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FROM CRISIS TO NORM:
REMOTE WORK TRENDS AND EMPLOYEE ENGAGEMENT
ACROSS INDUSTRIES, OCCUPATIONS, AND GEOGRAPHY

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From Crisis to Norm: Remote Work Trends and Employee Engagement Across Industries,
Occupations, and Geography

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ABSTRACT

We use a survey of nearly 360,000 workers conducted from May 2020 through December 2023 to characterize shifts in remote work across time, industry, occupation, and geography, and examine the evolving relationship between remote work and employee engagement. We find remarkable stability in the incidence of remote work since mid-2021 with roughly one-half of workers reporting always working remotely or in a hybrid arrangement. While remote work arrangements across industries remain broad-based, at the occupation level, they are conspicuously concentrated in certain job classifications. Remote work continues to evolve across the U.S., with 13 (14) states experiencing reported increases (decreases) in remote work rates since 2022 with the most populous states experiencing remote working rates exceeding 40% of workers. Empirical evidence shows that while working remotely correlates with higher job satisfaction and lower intentions to quit, these correlations disappear when other workplace characteristics such as pay practices, human resources policies, and managerial relationships are considered. If remote work remains the norm, our results suggest it may not directly influence employee engagement—the workplace still matters.

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1 Introduction

The COVID-19 pandemic triggered a substantial increase in hybrid and fully remote work. There is now a voluminous literature on the rise of remote work and its persistence after an easing in pandemic-related concerns. Much of the literature focuses on the complexities of measuring remote work among existing workers (Brynjolfsson et al., 2023). Other studies have focused on the productivity effects of working remotely (Bloom et al., 2015a; Choudhury et al., 2021; Gibbs et al., 2023; Emanuel and Harrington, 2023). And there is an emerging literature that uses job postings to study the remote-work phenomenon; see, for example, Hansen et al. (2023) for a recent example. In general, there is increasing recognition that hybrid work—rather than fully remote work (Gibbs et al., 2023; Barrero et al., 2023; Emanuel and Harrington, 2023)—arrangements will persist because of the increased flexibility they confer to workers (Barrero et al., 2023), coupled with their positive effects on employee productivity (Choudhury et al., 2023). Although the levels vary, the patterns are also internationally robust (Hansen et al., 2023).

Most studies on remote work typically have access to worker characteristics, including remote status, and labor market outcomes. Building on (Makridis and Schloetzer, 2023), we draw from a large, ongoing survey conducted by PayScale, a professional services organization that specializes in valuing human capital, which provides information on not only standard employee demographics and features of the remote work arrangement, but also measures of employee engagement, intent to leave the firm, and employees’ perceptions of a wide-array of workplace practices beyond remote work arrangements. Such measures are important for evaluating how remote work policies have “worked” in various sub-sectors of the economy because they help control for what would normally

be unobserved heterogeneity. In particular, the workplace practice controls help address selection effects—that is, the concern that higher-skilled workers choose jobs that offer remote work because of the nature of the involved tasks (i.e., computer-based) and as an additional amenity for attracting talented workers. These measures also allow us to affirm one of the central results in empirical management: management matters and tends to dwarf other factors (Bloom et al., 2013).

To preview the results, the share of employees reporting some type of remote work arrangement—whether always working remotely or in a hybrid arrangement—grew from roughly 27% in May 2020, after the initial onset of pandemic-related restrictions, to about 45% by early 2021. These remote working rates remain remarkably stable even through April 2024, which is when our sample ends. While our sample from PayScale skews somewhat toward college-educated workers (Makridis and Schloetzer, 2023), it nonetheless compares reasonably with the Current Population Survey and remains in line with the estimates from Brynjolfsson et al. (2023). Given this, we study the evolution of remote work across industry, occupation, and state over time.

There are substantial cross-sectional differences in the incidence of remote work across industry, occupation, and state. To preview the results, we find some differences intuitive. For example, over 70% of Professional Services occupations workers are remote at least some of the time as of December 2023, whereas roughly 20% are remote in Accommodation and Food Services. However, some of these differences are surprising. For example, roughly 30% of employees in Sales occupations remain remote, and nearly 50% of Legal Professionals report a remote work arrangement. We also show that remote work has become more, not less, common across industries, occupations, and states, particularly when we focus on employees reporting a hybrid arrangement.

We leverage the survey data to examine whether the relationship between working remotely and employee engagement changes over time. We estimate models relating self-reported job satisfaction

and intention to leave the firm within six months with our narrow and broad measure of remote work, documenting two main results. First, there is some evidence that the *correlation* between remote work and employee engagement, especially for hybrid arrangements, is stronger during 2020-2021 compared to 2022-2023. Second, and more importantly, when we *control* for measures of workplace practices, the association becomes statistically insignificant, and the trend in the point estimate also fades. Our detailed analyses provide further insights regarding the apparently tenuous relationship between remote work and employee engagement.

Our paper contributes to an active debate about the costs and benefits of remote work, as well as the future of work and persistence of remote work arrangements. There is now a large body of empirical evidence linking remote work, particularly hybrid, with employee productivity for more narrowly defined tasks (Bloom et al., 2015b; Choudhury et al., 2021, 2022; Harrington and Emanuel, 2021). However, there is some ambiguity about the effects on samples of knowledge workers who perform more heterogeneous tasks, pointing towards breakdowns in coordination and communication (DeFilippis et al., 2020; Yang et al., 2021; Gibbs et al., 2022). One reason for conflicting results may stem from the way that remote work is measured, ranging from fully to hybrid remote jobs (Brynjolfsson et al., 2023). Our paper contributes to this debate by highlighting the time-varying nature of remote work across industries, occupations, and states, suggesting remote work may 'work' differently across time, industry, occupation, and perhaps even space.

Our paper also contributes to discussions about the mechanism behind the increasing prevalence of remote work. In particular, the new reality begs the question: "why were jobs not remote four years ago?" Our empirical facts speak to the role of changing employee preferences and a change in job composition. For example, there is well-known evidence that employees value flexibility (Mas and Pallais, 2017). However, what is not clear is whether that value changes over time.

By extending Makridis and Schloetzer (2023), we find new evidence of changes in the value of remote work between 2020-23. This suggests that changes in the composition of jobs, particularly the move to more digitally-intensive jobs, where remote work is arguably easier to implement and more prevalent, may account for the bulk of the sustained increase.

2 Data and Measurement

2.1 Data

We use data from PayScale, which administers one of the world’s largest crowd-sourced labor market surveys.¹ As discussed in Makridis and Schloetzer (2023), respondents complete a survey on PayScale’s website for many reasons, but often it is to assess how their compensation compares with others in similar positions and to obtain job recommendations. Upon completing PayScale’s survey, respondents receive reports illustrating how their compensation compares to respondents with similar education, skills, and work experience. Respondents can also explore how changes such as relocating to a different city, securing a promotion, and returning to school for additional education can affect their earning potential.

