (red line), 25% (green line), and 50% (yellow line) (i.e., $\bar{s} \in \{0.05, 0.1, 0.25, 0.5\}$). In Panel (a) of Figure 4, we observe parallel trends in earnings across high and low concentration markets prior to the buyout. Consider the case in which we classify a labor market as "high concentration" when a firm's wage-bill share exceeds 25% (green line). A 25% wage bill share is roughly the 75th percentile of our data, and so quite concentrated. We observe no differential impact of buyouts on earnings in markets in which firms control one-fourth of the local wage bill share relative to markets in which they control less than one-fourth of the local wage bill share. While several of the point estimates two years after the buyout are negative, they are small in magnitude and indistinguishable from zero. The null result extends to firms that control 50% of the local wage bill (yellow line), which corresponds to roughly the 90th percentile of the wage-bill distribution in our data.

To gauge the impact of local labor market concentration on employment, we re-estimate equation (3) with an employment indicator as the dependent variable. Panel (b) of Figure 4 illustrates the continued lack of variation in post-buyout employment trajectories across various local labor markets. Even in the most concentrated labor markets in which the firm controls 50% of the wage-bill share, we see no differential effects of buyouts on employment.

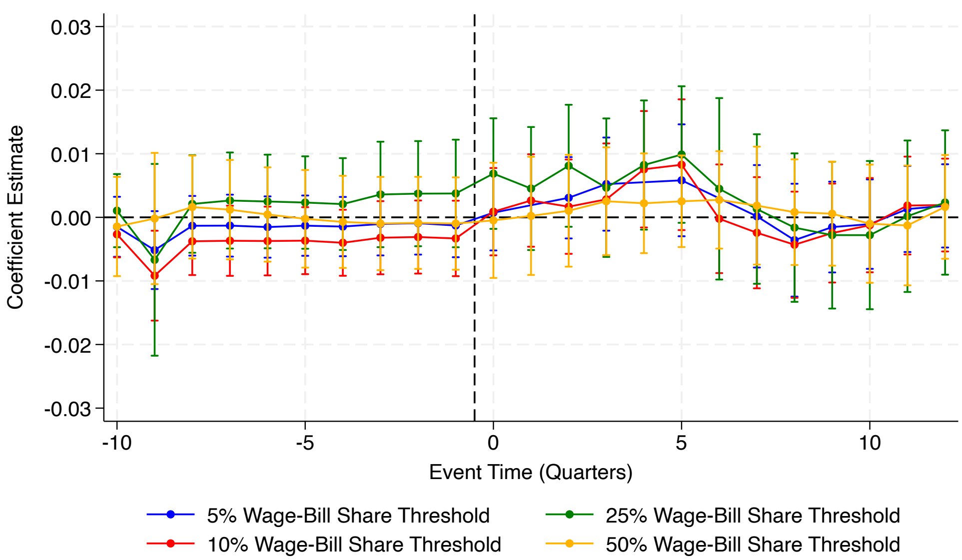
Given the potential importance of this null result for antitrust policy, we provide a number of robustness checks. First, instead of using a focal firm's wage-bill share to define "high concentration," we use the local labor market Herfindahl (HHI_j). We classify markets into high and low concentration based on the thresholds for presumptive anticompetitive effects in the 2010 and 2023 Merger Guidelines (see DOJ and FTC (2010) and DOJ and FTC (2023a)). Figure 5 shows that across highly concentrated markets (based on the 2010 guidelines), there is no differential effect of private equity buyouts on earnings. Second, we use the share of new hires as an alternate measure of market concentration. Panels (a) and (b) of Figure 6 show no differential earnings or employment effects across markets in which a firm controls a small versus large share of new hires. Even when a firm controls 25% of new hires in a market, we see no differential earnings response when compared to markets in which that firm controls less than 25% of new hires. Third, in Appendix Table A.19, we use outflow rates of workers from the market to proxy for market power (Arnold (2020)). We find similar null results. The full set of numerical results from these exercises are in Appendix 2.

In summary, our results provide evidence against a monopsony-driven explanation for private equity payroll reductions. There is no evidence of differential wage or employment responses across

Figure 4: **Within-firm, across-market event studies for log earnings and employment.** This figure illustrates the coefficient estimates from event studies that compare the outcomes of workers from high- and low-concentration labor markets. The dependent variable is log-transformed quarterly earnings (Panel (a)) or an employment indicator (Panel (b)), and the coefficients displayed in the graphs represent the interactions of high-concentration and event-time indicators. In all specifications, the wage-bill share of the target firm is used to define high- and low-concentration markets, with a distinct threshold for each specification. Labor markets are defined at the CZ-NAICS3 level. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Table A.4 and Table A.5 present the coefficient estimates in numeric form.

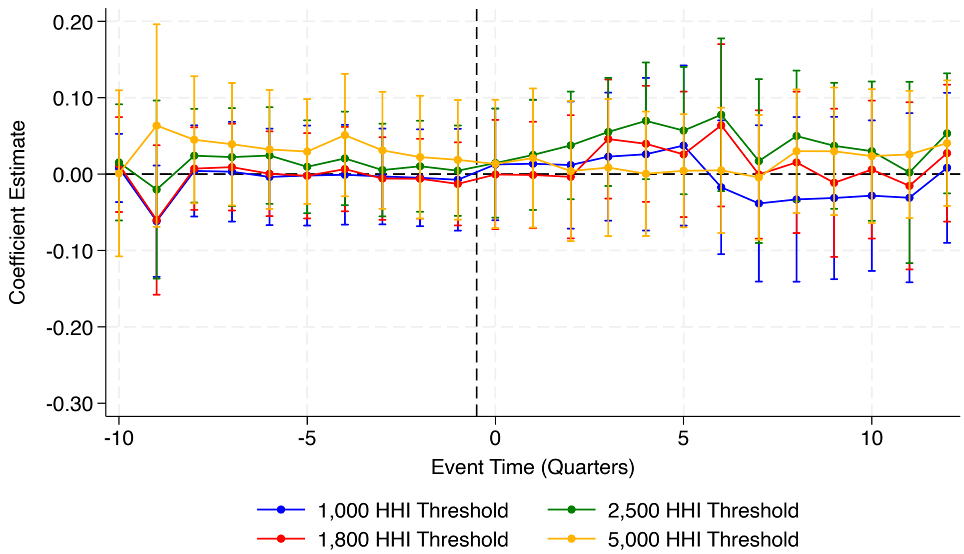


(a) Log Earnings

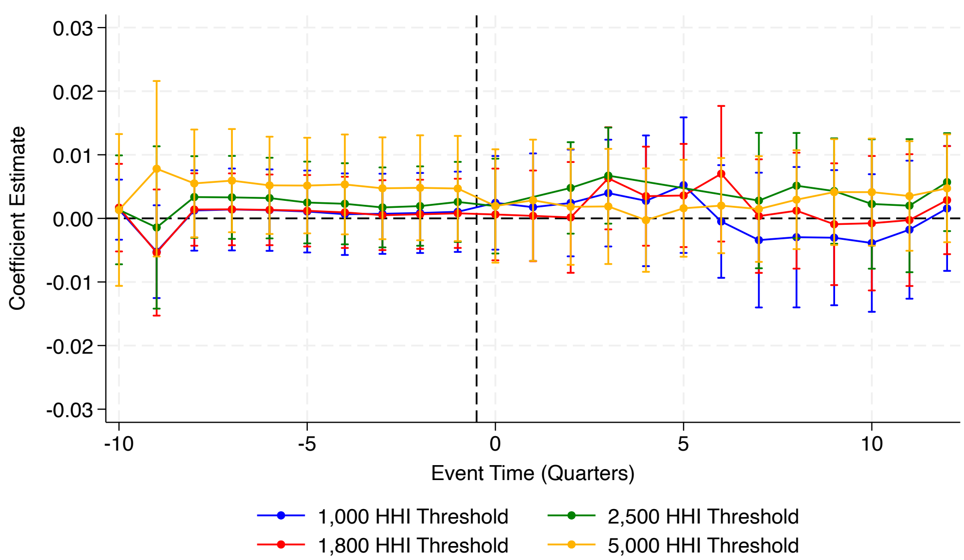


(b) Employment

Figure 5: **Within-firm, across-market event studies by HHI.** This figure illustrates the coefficient estimates from event studies that compare the log earnings and employment outcomes of workers from high- and low-concentration labor markets, where HHI is used as the measure of concentration. The coefficients displayed in the graphs represent the interactions of high-concentration and event-time indicators. Labor markets are defined at the CZ-NAICS3 level. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Tables A.6 and A.7 present the coefficient estimates in numeric form.

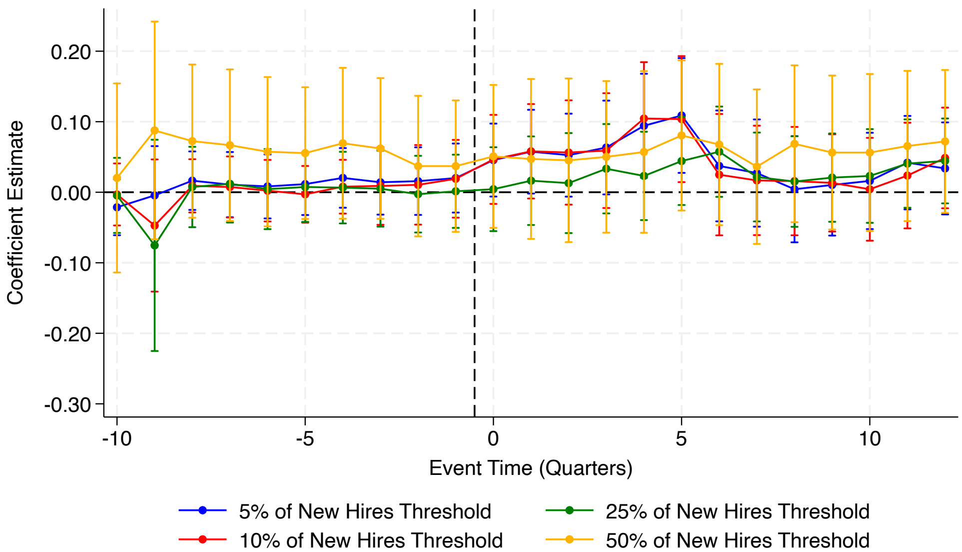


(a) Log Earnings

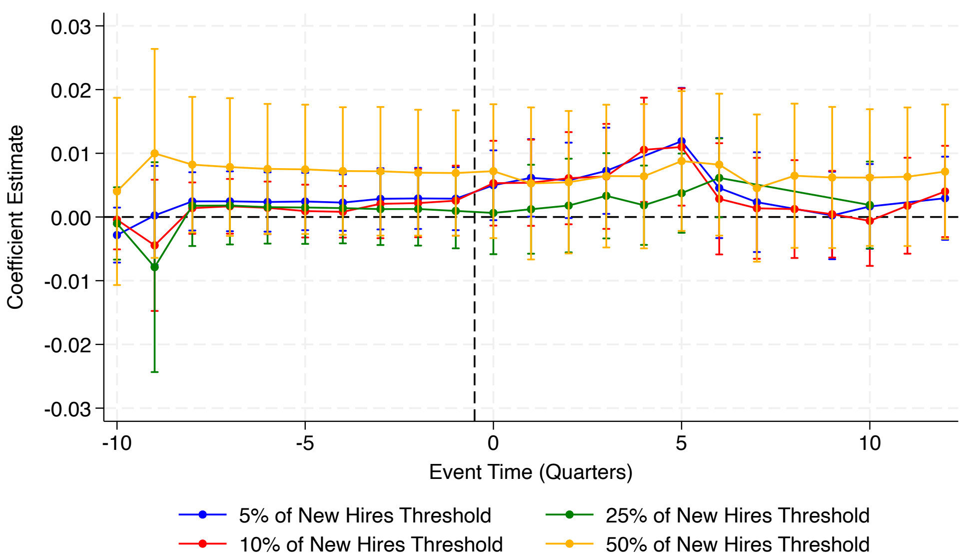


(b) Employment

Figure 6: **Within-firm, across-market event studies by share of new hires.** This figure illustrates the coefficient estimates from event studies that compare the log earnings and employment outcomes of workers from high- and low-concentration labor markets, where the target firm's share of all new hires is used as the measure of concentration. The coefficients displayed in the graphs represent the interactions of high-concentration and event-time indicators. Labor markets are defined at the CZ-NAICS3 level. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Tables A.8 and A.9 present the coefficient estimates in numeric form.



(a) Log Earnings



(b) Employment

more or less concentrated labor markets, and this result is robust to a variety of proxies for labor market power.

Monopoly (not monopsony) power. Just as monopsonists cut employment to lower wages, monopolists cut production to raise prices. Under mild assumptions, when private equity managers exert monopoly power to generate shareholder value, they must layoff workers as they cut production (also reducing their wage bill). We test for this pattern in the data in Appendix Table A.21 (Appendix Figure A.3). We compare earnings before and after the buyout across markets where firms are large and small in the product market. We do not detect any differential trends in post-buyout earnings across high and low concentration product markets, within the firm. We conclude that post-buyout earnings losses are unlikely to be driven by monopoly power.

7 Breach of trust

With limited evidence that monopsony power drives post-buyout layoffs, we turn to "breach of trust" theories (Shleifer and Summers (1988)). Private equity can create shareholder value by breaching implicit or explicit contracts with stakeholders, including laborers. Our tests of the beach of trust hypothesis rely on comparisons of workers with high and low rents at treated and control firms.

In particular, under the hypothesis that incumbent managers have higher reputational costs of laying off higher wage workers relative to private equity managers, post-buyout layoffs will be concentrated among higher wage workers (see Section 2). We test this theory using a triple-difference identification strategy (across treatment status, time, and group). We compare outcomes of high-wage workers in the treatment group to high-wage workers in the control group around a buyout (the first difference-in-difference) to low-wage workers in the treatment group relative to low-wage workers in the control group (the second difference-in-difference). Netting these two difference-in-difference estimates yields our triple-difference estimator. If high-wage workers are being laid off disproportionately or paid less, the triple-difference estimate will be negative and significant.

We return to our matched treatment and control sample of workers (Sample 2). Let $g(n)$ denote a binary partition of worker characteristics (for example, $g(n) \in G =$ {High wage, Low wage}, $g(n) \in G =$ {Old, Young}, or $g(n) \in G =$ {Managers, Non-managers}). Let $\mathbf{1}_n^g$ indicate an individual's group (i.e., it is equal one if the individual is high-wage, old, or a manager and zero otherwise).[26]

We follow the same notation conventions as before (n is individual, t is time, k is event-time, D_{nt}^k are event-time dummies). To implement the triple-difference estimator, we must include full interactions of group ($\mathbf{1}_n^g$), event-time (D_{nt}^k), and treatment status (T_n). We also include a full set of group-quarter fixed effects ($\alpha_{g,t}$) to remove any time trends that are common across groups during the buyout window. Putting this together, we estimate the following triple-difference distributed lag specification:

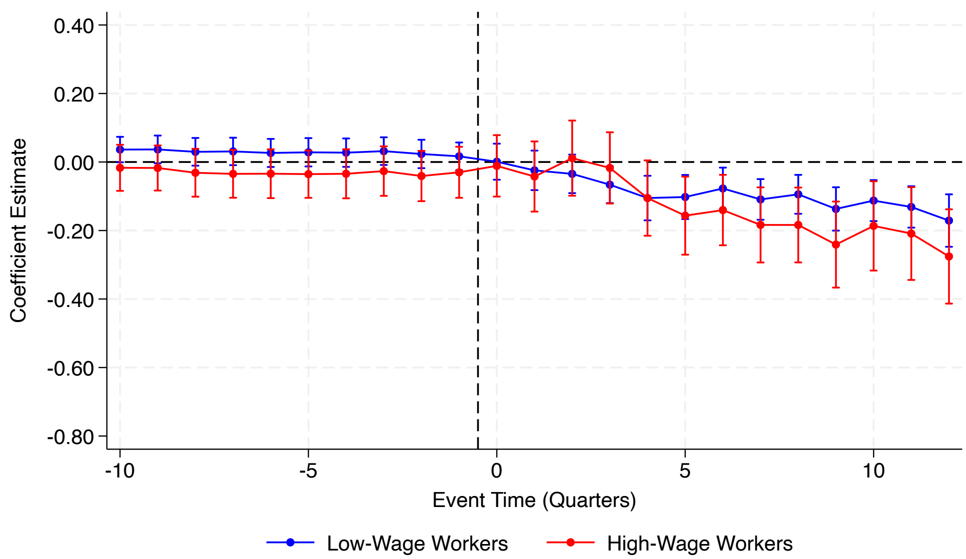
$$y_{nt} = \alpha_n + \alpha_{g,t} + \sum_{k=-10}^{12} \left[\gamma_k D_{nt}^k + \gamma_k^g \mathbf{1}_n^g \times D_{nt}^k + \beta_k T_n \times D_{nt}^k + \beta_k^g \mathbf{1}_n^g \times T_n \times D_{nt}^k \right] + \Gamma X_{nt} + \Gamma^g \mathbf{1}_n^g \times X_{nt} + \epsilon_{nt} \tag{5}$$

Our coefficients of interest are $\{\beta_k^g\}$. These coefficients capture triple-difference variation: *treatment versus control, pre- versus post-buyout, for individuals in group g* relative to *treatment versus control, pre- versus post-buyout for those not in group g*. Our priors are that high-wage, older, and managerial workers are the most likely to be laid off after a buyout. We therefore expect β_k^g to be negative among high-wage, older, and managerial workers.

In our first analysis, we follow our theory in Section 2 and test whether earnings losses are more severe among high-wage workers. We first classify high-wage workers as those in the top decile within the firm prior to the buyout and low-wage workers as everyone else at the firm. With these groupings in hand, we then estimate equation (5) with log earnings as the dependent variable. Figure 7 plots each component of the triple-difference estimator. The red line plots the difference-in-difference estimator among high-wage workers before and after the buyout. The blue line plots the difference-in-difference estimator among low-wage workers before and after the buyout. Visually, the difference between the red and blue lines is the triple-difference estimator. As can be observed from Figure 7, there is no differential effect of buyouts on the earnings of high-wage workers. Therefore, our results suggest "breach of trust" among high-wage workers is an unlikely explanation for post-buyout earnings losses. We do note that the triple-difference estimator is negative after two years, but the negative estimates are small and economically insignificant. We

[26]Since there are only two groups, the omitted group is the group for which the indicator is equal to zero.

Figure 7: **Treated vs. control event study by wage rank.** This figure illustrates the coefficient estimates from a regression that utilizes a triple-difference specification to compare the log earnings outcomes of high- and low-wage workers from target firms relative to similar controls. Individuals are classified as high-wage workers if they ranked within the top income decile among all individuals in the sample from the same firm, based on their earnings as of the quarter prior to closing, and all others are classified as low-wage workers. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Table A.10 presents the coefficient estimates in numeric form.

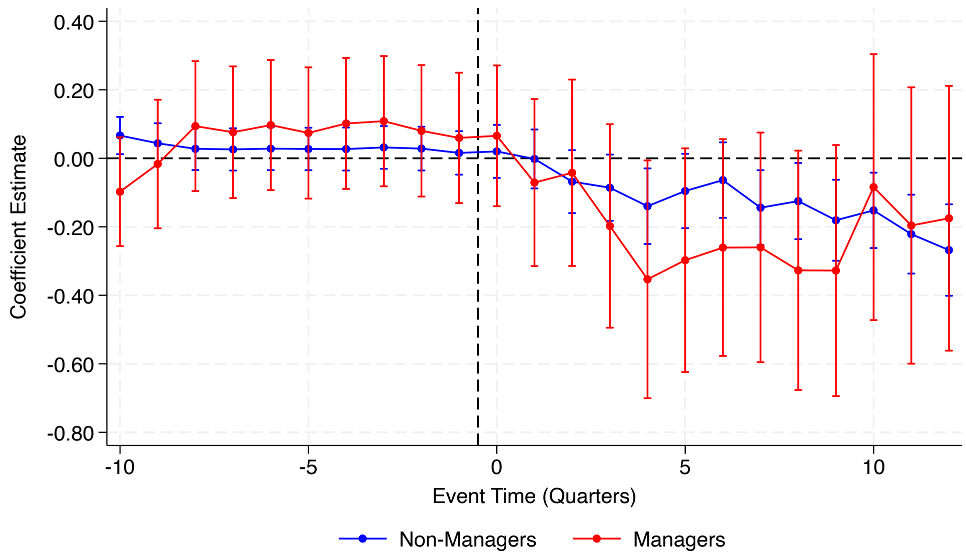


also fail to reject the null that the triple-difference coefficients are all jointly equal to zero. We formally report point estimates and standard errors in Appendix Table A.10, which serve to confirm the visually apparent null effects in Figure 7.

Much of the anecdotal evidence regarding "breach of trust" is centered around managerial layoffs (Shleifer and Summers (1988)), and so we systematically test this hypothesis by limiting our sample to LEHD households that have occupation information in the 2000 Decennial Census long form. This restriction decreases our sample size by a factor of ten. We classify workers as managers if their SOC codes contain "11" as the first two digits, following the Bureau of Labor Statistics's definition of "Management Occupations."

