Online Appendix for

Racial Inequality and Bureaucracy in U.S. Manufacturing

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A Sampling Decisions

In Table A.1, we run our main analytic models again using different sample inclusion rules. First, in Models 1 and 2, we include only survey year, rather than 6 year window, worker-year earnings records. We find very similar patterns as in our main results.

[Table A.1 about here.]

In Models 3 and 4, we repeat the "survey year only" analysis, focusing instead on non-recall data, again finding similar patterns to our main results. As an alternative approximation of how reasonable it is to use recall data, we gather records from the 6,900 workplaces that were surveyed in both 2010 and 2015, finding that unionization over this five-year period is correlated at 0.88 and SMP at 0.57. These strong correlations exist even though our repeat "workplaces" can be two different physical manufacturing locations in the same employer and MSA. Our results therefore do not appear dependent on these sample inclusion decisions.

Next, we ask how sensitive our results are to our approach of linking MOPS survey responses to the LEHD earnings records at the employer-MSA-year level. This approach means that some workers are at physical locations that are classified as non-manufacturing in the LEHD (coded following the Bureau of Labor Statistics Quarterly Census of Employment and Wage records), so long as those locations exist in the same employer by MSA as the surveyed workplace at the same

time. Using aggregate LEHD data (the LEHD Job History File), we find that 79% of workers fall into manufacturing according to the LEHD, with 5% classified as in wholesale, 5% in retail, 3% in management, 2% in scientific, 2% in warehousing, 1% in information, and 3% in other industrial divisions. One caveat here is that there may be different industrial classifications across the two datasets, even when there is only one workplace per firm-MSA, because of lags in updating data or other classification issues through which Census workers create the Annual Survey of Manufacturers, to which the MOPS is attached, sampling frame. Table A.2, presenting our findings after running our main regressions on those workers listed by the LEHD as in manufacturing versus other sectors, again confirms our main results. We find that the disproportionate selection of higher ability Black workers is greater for the manufacturing workers versus those not in manufacturing, though this may be due to measurement error, as unionization may vary less among workplaces in the same employer-MSA than does SMP.

[Table A.2 about here.]

B Measuring Bureaucracy

We next run a series of models to probe the robustness of our findings in relation to our bureaucracy measures. We first address the concern that our binary measures of bureaucratic types inject enough noise into our estimates by mixing the strongest and more weakly bureaucratic workplaces into the same comparison category, as to attenuate otherwise observable pay effects. We specifically rerun our models with both the raw continuous measures from the MOPS survey and with more strongly defined categories, defined as, for performance-oriented, being above the 75th percentile among surveyed workplaces in the MOPS SMP score and, for protective bureaucracy, as having a minimum of 40% of workplace employees belonging to a union, i.e., the lower threshold of the middle response on the MOPS. Table A.3 presents estimates with and without our AKM ability measure.

Models 1, 2, 3, and 4 show that our main findings are robust to these alternative measurement approaches. Interestingly, while the pre-worker-fixed-effect protective bureaucracy Black-specific advantage in Model 1 grows substantially compared with the main results, this coefficient moves to a similar level as in our main results in Model 2 when we include our AKM worker ability control. The performance-oriented bureaucracy interactions follow our main results here.

[Table A.3 about here.]

Do workplace managers know whether there is a union at their workplace? Random noise in this measure would also attenuate our estimates of Black-specific ability selection and the evidenced earnings premia. To address this question, we draw on the Bureau of Labor Statistics Current Population Survey Annual Social and Economic Component, offering individual worker responses from around 75,000 workers per year. Using the same masked social security numbers that identify workers in our main analyses, we link CPS observations to our main sample at the worker-year level, and code each workplace as 1 if any CPS respondents reported a union in that survey year and 0 if no CPS respondents reported a union in that survey year, producing a dataset with 2,100 workplaces. We find that 6% of workplaces that reported a 0.0-0.2 unionization rate have at least one positive union response from workers, 33% of those with a 0.2-0.4 MOPS rate, 36% with a 0.4-0.6 MOPS rate, 52% of those with a 0.6-0.8 rate, and 67% of those with a 0.8-1.0 rate. We view this positive correlation as supportive evidence that the managers responding to the MOPS survey generally track worker perceptions.