Our analysis draws from PayScale data from May 2020 to December 2023; see Makridis and Schloetzer (2023) for detailed comparisons between the PayScale data with the Current Population Survey (CPS) and Occupational Employment Statistics (OES). To summarize, the PayScale data tilts toward college-educated workers who self-report working in management positions, and there is a high degree of overlap with OES data on total annual compensation. These facts suggest the

¹Please see Makridis and Schloetzer (2023) and <https://www.payscale.com/about/methodology> for details.

PayScale data is fairly representative of the typical worker.²

The PayScale data capture differing remote work arrangements, measured by survey questions on the degree to which an employee always works remotely, mostly remote, sometimes remote, or never remote, and self-reported job satisfaction and intentions to leave the firm within six months. PayScale did not modify the survey questions we use in our analyses during the sample period. Our initial sample consists of 358,903 respondents from March 2020 to December 2024, declining to 217,252 when we remove respondents with missing industry, occupation, workplace practices, remote work arrangement, and demographic data (e.g., age, gender, and education). We retain observations with missing race data because they have greater non-reporting (53% missing compared to 10% for age, for instance). Instead, we create a binary variable for whether race is missing and include it as a control in our regressions.³ For our descriptive analyses, we utilize the full sample to increase its external validity for uncovering national trends. Hence, we retain observations with missing workplace practices variables, but we do drop missing industry information when plotting the trends in remote work by industry, for instance.⁴

The PayScale data provides at least two advantages over standard publicly-accessible labor market survey data—a large sample size and enhanced reporting incentives. The large sample size allows PayScale to leverage the “wisdom of the crowds,” which describes how aggregating the opinions from many individuals can yield more accurate forecasts than the opinions of a smaller group of experts. PayScale’s respondents have incentives to report accurately because response

²We also gathered data for January to March 2024, but we noticed a significant (roughly 50%) drop-off in respondents starting towards the end of 2023 and even more into 2024. In conversation with PayScale, the drop-off appears to be driven by a change in the Google search engine optimization routine that affected its rank in the search engine.

³While we do not exploit firm-level variation, we note that the median number of respondents per firm, conditional on reporting a firm name, is four and the 75th percentile is 15.

⁴We find some evidence that missing values are missing at random, but it skews somewhat towards more educated workers being less likely to report an occupational classification or race.

accuracy governs the quality of their predicted market compensation and job recommendations. These two benefits are particularly useful given PayScale’s rich data set, which captures respondents’ demographic information, industry and occupation classifications, total cash compensation, and perceptions of the workplace environment.

2.2 Identifying remote work arrangements

We measure remote work using responses to the following question: “Are you able to telecommute/work from home?” Respondents have the following options: “Yes, I telecommute 100% of the time”; “Yes, I telecommute most of the time”; “Yes, I telecommute some of the time”; “Yes, I telecommute on an as-needed basis only (e.g., to receive a furniture delivery)”; “No, I can’t telecommute.” We use these responses to identify four levels of remote work based on “always WFH,” “mostly WFH,” “sometimes WFH,” and “never WFH” where the “as-needed” and “no” responses are combined and treated as the omitted group throughout much of our analyses. We assess the representativeness of our this survey data by comparing our descriptive statistics to those of a nationally-representative survey completed by Gallup in October 2020. According to the Gallup survey, 33% of employees report mostly working remotely, 25% sometimes remote, and 41% never remote.⁵ These proportions are similar to our sample, in which 22% of employees report always or mostly working remotely, 31% sometimes working remotely, and 47% never work remotely or on an as-needed basis.

⁵<https://news.gallup.com/poll/321800/covid-remote-work-update.aspx>

2.3 Control variables

Our empirical analyses of the relationship between remote work and employee engagement control for self-reported features of the workplace, along with employee demographics, 6-digit standard occupational classification (SOC) fixed effects, and 2-digit North American Industry Classification Standard (NAICS) fixed effects. Among the self-reported features of the workplace, we measure total cash compensation as the sum of salary, tips, commission, bonus, and other stock compensation realized at a given point in time.⁶

We account for employees' perceptions of workplace characteristics using responses to six questions from PayScale's survey that range between one (lowest) to five (highest): "How pay is determined at my company is a transparent process"; "I feel that I am paid fairly"; "There is frequent, two-way communication between management and myself"; "My employer provides me with sufficient opportunities for learning and development"; "I feel appreciated at work"; and "I have a great relationship with my direct manager." We use these to control for heterogeneity in practices related to other organizational design features (e.g., reward systems, human resources policies) that might confound associations between remote work and our employee-level outcomes of interest. Our employee demographics include age, gender, race (White, Black, Hispanic, Missing), highest level of educational attainment (high school degree, associates degree, bachelors degree, masters degree, or Ph.D.), and years of work experience. We view our rich set of controls as substantial attempts to assuage concerns that our estimates of the relationship between various remote work arrangements, job satisfaction, and intention to leave simply reflect selection effects.

⁶PayScale uses proprietary algorithms to validate the accuracy of respondents' compensation data, removing observations that its algorithms flag as errors.

3 Evolution of Remote Work Arrangements

3.1 Remote Work Across Time

We begin by investigating trends in aggregate remote work across the 2020-2023 period. Figure 1 plots, by month, the percentage of respondents who are “always WFH,” “mostly WFH,” and “sometimes WFH”—with the mostly and sometimes WFH categories combined for brevity. As would be expected, as the COVID-19 restrictions were taking hold, there was a period of an increasing incidence of remote work arrangements from early 2020 into early 2021. This can be seen by the increase in always WFH arrangements from below 10% in early 2020 to roughly 18% by early 2021. Similarly, when adding the mostly/sometimes hybrid remote work arrangement to those employees always working remotely, there is an increase from roughly 27% in early 2020 to about 45% by early 2021.

Since early 2021, however, the figure highlights how remote work arrangement rates have been fairly steady, with just under 20% of workers reporting always working remotely and 45% to 50% reporting some type of remote work arrangement (i.e., always, mostly, or sometimes working remotely). As respondents to the PayScale survey cannot indicate more than one remote work arrangement, the data suggest that nearly one-half of respondents report some form of remote work arrangement from mid-2021 through December 2023.

3.2 Remote Work Across Industries

Next, we report trends in aggregate remote work across industries. Figure 2 plots the percentage of survey respondents in different remote work arrangements by two-digit NAICS industry and year. We focus our discussion of descriptive patterns between Panels C and D, which plot the incidence of remote work in 2022 and 2023, respectively, as this time period is arguably less affected by national and state-level COVID-19 restrictions than 2020 and 2021.