Using this binary manager/non-manager grouping, we estimate equation (5) with log earnings as the dependent variable. As before, Figure 8 plots the separate components of the triple-difference estimator. The red line plots the difference-in-difference estimator among managers, while the blue line plots the difference-in-difference estimator among non-managers. The gap between the

Figure 8: **Treated vs. control event study by occupation.** This figure illustrates the coefficient estimates from a regression that utilizes a triple-difference specification to compare the log earnings outcomes of management and non-management workers from target firms relative to similar controls. Individuals are classified for this purpose based on the occupations listed in the 2000 Decennial Census, and the sample is limited to individuals for whom responses are available. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Table A.11 presents the coefficient estimates in numeric form.

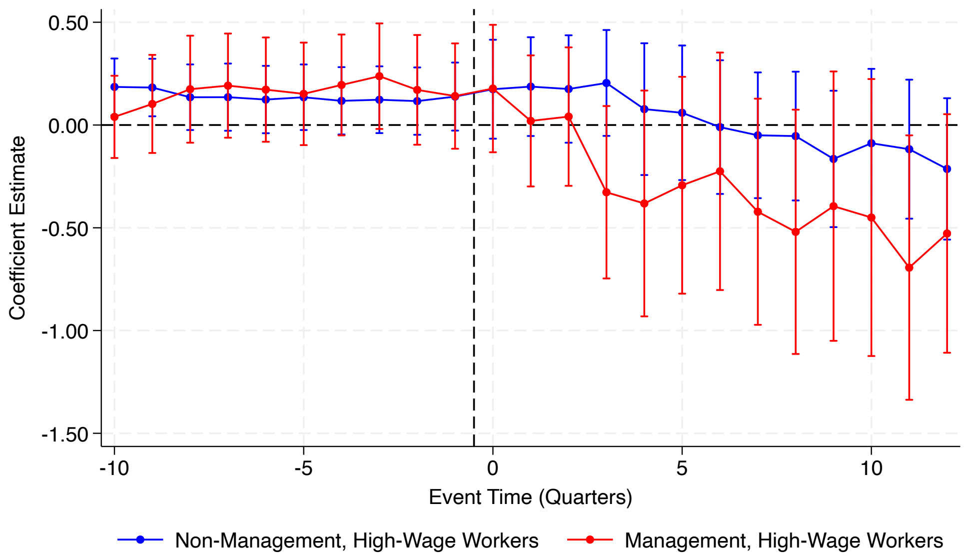


red and blue lines is the triple-difference estimator. Figure 8 makes clear that earnings losses are considerably larger among managers, and in particular high-wage managers, but due to the reduced sample size, we cannot statistically distinguish the manager and non-manager point estimates (i.e., the triple-difference estimator is insignificant as shown in Appendix Table A.11). Formally, we fail to reject the null that the triple-difference coefficients are all jointly equal to zero. Therefore, our results suggest that "breach of trust" among managers is unlikely to explain the large post-buyout earnings losses observed in the data.

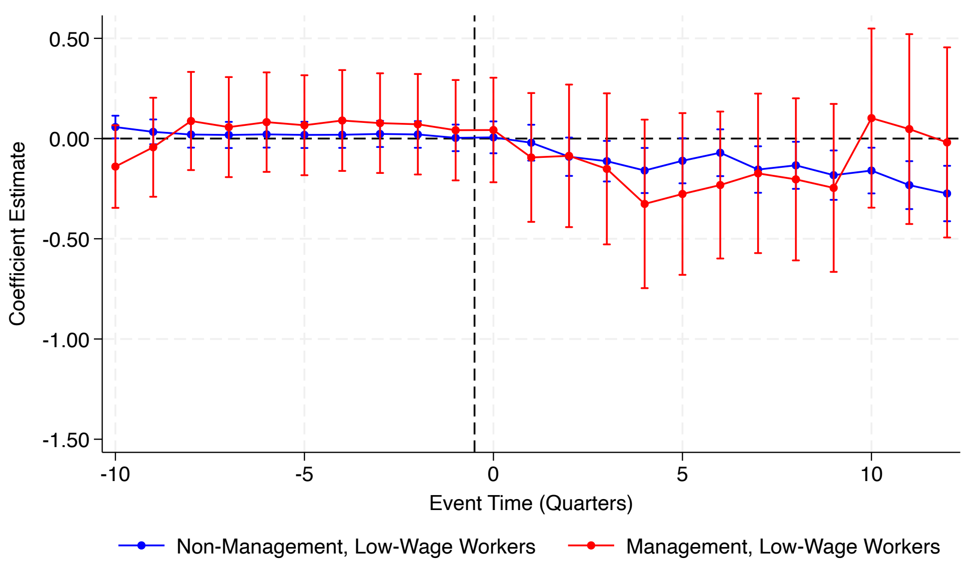
In Appendix Table A.12, we adopt a quadruple-difference approach in which we isolate high-wage managers and compare them to high-wage non-managers, before and after the buyout. We find larger earnings losses among high-wage managers, but again, we lack statistical precision to distinguish the earnings trajectories across these finer groups.

Differential impacts across race and gender. Breach of trust may also be applicable to specific demographic groups within the firm. We test this theory by estimating equation (5) with

Figure 9: **Treated vs. control event study by wage rank and occupation.** This figure illustrates the estimated treatment effects from a single regression that augments the baseline treated vs. control specification by including interactions with an indicator for high-wage workers and an indicator for management occupations. The dependent variable is log-transformed quarterly earnings. Individuals are classified as high-wage workers if they ranked within the top income decile among all individuals in the sample from the same firm, based on their earnings as of the quarter prior to closing, and all others are classified as low-wage workers. Management status is determined based on the occupations listed in the 2000 Decennial Census, and the sample is limited to individuals for whom responses are available. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Table A.12 presents the coefficient estimates in numeric form.



(a) High-Wage Workers



(b) Low-Wage Workers

white/non-white and female/male groupings. We present these figures in the appendix, given they are not directly motivated by theory. Figures A.4 and A.5 plot our results. Both figures reveal null differential effects across race and gender groups after private equity buyouts. We conclude that private equity is not creating shareholder value by shifting rents away from minorities or female employees. Earnings losses appear to be equally distributed across these group.

8 Reallocation

Our final analysis tests for efficient reallocation of workers across plants. Based on our theory in Section 2, we test whether private equity managers downsize less productive plants while scaling up more productive plants. We also measure the extent to which private equity managers reallocate workers from less productive plants to more productive plants. We adopt a similar triple-difference strategy to Section 7. We compare treatment versus control workers at unproductive plants before and after the buyout (the first difference-in-difference) to treatment versus control workers at productive plants before and after the buyout (the second difference-in-difference). The triple-difference estimator is obtained by subtracting the two difference-in-difference estimates. If employment losses are more severe at unproductive plants, we expect the triple-difference estimator to be negative and significant.

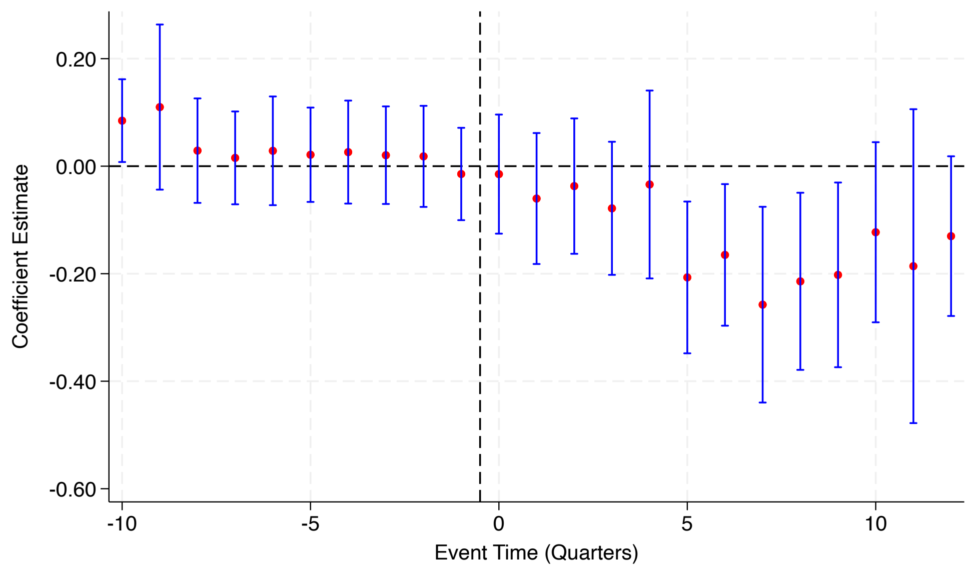
Our analysis relies on the matched sample of manufacturing workers (Sample 3). To measure reallocation across markets, we adopt the same NAICS3 industry-by-commuting zone definition of local labor markets as in Section 6. We then compute a worker-weighted average of plant-level TFP for each establishment the firm operates within the local labor market before the buyout.[27] We classify a given market as "low productivity" if it has below-median productivity *within* the firm (i.e., a firm may operate in ten markets pre-buyout, we rank those markets by the firm's productivity pre-buyout and classify the bottom half as "low productivity").[28] We denote $\mathbf{1}_n^g$ as equal to one when a worker is employed at a low-productivity plant in the quarter before the buyout and zero otherwise.

With these productivity-based groupings of workers, and relying on identical notation as Section

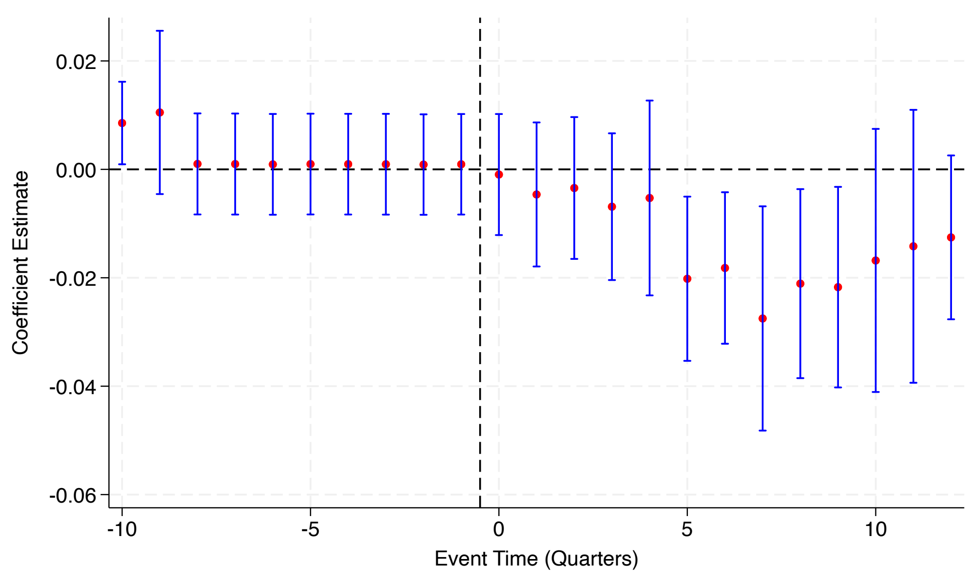
[27]We rely on the Census Bureau's calculation of the purified Solow residual (*TFP v7*) to rank plant productivity of manufacturing firms.

[28]We use the worker-weighted distribution of productivities to compute median TFP within the firm.

Figure 10: **Treated vs. control event studies by productivity.** This figure illustrates the coefficient estimates from event studies that utilize a triple-difference specification to compare the outcomes of workers from low-productivity plants vs. high-productivity plants within target firms relative to similar controls. If employment losses are more severe at unproductive plants, we expect the triple-difference estimator to be negative. The sample of individuals from firms linked to the Census of Manufactures is used in both cases. Low-productivity markets are defined as those in which the firm's productivity is below the median, where the median is calculated based on worker-level observations using individuals from the given firm. Quarter $t = 0$ represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters $t = -12$ and $t = -11$ comprising the omitted categories. Table A.15 presents the coefficient estimates in numeric form.



(a) Log Earnings



(b) Employment

7 (n is individual, t is time (quarter), k is event-time, D_{nt}^k are event-time dummies, $_{i,t}$ are firm-time dummies, and $y(t)$ is year), we estimate the following triple-difference specification,

$$y_{nt} = \alpha_n + \alpha_{y(t)} + \alpha_{y(t)} \times T_n + \sum_{k=-10}^{12} \Big[\gamma_k D_{nt}^k + \gamma_k^i \alpha_{i,t} \times D_{nt}^k + \gamma_k^g \mathbf{1}_n^g \times D_{nt}^k$$
$$+ \beta_k T_n \times D_{nt}^k + \beta_k^g \mathbf{1}_n^g \times T_n \times D_{nt}^k \Big] + \Gamma X_{nt} + \Gamma^T T_n \times X_{nt} + \epsilon_{nt}. \quad (6)$$

Figure 10 plots the resulting triple-difference coefficients $\{\beta_k^g\}$. Panel (a) shows that the triple-difference earnings losses are roughly 20% more severe at low-productivity plants (i.e., treatment versus control workers at unproductive plants before and after the buyout have 20% larger earnings losses relative to treatment versus control workers at productive plants before and after the buyout). Likewise, Panel (b) shows that the triple-difference employment losses are 2% more severe at low-productivity plants.[29] The estimates in Figure 10 suggest that private equity firms are downsizing unproductive plants relative to productive plants.

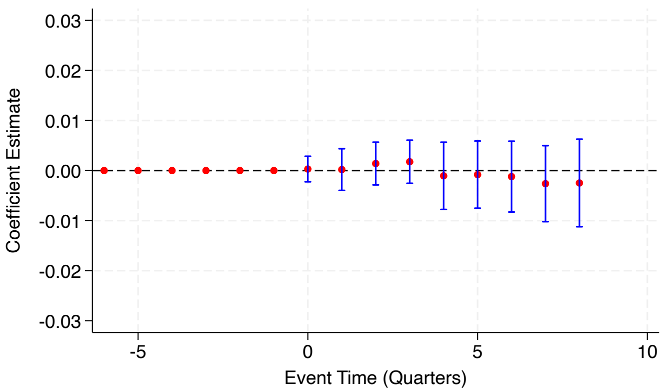
Our second set of analyses measures reallocation of workers from low to high productivity markets. Using the same productivity groupings as before, we estimate equation (5) using an indicator for a low-to-high within-firm employment move as the dependent variable. Panel (a) of Figure 11 shows that aggregate reallocation within the firm responds insignificantly to the buyout.

However, when we split the sample into high-wage and low-wage workers, we find positive, significant and economically meaningful reallocation rates of high-wage workers. We separately estimate equation (6) for (i) workers in the top 90th percentile of wages within the firm and (ii) workers in the bottom 10th percentile of wages within the firm. Panel (b) of Figure 11 reports the resulting triple-difference estimator and shows that high-wage workers are 1% more likely to be reallocated from low productivity markets to high productivity markets after a buyout.[30] The F-test that all high-wage reallocation coefficients are zero yields a p-value of 0.03, indicating joint significance of the point estimates. Panel (c) shows that low-wage workers are marginally less likely to be reallocated from low-to-high productivity firms; however, the point estimates are sufficiently

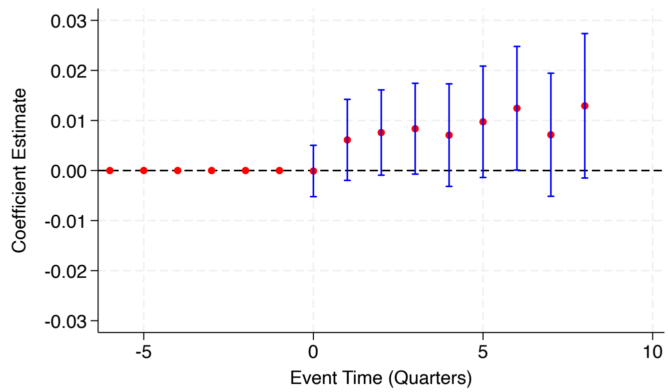
[29] In words, treatment versus control workers at unproductive plants before and after the buyout are 2% less likely to be employed relative to treatment versus control workers at productive plants before and after the buyout.

[30] This is a triple-difference estimator and thus must be interpreted as follows: among only high-wage workers, treatment versus control workers at unproductive plants before and after the buyout are 1% more likely to be reallocated to a high productivity plant relative to treatment versus control workers at productive plants before and after the buyout.

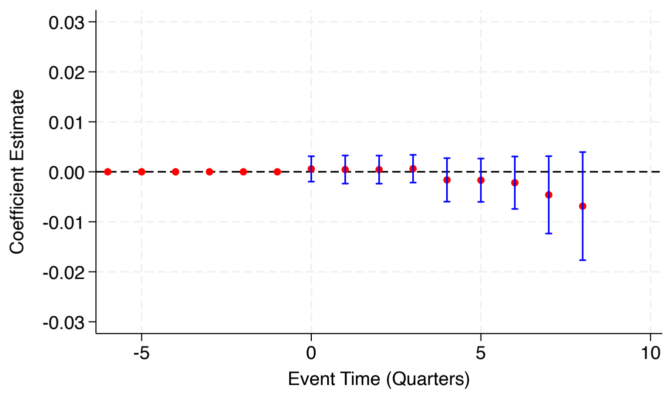
Figure 11: **Reallocation event study.** This figure illustrates the coefficient estimates from the event study that utilizes a triple-difference specification to test whether a worker remaining at a target firm is more likely to be reallocated to a higher-productivity location than a worker at a similar control firm. The dependent variable is an indicator that takes on the value 1 if a worker is in a higher-productivity market relative to the quarter prior to closing and takes on the value 0 otherwise. This regression utilizes the sample of individuals from firms linked to the Census of Manufactures, with the additional restrictions that individuals are required to have remained fully employed at the same firm from the period beginning two years prior to closing and ending two years after closing and are also required to have remained at the same job within the same labor market (CZ-NAICS3) throughout the eight quarters prior to closing. As a result, the dependent variable takes on the value 0 in all quarters prior to closing by construction. The specification illustrated in Panel (a) is the pooled sample, Panel (b) restricts the sample to workers who were among the top decile by income among in-sample workers from the same firm as of the quarter prior to closing, and (c) instead limits the sample to workers from the bottom income decile. Low-productivity markets are defined as those in which the firm's productivity was below the median, where the median is calculated based on worker-level observations using individuals from the given firm. Quarter $t = 0$ represents the closing quarter, and the event window begins eight quarters prior to and ends eight quarters after closing. Table A.16 and Table A.17 present the coefficient estimates in numeric form.



(a) Reallocation in Pooled Income Deciles



(b) Reallocation in Top Income Decile



(c) Reallocation in Bottom Income Decile

imprecise that they cannot be distinguished from zero.

To benchmark the magnitude of the high-wage worker reallocation effects, we report the sample average reallocation rate of high-wage control workers in Table 6.[31] Roughly 0.58% of high-wage

[31] This is measured as of $t + 4$, exactly one year after the control firm's "closing quarter."

Table 6: **Summary statistics for within-firm worker reallocation.** The table below presents summary statistics for the shares of workers who had moved to different labor markets as of one year following the closing quarter, based on the sample of workers from firms in the restricted manufacturing sample used for the within-firm worker reallocation event studies. To be included in the sample, individuals are required to have remained fully employed at the same firm from the period beginning two years prior to closing and ending two years after closing, and they are also required to have remained at the same job within the same labor market (CZ-NAICS3) throughout the eight quarters prior to closing. Each firm's productivity is determined at the market level based on the log TFP available from the Census of Manufactures. Low- and high-income workers are defined as individuals who ranked among the bottom and top decile, respectively, among in-sample workers from the same firm as of the quarter prior to closing.

	Share Moving to Any Other Market	Share Moving to Higher-Productivity Market
All Control Workers	1.314%	0.2941%
Low-Income Control Workers	1.000%	0.2000%
High-Income Control Workers	2.963%	0.5769%

control workers are reallocated from low to high productivity markets in a given quarter. Thus a 1% increase in the reallocation rate of high-wage treatment workers corresponds to a tripling of the average control worker's reallocation rate (i.e, the total reallocation rate in the treatment group is 1.58% = 1% + 0.58% versus 0.58% in the control group). We view these effects as economically meaningful.

In summary, Figures 10 and 11 provide strong evidence for the efficient reallocation hypothesis of Section 2. Private equity managers are downsizing unproductive plants relative to productive plants, and they are reallocating high-wage workers from unproductive to productive plants.

9 Conclusions

We explore the real effects of private equity buyouts on worker outcomes. We build a new database that links buyout transactions to matched employer-employee data in the United States. Unlike existing firm-level studies (Davis et al. (2014)), our data lets us track worker wage and employment trajectories, regardless of subsequent employment at targeted firms. Compared to a matched set of control workers, workers who endure a private equity buyout have sizable earnings losses and lower subsequent employment three years later.

The primary contribution of our paper is to understand better *why* we observe post-buyout earnings and employment losses. We approach this question by formalizing and testing three theories in which private equity managers alter worker outcomes: (1) exertion of monopsony power,

(2) breach of trust, and (3) efficient reallocation of workers across plants.

To test for monopsony power, we compare workers within the same firm and across markets with varying degrees of potential labor market power. We use a number of proxies for labor market power, including local wage-bill shares of firms, Herfindahls in the local labor market, and local shares of new hires. In all specifications, we recover a precise null effect of private equity on wages and employment in more concentrated markets. We argue that monopsony power is an unlikely explanation for the significant earnings and employment losses after private equity buyouts.