C Weighting

In the main results, we weight by the inverse number of worker-years per survey response. We do this to study workplace inequality as our unit of analysis. However, this weighting approach down-weights large workplaces, which could be the types of bureaucratic workplaces that offer

a substantial post-AKM Black-specific pay advantage. Table A.4 shows that our main findings are robust to weighting by the inverse number of worker-year rows at the firm, worker-firm, or worker-year (i.e., no weights added) level. The only noticeable change relative to the main models is that the union by race interaction, after controlling for worker fixed effects, loses statistical significance in the firm-weighted approach, suggesting that this relationship may be driven by the largest unionized firms that tend to have multiple workplaces answering the MOPS survey. Our positive selection results are consistent across weighting schemes.

[Table A.4 about here.]

D Descriptive Statistics

These tables present results from replicating the main descriptive statistics by the race and SMP, and race and union, interacted categories respectively. We discuss these tables in subsection 5.1, focusing on earnings. Shifting focus to employers, Black workers in this context are overrepresented at older and larger firms, with higher revenue and profitability per worker. These features provide only very small pay benefits, as measured by workplace pay per employee. We do, however, find that Black workers are attached to firms with higher AKM fixed effects — employers that appear to pay more to similar workers — at least in U.S. manufacturing. This pattern runs against prior findings from Brazil, where White workers attach to higher-paying firms on average (Gerard et al., 2021). Workplaces with both forms of bureaucracy tend to be bigger, with higher revenue and profitability, highlighting the importance of adjusting for financial conditions.

[Table A.5 about here.]

[Table A.6 about here.]

[Table A.7 about here.]

E Simulation of the Black-White Earnings Inequality

How would racial earnings inequality in U.S. manufacturing change if White and Black workers sorted into workplaces equally regardless of bureaucratic type? Our study shows that (a) both protective and performance-oriented bureaucracy are associated with higher proportions of Black, relative to White, workers; (b) protective and performance-oriented bureaucracy offers pay boosts to all workers ("SMP" and "Union" terms of Table 3); and (c) Black workers appear to gain a large premium from both bureaucracy types (the key interactions in Table 3), although this is mostly explained by disproportionate selection on ability to earn more elsewhere. With the simple simulation here, we seek to highlight that the combination of (a) and (b) together reduce the Black-White earnings gap somewhat, despite the selection finding in (c). We do this by swapping workers across workplaces to achieve equal proportions of Black workers at all four workplace-types defined by our two binary bureaucracy measures, adjusting the pay of each swapped worker using the pay coefficients from Table 3, and then calculating the change in the Black-White earnings gap.

The disproportionate sorting of Black workers to protective and performance-oriented bureaucracies reduces the aggregate Black-White earnings gap by 1-2%. As a baseline, we find a 0.237 observed racial earnings gap in our sample (before reassigning workers), weighting at the worker level to reflect our interest in societal inequality. Using the Model 3 estimates from Table 3, equal sorting in performance-oriented bureaucracy would increase this gap to 0.252, while equal sorting in protective bureaucracy would increase this gap to 0.250. Together, this suggests, equal sorting would increase the Black-White earnings gap by 5-10%. However, this fails to account for the critical fact that bureaucracies are disproportionately attracting Black workers with a higher ability to earn elsewhere. Using the ability-proxy-controlled estimates from Model 5 of Table 3, equal sorting across all four cells of the two binary measures would increase this gap to 0.240. This attenuation is still meaningful, but it is substantially lower than estimates that cannot consider selection on

ability to earn.

F Adjusting for Worker Human Capital

As described in subsection 3.3, our analytic strategy rests on a measure of time-invariant earnings potential created by fitting an AKM two-way fixed effects model for more than 100,000,000 workers and 5,000,000 employers across 24 U.S. states from 1996 through 2022. A potential concern, in relation to our findings, would be that this measure produces disproportionately high estimates of Black compared with White worker human capital ability at bureaucratic workplaces, which would overstate the proportion of the pre-ability-controlled wage premium that can be explained by selection, i.e., the degree of decline of the interaction term coefficients when moving from Model 5 to Model 6 of Table 3. We here present three ways to probe the robustness of our results to this concern.