There is remarkable persistence in industry-level remote work arrangement rates between 2023 to 2022, and even back to 2021 (reported in Panel B). Respondents in the Finance/Insurance, Information, Professional Services, and Management of Companies industries continue reporting the highest rates of remote work—whether always remote or a hybrid arrangement—with roughly 30% of respondents in each industry reporting always working remotely and more than 60% to 70% reporting either always working remote or in a hybrid arrangement. In addition, the data reveal no difference between 2022 and 2023 among industries with always remote work arrangements above the 20% level—these industries remain Finance/Insurance, Information, Professional Services, Management of Companies, and Administrative/Support/Waste. There is also no difference between 2022 and 2023 among industries with any type of remote work arrangement above the 40% level—these industries remain Professional Services, Information, Finance/Insurance, Management of Companies, Utilities, Public Administration, Mining, Administrative/Support/Waste, Real Estate, and Educational Services. It is clear from comparing Panels C and D that remote work arrangements have become an important aspect of the labor market, particularly within the Information Supersector as tracked by the U.S. Bureau of Labor Statistics—Information, Finance and Insurance, Real Estate, Professional, Scientific, and Technical Services, Management of

Companies, Administrative/Support/Waste, and Educational Services—which employed roughly 36 million U.S. workers (that is, approximately 23% of total nonfarm payroll) as of April 2024.⁷

The top panel in Figure 5 shows the longer-run industry-level change in percentage points between 2020 and 2023. This figure uses 2020 remote work levels as a baseline to characterize the evolution in remote work arrangements by industry across the sample period. We see large increases of at least 10 percentage points for always working remotely for the Information, Finance and Insurance, Professional Services, and Management of Companies industries. We also note ten industries have seen at least a 10 percentage point increase in any remote work arrangement. Again, remote work arrangements remained elevated in 2023, relative to 2020, across many industries, reinforcing the broad-based nature of the increase in remote work incidence since 2020.

3.3 Remote Work Across Occupations

This subsection highlights trends in aggregate remote work across worker occupation. Figure 3 plots the percentage of survey respondents in different remote work arrangements by standard occupational classification (SOC) code and year. We again focus on descriptive patterns between Panels C and D, which plot the incidence of remote work in 2022 and 2023, respectively.

Multiple occupations experienced increases in always working remotely. This is particularly the case for positions in the Legal, Healthcare Support, Protective Service, and Personal Care/Service occupations. The only notable decline in always working remotely is among Design/Entertainment and Life/Social Sciences occupations, albeit a modest decline. Computer/Math and Business/Finance occupations continue to experience elevated levels of always working remotely. Ten of the 11 oc-

⁷<https://www.bls.gov/opub/ted/2024/total-nonfarm-payroll-employment-increased-by-175000-in-april-2024.htm>.

occupational classifications experiencing over 30% of workers in some type of remote working arrangement in 2022 reported the same in 2023, with Education/Training dropping from the ranks in 2023.

The bottom panel in Figure 5 shows the longer-run occupation-level change in percentage points between 2020 and 2023. The greatest increases are in the Computer/Math occupation with a roughly 10 percentage point rise for the broader definition of mostly or sometimes remote, and an even larger near 25 percentage point increase for always remote. Architecture/Engineering also reports a meaningful increase, largely concentrated among mostly and sometimes remote work arrangements. The Personal Care/Service, Protective Service, Healthcare Support, Management, and Business/Finance occupations also experienced an increase in remote work arrangements across the 2020-2023 period. In contrast, Legal, Education/Training, Sales, Farming/Fishing/Forestry, Healthcare Practitioner, Construction, and Production occupations reveal a decline in remote work arrangements in 2023 relative to 2020 levels. This may be due to decreases in distance education (Education/Training) and increases in face-to-face interactions (Legal, Sales, Farming/Fishing/Forestry, Healthcare Practitioner, Construction, and Production) after the initial COVID-19 labor market shock. We note that while remote work arrangements appear to be prevalent across industries (see the top panel of Figure 5), at the occupation level, the increases in remote working arrangements are more concentrated in certain jobs.

3.4 Remote Work Across the United States

Finally, we examine trends in remote work across each of the 50 states. Figure 4 plots the percentage of respondents in different remote work arrangements by state and year. We again

focus our discussion of descriptive patterns between Panels C and D, which plot the incidence of remote work in 2022 and 2023, respectively.⁸

When comparing state-level remote work patterns, we note that 13 states experienced a reported increase in remote work rates in 2023 relative to 2022, 14 states experienced a decrease, and the remaining 23 states were unchanged. States with reported increases in remote work in 2023 relative to 2022 are: Alabama, Alaska, Arizona, Arkansas, Colorado, Delaware, Kansas, Maine, Maryland, Pennsylvania, South Dakota, Virginia, and Vermont. States with reported decreases in remote work are: Georgia, Hawaii, Idaho, Indiana, Illinois, Iowa, Missouri, Ohio, Oregon, Tennessee, Texas, Utah, Washington, and West Virginia. California, Texas, Florida, New York, and Massachusetts continue to have roughly 40% of workers reporting that their current jobs are always working remotely or in a hybrid remote working arrangement. These descriptive patterns indicate that remote work arrangements continue to shift across the United States, with several of the most populace states experiencing higher rates of remote work three years after the onset of COVID-19 restrictions in 2020. Possible contributors to this state-level heterogeneity include the attractiveness for remote work (e.g., business taxes, cost of living, direct incentives for relocation) and potential differences in the concentration of certain industries and occupations across states.

Figure 6 illustrates the long-run change in remote work arrangements when considering the share of respondents by state between 2020 and 2023. It is evident that remote work has increased in prevalence across the United States relative to 2020 levels. While this long-run change is particularly apparent in the Northeast and Mid-Atlantic regions, where incidence of employees reporting some type of remote work arrangement is between 13% and 21% higher than in 2020, it remains the case that remote work arrangements are maintaining their presence throughout the

⁸Note that the sextile values vary slightly across years.

United States at rates higher than in 2020.

4 The Efficacy of Remote Work Across Time

Is remote work a more or less important predictive factor for employee job satisfaction and intention to leave the firm at some points in time than others? We explore this question by modifying the empirical model presented in [Makridis and Schloetzer \(2023\)](#) to examine the interplay between remote work arrangements, employee job satisfaction, and their intention to leave their job within six months separately by month-year, conditional on a vector of demographics and workplace practices:

$$y_{it} = \mathbf{r}_{it}\gamma^t + \mathbf{X}_{it}\beta + \mathbf{W}_{it}\psi + \varepsilon_{it} \quad (1)$$

where y_{it} denotes either standardized job satisfaction (a standardized z -score of a 1-5 index) or intention to leave (1/0 indicator) for survey respondent i in month-year t , \mathbf{r} denotes a vector of indicators representing remote work arrangements (always WFH, mostly/sometimes WFH), X denotes a vector of individual worker characteristics (age, male, race (White, Black, Hispanic, Missing), education (high school, associates, bachelors, masters, Ph.D.), years of work experience, and log total compensation), and W denotes a vector of workplace characteristics (pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, appreciation, and managerial relationships). Standard errors are heteroskedasticity-robust, and observations are unweighted.⁹

⁹We acknowledge that unobserved differences in job satisfaction or intent to leave might be correlated with selection into different levels of remote work. Our measure of total cash compensation is important for purging variation in employee attachment to the firm that reflects compensating differentials between more versus less remote working jobs. Furthermore, our inclusion of workplace characteristics purges variation in our outcomes of

We report the results in Figure 7. We follow the approach in [Makridis and Schloetzer \(2023\)](#) and examine two specifications—Panels A and B exclude workplace characteristics (pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, appreciation, and managerial relationships), while Panels C and D include these characteristics. Panel A shows a generally positive and statistically significant association between always working remotely and employee job satisfaction across time, with insignificant coefficient estimates beginning to appear in 2023. Panel B reports a positive and statistically significant, albeit slightly declining, association between hybrid arrangements and satisfaction that also fade in 2023.