We then test the breach of trust hypothesis by comparing employment and earnings outcomes across managers and non-managers as well as across high-wage and low-wage workers. We find no differential earnings losses across managers relative to non-management control workers. We do find higher earnings losses for management high-wage workers than non-management high-wage workers, but not significantly so. We also find uniform earnings losses across racial and gender groups. Our results suggest a limited scope for breach of trust.

Finally, we test for efficient reallocation of workers across plants. We find strong evidence that private equity managers are reallocating workers from less productive plants to more productive plants. Private equity managers are also downsizing less productive plants relative to productive plants. In all of our analyses, efficient reallocation is large and economically meaningful.

Overall, our results are consistent with private equity investors and their portfolio companies acting to increase efficiency and cut employment at poorly performing plants. We do not find any evidence that private equity-backed firms vary wages and employment based on local labor market power. Moreover, layoffs and wage losses are very similar across occupation and employee characteristics, suggesting a rejection of the breach of trust hypothesis. We conclude that post-buyout employment and wage dynamics are driven by efficiency considerations, consistent with professional investors providing incentives to increase productivity and monitor the companies in which they invest.

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Online Appendix to

Private Equity and Workers: Modeling and Measuring Monopsony, Reallocation, and Trust

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1 Appendix derivations and proofs

Derivation of monopsony wage. Taking first order conditions yields

$$z\alpha l^{\alpha-1} - \pi\frac{dw}{dl}l - \pi w - (1-\pi)\, l^{\frac{1}{\epsilon}} = 0$$

Using the household's first order condition $l^{\frac{1}{\epsilon}} = w$, we see

$$\begin{aligned} z\alpha l^{\alpha-1} - \pi\frac{dw}{dl}l - \pi w - (1-\pi)\, w &= 0 \\ z\alpha l^{\alpha-1} - \pi\frac{dw}{dl}l - w &= 0 \\ mrpl - w\left[\pi\frac{dw}{dl}\frac{l}{w} + 1\right] &= 0 \\ mrpl &= w\left[\pi\epsilon^{-1} + 1\right] \\ mrpl\frac{\epsilon}{\pi+\epsilon} &= w \end{aligned}$$

Proposition 1. *Proof:*

1. Markdowns are given by $\mu = \frac{\epsilon}{\pi+\epsilon}$. Taking the derivative with respect to π establishes the first result:

$$\frac{d\mu}{d\pi} = (-1)\,(\pi+\epsilon)^{-2}\,\epsilon < 0.$$

   Note that markdowns widen (which corresponds to a negative derivative, i.e. smaller μ,meaning workers take home less of what they produce) as the weight on profits π increases.

2. We can combine labor demand and labor supply to derive employment:

$$\begin{aligned} z\alpha l^{\alpha-1}\frac{\epsilon}{\pi+\epsilon} &= w \\ z\alpha l^{\alpha-1}\mu &= l^{\frac{1}{\epsilon}} \\ l &= [z\alpha\mu]^{\frac{1}{1-\alpha+\frac{1}{\epsilon}}}. \end{aligned}$$

   Since $1-\alpha+\frac{1}{\epsilon} > 0$ and $\frac{d\mu}{d\pi} < 0$, we have that $\frac{dl}{d\pi} < 0$, i.e. employment falls post-buyout. Since $w = l^{\frac{1}{\epsilon}}$, wages also fall.

3. The cross-partial of markdowns with respect to the labor supply elasticity is given by

$$\frac{d}{d\epsilon}\left[\frac{d\mu}{d\pi}\right] = (-1)\,(\pi+\epsilon)^{-2}\left[(-2)\,(\pi+\epsilon)^{-1}\epsilon + 1\right]$$

   The second bracket is negative whenever $\pi < \epsilon$:

$$\frac{d}{d\epsilon}\left[\frac{d\mu}{d\pi}\right] > 0 \iff \pi < \epsilon.$$

   This implies that whenever $\pi < \epsilon$, markdowns widen at a *decreasing rate* (their rate of negative change is diminished) as ϵ increases (as labor markets become more competitive).

4. From (1.), we establish that $\lim_{\epsilon\to\infty}\frac{d\mu}{d\pi}$=0. We also have $\lim_{\epsilon\to\infty}\mu$=1 . The derivative of employment is given by $\frac{dl}{d\pi} = [z\alpha]^{\frac{1}{1-\alpha+\frac{1}{\epsilon}}}\left(\frac{1}{1-\alpha+\frac{1}{\epsilon}}\right)\mu^{\frac{1}{1-\alpha+\frac{1}{\epsilon}}-1}\frac{d\mu}{d\pi}$, and so it follows that $\lim_{\epsilon\to\infty}\frac{dl}{d\pi} = 0$. Since $w = l^{\frac{1}{\epsilon}}$, wages are also unaffected in competitive markets.

5. A simple consequence of reduced employment is higher output per worker ($\frac{y}{l} = zl^{\alpha-1}$) since there is decreasing returns to scale. ■

Proposition 2. *Proof:*

Suppose l_0 is given and $\delta_p(w) = 0$ for simplicity. There are three cases.

Case 1: . If $z \geq \frac{w}{\alpha} l_0^{1-\alpha}$, then both managers set $l_{1,m} = l_{1,p} = l_0$. The log change in employment is zero for both managers.

Case 2: If $\frac{w}{\alpha} l_0^{1-\alpha} > z \geq \frac{w - \mathbb{I}(l_1 < l_0)\delta_m(w)}{\alpha} l_0^{1-\alpha}$, then the incumbent sets $l_{1,m} = l_0$ and the private equity manager begins to fire workers $l_p = \left(\frac{z\alpha}{w}\right)^{\frac{1}{1-\alpha}} < l_0$. The log change in employment is zero for the incumbent and negative for the private equity manager.

Case 3: Suppose $z < \frac{w - \mathbb{I}(l_1 < l_0)\delta_m(w)}{\alpha} l_0^{1-\alpha}$. let $\widetilde{w} = w - \mathbb{I}(l_1 < l_0)\delta(w)$. Taking first order condition for the incumbent manager yields,

$$z\alpha l_{1.m}^{\alpha-1} - w + \mathbb{I}(l_{1.m} < l_0)\delta(w) = 0,$$

$$l_{1.m}^{\alpha-1} = \frac{1}{z\alpha}\left[w - \mathbb{I}(l_{1.m} < l_0)\delta(w)\right],$$

$$l_{1.m} = \left(\frac{z\alpha}{\widetilde{w}}\right)^{\frac{1}{1-\alpha}}.$$

Let $\Delta \log l = \log l_{1,m} - \log l_{1,p}$. Assuming $\delta_p(w) = 0 < \delta_m(w)$ yields the desired result,

$$l_{1,m} = \left(\frac{z\alpha}{w - \mathbb{I}(l_1 < l_0)\delta_m(w)}\right)^{\frac{1}{1-\alpha}} \geq l_{1,p} = \left(\frac{z\alpha}{w}\right)^{\frac{1}{1-\alpha}},$$
$$\Delta \log l \approx \frac{1}{1-\alpha}\left(\mathbb{I}(l_1 < l_0)\frac{\delta_m(w)}{w}\right) > 0.$$

■

Proposition 3. *Proof:*

1. Following Hamilton (1994), the signal s_1 and prior a_1 of the incumbent manager are multivariate normal,
$$\begin{bmatrix} s_1 \\ a_1 \end{bmatrix} \sim N\left(\begin{bmatrix} \mu_a \\ \mu_a \end{bmatrix}, \begin{bmatrix} \sigma_a^2 + \sigma_m^2 & \sigma_a^2 \\ \sigma_a^2 & \sigma_a^2 \end{bmatrix}\right).$$
Therefore the posterior distribution of productivity (conditional on realized signal s_1) is also normal, $a_1|s_1 \sim N\left((1-k)\mu_a + ks_1, \left(\frac{1}{\sigma_a^2} + \frac{1}{\sigma_m^2}\right)^{-1}\right)$ where $k = \frac{\sigma_a^2}{\sigma_a^2 + \sigma_m^2}$ is the Kalman gain. Therefore, we have expected plant productivity is $z_i = exp\left((1-k)\mu_a + ks_i + \frac{1}{2}\left(\frac{1}{\sigma_a^2} + \frac{1}{\sigma_m^2}\right)^{-1}\right)$, conditional on signal s_i. As signals become infinitely imprecise, $\sigma_m \to \infty$, the Kalman gain approaches zero, $k \to 0$, and expected productivities are equated at both plants, $z_1 = z_2 = exp\left(\mu_a + \frac{1}{2}\sigma_a^2\right)$. Labor is optimally chosen so that $l_i = \left[\frac{z_i\alpha}{w}\right]^{\frac{1}{1-\alpha}}$, implying equal allocations of labor across plants.
2. Define $z_{ij} \equiv E\left[e^{a_i}|s_i, \sigma_j\right]$, where $j \in \{m, p\}$ indexes incumbent managers and private equity managers. We can more compactly write $z_{ij} = c_j exp(k_j s_i)$ where $c_j = exp\left((1-k_j)\mu_a + \frac{1}{2}\left(\frac{1}{\sigma_a^2} + \frac{1}{\sigma_j^2}\right)^{-1}\right)$ and $k_j = \frac{\sigma_a^2}{\sigma_a^2 + \sigma_j^2}$. Conditional on nature's draw of a_i (which remains unknown to the manager), we have

$s_i|a_i \sim N(a_i, \sigma_j^2)$, and thus $k_j s_i|a_i \sim N(k_j a_i, k_j^2\sigma_j^2)$.[1] Conditional on nature's draw of a_i, the mean of z_{ij} is given by,

$$\begin{aligned} E\left[z_{ij}|a_i\right] &= c_j E\left[exp(k_j s_i)|a_i\right] \\ &= c_j exp\left(k_j a_i + \frac{1}{2}k_j^2\sigma_j^2\right). \end{aligned}$$

This implies that the ex-ante expected productivity differential between the two plants is multiplicative with the Kalman gain: $\log E\left[z_{1m}\right] - \log E\left[z_{2m}\right] = k_m\left(a_1 - a_2\right)$. Since incumbent managers have a smaller Kalman gain (i.e. they place less weight on their signals, $k_m < k_p$), the expected productivity differential (conditional on natures draw of $a_1$and a_2, where $a_1 > a_2$) is always smaller for incumbent managers.

3. Let $\widetilde{c}_p = c_p exp(\frac{1}{2}k_p^2\sigma_p^2)$ and $\widetilde{c}_m = c_m exp(\frac{1}{2}k_m^2\sigma_m^2)$. We maintain the assumption that incumbent managers have less precise signals, $\sigma_m > \sigma_p$, and thus their Kalman gain is smaller, $k_m < k_p$. Suppose the productivity gap is sufficiently large (i.e. a_1 sufficiently positive and a_2 sufficiently negative) that the following conditions hold: $\left(k_p - k_m\right)a_1 > \ln\widetilde{c}_m - \ln\widetilde{c}_p$ and $\left(k_p - k_m\right)a_2 < \ln\widetilde{c}_m - \ln\widetilde{c}_p$. Then expected productivity is higher (lower) at plant 1 (2) for the private equity manager relative to the incumbent. The optimality condition of both managers is $l_{ij}^{1-\alpha} = \frac{z_{ij}\alpha}{w}$. We linearize this function around a common value, l_0. The linearized optimality condition becomes $l_0^{1-\alpha} + (1-\alpha)l_0^{-\alpha}\left(l_{ij} - l_0\right) = \frac{\alpha}{w}z_{ij}$. Conditional on nature's draws of $a_1 > a_2$ (our maintained hypothesis), we have that ex-ante allocations of labor are more responsive to productivity for private equity managers, i.e. $E\left[l_{1p}|a_1\right] > E\left[l_{1m}|a_1\right]$ and $E\left[l_{2p}|a_2\right] < E\left[l_{2m}|a_2\right]$, up to a first order. In other words, private equity managers allocate more labor to more productive plants and less labor to less productive plants, on average. ■

[1] We use $s_i = a_i + u_i, u_i \sim^{iid} N(0, \sigma_i^2)$ and a_i is a known constant drawn from nature, implying $s_i|a_i \sim N(a_i, \sigma_j^2)$.

2 Appendix Tables

Table A.1: **Baseline treated vs. control event studies.** This table contains the coefficient estimates from the event studies illustrated in Figure 1, which compare the outcomes of workers from target firms to the outcomes of matched control workers. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. In specifications (1) and (2), the dependent variable is quarterly earnings, with specification (1) utilizing log-transformed earnings and specification (2) utilizing the inverse hyperbolic sine transformation. The outcome for specification (3) is an indicator for full employment, which we define throughout as real quarterly earnings exceeding $1,000 in 2009 dollars. Standard errors are clustered at the level of the target or control firm for these and all subsequent event studies.

Dependent Variable	(1) Log Earnings		(2) IHS Earnings		(3) Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Interactions:						
F Statistic	3.378***		3.351***		3.031***	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE
Treated x t-10	0.03161*	0.01859	0.03433*	0.01986	0.004153**	0.002077
Treated x t-9	0.03153	0.02004	0.03283	0.02139	0.003938*	0.002343
Treated x t-8	0.0234	0.02026	0.02371	0.02164	0.002277	0.002602
Treated x t-7	0.02429	0.0201	0.0246	0.02148	0.002262	0.002606
Treated x t-6	0.02032	0.02049	0.02069	0.02186	0.002328	0.002619
Treated x t-5	0.02207	0.02066	0.02247	0.02204	0.002342	0.002617
Treated x t-4	0.0212	0.02076	0.02168	0.02213	0.002467	0.002591
Treated x t-3	0.0261	0.02028	0.02664	0.02166	0.00252	0.002588
Treated x t-2	0.01745	0.02087	0.01803	0.02221	0.00261	0.002579
Treated x t-1	0.01315	0.02032	0.0137	0.02168	0.002576	0.002588
Treated x t0	0.0003042	0.02661	-0.0007754	0.02844	-0.0002624	0.003106
Treated x t+1	-0.02526	0.02906	-0.02709	0.0311	-0.001683	0.003282
Treated x t+2	-0.02999	0.02813	-0.03201	0.03002	-0.003299	0.003081
Treated x t+3	-0.0609**	0.02674	-0.0644**	0.02857	-0.005156*	0.003024
Treated x t+4	-0.1042***	0.03247	-0.1117***	0.03464	-0.01104***	0.003498
Treated x t+5	-0.1057***	0.03229	-0.1132***	0.03455	-0.01055***	0.003587
Treated x t+6	-0.08118***	0.02962	-0.08672***	0.03168	-0.008063**	0.00339
Treated x t+7	-0.1143***	0.02934	-0.122***	0.03132	-0.01122***	0.003312
Treated x t+8	-0.1007***	0.02798	-0.1076***	0.02986	-0.01082***	0.003091
Treated x t+9	-0.1449***	0.03149	-0.154***	0.03365	-0.01507***	0.00352
Treated x t+10	-0.1176***	0.0299	-0.1253***	0.03197	-0.01178***	0.003294
Treated x t+11	-0.1367***	0.03035	-0.1456***	0.03245	-0.01348***	0.003312
Treated x t+12	-0.1789***	0.03829	-0.191***	0.04093	-0.01925***	0.00426
Individual FE	x		x		x	
Age^2	x		x		x	
Calendar Quarter (e.g., 2000Q1, 2000Q2) FE	x		x		x	
Event Time (e.g., t-1, t0) FE	x		x		x	
R^2	0.3415		0.3302		0.2275	
N	2,467,000		2,467,000		2,467,000	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table A.2: **Treated vs. control event studies subset to workers who remained at their jobs.** The table below presents the results of event studies for the subset of workers who remained fully employed at the same job from the quarter prior to closing through the 12 quarters after closing. The specification is identical to that used in the baseline treated vs. control event studies above.

Dependent Variable	(1) Log Earnings		(2) IHS Earnings	
F Test for Joint Significance of t0 Through t+12 Interactions:				
F Statistic	1.509		1.515	
Statistic	Estimate	SE	Estimate	SE
Treated x t-10	0.004579	0.01768	0.005839	0.01891
Treated x t-9	0.01374	0.01909	0.01408	0.02034
Treated x t-8	-0.007929	0.01914	-0.008873	0.02045
Treated x t-7	-0.006159	0.01909	-0.007118	0.02039
Treated x t-6	-0.01198	0.01901	-0.01296	0.02031
Treated x t-5	-0.007789	0.01917	-0.008756	0.02047
Treated x t-4	-0.01451	0.01928	-0.0155	0.02056
Treated x t-3	-0.008315	0.01939	-0.009336	0.02068
Treated x t-2	-0.01678	0.01957	-0.01778	0.02085
Treated x t-1	-0.01522	0.01915	-0.01626	0.02044
Treated x t0	-0.00407	0.02019	-0.00512	0.02146
Treated x t+1	-0.01683	0.01955	-0.01787	0.02083
Treated x t+2	-0.01168	0.01932	-0.01275	0.02057
Treated x t+3	-0.0234	0.02017	-0.02446	0.02145
Treated x t+4	-0.01343	0.02011	-0.01452	0.02131
Treated x t+5	-0.0146	0.01955	-0.0157	0.02082
Treated x t+6	-0.01486	0.01955	-0.01593	0.02079
Treated x t+7	-0.02044	0.01998	-0.02153	0.02123
Treated x t+8	-0.01524	0.01944	-0.01633	0.02069
Treated x t+9	-0.02345	0.01964	-0.02459	0.02091
Treated x t+10	-0.01939	0.01989	-0.02053	0.02114
Treated x t+11	-0.0257	0.02004	-0.02685	0.0213
Treated x t+12	-0.0219	0.01981	-0.02305	0.02106
Individual FE	x		x	
Age^2	x		x	
Calendar Quarter (e.g., 2000Q1, 2000Q2) FE	x		x	
Event Time (e.g., t-1, t0) FE	x		x	
R^2	0.6030		0.5760	
N	1,478,000		1,478,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.3: **Within-firm, across-market outcomes by decile of wage-bill share.** The table below reports coefficient estimates from regressions of wage and employment outcomes on interactions between event quarter and wage-bill-share decile indicators, using a quarterly worker panel containing only the employees of target firms. Workers are assigned to deciles based on the wage-bill shares of their firms, calculated at the CZ-NAICS3 level as of the quarter prior to closing, with Decile 1 corresponding to the lowest wage-bill shares. With the exception of Decile 2, which represents the omitted category, interactions for all deciles are included in the specification, and the table below reports the coefficients for the Decile 1 and Decile 10 interaction terms. Terms corresponding to quarters -8 through -1 are omitted from the specification that uses an employment indicator as the outcome, as the sample is restricted to workers who were fully employed throughout the two years prior to closing.