First, we gauge the robustness of our findings to the concern that bureaucratic firms may disproportionately increase the human capital ability of Black compared with White workers, potentially through less discrimination in assigning training, and thus that Black workers' time-invariant ability measure is overestimated at bureaucratic workplaces. We do this by substituting our human capital ability measure with each worker's earnings at their prior employer, a proxy for ability that cannot be contaminated by bureaucracy-based growth in future earnings. This is still an advantage of the LEHD over prior survey data. We thus keep only worker-employer units that begin during our study period and that have a "credible," i.e., continuous and above half-time minimum wage, prior earnings measure. Models 1-4 and 7 of Table A.8 reproduce our main findings on this sample with similar results. Adding prior earnings in Model 5 explains 2/3 of the Black-specific SMP premium and 3/5 of the Black-specific union premium. This suggests that Black workers may receive a small additional wage boost, compared with White workers, when moving to bureaucratic workplaces.

Our AKM-based measure, however, improves on the prior earnings measure because it takes into account the propensity of past and future employers to pay more or less on average, whereas prior earnings may lead to disproportionately low estimates of Black worker ability in so far as Black workers are more likely, when entering bureaucratic workplaces, to transition from lower-paying employers, thus overestimating the pay premium they receive from that move. It also can be measured for all workers rather than a subsample that start at a certain time, which may differ in compositional terms from the population under study. This evidence therefore supports our main finding that most of the apparent Black-specific earnings premium at bureaucratic workplaces is driven by the selection of disproportionately higher-ability Black workers. Model 6 also confirms a small Black-specific union boost, even when controlling for both our ability measure and for prior earnings. While this does not prove a lack of disproportionate training for Black workers at bureaucratized workplaces, it provides evidence that this phenomenon is not influential enough here to invalidate our main findings.

[Table A.8 about here.]

Second, we probe robustness to the concern that our findings depend on workers who appear at only one employer during the AKM window, which could overestimate the human capital ability of Black workers who remain at bureaucratic workplaces because they are aware of the Black-specific pay boost these workplaces provide, or because those pay boosts are correlated with other forms of diversity-supporting management practices. In this case, the AKM-based measure could overestimate what these staying workers would have earned at otherwise similar but non-bureaucratic employers. To test this, we restrict, in Table A.9, our analyses to the roughly 2/3 of worker-year rows corresponding to workers that appeared at more than 1 firm during our AKM window. The results confirm our main findings, reflected in similar patterns for the interaction terms in Panel A as in the main results. Run on the complementary third of the main sample, Table A.10 suggests

that the selection of the Black workers who only ever appear at SMP and union firms is disproportionately high, but is fully controlled by our ability measure (which, as usual, takes into account the tendency of the employers to pay high as well as the worker's earnings over the study period). This is consistent with the interpretation that bureaucratic workplaces attract disproportionately higher-ability Black workers.

[Table A.9 about here.]

[Table A.10 about here.]

Third, in Table A.11 we proxy worker ability using workers who transition between multiple surveyed workplaces during our study period: we include a person fixed effect as an alternative to our AKM-based human capital ability measure, keeping only workers who appeared at more than one surveyed firm in the appropriate time window. In this way, we can track levels of our bureaucracy measures both at the workplaces that workers are entering and leaving as they move, tightening our comparisons and probing our results without relying on the economy-wide-AKM technique and its residualization of firm-specific pay effects. The main parameters of interest in this analysis are therefore estimated off the transitions of Black compared with White workers from non-bureaucratic to bureaucratic workplaces and vice versa. This means the time-invariant human capital factors, including the overall coefficient for Black race identification, are collinear with the person fixed effects. We find a zero or slightly negative Black-specific-premium for SMP and an estimate of the Black-specific union boost twice as high as in our main models (3.5%). This is consistent with the idea that unions provide a Black-specific pay boost, either because of reduced discrimination in apportioning rewards or because Black workers are judged disproportionately harshly by future employers when they leave unionized firms. This analysis supports the main finding that SMP workplaces do not pay Black workers especially well compared to non-SMP workplaces after considering selection.

[Table A.11 about here.]

G Other Model Specification Tests

Are our results sensitive to specific choices about how to model the relationship between bureaucracy and pay by race?