In contrast to these positive correlations, Panels C and D reveal that these associations change after controlling for workplace characteristics. Panel C shows a statistically insignificant association between always working remotely and employee job satisfaction across time. Similarly, Panel D reports insignificant associations between hybrid arrangements and satisfaction. Hence, after controlling for our measures of workplace characteristics (i.e., pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, appreciation, and managerial relationships), there is consistently no statistically significant association between remote work and employee job satisfaction, nor a systematic trend.

Figure 8 builds upon these results when intent to leave their job is the outcome variable. Panel A shows little evidence of an association between between always working remotely and intention to leave across time. Panel B reports a negative and statistically significant association between hybrid arrangements and intention to leave the firm from 2020 into mid-2021, with this association

interest that could be due to differences in managerial practices and/or the structure of work, which help explain productivity differences ([Bloom et al., 2013](#)) and selection across firms ([Bloom et al., 2018](#)). Although we recognize that our variation could still reflect some unobserved heterogeneity and therefore is not fully causal, we nonetheless demonstrate that features of the workplace have a first-order effect in explaining associations between remote work, job satisfaction, and intention to leave present in the raw data and conditional correlations.

becoming insignificant for the remainder of the sample period. For Panels C and D, the association between remote work arrangement and intent to leave is positive and statistically significant in some cases across time, perhaps suggesting employees' recognizing that they can seek other jobs further afield with remote work as an employment option.

Next, we explore potential the drivers of this evidence by investigating the gradient on our workplace characteristics, with a specific focus on responses to the question, "I feel appreciated at work," since it is the most consequential workplace characteristic in the above analyses (results not tabulated). Figure 9 reports these results. The top panel illustrates a strong positive association between feeling appreciated at work and employee job satisfaction across time. Consistent with the importance of appreciation, the bottom panel reports a strong negative association between feeling appreciated at work and employee intentions to leave the firm within six months across time. Both panels demonstrate that nearly all months in the 2020-2023 period are statistically significantly related to job satisfaction and intention to leave in the anticipated direction.

We interpret the evidence about the interplay between remote work arrangements, employee job satisfaction, and their intention to leave their job within six months as follows. Early in the sample period when the pandemic's impact on the labor market was unfolding, there appears to be a positive (negative) and statistically meaningful association between remote work arrangements and job satisfaction (intention to leave the firm). However, the inclusion of other workplace characteristics are critical to explain these documented associations. In particular, after controlling for pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, feeling appreciated at work, and managerial relationships, we find no consistent statistically significant association between remote work and these employee outcomes, nor a systematic trend. This suggests that firms offering remote work arrangements have other workplace

characteristics that confer greater employee job satisfaction and lower intentions to leave the firm. Evidence of this is that our results for feeling appreciated at work (for instance) show strong, robust associations with job satisfaction and intentions to leave in the anticipated directions across time. Workplace characteristics still matter in the age of remote work, and dwarf the role of remote work arrangements in explaining employee job satisfaction and intentions to leave the firm.

5 Conclusion

This paper explores the incidence and implications of remote work across different industries, occupations, and U.S. states using survey data from PayScale. The results demonstrate a notable shift towards fully remote and hybrid work arrangements from mid-2020 to 2023, varying adoption rates across industries, particularly Finance/Insurance, Information, Professional Services, and Management of Companies, occupations, particularly digitally-intensive jobs, and broad-based changes in remote working patterns across states, particularly in the Northeast and Mid-Atlantic.

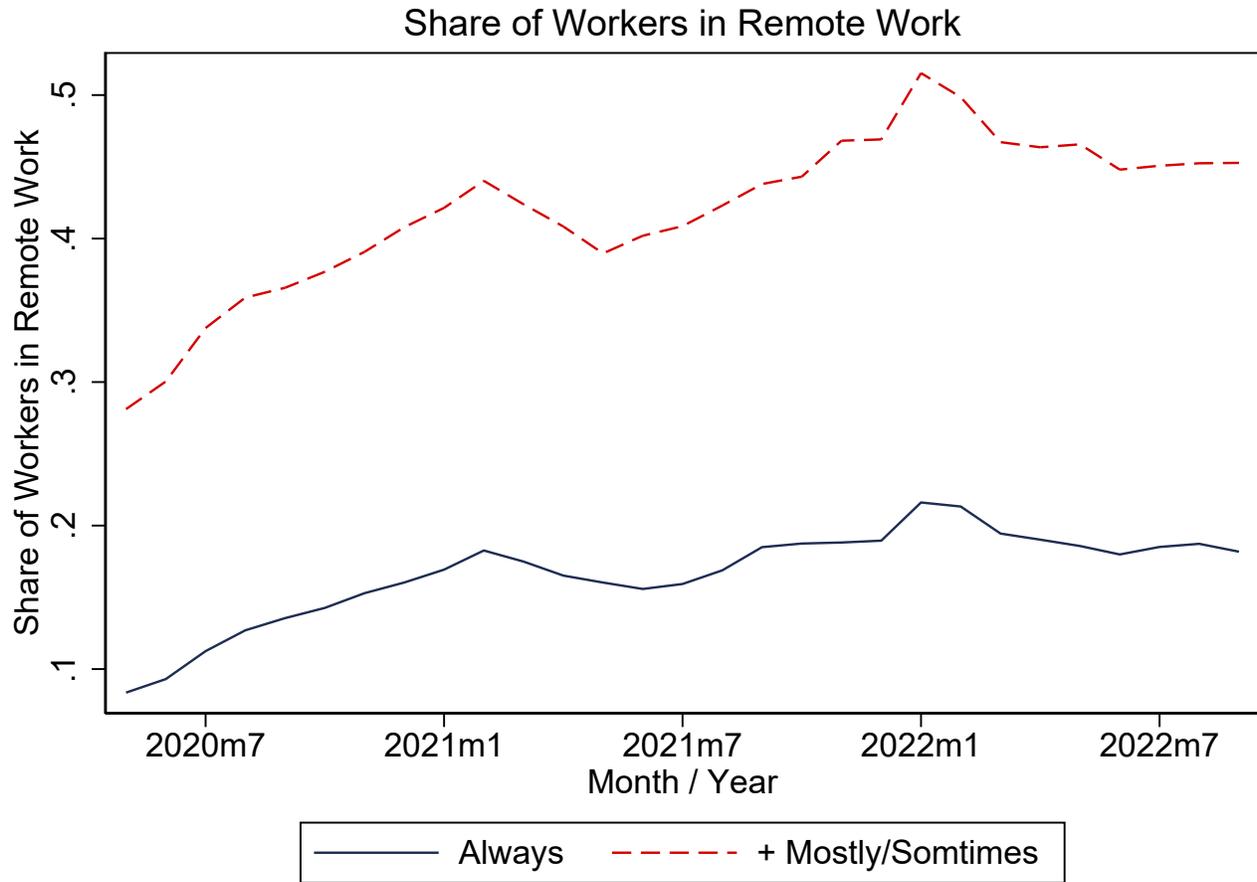
In regards to the implications of remote work arrangements, we focus on the relationship between remote work arrangements and two measures of employee engagement—self-reported employee job satisfaction and intention to leave the firm within six months. While empirical evidence initially shows that working remotely correlates with higher job satisfaction and lower intentions to leave, these correlations disappear when other workplace characteristics are considered (e.g., pay practices, human resources policies), a result that persists monthly across 2020-2023. There is not much evidence that remote work arrangements relate to higher employee job satisfaction and lower quitting intentions across time.