Dependent Variable	(1) Log Earnings		(2) IHS Earnings		(3) Employment Indicator	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE
Decile 1 x t-12	0.03258	0.03469	0.03018	0.0367	-0.003178	0.003431
Decile 1 x t-11	0.02442	0.02636	0.02135	0.02741	-0.003727*	0.002098
Decile 1 x t-10	0.09002***	0.03449	0.09149**	0.03641	0.00274	0.003244
Decile 1 x t-9	0.05692***	0.01932	0.05575***	0.0198	-0.00149	0.001354
Decile 1 x t-8	0.07135***	0.01649	0.07136***	0.0165	(Omitted)	
Decile 1 x t-7	0.07027***	0.01611	0.07027***	0.01611	(Omitted)	
Decile 1 x t-6	0.06662***	0.01644	0.06663***	0.01644	(Omitted)	
Decile 1 x t-5	0.07204***	0.01543	0.07205***	0.01543	(Omitted)	
Decile 1 x t-4	0.07253***	0.01571	0.07254***	0.01572	(Omitted)	
Decile 1 x t-3	0.07284***	0.0168	0.07285***	0.0168	(Omitted)	
Decile 1 x t-2	0.06806***	0.01663	0.06806***	0.01663	(Omitted)	
Decile 1 x t-1	0.06866***	0.01686	0.06867***	0.01686	(Omitted)	
Decile 1 x t0	0.05043**	0.02269	0.0489**	0.02327	-0.002171	0.001371
Decile 1 x t+1	0.04489*	0.02626	0.04327	0.02706	-0.001542	0.001665
Decile 1 x t+2	0.05868**	0.02803	0.05819**	0.02906	-0.0005162	0.001993
Decile 1 x t+3	0.07196**	0.02995	0.07219**	0.03112	0.0008553	0.002121
Decile 1 x t+4	0.1142***	0.043	0.1173**	0.04546	0.004892	0.003916
Decile 1 x t+5	0.09688**	0.04386	0.09919**	0.0463	0.003166	0.003963
Decile 1 x t+6	0.06036*	0.0341	0.05961*	0.0358	-0.0004094	0.002916
Decile 1 x t+7	0.07462*	0.03829	0.07539*	0.0403	0.001554	0.003343
Decile 1 x t+8	0.06816**	0.03412	0.06813*	0.03576	0.0003682	0.002881
Decile 1 x t+9	0.07864**	0.03442	0.07959**	0.03602	0.001086	0.002786
Decile 1 x t+10	0.08054**	0.03253	0.0813**	0.0341	0.001887	0.002768
Decile 1 x t+11	0.08102**	0.03218	0.08198**	0.03371	0.001586	0.002683
Decile 1 x t+12	0.09069***	0.0326	0.09235***	0.03413	0.002846	0.002661
Decile 10 x t-12	-0.1748**	0.08219	-0.1805**	0.08683	-0.007454	0.007883
Decile 10 x t-11	-0.1405**	0.05829	-0.1434**	0.06025	-0.003456	0.004329
Decile 10 x t-10	-0.08454	0.05421	-0.08359	0.05569	0.001883	0.004121
Decile 10 x t-9	-0.1666**	0.06455	-0.1713**	0.0669	-0.006675	0.00484
Decile 10 x t-8	-0.0947**	0.04268	-0.0947**	0.04269	(Omitted)	
Decile 10 x t-7	-0.1115**	0.04359	-0.1115**	0.0436	(Omitted)	
Decile 10 x t-6	-0.1039**	0.04622	-0.1039**	0.04622	(Omitted)	
Decile 10 x t-5	-0.1155***	0.04131	-0.1155***	0.04132	(Omitted)	
Decile 10 x t-4	-0.08642**	0.04272	-0.08643**	0.04273	(Omitted)	
Decile 10 x t-3	-0.1073**	0.04266	-0.1074**	0.04267	(Omitted)	
Decile 10 x t-2	-0.1063**	0.04898	-0.1063**	0.04898	(Omitted)	
Decile 10 x t-1	-0.1194***	0.0425	-0.1194***	0.04251	(Omitted)	
Decile 10 x t0	-0.08427*	0.04618	-0.08325*	0.04708	0.001982	0.002753
Decile 10 x t+1	-0.08396	0.05433	-0.08303	0.05603	0.002594	0.0039
Decile 10 x t+2	-0.05298	0.05098	-0.04929	0.05222	0.005573	0.003531
Decile 10 x t+3	-0.05022	0.0551	-0.04556	0.05697	0.007246*	0.004201
Decile 10 x t+4	0.01229	0.07537	0.01943	0.07904	0.01043*	0.006279
Decile 10 x t+5	0.009125	0.06689	0.01691	0.07002	0.0125**	0.005752
Decile 10 x t+6	-0.07174	0.07026	-0.06877	0.07351	0.002963	0.00586
Decile 10 x t+7	-0.06725	0.07176	-0.06395	0.07542	0.004541	0.006379
Decile 10 x t+8	-0.07969	0.0695	-0.07908	0.07275	0.001752	0.005681
Decile 10 x t+9	-0.07389	0.06784	-0.07194	0.07109	0.003346	0.005698
Decile 10 x t+10	-0.05871	0.06458	-0.05403	0.06748	0.002544	0.005754
Decile 10 x t+11	-0.06648	0.06843	-0.06318	0.07194	0.004326	0.005929
Decile 10 x t+12	-0.01825	0.06447	-0.01181	0.06733	0.008364	0.005148
Decile (Decile 3-Decile 9) x Event Time (e.g., t-1, t0) FE	x		x		x	
Firm x Event Time FE	x		x		x	
R^2	0.0957		0.0908		0.0500	
N	46,430,000		46,430,000		46,430,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.4: **Within-firm, across-market event studies for log earnings.** This table contains the coefficient estimates from the event studies illustrated in panel (a) of Figure 4, which compare the outcomes of workers from high- and low-concentration markets. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the wage-bill share of the target firm as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	5% Wage-Bill Share		10% Wage-Bill Share		25% Wage-Bill Share		50% Wage-Bill Share	
Dependent Variable	Log Earnings		Log Earnings		Log Earnings		Log Earnings	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	1.684*		2.747***		1.704*		0.997	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	-0.01382	0.0222	-0.02435	0.01791	0.01016	0.02705	-0.01302	0.03601
High Concentration x t-9	-0.0527*	0.02958	-0.08899***	0.03435	-0.06804	0.07046	-0.001542	0.04892
High Concentration x t-8	-0.008304	0.02171	-0.02684	0.02416	0.02037	0.03595	0.02593	0.03784
High Concentration x t-7	-0.01588	0.02338	-0.03346	0.0273	0.02068	0.03808	0.01822	0.0361
High Concentration x t-6	-0.01886	0.02373	-0.03908	0.02687	0.02014	0.03694	0.01361	0.03811
High Concentration x t-5	-0.0137	0.02289	-0.03779	0.02587	0.01291	0.03701	-0.0037	0.03279
High Concentration x t-4	-0.01034	0.02292	-0.02916	0.02533	0.02195	0.03613	0.01659	0.03334
High Concentration x t-3	-0.01555	0.0239	-0.03133	0.02826	0.02777	0.04227	-0.003493	0.0338
High Concentration x t-2	-0.01081	0.02544	-0.0302	0.02892	0.03366	0.0424	-0.00364	0.03505
High Concentration x t-1	-0.01351	0.02552	-0.0308	0.03003	0.02747	0.04371	-0.01522	0.03047
High Concentration x t0	0.007225	0.02874	0.007972	0.03344	0.06569	0.04293	-0.0006084	0.04107
High Concentration x t+1	0.01349	0.03369	0.02802	0.03647	0.04799	0.04749	0.006807	0.04346
High Concentration x t+2	0.03125	0.03196	0.01766	0.03737	0.07804	0.04858	0.01202	0.04266
High Concentration x t+3	0.0479	0.0359	0.02872	0.04351	0.03856	0.05425	0.01994	0.0398
High Concentration x t+4	0.0559	0.05105	0.07316	0.04544	0.08483*	0.04977	0.03654	0.04028
High Concentration x t+5	0.05061	0.04303	0.07903	0.05035	0.09339*	0.0532	0.02662	0.03547
High Concentration x t+6	-0.0167	0.03572	-0.0001144	0.04278	0.04097	0.07023	0.03373	0.03899
High Concentration x t+7	0.007016	0.03949	-0.02033	0.04347	0.01305	0.05678	0.01408	0.04206
High Concentration x t+8	-0.03622	0.04456	-0.04018	0.0419	-0.004977	0.05619	0.01971	0.04133
High Concentration x t+9	-0.009963	0.03689	-0.02178	0.04081	-0.0269	0.05669	0.0001956	0.04231
High Concentration x t+10	-0.003345	0.03389	-0.007094	0.03851	-0.007682	0.05603	0.01109	0.04188
High Concentration x t+11	0.01731	0.03419	0.02203	0.0393	0.003572	0.05828	-0.005743	0.04688
High Concentration x t+12	0.01901	0.03375	0.01977	0.03713	0.03309	0.05462	0.02769	0.04127
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.3880		0.3866		0.3873		0.3838	
N (Number of Worker-Quarter Observations)	42,950,000		40,820,000		37,630,000		32,040,000	
Number of Workers	1,744,000		1,658,000		1,528,000		1,301,000	
Number of Firms	500		300		300		200	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table A.5: **Within-firm, across-market event studies for employment.** This table contains the coefficient estimates from the event studies illustrated in panel (b) of Figure 4, which compare the outcomes of workers from high- and low-concentration markets. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the wage-bill share of the target firm as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	5% Wage-Bill Share		10% Wage-Bill Share		25% Wage-Bill Share		50% Wage-Bill Share	
Dependent Variable	Employment Indicator		Employment Indicator		Employment Indicator		Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	1.379		2.009**		1.229		1.313	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	-0.001486	0.002399	-0.00267	0.001844	0.001051	0.002921	-0.001445	0.003953
High Concentration x t-9	-0.005154*	0.003116	-0.009171**	0.003593	-0.006681	0.007656	-0.0001899	0.005224
High Concentration x t-8	-0.001328	0.002388	-0.003767	0.0027	0.002105	0.003897	0.001614	0.004101
High Concentration x t-7	-0.001302	0.002477	-0.003686	0.002803	0.002645	0.003834	0.001209	0.003955
High Concentration x t-6	-0.001525	0.002451	-0.003722	0.002748	0.002492	0.003737	0.0004461	0.003757
High Concentration x t-5	-0.001307	0.002412	-0.003671	0.002677	0.002325	0.00369	-0.0002326	0.003884
High Concentration x t-4	-0.001455	0.002372	-0.003999	0.002641	0.002084	0.003668	-0.0007165	0.003669
High Concentration x t-3	-0.001047	0.002514	-0.003205	0.002923	0.003597	0.004212	-0.0009735	0.003713
High Concentration x t-2	-0.0009199	0.002511	-0.003097	0.002921	0.003726	0.004198	-0.0008711	0.003666
High Concentration x t-1	-0.001287	0.002539	-0.003323	0.003017	0.00375	0.004294	-0.0009779	0.003678
High Concentration x t0	0.0007329	0.003021	0.0008888	0.003491	0.006878	0.004414	-0.0004771	0.004588
High Concentration x t+1	(Censored)		0.002645	0.003696	0.004529	0.004913	0.0002299	0.004707
High Concentration x t+2	0.003076	0.003253	0.001677	0.003772	0.008105*	0.004869	0.001036	0.004451
High Concentration x t+3	0.005227	0.003727	0.002831	0.004468	0.004663	0.00553	0.002533	0.004294
High Concentration x t+4	(Censored)		0.007558	0.004653	0.008225	0.005158	0.002215	0.003975
High Concentration x t+5	0.005821	0.004476	0.008271	0.005228	0.009873*	0.005452	0.002524	0.003648
High Concentration x t+6	(Censored)		-0.0002254	0.004345	0.004485	0.007242	0.002746	0.003878
High Concentration x t+7	0.0001633	0.004098	-0.002423	0.004444	0.001307	0.005967	0.001842	0.004695
High Concentration x t+8	-0.003591	0.004514	-0.004306	0.004245	-0.001616	0.005929	0.0008089	0.004206
High Concentration x t+9	-0.00153	0.003632	-0.002471	0.003955	-0.002798	0.00586	0.0005773	0.00414
High Concentration x t+10	-0.001069	0.003578	-0.001236	0.003766	-0.002799	0.005919	-0.001005	0.00471
High Concentration x t+11	0.001308	0.003442	0.001856	0.003913	0.0001691	0.006048	-0.001279	0.004767
High Concentration x t+12	0.001799	0.003329	0.001932	0.003712	0.002329	0.005761	0.001643	0.004133
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.2536		0.2530		0.2517		0.2468	
N (Number of Worker-Quarter Observations)	42,950,000		40,820,000		37,630,000		32,040,000	
Number of Workers	1,744,000		1,658,000		1,528,000		1,301,000	
Number of Firms	500		300		300		200	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table A.6: **Within-firm, across-market event studies for log earnings by HHI.** This table contains the coefficient estimates from the event studies illustrated in Figure 5, panel (a), which compare the outcomes of workers from high- and low-concentration labor markets, using HHI to define the level of market concentration. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the HHI as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	HHI Above 1,000		HHI Above 1,800		HHI Above 2,500		HHI Above 5,000	
Dependent Variable	Log Earnings		Log Earnings		Log Earnings		Log Earnings	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	1.861**		1.809**		1.256		0.938	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	0.008012	0.02274	0.01245	0.0316	0.01531	0.03869	0.0009693	0.05516
High Concentration x t-9	-0.06163*	0.0371	-0.06007	0.04978	-0.02025	0.05931	0.06351	0.06728
High Concentration x t-8	0.004128	0.03038	0.007176	0.02749	0.02407	0.03121	0.04493	0.04221
High Concentration x t-7	0.0031	0.03325	0.009113	0.02893	0.02226	0.03261	0.03913	0.0407
High Concentration x t-6	-0.003691	0.03215	0.000459	0.02825	0.02432	0.03218	0.03227	0.03951
High Concentration x t-5	-0.001947	0.03332	-0.00225	0.02841	0.009537	0.03093	0.0295	0.03484
High Concentration x t-4	-0.0008834	0.03325	0.006529	0.02814	0.02051	0.03115	0.05101	0.04067
High Concentration x t-3	-0.003109	0.03192	-0.005824	0.02752	0.005303	0.03086	0.03106	0.03888
High Concentration x t-2	-0.004834	0.03229	-0.006066	0.0266	0.01027	0.03031	0.02226	0.04073
High Concentration x t-1	-0.007408	0.03392	-0.01285	0.02768	0.004448	0.03008	0.01867	0.03975
High Concentration x t0	0.01262	0.03719	-0.0005272	0.03639	0.0144	0.03635	0.01329	0.04264
High Concentration x t+1	0.01352	0.04269	-0.001176	0.03548	0.02508	0.03666	0.02101	0.04624
High Concentration x t+2	0.01184	0.04239	-0.003572	0.04104	0.03755	0.03586	0.004021	0.04655
High Concentration x t+3	0.02286	0.04269	0.04589	0.03967	0.05519	0.03602	0.008546	0.04553
High Concentration x t+4	0.02601	0.05088	0.03964	0.03869	0.06969*	0.03887	0.0003737	0.04135
High Concentration x t+5	0.03741	0.05336	0.02583	0.0418	0.05697	0.04241	0.004381	0.03758
High Concentration x t+6	-0.0173	0.04463	0.06386	0.05409	0.07768	0.05085	0.004897	0.04167
High Concentration x t+7	-0.03842	0.0521	-0.0005335	0.04274	0.01707	0.05458	-0.004304	0.04142
High Concentration x t+8	-0.03314	0.0549	0.01535	0.0471	0.04984	0.04356	0.02998	0.04102
High Concentration x t+9	-0.03129	0.05413	-0.01138	0.04936	0.03702	0.04195	0.02987	0.04238
High Concentration x t+10	-0.02824	0.05017	0.005903	0.04597	0.03003	0.04638	0.02359	0.04448
High Concentration x t+11	-0.03098	0.05639	-0.0154	0.05571	0.00211	0.0604	0.02574	0.04226
High Concentration x t+12	0.008237	0.05001	0.02739	0.04563	0.05333	0.03997	0.0405	0.04172
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.3881		0.3873		0.3870		0.3869	
N (Number of Worker-Quarter Observations)	44,620,000		42,880,000		41,550,000		34,370,000	
Number of Workers	1,812,000		1,741,000		1,687,000		1,395,000	
Number of Firms	600		500		400		200	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table A.7: **Within-firm, across-market event studies for employment by HHI.** This table contains the coefficient estimates from the event studies illustrated in Figure 5, panel (b), which compare the employment outcomes of workers from high- and low-concentration markets, using the labor market HHI to define high- and low-concentration markets. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the HHI as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	HHI Above 1,000		HHI Above 1,800		HHI Above 2,500		HHI Above 5,000	
Dependent Variable	Employment Indicator		Employment Indicator		Employment Indicator		Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	2.121**		1.667*		1.078		0.733	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	0.001371	0.002405	0.001686	0.003505	0.001344	0.004356	0.001328	0.006056
High Concentration x t-9	-0.005236	0.003714	-0.005375	0.005049	-0.001428	0.006493	0.007805	0.007002
High Concentration x t-8	0.001241	0.003215	0.001394	0.002898	0.003356	0.003267	0.005503	0.004299
High Concentration x t-7	0.001399	0.003279	0.001425	0.002876	0.003302	0.003318	0.005938	0.004119
High Concentration x t-6	0.001296	0.003261	0.001342	0.002828	0.003192	0.003227	0.005193	0.00388
High Concentration x t-5	0.001079	0.003279	0.001191	0.002862	0.002494	0.003273	0.005161	0.003817
High Concentration x t-4	0.0006586	0.003265	0.0009431	0.002849	0.002295	0.003244	0.005337	0.003985
High Concentration x t-3	0.0007239	0.003208	0.0005014	0.002795	0.001722	0.003198	0.004733	0.004064
High Concentration x t-2	0.0008498	0.003204	0.0006426	0.002766	0.001935	0.003176	0.004808	0.004188
High Concentration x t-1	0.001037	0.003213	0.0007956	0.002769	0.002586	0.003205	0.004699	0.004197
High Concentration x t0	0.002446	0.003749	0.0006135	0.003671	0.001932	0.003793	0.001947	0.004522
High Concentration x t+1	0.001762	0.004304	0.0003931	0.003629	(Censored)		0.002844	0.00484
High Concentration x t+2	0.002424	0.004273	0.0001527	0.004433	0.004791	0.003658	0.001826	0.004632
High Concentration x t+3	0.003975	0.004276	0.0063	0.004087	0.006724*	0.003843	0.001879	0.004594
High Concentration x t+4	0.002765	0.005235	0.003491	0.003964	(Censored)		-0.0002705	0.004127
High Concentration x t+5	0.005225	0.005427	0.0036	0.00413	(Censored)		0.001596	0.00387
High Concentration x t+6	-0.0004896	0.004511	0.007018	0.005427	(Censored)		0.002009	0.003799
High Concentration x t+7	-0.003412	0.005397	0.0003592	0.004544	0.002798	0.005417	0.00147	0.004216
High Concentration x t+8	-0.002958	0.005621	0.001209	0.004636	0.00514	0.004216	0.002942	0.003947
High Concentration x t+9	-0.003037	0.00541	-0.0009192	0.004874	0.004296	0.004212	0.004135	0.004225
High Concentration x t+10	-0.00387	0.005508	-0.0007631	0.005381	0.002265	0.005177	0.00413	0.004275
High Concentration x t+11	-0.001778	0.005526	-0.0002662	0.005273	0.001998	0.005324	0.003516	0.004369
High Concentration x t+12	0.001561	0.004999	0.002868	0.004323	0.0057	0.003919	0.004734	0.004307
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.2537		0.2528		0.2525		0.2528	
N (Number of Worker-Quarter Observations)	44,620,000		42,880,000		41,550,000		34,370,000	
Number of Workers	1,812,000		1,741,000		1,687,000		1,395,000	
Number of Firms	600		500		400		200	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.8: **Within-firm, across-market event studies for log earnings by share of new hires.** This table contains the coefficient estimates from the event studies illustrated in Figure 6, panel (a), which compare the outcomes of workers from high- and low-concentration labor markets, using the target firm's share of all new hires to define the level of concentration. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the target firm's share of new hires as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	5% of New Hires		10% of New Hires		25% of New Hires		50% of New Hires	
Dependent Variable	Log Earnings		Log Earnings		Log Earnings		Log Earnings	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	1.460		1.886**		1.698*		1.820**	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	-0.02132	0.02017	-0.003149	0.02236	-0.004485	0.02701	0.02027	0.0678
High Concentration x t-9	-0.00443	0.0355	-0.04721	0.04764	-0.07533	0.07602	0.08759	0.07807
High Concentration x t-8	0.01639	0.02108	0.009059	0.0192	0.007403	0.02892	0.07249	0.05492
High Concentration x t-7	0.01079	0.02351	0.00747	0.02201	0.01196	0.02786	0.0667	0.05435
High Concentration x t-6	0.008243	0.0231	0.002218	0.0222	0.004462	0.02885	0.05746	0.05354
High Concentration x t-5	0.01155	0.02231	-0.002946	0.02043	0.007425	0.02509	0.05549	0.0472
High Concentration x t-4	0.02033	0.02152	0.007895	0.01939	0.006546	0.02577	0.06945	0.05409
High Concentration x t-3	0.01414	0.02334	0.008974	0.02801	0.005029	0.02728	0.06206	0.05043
High Concentration x t-2	0.01575	0.02438	0.01048	0.02867	-0.002715	0.02759	0.03702	0.05039
High Concentration x t-1	0.02009	0.0249	0.01911	0.02804	0.00137	0.02633	0.03702	0.04713
High Concentration x t0	0.04561*	0.02632	0.04661	0.03209	0.004325	0.03018	0.05085	0.05119
High Concentration x t+1	0.05751*	0.0302	0.05806*	0.03405	0.01637	0.03187	0.04719	0.05732
High Concentration x t+2	0.0526*	0.02993	0.05635	0.03759	0.01297	0.03596	0.04526	0.05867
High Concentration x t+3	0.06341*	0.03385	0.05902	0.04138	0.03331	0.03214	0.05015	0.05435
High Concentration x t+4	0.09421**	0.03752	0.1045**	0.04058	0.02315	0.0318	0.05711	0.05794
High Concentration x t+5	0.1088***	0.04141	0.1037**	0.04544	0.04421	0.03163	0.08056	0.05383
High Concentration x t+6	0.03729	0.04	0.02487	0.04375	0.05751*	0.03249	0.06758	0.05786
High Concentration x t+7	0.02719	0.03866	0.01678	0.03946	0.0216	0.03197	0.03627	0.05542
High Concentration x t+8	0.004219	0.03829	0.0158	0.03907	0.01517	0.03257	0.06865	0.05624
High Concentration x t+9	0.01035	0.03652	0.01328	0.03509	0.02073	0.03178	0.05631	0.05518
High Concentration x t+10	0.01603	0.03476	0.004225	0.03708	0.02309	0.0337	0.0563	0.0563
High Concentration x t+11	0.04191	0.03371	0.02368	0.03811	0.04066	0.03179	0.06557	0.05388
High Concentration x t+12	0.03376	0.0332	0.04863	0.03629	0.04439	0.03056	0.07207	0.05118
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.3890		0.3886		0.3910		0.3936	
N (Number of Worker-Quarter Observations)	42,930,000		40,650,000		34,180,000		28,600,000	
Number of Workers	1,743,000		1,651,000		1,388,000		1,162,000	
Number of Firms	400		400		200		100	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.9: **Within-firm, across-market event studies for employment by share of new hires.** This table contains the coefficient estimates from the event studies illustrated in Figure 6, panel (b), which compare the outcomes of workers from high- and low-concentration labor markets, using the target firm's share of all new hires to define the level of concentration. In all specifications, quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the target firm's share of new hires as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	5% of New Hires		10% of New Hires		25% of New Hires		50% of New Hires	
Dependent Variable	Employment Indicator		Employment Indicator		Employment Indicator		Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	1.461		1.652*		1.176		2.033**	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	-0.002838	0.002195	-0.0004222	0.002369	-0.001012	0.002879	0.004018	0.007431
High Concentration x t-9	0.0002479	0.003955	-0.00445	0.005235	-0.00787	0.008357	0.009985	0.008294
High Concentration x t-8	0.002452	0.002327	0.001395	0.002049	0.001765	0.003206	0.008215	0.005379
High Concentration x t-7	0.002462	0.00239	0.001678	0.002183	0.0018	0.003101	0.007842	0.005466
High Concentration x t-6	0.002355	0.002368	0.00144	0.002095	0.001542	0.0029	0.007553	0.005159
High Concentration x t-5	0.002432	0.002292	0.0009285	0.002106	0.001491	0.002897	0.007478	0.005133
High Concentration x t-4	0.002261	0.002254	0.000817	0.002059	0.001392	0.002808	0.007218	0.005063
High Concentration x t-3	0.002857	0.002445	0.002064	0.002743	0.001236	0.002859	0.007173	0.005104
High Concentration x t-2	0.002918	0.002441	0.002183	0.002726	0.001258	0.002918	0.006952	0.004993
High Concentration x t-1	0.002874	0.002515	0.002562	0.002791	0.0009535	0.00298	0.006906	0.004975
High Concentration x t0	0.004981*	0.00279	0.005307	0.003385	0.0006418	0.003289	0.007192	0.005316
High Concentration x t+1	0.006149**	0.003093	0.005376	0.00344	0.001217	0.003543	0.005266	0.006034
High Concentration x t+2	0.005749*	0.003012	0.006089*	0.003677	0.001798	0.003731	0.005458	0.005654
High Concentration x t+3	0.007254**	0.003443	0.006369	0.004188	0.003327	0.003397	0.006421	0.005666
High Concentration x t+4	(Censored)		0.01055**	0.004161	0.001844	0.00316	0.006396	0.005726
High Concentration x t+5	0.0119***	0.00426	0.01099**	0.004683	0.003742	0.003154	0.008779	0.005546
High Concentration x t+6	0.004545	0.003996	0.00285	0.004438	0.006138*	0.003144	0.008215	0.005629
High Concentration x t+7	0.002328	0.003983	0.001365	0.004028	(Censored)		0.004538	0.005842
High Concentration x t+8	(Censored)		0.001241	0.003905	(Censored)		0.006475	0.005723
High Concentration x t+9	0.0002439	0.003495	0.000441	0.003459	(Censored)		0.006204	0.005602
High Concentration x t+10	0.001656	0.003383	-0.0006034	0.003596	0.001883	0.00346	0.006187	0.005428
High Concentration x t+11	(Censored)		0.001774	0.003829	(Censored)		0.006319	0.0055
High Concentration x t+12	0.002942	0.003322	0.004005	0.003642	(Censored)		0.007127	0.005329
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.2537		0.2527		0.2466		0.2472	
N	42,930,000		40,650,000		34,180,000		28,600,000	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table A.10: **Treated vs. control event study by wage rank.** This table contains the coefficient estimates from the event study illustrated in Figure 7, which utilizes a triple-difference specification to compare the outcomes of high- and low-wage workers from target firms relative to similar controls. Individuals are classified as high-wage workers if they ranked within the top income decile among all individuals in the sample from the same firm, based on their earnings as of the quarter prior to closing, and all others are classified as low-wage workers. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