First, we focus on comparing Black and White workers. But, the exclusion of Hispanic and Asian workers could bias results. Table A.12 shows results including all workers, with the additional workers designated into the categories of Hispanic ethnicity or Asian and Pacific Islander. These patterns for these workers are remarkably similar to those observed for Black workers. For the non-interaction bureaucratic pre- and post-ability estimates, and five of the six new coefficients, Asian and Hispanic workers follow similar earnings advantages and positive sorting patterns to Black workers.

[Table A.12 about here.]

A different regression approach would be to control away time-invariant firm features that boost Black worker ability and pay and focus on variation of SMP and union bureaucracy across workplaces in the same firm. In Table A.13, we implement this by including a fixed effect for each firm interacted with Black race identification on our main sample, identified on a mixture of changes in bureaucracy status within workplaces over time, and changes in bureaucracy status across different workplaces within firms at the same time. The results of this analysis continue to rule out substantial pay impact for both types of workplace bureaucracy, in either the positive (reducing local discrimination) or negative (expanding workplace-wide discrimination) direction. We continue to find evidence for positive selection of Black worker human capital ability in unionized workplaces, but we do not see this selection on average for SMP workplaces. This could be because much of the within-workplace or -firm variation in SMP lies around the cut-off of the median value

for all workplace in the sample, injecting noise and biasing estimates to 0. To the extent that structural decisions are made at headquarters, SMP may be more of a firm-level than a workplace-level phenomenon, even though we do have measures at the workplace level that vary somewhat within firms.

[Table A.13 about here.]

Table A.14 uses another approach to adjusting for confounders: explicitly controlling for features that could be correlated with both bureaucracy and higher employment of higher-ability Black workers. Confronting limitations of the MOPS survey in this regard, we use a set of four "work conditions" proxy variables: for each workplace, the fraction of workers who are Black, the fraction of BA-educated workers who are Black, the fraction of all workers who are high tenure, and the fraction of Black workers who are high tenure (>=5 years). We view the second as itself a proxy for Black management, which may, for example, increase the likelihood of unionization insofar as it is associated with a Black-specific pay premium. To target the Black-specific pay differences directly, and not just through assortative matching between these proxies and Black workers, we additionally include the interaction of each of these variables with Black race identification. We find qualitatively similar results to the main models.

[Table A.14 about here.]

Finally, bureaucracy may have different impact across different areas of manufacturing, which could result in a single area of manufacturing with a particular legacy of unionization or managerial network driving our main findings. Table A.15 describes Black employment, unionization, and high SMP percent for five areas of manufacturing based on 3-digit North American Industry Classification System codes. According to our earnings records, Black workers are significantly overrepresented in Food & Beverage, and slightly underrepresented in Metal & Machinery, and

Computer & Electric, compared with Textile & Paper and Chemical & Plastics. Food & Beverage is also higher in union and SMP, contrary to the idea that SMP simply correlates with heavier duty or complexity manufacturing, helping to explain the Black over-representation in SMP workplaces. Table A.16 presents the results of running our main models before and after adding our human capital and ability variables, demonstrating that the pattern of our main findings is remarkably reproduced in each of these five areas: our results are not driven by a particular legacy of worker-protective or performance-oriented bureaucracy in a certain area of manufacturing.

[Table A.15 about here.]

[Table A.16 about here.]

H Predicting Educational Qualifications Based on Workplace Bureaucracy

Our results provide an account of disproportionately high selection of specifically college-educated Black workers. Is this paired with an increased proportion of Black BA workers in general, or is the evidence more in line with pickier hiring practices that weed out all except the highest human capital ability Black workers? In Models 1-3 of Table A.17, based on all workers in our sample who answered the American Community Survey at any point from 2005 to 2022, we predict 4-year college attainment with our main model predictors. Black workers employed in bureaucracies are especially likely to hold a BA. This is particularly strong for SMP workplaces and not statistically significant for union workplaces. But, for union workplaces, we can rule out relatively small levels of underrepresentation for college graduate workers. We find no evidence that low-education Black workers select into bureaucratic workplaces.

[Table A.17 about here.]