Further exploration is warranted to understand how workplace practices can support the ben-

efits of remote work, particularly in enhancing employee engagement and productivity. Investigating the long-term effects of remote work on organizational culture, employee retention, and firm performance could provide more comprehensive insights. Extending the analysis to different geographical regions and comparing the adoption and impacts of remote work globally could offer a broader perspective. As digital technologies continue to evolve, exploring how emerging tools and platforms could further facilitate remote work and address the challenges associated with remote and hybrid work arrangements would likely be a valuable addition to the literature.

Tables and Figures

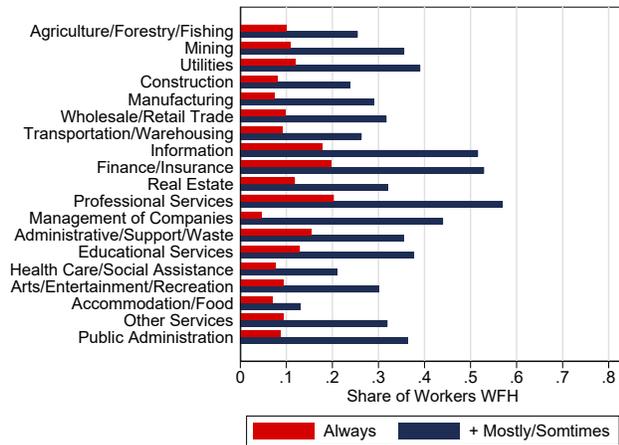
Figure 1: Share of Workers Reporting Remote Work



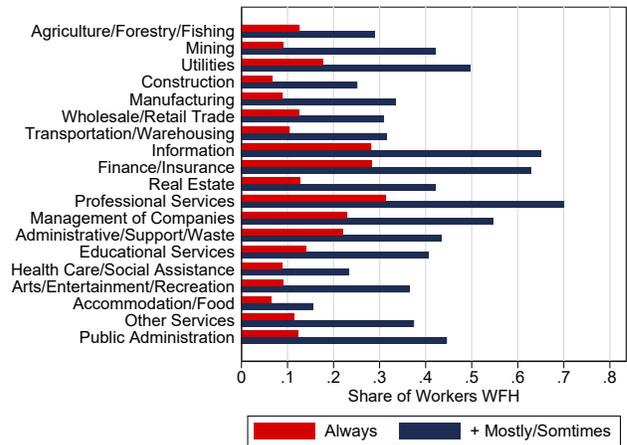
Source: Payscale (May 2020-Dec 2023). The figure plots the percentage of respondents who report being always and mostly/sometimes working remotely over time. We combine the mostly WFH and sometimes WFH categories for brevity.