Dependent Variable	(1) Log Earnings	
F Test for Joint Significance of t0 Through t+12 Triple Interactions:		
F Statistic	0.8505	
Coefficient	Estimate	SE
Treated x t-10 x High Wage	-0.05329	0.03258
Treated x t-9 x High Wage	-0.05418*	0.03271
Treated x t-8 x High Wage	-0.06112*	0.03323
Treated x t-7 x High Wage	-0.06544**	0.03323
Treated x t-6 x High Wage	-0.0606*	0.03383
Treated x t-5 x High Wage	-0.06383*	0.03294
Treated x t-4 x High Wage	-0.06166*	0.03419
Treated x t-3 x High Wage	-0.05828*	0.03445
Treated x t-2 x High Wage	-0.06433*	0.03428
Treated x t-1 x High Wage	-0.04655	0.0357
Treated x t0 x High Wage	-0.01213	0.04076
Treated x t+1 x High Wage	-0.0179	0.04784
Treated x t+2 x High Wage	0.04585	0.05336
Treated x t+3 x High Wage	0.04896	0.0517
Treated x t+4 x High Wage	0.000009676	0.0531
Treated x t+5 x High Wage	-0.05441	0.05457
Treated x t+6 x High Wage	-0.06304	0.05469
Treated x t+7 x High Wage	-0.07443	0.05577
Treated x t+8 x High Wage	-0.08947	0.05636
Treated x t+9 x High Wage	-0.104*	0.06299
Treated x t+10 x High Wage	-0.07388	0.06546
Treated x t+11 x High Wage	-0.07765	0.06757
Treated x t+12 x High Wage	-0.1049	0.06677
Treated x t-10	0.03634*	0.01898
Treated x t-9	0.03678*	0.02064
Treated x t-8	0.02977	0.02064
Treated x t-7	0.03087	0.02046
Treated x t-6	0.02645	0.02086
Treated x t-5	0.0284	0.02108
Treated x t-4	0.02732	0.02115
Treated x t-3	0.03174	0.02061
Treated x t-2	0.02348	0.02115
Treated x t-1	0.01657	0.02065
Treated x t0	0.0008846	0.02686
Treated x t+1	-0.02439	0.02943
Treated x t+2	-0.03459	0.02866
Treated x t+3	-0.06619**	0.02742
Treated x t+4	-0.1052***	0.03318
Treated x t+5	-0.1022***	0.03284
Treated x t+6	-0.07725**	0.03104
Treated x t+7	-0.1092***	0.0303
Treated x t+8	-0.09434***	0.02896
Treated x t+9	-0.137***	0.03227
Treated x t+10	-0.1126***	0.0305
Treated x t+11	-0.1312***	0.03083
Treated x t+12	-0.1709***	0.03907

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Continuation of Table A.10.

Sum of Coefficients (Effect for High-Wage Workers)	Estimate	SE
(Treated x t-10) + (Treated x t-10 x High Wage)	-0.01695	0.03429
(Treated x t-9) + (Treated x t-9 x High Wage)	-0.0174	0.0336
(Treated x t-8) + (Treated x t-8 x High Wage)	-0.03136	0.03562
(Treated x t-7) + (Treated x t-7 x High Wage)	-0.03457	0.03563
(Treated x t-6) + (Treated x t-6 x High Wage)	-0.03416	0.03631
(Treated x t-5) + (Treated x t-5 x High Wage)	-0.03543	0.03529
(Treated x t-4) + (Treated x t-4 x High Wage)	-0.03433	0.03655
(Treated x t-3) + (Treated x t-3 x High Wage)	-0.02654	0.03683
(Treated x t-2) + (Treated x t-2 x High Wage)	-0.04084	0.03747
(Treated x t-1) + (Treated x t-1 x High Wage)	-0.02998	0.03801
(Treated x t0) + (Treated x t0 x High Wage)	-0.01125	0.04575
(Treated x t+1) + (Treated x t+1 x High Wage)	-0.04229	0.05224
(Treated x t+2) + (Treated x t+2 x High Wage)	0.01126	0.05599
(Treated x t+3) + (Treated x t+3 x High Wage)	-0.01723	0.05304
(Treated x t+4) + (Treated x t+4 x High Wage)	-0.1052*	0.05608
(Treated x t+5) + (Treated x t+5 x High Wage)	-0.1566***	0.05808
(Treated x t+6) + (Treated x t+6 x High Wage)	-0.1403***	0.05243
(Treated x t+7) + (Treated x t+7 x High Wage)	-0.1836***	0.05592
(Treated x t+8) + (Treated x t+8 x High Wage)	-0.1838***	0.05575
(Treated x t+9) + (Treated x t+9 x High Wage)	-0.241***	0.06408
(Treated x t+10) + (Treated x t+10 x High Wage)	-0.1865***	0.06652
(Treated x t+11) + (Treated x t+11 x High Wage)	-0.2088***	0.06912
(Treated x t+12) + (Treated x t+12 x High Wage)	-0.2757***	0.0702
Individual FE	x	
High Wage x Age² (Fully Interacted)	x	
High Wage x Calendar Quarter (e.g., 2000Q1, 2000Q2) (Fully Interacted) FE	x	
High Wage x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x	
R^2	0.3417	
N	2,467,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.11: **Treated vs. control event study by occupation.** This table contains the coefficient estimates from the event study illustrated in Figure 8, which utilizes a triple-difference specification to compare the outcomes of management and non-management workers from target firms relative to similar controls. Individuals are classified for this purpose based on the occupations listed in the 2000 Decennial Census, and the sample is limited to individuals for whom responses are available. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

	(1)	
Dependent Variable	Log Earnings	
F Test for Joint Significance of t0 Through t+12 Triple Interactions:		
F Statistic	1.113	
Coefficient	Estimate	SE
Treated x t-10 x Manager	-0.164**	0.08273
Treated x t-9 x Manager	-0.06051	0.09765
Treated x t-8 x Manager	0.06623	0.09907
Treated x t-7 x Manager	0.05015	0.1003
Treated x t-6 x Manager	0.06876	0.09884
Treated x t-5 x Manager	0.04678	0.09973
Treated x t-4 x Manager	0.07466	0.09999
Treated x t-3 x Manager	0.07668	0.09935
Treated x t-2 x Manager	0.05194	0.1005
Treated x t-1 x Manager	0.04381	0.09953
Treated x t0 x Manager	0.04553	0.1092
Treated x t+1 x Manager	-0.06896	0.1289
Treated x t+2 x Manager	0.02579	0.1433
Treated x t+3 x Manager	-0.1117	0.1585
Treated x t+4 x Manager	-0.2133	0.1825
Treated x t+5 x Manager	-0.202	0.1718
Treated x t+6 x Manager	-0.1969	0.1714
Treated x t+7 x Manager	-0.1159	0.1817
Treated x t+8 x Manager	-0.2022	0.1875
Treated x t+9 x Manager	-0.1468	0.1949
Treated x t+10 x Manager	0.06789	0.2045
Treated x t+11 x Manager	0.02522	0.2109
Treated x t+12 x Manager	0.09279	0.2057
Treated x t-10	0.06645**	0.02774
Treated x t-9	0.04384	0.02978
Treated x t-8	0.02772	0.03165
Treated x t-7	0.02595	0.0315
Treated x t-6	0.0282	0.03197
Treated x t-5	0.02719	0.03161
Treated x t-4	0.02698	0.03197
Treated x t-3	0.03169	0.03183
Treated x t-2	0.02824	0.03257
Treated x t-1	0.01574	0.03237
Treated x t0	0.02008	0.03946
Treated x t+1	-0.001978	0.04389
Treated x t+2	-0.06812	0.04683
Treated x t+3	-0.08588*	0.04925
Treated x t+4	-0.1399**	0.05629
Treated x t+5	-0.09546*	0.05533
Treated x t+6	-0.06374	0.05622
Treated x t+7	-0.1442***	0.05579
Treated x t+8	-0.1249**	0.05668
Treated x t+9	-0.1809***	0.06025
Treated x t+10	-0.152***	0.05612
Treated x t+11	-0.2214***	0.05874
Treated x t+12	-0.2679***	0.06805

Continued on next page.

Continuation of Table A.11.

Sum of Coefficients (Effect for Managers)	Estimate	SE
(Treated x t-10) + (Treated x t-10 x Manager)	-0.09756	0.08095
(Treated x t-9) + (Treated x t-9 x Manager)	-0.01667	0.09567
(Treated x t-8) + (Treated x t-8 x Manager)	0.09395	0.09673
(Treated x t-7) + (Treated x t-7 x Manager)	0.0761	0.09803
(Treated x t-6) + (Treated x t-6 x Manager)	0.09696	0.09679
(Treated x t-5) + (Treated x t-5 x Manager)	0.07396	0.09774
(Treated x t-4) + (Treated x t-4 x Manager)	0.1016	0.09743
(Treated x t-3) + (Treated x t-3 x Manager)	0.1084	0.09694
(Treated x t-2) + (Treated x t-2 x Manager)	0.08018	0.09785
(Treated x t-1) + (Treated x t-1 x Manager)	0.05954	0.097
(Treated x t0) + (Treated x t0 x Manager)	0.06561	0.1048
(Treated x t+1) + (Treated x t+1 x Manager)	-0.07094	0.1244
(Treated x t+2) + (Treated x t+2 x Manager)	-0.04232	0.1387
(Treated x t+3) + (Treated x t+3 x Manager)	-0.1976	0.1515
(Treated x t+4) + (Treated x t+4 x Manager)	-0.3533**	0.177
(Treated x t+5) + (Treated x t+5 x Manager)	-0.2975*	0.1665
(Treated x t+6) + (Treated x t+6 x Manager)	-0.2607	0.1614
(Treated x t+7) + (Treated x t+7 x Manager)	-0.26	0.1709
(Treated x t+8) + (Treated x t+8 x Manager)	-0.3271*	0.1782
(Treated x t+9) + (Treated x t+9 x Manager)	-0.3277*	0.1869
(Treated x t+10) + (Treated x t+10 x Manager)	-0.08415	0.198
(Treated x t+11) + (Treated x t+11 x Manager)	-0.1962	0.2057
(Treated x t+12) + (Treated x t+12 x Manager)	-0.1751	0.1971
Individual FE	x	
Manager x Age^2 (Fully Interacted)	x	
Manager x Calendar Quarter (e.g., 2000Q1, 2000Q2) (Fully Interacted) FE	x	
Manager x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x	
R^2	0.3438	
N	298,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.12: **Treated vs. control event study by wage rank and occupation.** This table contains the coefficient estimates from the event study illustrated in Figure 9, which augments the baseline treated vs. control specification by including interactions with an indicator for high-wage workers and an indicator for management occupations. Individuals are classified as high-wage workers if they ranked within the top income decile among all individuals in the sample from the same firm, based on their earnings as of the quarter prior to closing, and all others are classified as low-wage workers. Management status is determined based on the occupations listed in the 2000 Decennial Census, and the sample is limited to individuals for whom responses are available. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

	(1)	
Dependent Variable	Log Earnings	
F Test for Joint Significance of t0 Through t+12 Quadruple Interactions:		
F Statistic	0.8868	
Coefficient	Estimate	SE
Treated x t-10 x Manager x High Wage	0.05132	0.164
Treated x t-9 x Manager x High Wage	-0.003011	0.189
Treated x t-8 x Manager x High Wage	-0.02834	0.2052
Treated x t-7 x Manager x High Wage	0.01708	0.2058
Treated x t-6 x Manager x High Wage	-0.01279	0.2069
Treated x t-5 x Manager x High Wage	-0.03171	0.2035
Treated x t-4 x Manager x High Wage	0.006129	0.2021
Treated x t-3 x Manager x High Wage	0.0606	0.2048
Treated x t-2 x Manager x High Wage	0.00401	0.2114
Treated x t-1 x Manager x High Wage	-0.03568	0.2092
Treated x t0 x Manager x High Wage	-0.03334	0.2419
Treated x t+1 x Manager x High Wage	-0.0933	0.2665
Treated x t+2 x Manager x High Wage	-0.1386	0.2814
Treated x t+3 x Manager x High Wage	-0.4935	0.3146
Treated x t+4 x Manager x High Wage	-0.2924	0.3752
Treated x t+5 x Manager x High Wage	-0.1868	0.3819
Treated x t+6 x Manager x High Wage	-0.05399	0.3795
Treated x t+7 x Manager x High Wage	-0.3531	0.3693
Treated x t+8 x Manager x High Wage	-0.3959	0.3814
Treated x t+9 x Manager x High Wage	-0.1663	0.4181
Treated x t+10 x Manager x High Wage	-0.6231	0.4462
Treated x t+11 x Manager x High Wage	-0.8559**	0.435
Treated x t+12 x Manager x High Wage	-0.5692	0.4147
Treated x t-10 x Manager	-0.1971*	0.1053
Treated x t-9 x Manager	-0.07678	0.1264
Treated x t-8 x Manager	0.06743	0.1266
Treated x t-7 x Manager	0.03902	0.1289
Treated x t-6 x Manager	0.06112	0.1279
Treated x t-5 x Manager	0.04825	0.1284
Treated x t-4 x Manager	0.07108	0.1299
Treated x t-3 x Manager	0.0539	0.1285
Treated x t-2 x Manager	0.05074	0.1295
Treated x t-1 x Manager	0.03827	0.129
Treated x t0 x Manager	0.03667	0.1361
Treated x t+1 x Manager	-0.07369	0.1674
Treated x t+2 x Manager	0.00441	0.1847
Treated x t+3 x Manager	-0.03835	0.1973
Treated x t+4 x Manager	-0.1666	0.2166
Treated x t+5 x Manager	-0.1658	0.21
Treated x t+6 x Manager	-0.1611	0.1954
Treated x t+7 x Manager	-0.01897	0.2111
Treated x t+8 x Manager	-0.07011	0.2129
Treated x t+9 x Manager	-0.06358	0.2218
Treated x t+10 x Manager	0.2616	0.2354
Treated x t+11 x Manager	0.2796	0.2485
Treated x t+12 x Manager	0.2549	0.249

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Continuation of Table A.12.

Coefficient	Estimate	SE
Treated x t-10 x High Wage	0.128*	0.07334
Treated x t-9 x High Wage	0.149*	0.0765
Treated x t-8 x High Wage	0.115	0.08663
Treated x t-7 x High Wage	0.1175	0.08865
Treated x t-6 x High Wage	0.1031	0.08872
Treated x t-5 x High Wage	0.1169	0.08699
Treated x t-4 x High Wage	0.09873	0.08792
Treated x t-3 x High Wage	0.09998	0.08756
Treated x t-2 x High Wage	0.09571	0.08755
Treated x t-1 x High Wage	0.1349	0.08905
Treated x t0 x High Wage	0.1681	0.1254
Treated x t+1 x High Wage	0.2075	0.1278
Treated x t+2 x High Wage	0.2659*	0.1389
Treated x t+3 x High Wage	0.3175**	0.1382
Treated x t+4 x High Wage	0.2367	0.1654
Treated x t+5 x High Wage	0.1703	0.1722
Treated x t+6 x High Wage	0.06074	0.177
Treated x t+7 x High Wage	0.1046	0.1675
Treated x t+8 x High Wage	0.07971	0.1705
Treated x t+9 x High Wage	0.01765	0.1763
Treated x t+10 x High Wage	0.07102	0.191
Treated x t+11 x High Wage	0.1148	0.1788
Treated x t+12 x High Wage	0.06058	0.1804
Treated x t-10	0.05747**	0.02885
Treated x t-9	0.03343	0.03152
Treated x t-8	0.02017	0.03336
Treated x t-7	0.01803	0.03321
Treated x t-6	0.02084	0.03367
Treated x t-5	0.01821	0.03335
Treated x t-4	0.01908	0.03343
Treated x t-3	0.02311	0.03332
Treated x t-2	0.02055	0.03395
Treated x t-1	0.003408	0.03381
Treated x t0	0.006037	0.04056
Treated x t+1	-0.02061	0.04563
Treated x t+2	-0.09067*	0.04874
Treated x t+3	-0.1129**	0.05161
Treated x t+4	-0.1594***	0.0574
Treated x t+5	-0.1108*	0.05743
Treated x t+6	-0.07076	0.05951
Treated x t+7	-0.1546***	0.05913
Treated x t+8	-0.1335**	0.05989
Treated x t+9	-0.1826***	0.0628
Treated x t+10	-0.1596***	0.05816
Treated x t+11	-0.2323***	0.06095
Treated x t+12	-0.2742***	0.07047

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Continuation of Table A.12.