This education variable is controlled for in our main findings, so we push this analysis one step farther by asking, among those workers with a BA, are Black workers more likely to have a BA in engineering or sciences, according to college major reported by the survey respondents and coded by Census researchers. We here find suggestive evidence that, conditional on having a BA, Black workers are somewhat more likely to have 4-year technical training in the SMP context, whereas they are less likely to have that training in the union context. Assuming that technical training is associated with higher pay on average in this context, we interpret this finding as suggesting that at least some of the SMP selection described in our study relates to hiring Black workers with more technical training. Black workers with technical training may especially value how clear production targets reduce discrimination in acknowledgment of their abilities, both in pay setting and more informally.

I Hiring and Retention Selection Analysis

As discussed in the main text, bureaucratic workplaces are particularly likely to hold stocks of higher-ability Black workers. Table A.18 shows that this is largely driven by differences in hiring, however results are noisy. These findings suggest that it is largely positive selection of hires, rather than negative selection of exiters, that drives high human capital Black worker overrepresentation at bureaucratic firms.

[Table A.18 about here.]

Another test for involuntary termination is to study earnings changes for workers who exit bureaucratic firms. If low human capital Black workers are involuntarily terminated at a higher rate than White workers, we would expect that earnings would decline more for Black exiters than White exiters. Table A.19 presents our main models run on workers who we observe moving to new employers, predicting annual pay at the next job, i.e., after leaving the surveyed workplace

for another employer. Workers in general receive pay boosts as they move from SMP and union workplaces, but we can rule out large differences between Black and White exiters.

[Table A.19 about here.]

This noise in our Black-specific entry/exit estimates may reflect heterogeneity of transitions to a new employer versus career starts/retirements. This could emerge, for example, if the Black-specific ability selection mechanism of bureaucracy lies in reducing the disproportionate penalty for Black workers of a limited work history (Cavounidis et al., 2024), whereas there is no gap in hires from other firms because there is more of a paper trail for hiring managers to limit statistical discrimination. To explore this, we consider, as a proxy, whether each entering or exiting worker attaches to another job prior to their entry or after their exit, respectively, thereby further splitting the Entering and Exiting samples from Table A.18. To study prior or future attachment, we use the same definition of attachment as when creating our main sample. For entering, "no prior attachment" corresponds to coming from school, mixing in some workers entering from informal labor, other states, or extended leave, whereas for exiting, "no prior attachment" corresponds to retirement, mixing in some workers going on leave or moving to very low-paying jobs: attachment is a more well-defined group for both entering and exiting than is non-attachment. Of the 3,444,000 starts, 1,351,000 do not have credible prior earnings by this definition and 2,093,000 do, or 60%. Of the 3,220,000 exits, 1,657,000 do not have credible prior earnings by this definition and 1,563,000 do, or 49%.

We find suggestive evidence in Table A.20 that bureaucratic workplaces attract comparatively higher ability Black workers mainly *from other employers*, comparing among similar workplaces. We also find evidence for positive retention, i.e., the Black-by-bureaucracy coefficients are larger for entering than exiting, especially at SMP firms (and, interestingly, union workplaces appear to be losing talent in general during this period, both through retirements and to other employers). SMP

workplaces especially do not appear to be losing disproportionately higher ability Black workers to other employers, even though they are selecting them in. Indeed, the admittedly noisy results here suggest that Black workers leaving bureaucratic firms to other employers are not substantially different in ability to the Black workers leaving non-bureaucratic workplaces through either the job-to-job or retirement channel.

[Table A.20 about here.]

J Interacting Target Formalization, Incentive Intensity, and Unionization

Acknowledging that worker-protective and performance-oriented bureaucracy often overlap (see subsection 3.1 for a descriptive analysis of the correlations we observe), Table A.21 presents results focusing on the *interaction* of these bureaucratic types, including after separating SMP into its target formalization and incentive intensity facets. In Models 1 and 2, although we find no baseline interaction of worker-protective and performance-oriented bureaucracy for workers in general, we observe positive and significant association with Black pay that moves to 0 after controlling for ability: workplaces with both of these bureaucratic types hold 1/3 of the total disproportionate Black human capital. Models 3 and 4 confirm our expectation, based on the strong target formalization findings above, that this selection is driven by the interaction of target formalization and unionization. We discuss interpretations of this finding in light of the other evidence from our study and prevalent perspectives in the literature, in section 7. This model also suggests that, for workers in general, the pay boost of individual incentive intensity is reduced in a unionized context.