Figure 2: Time Series Trends in Remote Work, by Industry

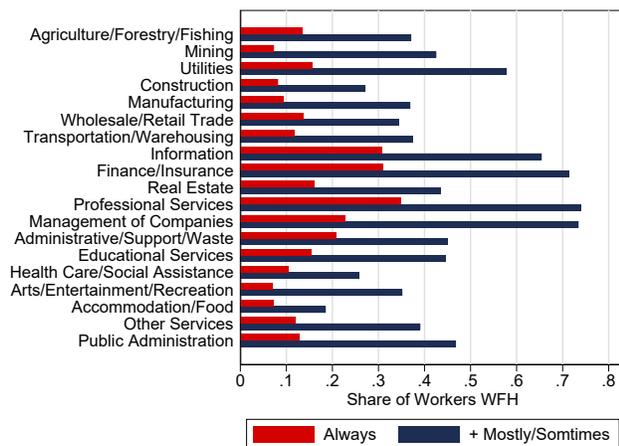
(a) Panel A: 2020



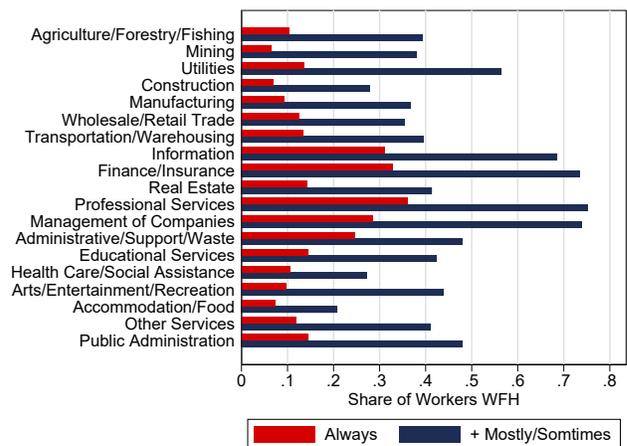
(b) Panel B: 2021



(c) Panel C: 2022



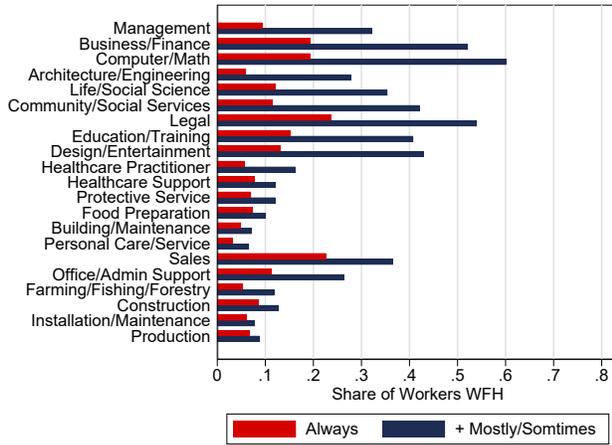
(d) Panel D: 2023



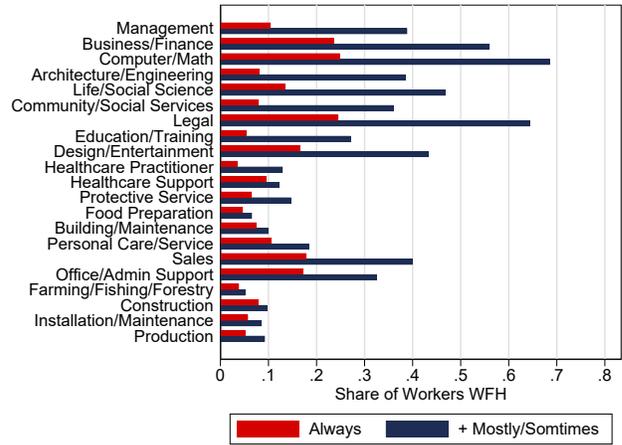
Notes.—Sources: Payscale (May 2020–Dec 2023). The figure plots the percentage of respondents in different remote work arrangements: “always WFH,” “mostly WFH,” and “sometimes WFH,” by two-digit NAICS industry and year.