Sum of Coefficients (Effect for Non-Management, High-Wage Workers)	Estimate	SE
(Treated x t-10) + (Treated x t-10 x High Wage)	0.1855***	0.07044
(Treated x t-9) + (Treated x t-9 x High Wage)	0.1824**	0.07132
(Treated x t-8) + (Treated x t-8 x High Wage)	0.1352*	0.08137
(Treated x t-7) + (Treated x t-7 x High Wage)	0.1355	0.08336
(Treated x t-6) + (Treated x t-6 x High Wage)	0.1239	0.08353
(Treated x t-5) + (Treated x t-5 x High Wage)	0.1351*	0.08137
(Treated x t-4) + (Treated x t-4 x High Wage)	0.1178	0.08354
(Treated x t-3) + (Treated x t-3 x High Wage)	0.1231	0.0828
(Treated x t-2) + (Treated x t-2 x High Wage)	0.1163	0.08354
(Treated x t-1) + (Treated x t-1 x High Wage)	0.1384	0.08442
(Treated x t0) + (Treated x t0 x High Wage)	0.1742	0.1227
(Treated x t+1) + (Treated x t+1 x High Wage)	0.1869	0.1225
(Treated x t+2) + (Treated x t+2 x High Wage)	0.1753	0.1332
(Treated x t+3) + (Treated x t+3 x High Wage)	0.2046	0.1314
(Treated x t+4) + (Treated x t+4 x High Wage)	0.0773	0.1635
(Treated x t+5) + (Treated x t+5 x High Wage)	0.05956	0.1669
(Treated x t+6) + (Treated x t+6 x High Wage)	-0.01002	0.1659
(Treated x t+7) + (Treated x t+7 x High Wage)	-0.04998	0.156
(Treated x t+8) + (Treated x t+8 x High Wage)	-0.05378	0.1597
(Treated x t+9) + (Treated x t+9 x High Wage)	-0.165	0.1692
(Treated x t+10) + (Treated x t+10 x High Wage)	-0.08859	0.1845
(Treated x t+11) + (Treated x t+11 x High Wage)	-0.1175	0.1724
(Treated x t+12) + (Treated x t+12 x High Wage)	-0.2136	0.1754

Sum of Coefficients (Effect for Management, Low-Wage Workers)	Estimate	SE
(Treated x t-10) + (Treated x t-10 x Manager)	-0.1397	0.1051
(Treated x t-9) + (Treated x t-9 x Manager)	-0.04335	0.126
(Treated x t-8) + (Treated x t-8 x Manager)	0.0876	0.1248
(Treated x t-7) + (Treated x t-7 x Manager)	0.05706	0.1272
(Treated x t-6) + (Treated x t-6 x Manager)	0.08196	0.1265
(Treated x t-5) + (Treated x t-5 x Manager)	0.06646	0.1271
(Treated x t-4) + (Treated x t-4 x Manager)	0.09016	0.1283
(Treated x t-3) + (Treated x t-3 x Manager)	0.07701	0.1268
(Treated x t-2) + (Treated x t-2 x Manager)	0.07129	0.1278
(Treated x t-1) + (Treated x t-1 x Manager)	0.04168	0.1277
(Treated x t0) + (Treated x t0 x Manager)	0.04271	0.133
(Treated x t+1) + (Treated x t+1 x Manager)	-0.0943	0.1638
(Treated x t+2) + (Treated x t+2 x Manager)	-0.08626	0.1813
(Treated x t+3) + (Treated x t+3 x Manager)	-0.1512	0.1921
(Treated x t+4) + (Treated x t+4 x Manager)	-0.326	0.2143
(Treated x t+5) + (Treated x t+5 x Manager)	-0.2765	0.2057
(Treated x t+6) + (Treated x t+6 x Manager)	-0.2319	0.1869
(Treated x t+7) + (Treated x t+7 x Manager)	-0.1736	0.2029
(Treated x t+8) + (Treated x t+8 x Manager)	-0.2036	0.2062
(Treated x t+9) + (Treated x t+9 x Manager)	-0.2462	0.2137
(Treated x t+10) + (Treated x t+10 x Manager)	0.102	0.2278
(Treated x t+11) + (Treated x t+11 x Manager)	0.04733	0.2415
(Treated x t+12) + (Treated x t+12 x Manager)	-0.01923	0.2419

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Continuation of Table A.12.

Sum of Coefficients (Effect for Management, High-Wage Workers)	Estimate	SE
(Treated x t-10) + (Treated x t-10 x High Wage) + (Treated x t-10 x Manager) + (Treated x t-10 x Manager x High Wage)	0.03969	0.102
(Treated x t-9) + (Treated x t-9 x High Wage) + (Treated x t-9 x Manager) + (Treated x t-9 x Manager x High Wage)	0.1026	0.1216
(Treated x t-8) + (Treated x t-8 x High Wage) + (Treated x t-8 x Manager) + (Treated x t-8 x Manager x High Wage)	0.1743	0.1328
(Treated x t-7) + (Treated x t-7 x High Wage) + (Treated x t-7 x Manager) + (Treated x t-7 x Manager x High Wage)	0.1916	0.1292
(Treated x t-6) + (Treated x t-6 x High Wage) + (Treated x t-6 x Manager) + (Treated x t-6 x Manager x High Wage)	0.1723	0.1294
(Treated x t-5) + (Treated x t-5 x High Wage) + (Treated x t-5 x Manager) + (Treated x t-5 x Manager x High Wage)	0.1517	0.1272
(Treated x t-4) + (Treated x t-4 x High Wage) + (Treated x t-4 x Manager) + (Treated x t-4 x Manager x High Wage)	0.195	0.1251
(Treated x t-3) + (Treated x t-3 x High Wage) + (Treated x t-3 x Manager) + (Treated x t-3 x Manager x High Wage)	0.2376*	0.1309
(Treated x t-2) + (Treated x t-2 x High Wage) + (Treated x t-2 x Manager) + (Treated x t-2 x Manager x High Wage)	0.171	0.1361
(Treated x t-1) + (Treated x t-1 x High Wage) + (Treated x t-1 x Manager) + (Treated x t-1 x Manager x High Wage)	0.1409	0.1307
(Treated x t0) + (Treated x t0 x High Wage) + (Treated x t0 x Manager) + (Treated x t0 x Manager x High Wage)	0.1775	0.1581
(Treated x t+1) + (Treated x t+1 x High Wage) + (Treated x t+1 x Manager) + (Treated x t+1 x Manager x High Wage)	0.01992	0.1626
(Treated x t+2) + (Treated x t+2 x High Wage) + (Treated x t+2 x Manager) + (Treated x t+2 x Manager x High Wage)	0.04107	0.1718
(Treated x t+3) + (Treated x t+3 x High Wage) + (Treated x t+3 x Manager) + (Treated x t+3 x Manager x High Wage)	-0.3272	0.2139
(Treated x t+4) + (Treated x t+4 x High Wage) + (Treated x t+4 x Manager) + (Treated x t+4 x Manager x High Wage)	-0.3817	0.2801
(Treated x t+5) + (Treated x t+5 x High Wage) + (Treated x t+5 x Manager) + (Treated x t+5 x Manager x High Wage)	-0.293	0.269
(Treated x t+6) + (Treated x t+6 x High Wage) + (Treated x t+6 x Manager) + (Treated x t+6 x Manager x High Wage)	-0.2251	0.2946
(Treated x t+7) + (Treated x t+7 x High Wage) + (Treated x t+7 x Manager) + (Treated x t+7 x Manager x High Wage)	-0.422	0.2806
(Treated x t+8) + (Treated x t+8 x High Wage) + (Treated x t+8 x Manager) + (Treated x t+8 x Manager x High Wage)	-0.5197*	0.303
(Treated x t+9) + (Treated x t+9 x High Wage) + (Treated x t+9 x Manager) + (Treated x t+9 x Manager x High Wage)	-0.3949	0.3342
(Treated x t+10) + (Treated x t+10 x High Wage) + (Treated x t+10 x Manager) + (Treated x t+10 x Manager x High Wage)	-0.45	0.3436
(Treated x t+11) + (Treated x t+11 x High Wage) + (Treated x t+11 x Manager) + (Treated x t+11 x Manager x High Wage)	-0.6938**	0.3281
(Treated x t+12) + (Treated x t+12 x High Wage) + (Treated x t+12 x Manager) + (Treated x t+12 x Manager x High Wage)	-0.5278*	0.296
Individual FE	x	
Manager x High Wage x Age² (Fully Interacted)	x	
Manager x High Wage x Calendar Quarter (e.g., 2000Q1, 2000Q2) (Fully Interacted) FE	x	
Manager x High Wage x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x	
R^2	0.3445	
N	298,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.13: **Treated vs. control event studies by race.** This table contains the coefficient estimates from the event studies illustrated in Figure A.4, which utilize a triple-difference specification to compare the outcomes of workers from target firms by race relative to similar controls. The race of each individual as reported by the LEHD Individual Characteristics Files (ICF) is used for this purpose, with workers being reported as "White" or as a member of a "minority" group, specifically, "Black," "American Indian/Alaska Native," "Asian," "Native Hawaiian/Pacific Islander," or "two or more races." Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

Dependent Variable	(1) Log Earnings		(2) Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Triple Interactions:				
F Statistic	1.315		1.175	
Coefficient	Estimate	SE	Estimate	SE
Treated x t-10 x Minority	0.1042**	0.04169	0.0124***	0.004657
Treated x t-9 x Minority	0.04026	0.03319	0.006105	0.00396
Treated x t-8 x Minority	0.04417	0.03409	0.005769	0.004151
Treated x t-7 x Minority	0.04248	0.03349	0.005976	0.004137
Treated x t-6 x Minority	0.04278	0.0343	0.005844	0.004178
Treated x t-5 x Minority	0.04948	0.0345	0.006055	0.004162
Treated x t-4 x Minority	0.04839	0.0349	0.005937	0.004139
Treated x t-3 x Minority	0.04103	0.03405	0.005923	0.004132
Treated x t-2 x Minority	0.04256	0.03537	0.005727	0.004121
Treated x t-1 x Minority	0.04474	0.03448	0.005779	0.004148
Treated x t0 x Minority	0.088**	0.04238	0.01115**	0.004912
Treated x t+1 x Minority	0.08115*	0.04369	0.00875*	0.005098
Treated x t+2 x Minority	0.1293***	0.04544	0.01264**	0.005228
Treated x t+3 x Minority	0.1135**	0.04719	0.0121**	0.005595
Treated x t+4 x Minority	0.05271	0.05143	0.003458	0.006116
Treated x t+5 x Minority	0.03816	0.05329	0.002375	0.006061
Treated x t+6 x Minority	0.01181	0.05516	0.0005341	0.006453
Treated x t+7 x Minority	0.01665	0.0581	0.00172	0.006669
Treated x t+8 x Minority	0.03526	0.05559	0.004964	0.00646
Treated x t+9 x Minority	0.04107	0.05875	0.00223	0.006525
Treated x t+10 x Minority	0.02163	0.05647	0.001518	0.006283
Treated x t+11 x Minority	0.05179	0.05906	0.005296	0.006655
Treated x t+12 x Minority	0.08866	0.05853	0.008552	0.006606
Treated x t-10	0.01392	0.01787	0.002022	0.00203
Treated x t-9	0.023	0.01953	0.002652	0.002305
Treated x t-8	0.01326	0.02011	0.0009063	0.002533
Treated x t-7	0.01452	0.0201	0.0008256	0.00253
Treated x t-6	0.00998	0.0204	0.0008803	0.002541
Treated x t-5	0.0107	0.02052	0.0008683	0.002542
Treated x t-4	0.01016	0.02057	0.001016	0.002518
Treated x t-3	0.01651	0.02047	0.001069	0.002524
Treated x t-2	0.007614	0.02094	0.001194	0.002518
Treated x t-1	0.002977	0.02038	0.001167	0.002522
Treated x t0	-0.01619	0.027	-0.00241	0.003103
Treated x t+1	-0.04012	0.0304	-0.003362	0.003353
Treated x t+2	-0.05334*	0.02951	-0.005657*	0.003217
Treated x t+3	-0.08124***	0.02742	-0.007357**	0.003066
Treated x t+4	-0.1138***	0.0333	-0.01177***	0.003547
Treated x t+5	-0.1119***	0.03322	-0.01095***	0.003646
Treated x t+6	-0.08249***	0.02927	-0.008117**	0.003291
Treated x t+7	-0.1158***	0.02871	-0.01137***	0.003233
Treated x t+8	-0.1059***	0.02895	-0.01164***	0.003172
Treated x t+9	-0.1505***	0.03238	-0.0154***	0.003599
Treated x t+10	-0.1191***	0.02975	-0.0119***	0.003249
Treated x t+11	-0.1443***	0.03123	-0.01424***	0.003384
Treated x t+12	-0.1938***	0.04037	-0.0208***	0.004441

Continued on next page.

Continuation of Table A.13.

Sum of Coefficients (Effect for Minority Workers)	Estimate	SE	Estimate	SE
(Treated x t-10) + (Treated x t-10 x Minority)	0.1182***	0.04419	0.01442***	0.004857
(Treated x t-9) + (Treated x t-9 x Minority)	0.06325*	0.0375	0.008757**	0.004371
(Treated x t-8) + (Treated x t-8 x Minority)	0.05743	0.03719	0.006675	0.004688
(Treated x t-7) + (Treated x t-7 x Minority)	0.05699	0.03632	0.006802	0.004674
(Treated x t-6) + (Treated x t-6 x Minority)	0.05276	0.03704	0.006724	0.004707
(Treated x t-5) + (Treated x t-5 x Minority)	0.06018	0.03757	0.006923	0.004689
(Treated x t-4) + (Treated x t-4 x Minority)	0.05855	0.03806	0.006953	0.004654
(Treated x t-3) + (Treated x t-3 x Minority)	0.05754	0.03632	0.006992	0.004612
(Treated x t-2) + (Treated x t-2 x Minority)	0.05018	0.03782	0.006921	0.0046
(Treated x t-1) + (Treated x t-1 x Minority)	0.04771	0.0369	0.006946	0.00464
(Treated x t0) + (Treated x t0 x Minority)	0.07181	0.04581	0.008745	0.005391
(Treated x t+1) + (Treated x t+1 x Minority)	0.04103	0.04493	0.005388	0.005438
(Treated x t+2) + (Treated x t+2 x Minority)	0.07592*	0.04543	0.006983	0.005248
(Treated x t+3) + (Treated x t+3 x Minority)	0.03223	0.04882	0.004741	0.005815
(Treated x t+4) + (Treated x t+4 x Minority)	-0.06108	0.05472	-0.008307	0.006456
(Treated x t+5) + (Treated x t+5 x Minority)	-0.07378	0.05591	-0.008576	0.006459
(Treated x t+6) + (Treated x t+6 x Minority)	-0.07068	0.0589	-0.007583	0.00698
(Treated x t+7) + (Treated x t+7 x Minority)	-0.09915	0.06188	-0.00965	0.007095
(Treated x t+8) + (Treated x t+8 x Minority)	-0.07067	0.05562	-0.006675	0.00648
(Treated x t+9) + (Treated x t+9 x Minority)	-0.1094*	0.06011	-0.01317*	0.006738
(Treated x t+10) + (Treated x t+10 x Minority)	-0.09748	0.05996	-0.01038	0.006715
(Treated x t+11) + (Treated x t+11 x Minority)	-0.09252	0.0598	-0.008941	0.006769
(Treated x t+12) + (Treated x t+12 x Minority)	-0.1052*	0.05974	-0.01224*	0.006888
Individual FE	x		x	
Minority x Age² (Fully Interacted)	x		x	
Minority x Calendar Quarter (e.g., 2000Q1, 2000Q2) (Fully Interacted) FE	x		x	
Minority x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x	
R^2	0.3418		0.2278	
N	2,467,000		2,467,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.14: **Treated vs. control event studies by gender.** This table contains the coefficient estimates from the event studies illustrated in Figure A.5, which utilize a triple-difference specification to compare the outcomes of workers from target firms by gender relative to similar controls. Gender is determined based on the LEHD Individual Characteristics Files (ICF), which provide only the binary categories of "Female" and "Male." Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

	(1)		(2)	
Dependent Variable	Log Earnings		Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Triple Interactions:				
F Statistic	0.5548		0.5383	
Coefficient	Estimate	SE	Estimate	SE
Treated x t-10 x Female	0.000947	0.0247	0.003234	0.002887
Treated x t-9 x Female	-0.001556	0.03055	0.002954	0.003795
Treated x t-8 x Female	-0.003771	0.03071	-0.0001507	0.003828
Treated x t-7 x Female	-0.009091	0.03003	-0.00004756	0.003786
Treated x t-6 x Female	-0.001218	0.03004	0.0001867	0.0038
Treated x t-5 x Female	-0.00807	0.0308	0.0002889	0.003811
Treated x t-4 x Female	-0.003739	0.03094	0.0003624	0.003771
Treated x t-3 x Female	-0.004036	0.03024	0.0002741	0.003763
Treated x t-2 x Female	-0.006261	0.03074	0.0005049	0.003736
Treated x t-1 x Female	-0.009456	0.03039	0.0004141	0.003779
Treated x t0 x Female	0.007772	0.03627	0.00203	0.004297
Treated x t+1 x Female	-0.02432	0.03727	-0.0004903	0.004484
Treated x t+2 x Female	0.002262	0.03884	0.001428	0.004559
Treated x t+3 x Female	-0.008087	0.04095	-0.00000966	0.004764
Treated x t+4 x Female	0.01808	0.04285	0.001838	0.004865
Treated x t+5 x Female	-0.001437	0.04215	-0.002263	0.005057
Treated x t+6 x Female	-0.01807	0.04555	-0.00002829	0.005398
Treated x t+7 x Female	-0.01475	0.04645	-0.0006779	0.005493
Treated x t+8 x Female	-0.02272	0.04294	-0.002216	0.004956
Treated x t+9 x Female	0.02921	0.04649	0.003531	0.005484
Treated x t+10 x Female	0.02707	0.04415	0.004319	0.005177
Treated x t+11 x Female	0.003601	0.04516	0.004377	0.005197
Treated x t+12 x Female	-0.01804	0.05367	0.0009817	0.006174
Treated x t-10	0.03121	0.02345	0.002793	0.00259
Treated x t-9	0.03237	0.02038	0.002668	0.002298
Treated x t-8	0.02434	0.02177	0.002219	0.002552
Treated x t-7	0.02753	0.02122	0.00215	0.002539
Treated x t-6	0.0203	0.02141	0.002147	0.002534
Treated x t-5	0.02515	0.02123	0.002159	0.002506
Treated x t-4	0.02242	0.02155	0.002237	0.00249
Treated x t-3	0.02737	0.02145	0.002303	0.002505
Treated x t-2	0.01975	0.02152	0.002301	0.002519
Treated x t-1	0.01672	0.02138	0.002302	0.002522
Treated x t0	-0.003178	0.02911	-0.001165	0.003261
Treated x t+1	-0.01476	0.03023	-0.001461	0.003292
Treated x t+2	-0.03082	0.03085	-0.003886	0.003292
Treated x t+3	-0.05692*	0.03093	-0.005086	0.003334
Treated x t+4	-0.111***	0.03559	-0.01172***	0.00368
Treated x t+5	-0.1043***	0.03527	-0.00951**	0.003813
Treated x t+6	-0.07213**	0.03085	-0.007876**	0.003366
Treated x t+7	-0.1067***	0.03012	-0.01077***	0.003261
Treated x t+8	-0.08964***	0.03134	-0.009722***	0.00337
Treated x t+9	-0.1557***	0.03802	-0.0164***	0.004159
Treated x t+10	-0.1274***	0.0344	-0.0134***	0.003679
Treated x t+11	-0.1363***	0.03505	-0.01509***	0.003749
Treated x t+12	-0.1699***	0.04075	-0.0195***	0.00456

Continued on next page.

Continuation of Table A.14.