[Table A.21 about here.]

Table A.1: Different Sample Inclusion Rules

Outcome	Logged Individual Annual Earnings			
Analysis	Survey Years Only		Non-Recall Only	
Model	(1)	(2)	(3)	(4)
Black	-0.391***	-0.021***	-0.387***	-0.022***
	(0.008)	(0.004)	(0.006)	(0.003)
SMP	0.017*	0.025***	0.026***	0.028***
	(0.007)	(0.004)	(0.006)	(0.003)
Union	0.029***	0.026***	0.029***	0.024***
	(0.008)	(0.005)	(0.008)	(0.004)
Black × SMP	0.052***	0.005	0.059***	0.006
	(0.009)	(0.005)	(0.007)	(0.003)
Black × Union	0.061***	0.018***	0.063***	0.016***
	(0.011)	(0.005)	(0.009)	(0.004)
N×M×Y F.E.	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y
Human Capital+		Y		Y
R^2	0.45	0.87	0.47	0.87

Significance p-values: *** = .001; ** = 0.01; * = 0.05. To avoid issues in the Census disclosure process due to splitting samples too many ways with the same regression models, we set the weights to the observed minimum for non-survey-year data (columns 1 and 2) and recall data (columns 3 and 4). This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.2: Workers Assigned to Manufacturing in the LEHD Data

Outcome	Logged Individual Annual Earnings			
Subsample	Manufacturing		Non-Manufacturing	
Model	(1)	(2)	(3)	(4)
Black	-0.373***	-0.02***	-0.381***	-0.011*
	(0.006)	(0.003)	(0.011)	(0.005)
SMP	0.016**	0.024***	0.037*	0.02**
	(0.005)	(0.003)	(0.014)	(0.007)
Union	0.024***	0.025***	0.014	0.022**
	(0.007)	(0.004)	(0.018)	(0.009)
Black × SMP	0.054***	0.004	0.019	-0.006
	(0.007)	(0.003)	(0.013)	(0.006)
Black × Union	0.064***	0.014***	0.075***	0.016**
	(0.010)	(0.004)	(0.014)	(0.006)
N×M×Y F.E.	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y
Human Capital+		Y		Y
R^2	0.45	0.87	0.61	0.91

Significance p-values: *** = .001; ** = 0.01; * = 0.05. The sample for which the LEHD Job History File industry imputation falls into manufacturing comprises 22,440,000 worker-years (76%), and the sample for which the industry imputation does not fall into manufacturing comprises 7,025,000 worker-years (24%). This proportion would be higher if we were able to assign workers directly to workplaces in the LEHD, instead of merging at the firm-MSA-year level, which leads to workers at, e.g., retail locations in firms that engage in manufacturing, to be included in our main sample. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.3: Recoding Bureaucracy Measures

Outcome	Logged Individual Annual Earnings			
Analysis	Continuous Measures		Strong Measures	
Model	(1)	(2)	(3)	(4)
Black	-0.391***	-0.021***	-0.387***	-0.022***
	(0.006)	(0.002)	(0.006)	(0.002)
SMP	0.041**	0.058***	0.029***	0.024***
	(0.014)	(0.008)	(0.006)	(0.003)
Union	0.036**	0.036***	0.019*	0.020***
	(0.012)	(0.006)	(0.009)	(0.005)
Black × SMP	0.052***	0.005	0.052***	0.008**
	(0.006)	(0.003)	(0.006)	(0.003)
Black × Union	0.098***	0.017**	0.077***	0.013**
	(0.014)	(0.005)	(0.011)	(0.004)
N×M×Y F.E.	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y
Human Capital+		Y		Y
R^2	0.46	0.87	0.46	0.87

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This table replaces the standard Union and SMP variables from our main model with non-binarized and more stringent codings. This table uses the same variables, specifications, and data sources as Table 3, and Human Capital+ includes the Human Capital and "AKM Worker F.E." terms.