Figure 3: Time Series Trends in Remote Work, by Occupation

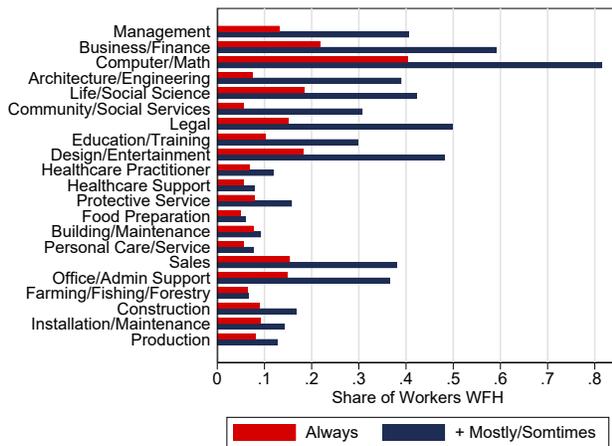
(a) Panel A: 2020



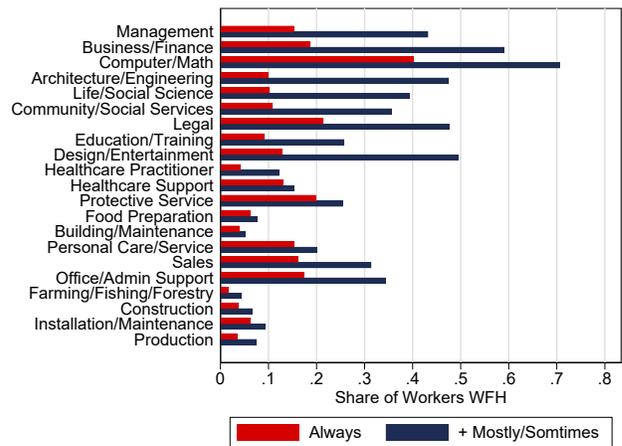
(b) Panel B: 2021



(c) Panel C: 2022

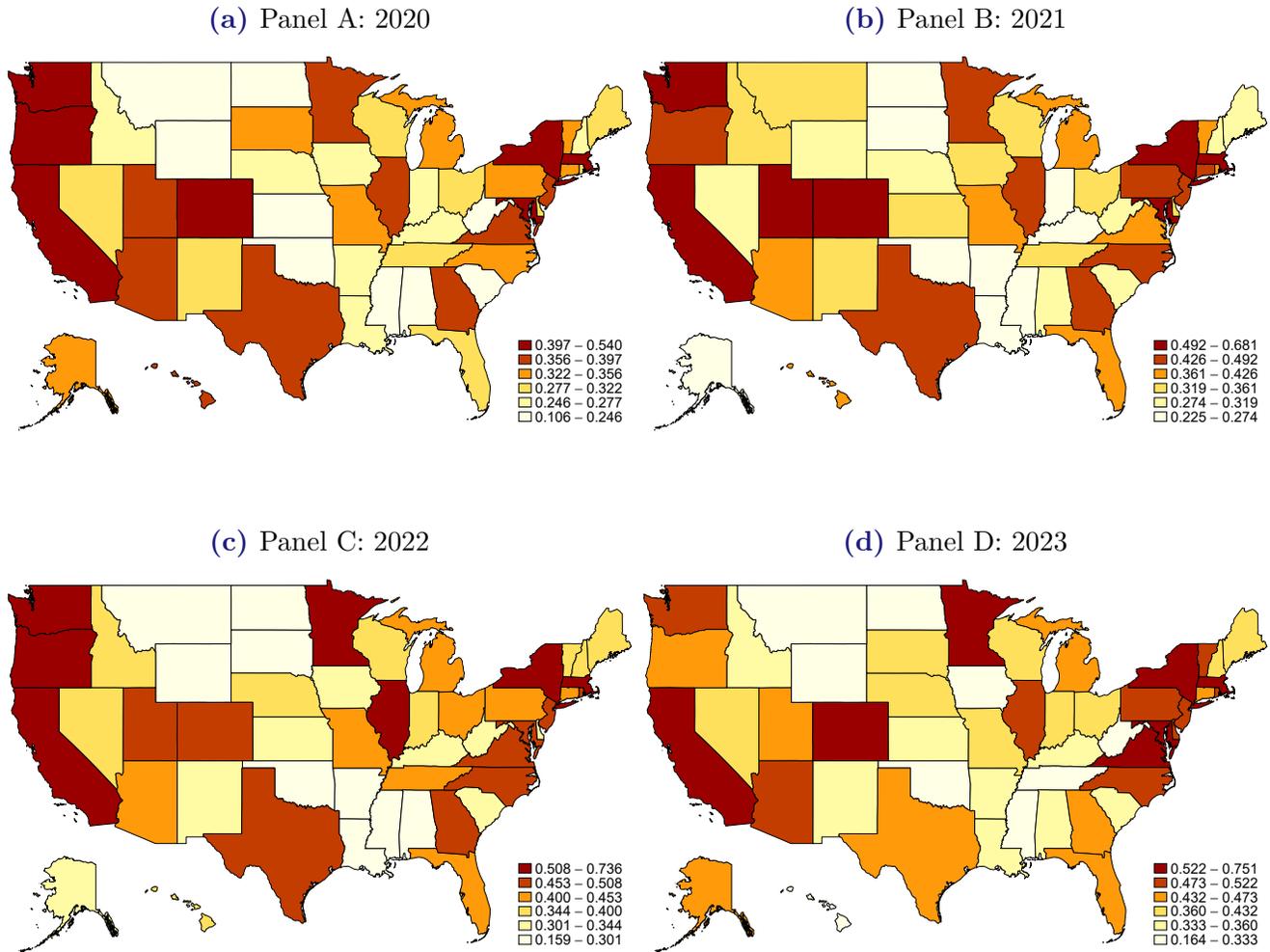


(d) Panel D: 2023



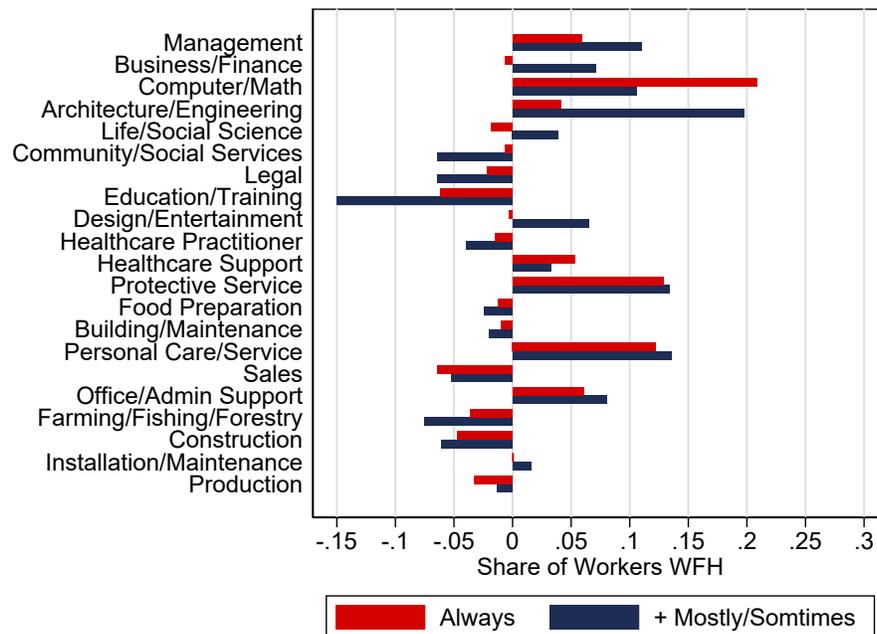
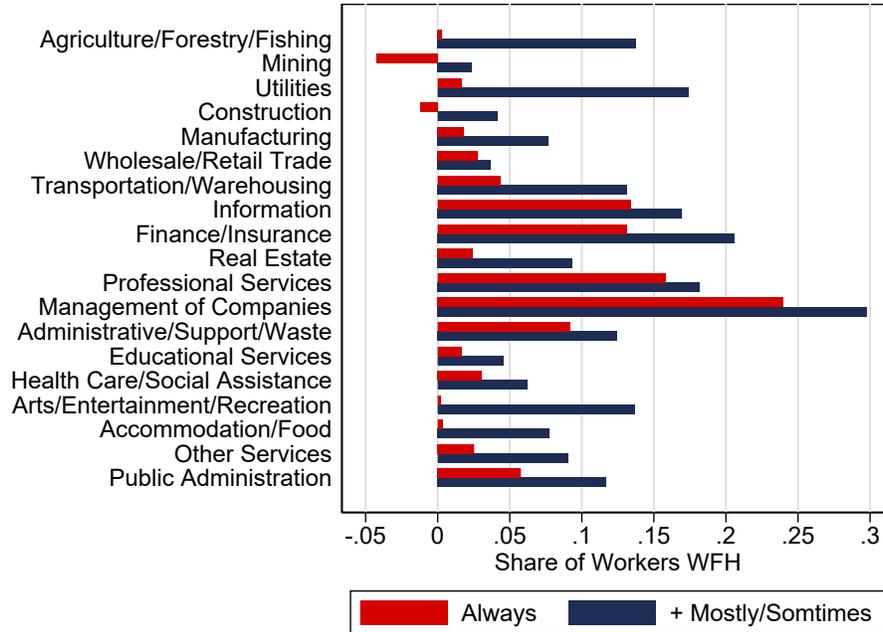
Notes.—Sources: Payscale (May 2020–Dec 2023). The figure plots the percentage of respondents in different remote work arrangements: “always WFH,” “mostly WFH,” and “sometimes WFH,” by two-digit SOC occupation and year.

Figure 4: Time Series Trends in Remote Work, by State



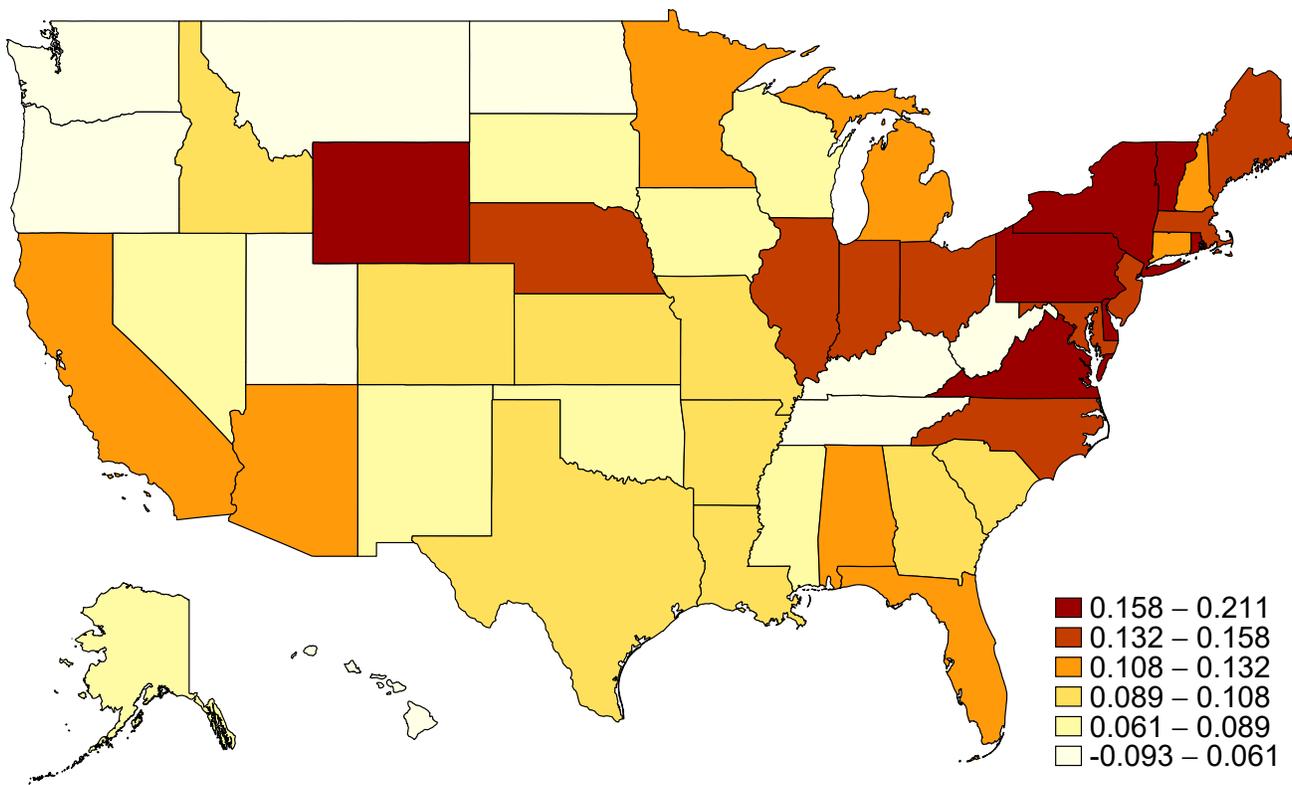
Notes.—Sources: Payscale (May 2020–Dec 2023). The figure plots the percentage of respondents in any remote work arrangement, by state and year.