Sum of Coefficients (Effect for Female Workers)	Estimate	SE	Estimate	SE
(Treated x t-10) + (Treated x t-10 x Female)	0.03216	0.02029	0.006026**	0.002408
(Treated x t-9) + (Treated x t-9 x Female)	0.03081	0.03044	0.005622	0.003746
(Treated x t-8) + (Treated x t-8 x Female)	0.02056	0.02926	0.002068	0.003853
(Treated x t-7) + (Treated x t-7 x Female)	0.01844	0.02906	0.002102	0.003853
(Treated x t-6) + (Treated x t-6 x Female)	0.01908	0.0295	0.002334	0.003877
(Treated x t-5) + (Treated x t-5 x Female)	0.01709	0.03043	0.002448	0.003914
(Treated x t-4) + (Treated x t-4 x Female)	0.01868	0.03051	0.002599	0.003864
(Treated x t-3) + (Treated x t-3 x Female)	0.02334	0.02938	0.002577	0.003842
(Treated x t-2) + (Treated x t-2 x Female)	0.01349	0.03051	0.002806	0.003791
(Treated x t-1) + (Treated x t-1 x Female)	0.007261	0.02963	0.002716	0.003841
(Treated x t0) + (Treated x t0 x Female)	0.004593	0.03577	0.000865	0.004331
(Treated x t+1) + (Treated x t+1 x Female)	-0.03908	0.03964	-0.001951	0.004749
(Treated x t+2) + (Treated x t+2 x Female)	-0.02856	0.03813	-0.002458	0.004455
(Treated x t+3) + (Treated x t+3 x Female)	-0.06501*	0.0371	-0.005096	0.004464
(Treated x t+4) + (Treated x t+4 x Female)	-0.09295**	0.04309	-0.009885**	0.004973
(Treated x t+5) + (Treated x t+5 x Female)	-0.1057**	0.04274	-0.01177**	0.005087
(Treated x t+6) + (Treated x t+6 x Female)	-0.0902**	0.04481	-0.007904	0.005396
(Treated x t+7) + (Treated x t+7 x Female)	-0.1214***	0.04541	-0.01145**	0.005402
(Treated x t+8) + (Treated x t+8 x Female)	-0.1124***	0.04021	-0.01194**	0.004688
(Treated x t+9) + (Treated x t+9 x Female)	-0.1265***	0.04068	-0.01287***	0.004861
(Treated x t+10) + (Treated x t+10 x Female)	-0.1003**	0.04071	-0.009081*	0.004812
(Treated x t+11) + (Treated x t+11 x Female)	-0.1327***	0.04134	-0.01071**	0.004769
(Treated x t+12) + (Treated x t+12 x Female)	-0.188***	0.05377	-0.01852***	0.006082
Individual FE	x		x	
Female x Age^2 (Fully Interacted)	x		x	
Female x Calendar Quarter (e.g., 2000Q1, 2000Q2) (Fully Interacted) FE	x		x	
Female x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x	
R^2	0.3419		0.2282	
N	2,467,000		2,467,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.15: **Treated vs. control event studies by productivity.** This table contains the coefficient estimates from the event studies illustrated in Figure 10, which utilize a triple-difference specification to compare the outcomes of workers from high- and low-productivity plants of target firms relative to similar controls. The sample of individuals from firms linked to the Census of Manufactures is used in both cases. Low-productivity markets are defined as those in which the firm's productivity was below the median, where the median is calculated based on worker-level observations using individuals from the given firm. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

	(1)		(2)	
Dependent Variable	Log Earnings		Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Interactions:				
F Statistic	2.242***		1.744**	
Coefficient	Estimate	SE	Estimate	SE
Treated x t-10 x Low Productivity	0.08469**	0.03923	0.008548**	0.00388
Treated x t-9 x Low Productivity	0.1099	0.07825	0.0105	0.007675
Treated x t-8 x Low Productivity	0.02894	0.04954	0.001001	0.00475
Treated x t-7 x Low Productivity	0.01546	0.044	0.0009804	0.00475
Treated x t-6 x Low Productivity	0.02859	0.05152	0.0009224	0.004737
Treated x t-5 x Low Productivity	0.02127	0.04473	0.0009766	0.004739
Treated x t-4 x Low Productivity	0.0262	0.04882	0.0009618	0.004736
Treated x t-3 x Low Productivity	0.02044	0.04625	0.0009413	0.004737
Treated x t-2 x Low Productivity	0.01828	0.04792	0.0008833	0.004724
Treated x t-1 x Low Productivity	-0.01451	0.04377	0.0009375	0.004726
Treated x t0 x Low Productivity	-0.01474	0.05644	-0.0009544	0.005692
Treated x t+1 x Low Productivity	-0.06018	0.06211	-0.004634	0.006771
Treated x t+2 x Low Productivity	-0.03704	0.06419	-0.00344	0.006669
Treated x t+3 x Low Productivity	-0.0784	0.0631	-0.006884	0.006897
Treated x t+4 x Low Productivity	-0.03404	0.08908	-0.00528	0.009159
Treated x t+5 x Low Productivity	-0.2069***	0.07195	-0.02018***	0.007722
Treated x t+6 x Low Productivity	-0.165**	0.0671	-0.01819**	0.007121
Treated x t+7 x Low Productivity	-0.2576***	0.0928	-0.02751***	0.01054
Treated x t+8 x Low Productivity	-0.2142**	0.08395	-0.02108**	0.008887
Treated x t+9 x Low Productivity	-0.2022**	0.08755	-0.02173**	0.009428
Treated x t+10 x Low Productivity	-0.1229	0.08539	-0.01681	0.01237
Treated x t+11 x Low Productivity	-0.186	0.1488	-0.01419	0.01283
Treated x t+12 x Low Productivity	-0.1301*	0.07573	-0.01255	0.007702
Individual FE	x		x	
Treated x Age^2 (Fully Interacted)	x		x	
Treated x Year (Fully Interacted) FE	x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x	
Low Productivity x Event Time (e.g., t-1, t0) FE	x		x	
R^2	0.3729		0.2659	
N	16,920,000		16,920,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.16: **Reallocation event study.** This table contains the coefficient estimates from the event study illustrated in Figure 11, panel (a), which utilizes a triple-difference specification to test whether a worker remaining at a target firm is more likely to be reallocated to a higher-productivity location than a worker at a similar control firm. The dependent variable is an indicator that takes on the value 1 if a worker is in a higher-productivity market relative to the quarter prior to closing and takes on the value 0 otherwise. The regression utilizes the sample of individuals from firms linked to the Census of Manufactures, with the additional restrictions that individuals are required to have remained fully employed at the same firm from the period beginning two years prior to closing and ending two years after closing and are also required to have remained at the same job within the same labor market (CZ-NAICS3) throughout the eight quarters prior to closing. Low-productivity markets are defined as those in which the firm's productivity was below the median, where the median is calculated based on worker-level observations using individuals from the given firm. Quarter t0 represents the closing quarter, and the event window begins eight quarters prior to and ends eight quarters after closing.

	(1)	
Dependent Variable	Indicator for Within-Firm Movement to Higher-Productivity Market	
F Test for Joint Significance of t0 Through t+8 Interactions:		
F Statistic	1.367	
Coefficient	Estimate	SE
Treated x t-6 x Low Productivity	(Omitted)	
Treated x t-5 x Low Productivity	(Omitted)	
Treated x t-4 x Low Productivity	(Omitted)	
Treated x t-3 x Low Productivity	(Omitted)	
Treated x t-2 x Low Productivity	(Omitted)	
Treated x t-1 x Low Productivity	(Omitted)	
Treated x t0 x Low Productivity	0.0003025	0.0013
Treated x t+1 x Low Productivity	0.0001943	0.00212
Treated x t+2 x Low Productivity	0.0014	0.002176
Treated x t+3 x Low Productivity	0.00176	0.002196
Treated x t+4 x Low Productivity	-0.001056	0.003424
Treated x t+5 x Low Productivity	-0.0008136	0.003419
Treated x t+6 x Low Productivity	-0.00121	0.003606
Treated x t+7 x Low Productivity	-0.002625	0.003869
Treated x t+8 x Low Productivity	-0.002483	0.00446
Individual FE	x	
Treated x Age^2 (Fully Interacted)	x	
Treated x Year (Fully Interacted) FE	x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x	
Low Productivity x Event Time (e.g., t-1, t0) FE	x	
R^2	0.3979	
N	7,547,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.17: **Reallocation event studies subset by income.** This table contains the coefficient estimates from the event studies illustrated in Figure 11, panels (b) and (c), which utilize a triple-difference specification to test whether a worker remaining at a target firm is more likely to be reallocated to a higher-productivity location than a worker at a similar control firm. The dependent variable is an indicator that takes on the value 1 if a worker is in a higher-productivity market relative to the quarter prior to closing and takes on the value 0 otherwise. The sample of individuals from firms linked to the Census of Manufactures is used in both cases, with the additional restrictions that individuals are required to have remained fully employed at the same firm from the period beginning two years prior to closing and ending two years after closing and are also required to have remained at the same job within the same labor market (CZ-NAICS3) throughout the eight quarters prior to closing. Specification (1) restricts the sample to workers who were among the bottom decile by income among in-sample workers from the same firm as of the quarter prior to closing, and specification (2) instead limits the sample to workers from the top income decile. Low-productivity markets are defined as those in which the firm's productivity was below the median, where the median is calculated based on worker-level observations using individuals from the given firm. Quarter t0 represents the closing quarter, and the event window begins eight quarters prior to and ends eight quarters after closing.

	(1)		(2)	
Dependent Variable	Indicator for Within-Firm Movement to Higher-Productivity Market		Indicator for Within-Firm Movement to Higher-Productivity Market	
Subsample	Bottom Income Decile		Top Income Decile	
F Test for Joint Significance of t0 Through t+8 Interactions:				
F Statistic	0.6878		2.048**	
Coefficient	Estimate	SE	Estimate	SE
Treated x t-6 x Low Productivity	(Omitted)		(Omitted)	
Treated x t-5 x Low Productivity	(Omitted)		(Omitted)	
Treated x t-4 x Low Productivity	(Omitted)		(Omitted)	
Treated x t-3 x Low Productivity	(Omitted)		(Omitted)	
Treated x t-2 x Low Productivity	(Omitted)		(Omitted)	
Treated x t-1 x Low Productivity	(Omitted)		(Omitted)	
Treated x t0 x Low Productivity	0.0005716	0.001293	-0.00009094	0.002614
Treated x t+1 x Low Productivity	0.0004494	0.001432	0.006124	0.004122
Treated x t+2 x Low Productivity	0.0004331	0.001431	0.007589*	0.004341
Treated x t+3 x Low Productivity	0.0006171	0.001412	0.008353*	0.004623
Treated x t+4 x Low Productivity	-0.001621	0.002217	0.007076	0.00522
Treated x t+5 x Low Productivity	-0.001684	0.002208	0.009738*	0.005668
Treated x t+6 x Low Productivity	-0.002184	0.002672	0.01244**	0.006292
Treated x t+7 x Low Productivity	-0.004609	0.003942	0.007145	0.006262
Treated x t+8 x Low Productivity	-0.006869	0.005509	0.01293*	0.007351
Individual FE	x		x	
Treated x Age^2 (Fully Interacted)	x		x	
Treated x Year (Fully Interacted) FE	x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x	
Low Productivity x Event Time (e.g., t-1, t0) FE	x		x	
R^2	0.4014		0.4161	
N	553,000		748,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.18: **Within-firm, across-market event studies for IHS earnings.** This table contains the coefficient estimates from the event studies illustrated in Figure A.1, which compare the outcomes of workers from high- and low-concentration markets. In all specifications, the dependent variable is the inverse hyperbolic sine (IHS) of quarterly earnings. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and the wage-bill share of the target firm as of the quarter prior to closing is used to define high- and low-concentration markets, with a distinct threshold for each specification. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Concentration Threshold	5% Wage-Bill Share		10% Wage-Bill Share		25% Wage-Bill Share		50% Wage-Bill Share	
Dependent Variable	IHS Earnings		IHS Earnings		IHS Earnings		IHS Earnings	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	1.699*		2.734***		1.673*		1.021	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Concentration x t-10	-0.01483	0.02373	-0.0259	0.01901	0.01086	0.02893	-0.01373	0.03852
High Concentration x t-9	-0.05636*	0.03162	-0.09466**	0.03672	-0.07217	0.07563	-0.001022	0.05235
High Concentration x t-8	-0.009	0.02325	-0.02873	0.02588	0.02193	0.03856	0.0273	0.04028
High Concentration x t-7	-0.01653	0.02498	-0.03528	0.02909	0.02265	0.04066	0.01936	0.03843
High Concentration x t-6	-0.01967	0.02525	-0.04097	0.02856	0.02197	0.03942	0.01415	0.04024
High Concentration x t-5	-0.01436	0.02444	-0.03964	0.02757	0.01461	0.03948	-0.003609	0.03504
High Concentration x t-4	-0.01108	0.02445	-0.03122	0.02703	0.02351	0.03861	0.01636	0.03541
High Concentration x t-3	-0.01602	0.02554	-0.03285	0.03016	0.03037	0.04516	-0.00388	0.03589
High Concentration x t-2	-0.01121	0.02704	-0.03163	0.03078	0.03637	0.04524	-0.003933	0.03704
High Concentration x t-1	-0.01417	0.02716	-0.03238	0.032	0.03021	0.04666	-0.01554	0.03253
High Concentration x t0	0.007791	0.0307	0.008638	0.03575	0.07039	0.04593	-0.000731	0.04379
High Concentration x t+1	0.0144	0.03601	0.03017	0.03896	0.05102	0.0508	0.007345	0.04645
High Concentration x t+2	0.03375	0.0341	0.01936	0.03991	0.08362	0.05187	0.01307	0.04536
High Concentration x t+3	0.05157	0.03838	0.03121	0.04649	0.04183	0.058	0.02214	0.04241
High Concentration x t+4	0.05991	0.05456	0.07874	0.04858	0.09059*	0.05329	0.0386	0.04271
High Concentration x t+5	0.05432	0.04605	0.08484	0.05393	0.09994*	0.05702	0.02842	0.03785
High Concentration x t+6	-0.01757	0.03822	0.0001562	0.04567	0.04459	0.07514	0.0368	0.04132
High Concentration x t+7	0.007461	0.04222	-0.02116	0.04645	0.01414	0.06073	0.0155	0.04499
High Concentration x t+8	-0.03899	0.0476	-0.0429	0.04472	-0.0061	0.06019	0.02009	0.04399
High Concentration x t+9	-0.01108	0.03941	-0.02332	0.04355	-0.02922	0.06072	0.0002854	0.04505
High Concentration x t+10	-0.003023	0.03607	-0.007311	0.04102	-0.007647	0.05989	0.01285	0.04441
High Concentration x t+11	0.01859	0.03643	0.024	0.04188	0.003967	0.06239	-0.005714	0.05002
High Concentration x t+12	0.02044	0.03598	0.02142	0.03963	0.03523	0.0585	0.02993	0.04386
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.3753		0.3740		0.3745		0.3708	
N	42,950,000		40,820,000		37,630,000		32,040,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.19: **Within-firm, across-market event studies for log earnings by share leaving market.** This table contains the coefficient estimates from the event studies illustrated in Figure A.2, panel (a), which compare the outcomes of workers from labor markets characterized by high or low shares of workers moving to other markets. In all specifications, the dependent variable is log-transformed quarterly earnings. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and each specification utilizes a distinct threshold to define markets with high shares of workers moving to different markets. The samples are limited to firms with workers from markets with high and low exit rates, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Share Leaving Threshold	1% Leaving Market		5% Leaving Market		10% Leaving Market		25% Leaving Market	
Dependent Variable	Log Earnings		Log Earnings		Log Earnings		Log Earnings	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	4.793***		1.950**		2.314***		3.938***	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Share Leaving x t-10	-0.2964	0.2753	0.009298	0.01118	-0.001476	0.01942	-0.09104*	0.05306
High Share Leaving x t-9	-0.1247	0.1578	-0.02473	0.0547	0.03591	0.0293	-0.1619***	0.04659
High Share Leaving x t-8	-0.09506	0.1772	0.0187	0.01724	0.04772**	0.01887	-0.1171	0.09301
High Share Leaving x t-7	-0.1121	0.1836	0.03301*	0.01868	0.04968***	0.01808	-0.1429	0.1015
High Share Leaving x t-6	-0.1296	0.2055	0.02347	0.01679	0.05371***	0.0185	-0.1071	0.0851
High Share Leaving x t-5	-0.1093	0.191	0.03258*	0.01701	0.05736***	0.01731	-0.1177	0.08033
High Share Leaving x t-4	-0.1194	0.2057	0.02677	0.01942	0.05681***	0.01719	-0.1081	0.08022
High Share Leaving x t-3	-0.1295	0.2127	0.03743	0.02414	0.04807***	0.01808	-0.1086	0.1032
High Share Leaving x t-2	-0.1545	0.2014	0.02964	0.02282	0.06103***	0.01844	-0.1924***	0.05052
High Share Leaving x t-1	-0.1631	0.1857	0.03684	0.02251	0.05256***	0.01819	-0.1942***	0.0509
High Share Leaving x t0	-0.186	0.1742	0.01281	0.03135	0.01709	0.02634	-0.2677*	0.1487
High Share Leaving x t+1	-0.2448	0.194	-0.04873	0.02972	0.01351	0.02932	-0.3309*	0.1926
High Share Leaving x t+2	-0.2181	0.2231	-0.03566	0.02904	0.01038	0.04139	-0.4648*	0.2689
High Share Leaving x t+3	-0.2034	0.2086	-0.04324	0.03376	0.01093	0.03268	-0.4493*	0.2633
High Share Leaving x t+4	-0.2447	0.2153	-0.002334	0.04401	0.05654	0.03669	-0.2488	0.1773
High Share Leaving x t+5	-0.2702	0.2059	-0.04156	0.02893	0.02655	0.02902	-0.2331	0.149
High Share Leaving x t+6	-0.2392	0.2302	-0.04859	0.03039	0.07175**	0.03174	-0.1807	0.1224
High Share Leaving x t+7	-0.23	0.2074	-0.0221	0.03113	0.05872**	0.02596	-0.232**	0.1013
High Share Leaving x t+8	-0.2268	0.2243	-0.002977	0.03827	0.05247**	0.02494	-0.1773	0.1318
High Share Leaving x t+9	-0.1905	0.2341	-0.00915	0.03562	0.03588	0.02788	-0.1964	0.1244
High Share Leaving x t+10	-0.1561	0.2363	-0.02044	0.02924	0.03741	0.02958	-0.1665	0.1314
High Share Leaving x t+11	-0.1451	0.2221	0.03311	0.0428	0.042	0.0261	-0.1764	0.1396
High Share Leaving x t+12	-0.1695	0.2107	-0.008977	0.0296	0.0344	0.02398	-0.1624	0.1201
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	0.3955		0.3883		0.3903		0.3930	
N	19,510,000		44,130,000		43,420,000		21,830,000	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

Table A.20: **Within-firm, across-market event studies for employment by share leaving market.** This table contains the coefficient estimates from the event studies illustrated in Figure A.2, panel (b), which compare the outcomes of workers from labor markets characterized by high or low shares of workers moving to other markets. In all specifications, the dependent variable is an indicator for full employment. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Labor markets are defined at the CZ-NAICS3 level, and each specification utilizes a distinct threshold to define markets with high shares of workers moving to different markets. The samples are limited to firms with workers from markets with high and low exit rates, and this requirement is imposed separately for each threshold.

	(1)		(2)		(3)		(4)	
High Share Leaving Threshold	1% Leaving Market		5% Leaving Market		10% Leaving Market		25% Leaving Market	
Dependent Variable	Employment Indicator		Employment Indicator		Employment Indicator		Employment Indicator	
F Test for Joint Significance of t0 Through t+12 Interactions:								
F Statistic	3.241***		1.730*		2.602***		7.215***	
Coefficient	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
High Share Leaving x t-10	(Censored)		0.002035	0.00125	-0.00006188	0.001901	-0.01419**	0.007067
High Share Leaving x t-9	(Censored)		-0.001978	0.00581	0.004977	0.003152	-0.02241***	0.005752
High Share Leaving x t-8	(Censored)		0.004185**	0.002061	0.00707***	0.002166	-0.02971***	0.006462
High Share Leaving x t-7	(Censored)		0.004473**	0.002125	0.007114***	0.00218	-0.02974***	0.006459
High Share Leaving x t-6	(Censored)		0.004312**	0.002091	0.007446***	0.002156	-0.02673***	0.005806
High Share Leaving x t-5	(Censored)		0.004512**	0.002101	0.007442***	0.002169	-0.02663***	0.005927
High Share Leaving x t-4	(Censored)		0.004313**	0.002113	0.007489***	0.002136	-0.02632***	0.006113
High Share Leaving x t-3	(Censored)		0.005572**	0.002623	0.007358***	0.002157	-0.02633***	0.006106
High Share Leaving x t-2	(Censored)		0.00544**	0.00262	0.007226***	0.00216	-0.02795***	0.006729
High Share Leaving x t-1	(Censored)		0.005136*	0.002649	0.007006***	0.00224	-0.02837***	0.006456
High Share Leaving x t0	(Censored)		0.002948	0.003379	0.003252	0.002945	-0.03594**	0.0167
High Share Leaving x t+1	(Censored)		-0.004337	0.003095	0.002874	0.003304	-0.03947*	0.02041
High Share Leaving x t+2	(Censored)		-0.002644	0.00313	0.00131	0.004557	-0.05721*	0.02904
High Share Leaving x t+3	(Censored)		-0.003513	0.003791	0.002126	0.003755	-0.05374*	0.02877
High Share Leaving x t+4	(Censored)		0.001128	0.004568	0.007002*	0.004089	-0.03075*	0.01609
High Share Leaving x t+5	(Censored)		-0.004422	0.002901	0.00398	0.003131	-0.02983*	0.0152
High Share Leaving x t+6	(Censored)		-0.003725	0.00314	0.008165**	0.00316	-0.02128*	0.01147
High Share Leaving x t+7	(Censored)		-0.001381	0.003206	0.008011***	0.002803	-0.02916***	0.009791
High Share Leaving x t+8	(Censored)		0.0008101	0.003767	0.005946**	0.002522	-0.0218*	0.01112
High Share Leaving x t+9	(Censored)		-0.00004553	0.003544	0.005081*	0.002958	-0.0266**	0.01112
High Share Leaving x t+10	(Censored)		0.0008114	0.003871	0.004561	0.002885	-0.01869	0.01229
High Share Leaving x t+11	(Censored)		0.003304	0.003981	0.00505*	0.002712	-0.02439*	0.01294
High Share Leaving x t+12	(Censored)		0.0001158	0.003006	0.003727	0.002608	-0.02022*	0.01166
Individual FE	x		x		x		x	
Age^2	x		x		x		x	
Year FE	x		x		x		x	
State (as of t-1) FE	x		x		x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x		x		x	
State (as of t-1) x Year FE	x		x		x		x	
R^2	(Censored)		0.2535		0.2536		0.2521	
N	(Censored)		44,130,000		43,420,000		21,830,000	

***p < 0.01, **p < 0.05, *p < 0.10

Table A.21: **Within-firm, across-market event studies for IHS earnings by share of sales.** This table contains the coefficient estimates from the event studies illustrated in Figure A.3, which compare the outcomes of workers from high- and low-concentration markets. Concentration is defined based on the product market, rather than the labor market, as the target firm's share of sales in the national NAICS6 industry is used to define high- and low-concentration markets, with a distinct threshold for each specification. For this purpose, the sample is limited to firms that were operating in multiple tradeable industries and were represented in the Census of Manufactures. To be included in the sample, firms are also required to have operated in markets with sales shares above and below the threshold level, and this requirement is imposed separately for each threshold. In both specifications, the dependent variable is the inverse hyperbolic sine (IHS) of quarterly earnings. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories.