Figure 5: Changes in Remote Work, by Industry and Occupation



Notes.—Sources: Payscale (May 2020–Dec 2023). The figure plots the change in the share of respondents in different remote arrangements from 2020 to 2023 in percentage points: “always WFH,” “mostly WFH,” and “sometimes WFH,” by two-digit NAICS industry (top panel) and two-digit SOC occupation (bottom panel).

Figure 6: Changes in Remote Work, by State



Notes.—Sources: Payscale (May 2020-Dec 2023). The figure plots the change in the share of respondents in any remote work arrangement from 2020 to 2023 in percentage points, by state.

Figure 7: Association Between Remote Work and Job Satisfaction Over Time

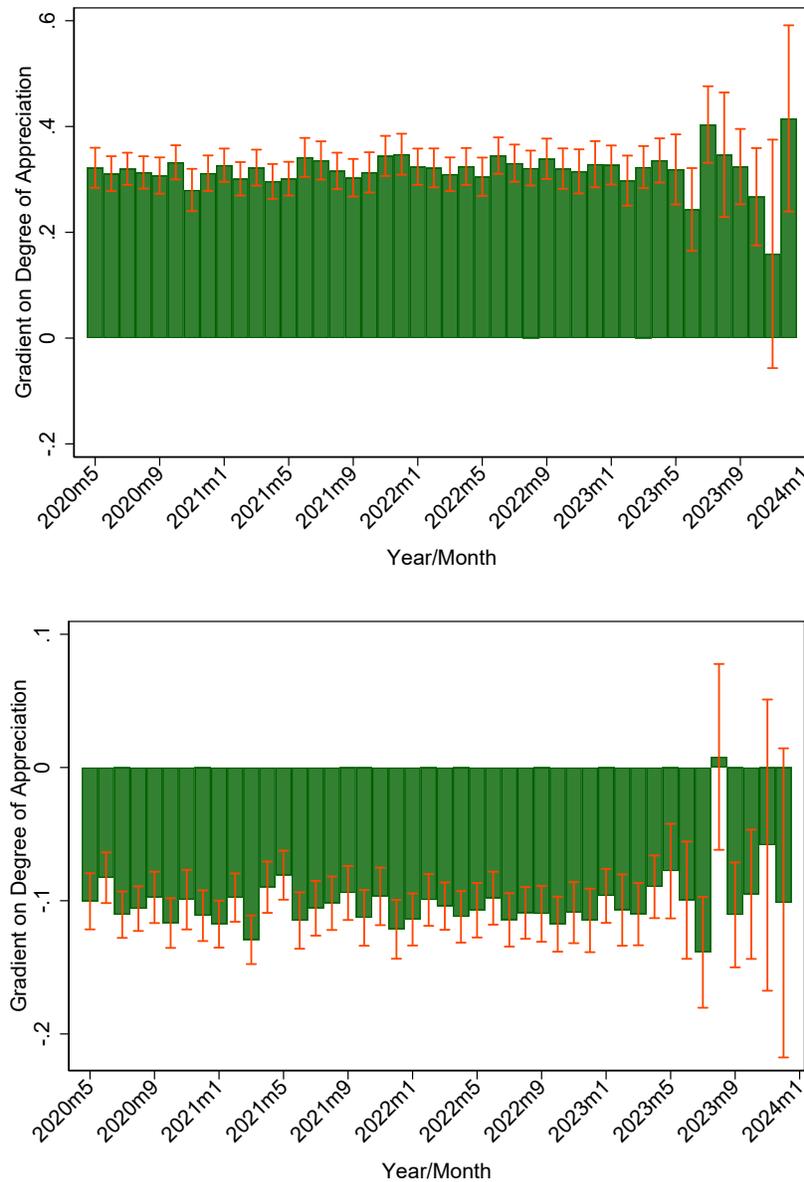
Notes.—Sources: Payscale (May 2020–Dec 2023). The figures report the coefficients associated with regressions of standardized job satisfaction on an indicator for always working remotely (Always Remote) and mostly/sometimes working remotely (Hybrid) under various specifications by month. All regressions control for logged total cash compensation (including bonuses, tips, and commission), worker demographics: age, male, race (White, Black, Hispanic, Missing), education (associates, bachelors, Ph.D., high school, masters), and years of work experience. Workplace characteristics include standardized indices of pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, feeling appreciated at work, and managerial relationships. Standard errors are heteroskedasticity-robust.

Figure 8: Association Between Remote Work and Intent-to-Leave Over Time



Notes.—Sources: Payscale (May 2020–Dec 2023). The figures report the coefficients associated with regressions of an indicator for intent to leave their job in the next six months on an indicator for always working remotely (Always Remote) and mostly/sometimes working remotely (Hybrid) under various specifications by month. All regressions control for logged total cash compensation (including bonuses, tips, and commission), worker demographics: age, male, race (White, Black, Hispanic, Missing), education (associates, bachelors, Ph.D., high school, masters), and years of work experience. Workplace characteristics include standardized indices of pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, feeling appreciated at work, and managerial relationships. Standard errors are heteroskedasticity-robust.

Figure 9: Association Between Corporate Culture and Employee Engagement Over Time



Source: Payscale (May 2020–Dec 2023). The figures report the coefficients associated with regressions of standardized job satisfaction and an indicator for intent to leave their job in the next six months on an indicator for always working remotely (Always Remote) and mostly/sometimes working remotely (Hybrid) under various specifications by month. All regressions control for logged total cash compensation (including bonuses, tips, and commission), worker demographics: age, male, race (White, Black, Hispanic, Missing), education (associates, bachelors, Ph.D., high school, masters), and years of work experience. Workplace characteristics include standardized indices of pay transparency, perceived fairness of pay, intra-firm communication, development/training opportunities, feeling appreciated at work, and managerial relationships. The plotted coefficients are for worker responses to the question, “I feel appreciated at work,” as empirically it is the most consequential workplace characteristic in the analyses. Standard errors are heteroskedasticity-robust.

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