	(1)		(2)	
High Concentration Threshold	5% Sales Share		15% Sales Share	
Dependent Variable	IHS Earnings		IHS Earnings	
Coefficient	Estimate	SE	Estimate	SE
High Concentration x t-10	-0.06831	0.0606	0.007875	0.03997
High Concentration x t-9	-0.07939	0.07406	0.1887	0.1831
High Concentration x t-8	0.0194	0.05322	-0.02162	0.06513
High Concentration x t-7	-0.02182	0.04297	-0.0274	0.05517
High Concentration x t-6	0.0187	0.04942	0.01641	0.05248
High Concentration x t-5	-0.004951	0.04276	0.01913	0.04911
High Concentration x t-4	-0.001682	0.04125	0.003851	0.04548
High Concentration x t-3	-0.02504	0.04019	0.0009244	0.04173
High Concentration x t-2	-0.01094	0.04107	0.0123	0.04495
High Concentration x t-1	-0.03816	0.04613	-0.006117	0.05372
High Concentration x t0	-0.04147	0.05786	-0.06573*	0.03381
High Concentration x t+1	-0.02921	0.06724	-0.01461	0.04633
High Concentration x t+2	0.01369	0.05928	0.01607	0.04969
High Concentration x t+3	0.02188	0.0627	0.03849	0.07013
High Concentration x t+4	0.004551	0.06168	0.05589	0.06409
High Concentration x t+5	0.003741	0.06161	-0.003779	0.07791
High Concentration x t+6	0.05533	0.08605	0.08206	0.07208
High Concentration x t+7	0.02526	0.07216	(Censored)	
High Concentration x t+8	0.0406	0.06197	(Censored)	
High Concentration x t+9	0.02929	0.07097	0.177**	0.076
High Concentration x t+10	0.02441	0.07498	0.08097	0.0906
High Concentration x t+11	-0.01304	0.06965	0.03627	0.1246
High Concentration x t+12	0.0638	0.1052	0.08449	0.09199
Individual FE	x		x	
Age^2	x		x	
Year FE	x		x	
State (as of t-1) FE	x		x	
Firm x Event Time (e.g., t-1, t0) (Fully Interacted) FE	x		x	
State (as of t-1) x Year FE	x		x	
N	6,023,000		3,927,000	

***$p < 0.01$, **$p < 0.05$, *$p < 0.10$

3 Appendix Figures

Figure A.1: **Within-firm, across-market event studies for IHS earnings.** This figure illustrates the coefficient estimates from four event studies that compare the outcomes of workers from high- and low-concentration labor markets. The dependent variable is the inverse hyperbolic sine (IHS) of quarterly earnings, and the coefficients displayed in the graph represent the interactions of high-concentration and event-time indicators. In all specifications, the wage-bill share of the target firm is used to define high- and low-concentration markets, with a distinct threshold for each specification. Labor markets are defined at the CZ-NAICS3 level. The samples are limited to firms with workers from both high- and low-concentration markets, and this requirement is imposed separately for each threshold. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Table A.18 presents the coefficient estimates in numeric form.

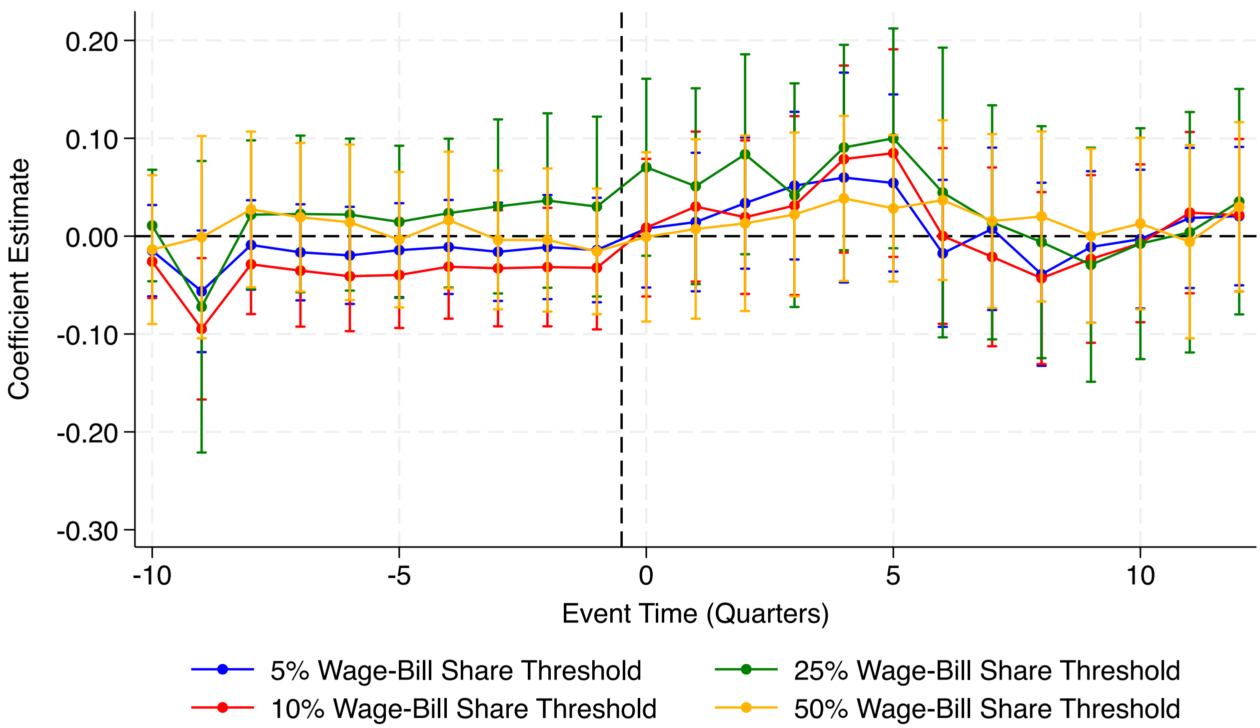
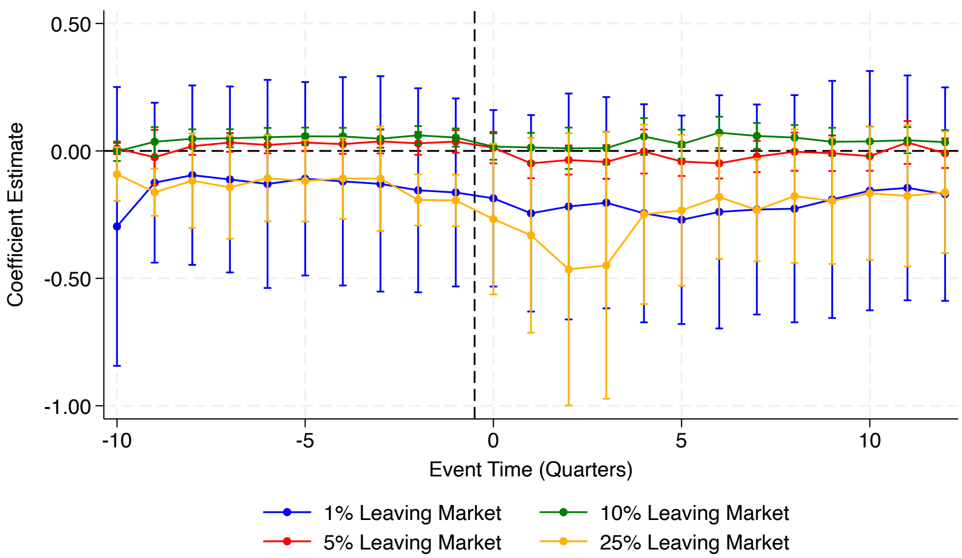
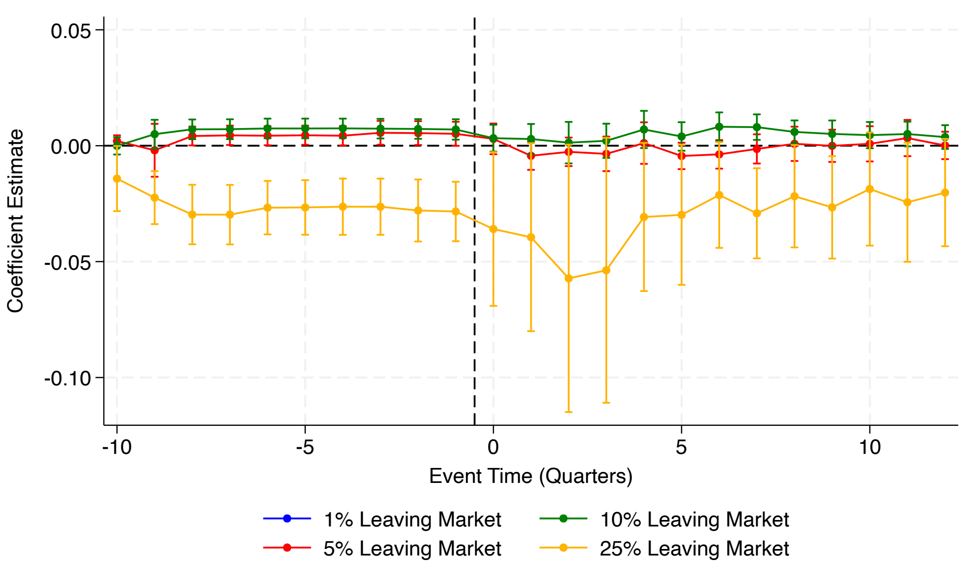


Figure A.2: **Within-firm, across-market event studies by share leaving market.** This figure illustrates the coefficient estimates from event studies that compare the log earnings and employment outcomes of workers from labor markets characterized by high or low shares of workers moving to other markets. The coefficients displayed in the graphs represent the interactions of event-time indicators with indicators for markets with high shares of workers leaving. Labor markets are defined at the CZ-NAICS3 level. The samples are limited to firms with workers from markets with high and low exit rates, and this requirement is imposed separately for each threshold. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Tables A.19 and A.20 present the coefficient estimates in numeric form. However, the coefficient estimates for one specification, which uses an employment indicator as the dependent variable and 1% of workers exiting as the threshold for markets with high exit rates, were censored and are therefore not displayed in the figure or tables.



(a) Log Earnings



(b) Employment

Figure A.3: **Within-firm, across-market event studies for IHS earnings by share of sales.** This figure illustrates the coefficient estimates from event studies that compare the outcomes of workers from high- and low-concentration markets. Concentration is defined based on the product market, rather than the labor market, as the target firm's share of sales in the national NAICS6 industry is used to define high- and low-concentration markets, with a distinct threshold for each specification. For this purpose, the sample is limited to firms that were operating in multiple tradeable industries and were represented in the Census of Manufactures. To be included in the sample, firms are also required to have operated in markets with sales shares above and below the threshold level, and this requirement is imposed separately for each threshold. The dependent variable is the inverse hyperbolic sine (IHS) of quarterly earnings, and the coefficients displayed in the graph represent the interactions of high-concentration and event-time indicators. Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Table A.21 presents the coefficient estimates in numeric form.

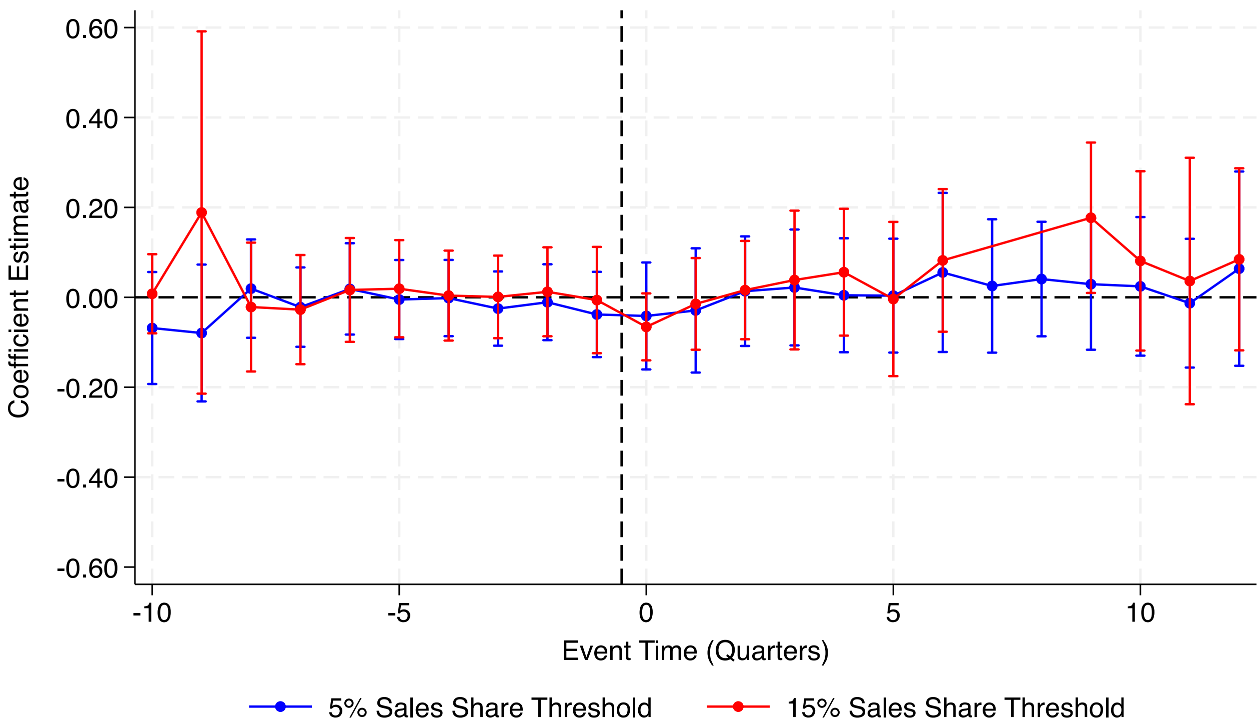
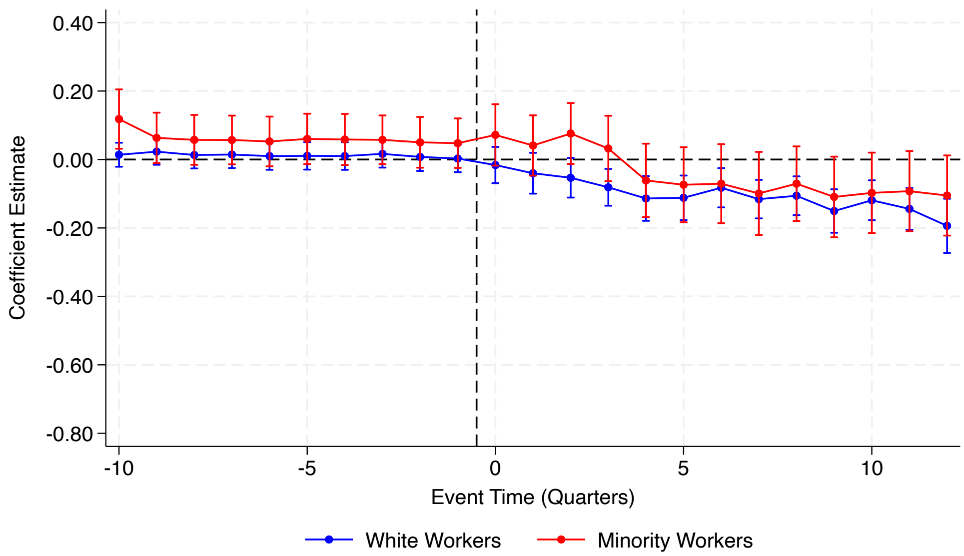
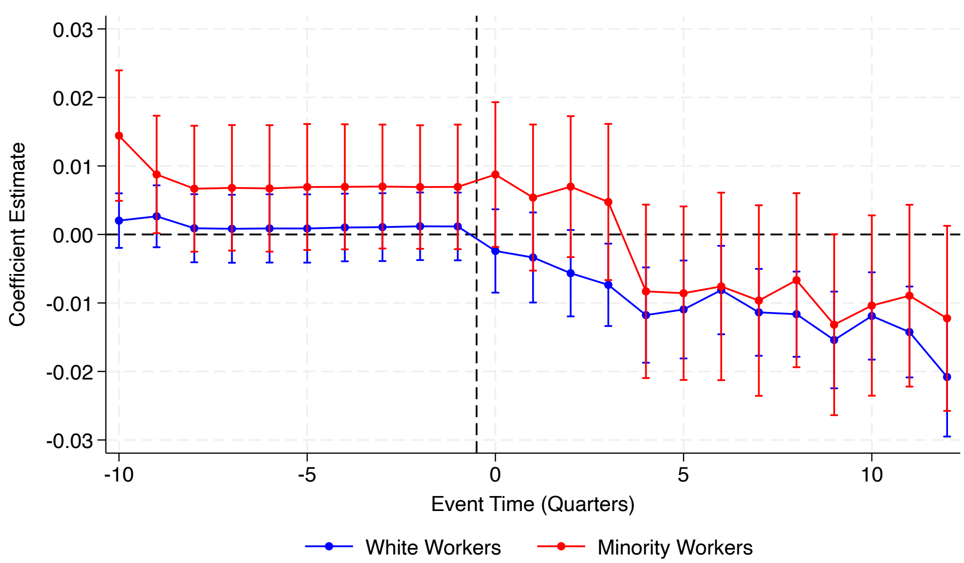


Figure A.4: **Treated vs. control event studies by race.** This figure illustrates the coefficient estimates from event studies that utilize a triple-difference specification to compare the outcomes of workers from target firms by race relative to similar controls. The race of each individual as reported by the LEHD Individual Characteristics Files (ICF) is used for this purpose, with workers being reported as "White" or as a member of a "minority" group, specifically, "Black," "American Indian/Alaska Native," "Asian," "Native Hawaiian/Pacific Islander," or "two or more races." Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Table A.13 presents the coefficient estimates in numeric form.

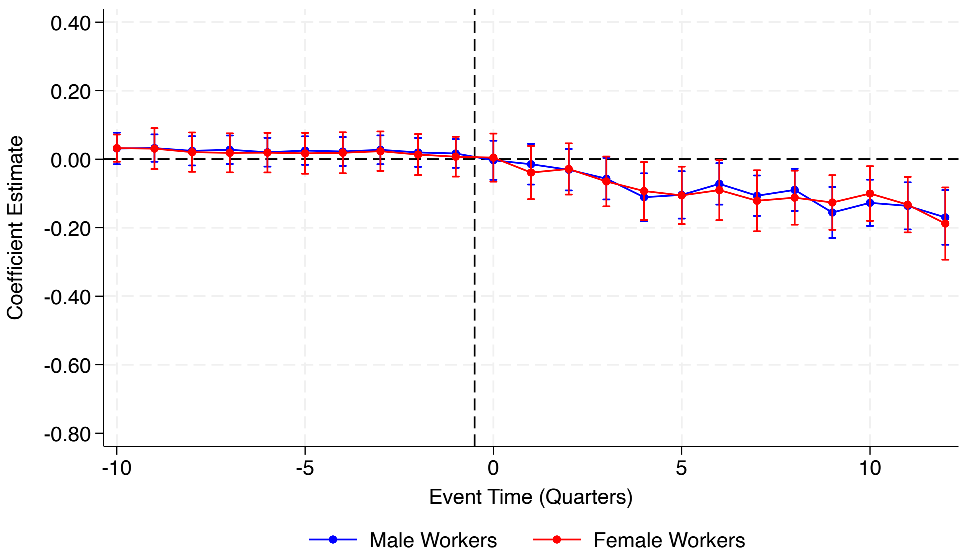


(a) Log Earnings

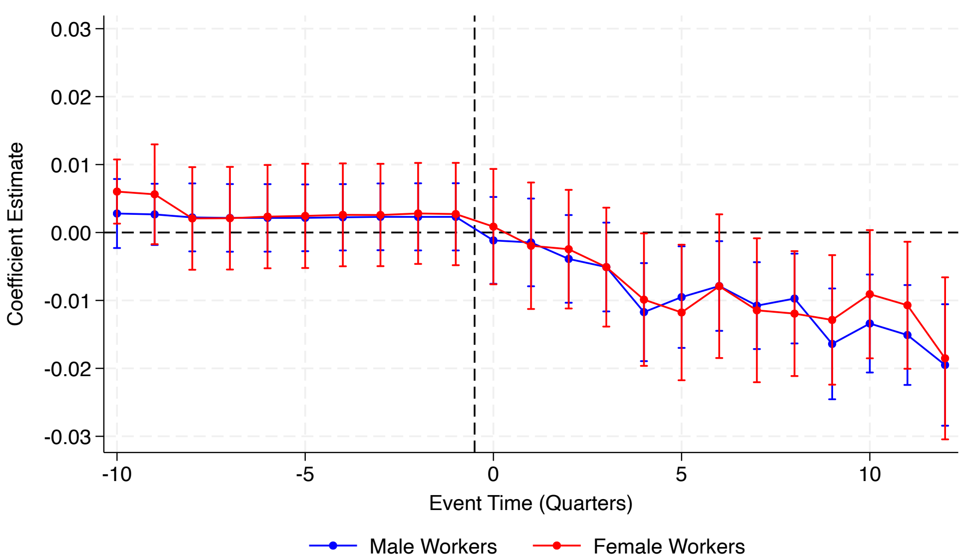


(b) Employment

Figure A.5: **Treated vs. control event studies by gender.** This figure illustrates the coefficient estimates from event studies that utilize a triple-difference specification to compare the outcomes of workers from target firms by gender relative to similar controls. Gender is determined based on the LEHD Individual Characteristics Files (ICF), which provides only the binary categories of "Female" and "Male." Quarter t0 represents the closing quarter, and the event window begins twelve quarters prior to and ends twelve quarters after closing, with quarters t-12 and t-11 comprising the omitted categories. Table A.14 presents the coefficient estimates in numeric form.



(a) Log Earnings



(b) Employment