Table A.4: Alternative Weighting Approaches

Outcome	Logged Individual Annual Earnings					
Weighting	Employer-Level		Job-Level		None	
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.397***	-0.023***	-0.341***	-0.028***	-0.327***	-0.001
	(0.006)	(0.003)	(0.006)	(0.003)	(0.008)	(0.002)
SMP	0.022***	0.025***	0.028***	0.024***	0.027***	0.024***
	(0.006)	(0.004)	(0.006)	(0.003)	(0.008)	(0.005)
Union	0.045***	0.033***	0.048***	0.028***	0.039*	0.023*
	(0.009)	(0.005)	(0.009)	(0.005)	(0.017)	(0.011)
Black x SMP	0.034***	0.003	0.020**	0.004	0.037***	-0.002
	(0.008)	(0.004)	(0.007)	(0.004)	(0.009)	(0.003)
Black x Union	0.038**	0.006	0.042***	0.013*	0.069***	0.013***
	(0.013)	(0.005)	(0.010)	(0.006)	(0.012)	(0.003)
N×M×Y F.E.	Y	Y	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y	Y	Y
Human Capital+		Y		Y		Y
R^2	0.34	0.84	0.61	0.88	0.39	0.86

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This table replicates the main results using different regression weights as discussed in the appendix text. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.5: Main Sample Descriptive Statistics

	Overall	White	Black
Earnings (logged)	10.93	10.95	10.65
SMP	0.543	0.542	0.596
Union	0.207	0.207	0.233
Less than High School	0.090	0.084	0.161
High School	0.344	0.340	0.380
Some College or Associates	0.332	0.333	0.330
4-year College	0.234	0.244	0.129
Male	0.762	0.762	0.771
Age	45.7	45.9	44.1
AKM Worker Fixed Effect	10.3	10.3	9.95
Rate Entering (first year)	0.113	0.109	0.144
Rate Exiting (last year)	0.087	0.086	0.107
Job Tenure (years)	5.74	5.81	4.75
AKM Firm Fixed Effect	0.416	0.415	0.435
Firm Pay per Employee (logged)	4.02	4.02	4.03
Workplace Pay/Worker (logged)	3.91	3.91	3.93
Firm Employment (logged)	6.38	6.36	6.71
Firm Average Payroll (logged)	10.4	10.3	10.7
Firm Older than 20 Years	0.596	0.595	0.622
Firm Younger than 10 Years	0.212	0.212	0.195
Workplace Employment	184	184	223
Workplace Payroll	11090	11050	13498
Workplace Revenue (logged)	10.1	10.1	10.4
Workplace Revenue/Worker	5.73	5.73	5.78
Workplace Profitability	0.060	0.059	0.068
Workplace Profits Per Worker	72.0	71.6	76.8
Main Regression Weight	0.085	0.084	0.199

This table presents descriptive statistics on our main sample of 29,470,000 annual earnings records for 5,275,000 workers at 15,500 firms, representing 30,000 firm-MSA workplaces. We here present both overall descriptive statistics and statistics split by White versus Black workers. To better reflect workplace groups, we reweight mean estimates by the inverse number of worker earnings rows of the firm-MSA-(survey year) for the overall statistics and by the inverse number of worker earnings rows of the firm-MSA-(survey year)-race groups for the White/Black estimates. We produced this table using the U.S. Census Managerial and Organizational Practices Survey, Annual Survey of Manufacturers, Longitudinal Business Database, and Longitudinal Employer-Household Dynamics data.

Table A.6: Descriptive Statistics on the Black by Performance-Oriented Bureaucracy Interaction

	Non-Black Non-SMP	Black Non-SMP	Non-Black SMP	Black SMP
Earnings (logged)	10.87	10.55	11.03	10.72
Black	0	1	0	1
SMP	0	0	1	1
Union	0.177	0.209	0.230	0.249
Less than High School	0.090	0.176	0.079	0.151
High School	0.351	0.394	0.330	0.371
Some College or Associates	0.334	0.318	0.332	0.338
4-year College	0.226	0.113	0.259	0.140
Male	0.764	0.786	0.761	0.761
Age	46.1	44.3	45.7	44.0
AKM Worker Fixed Effect	10.3	9.94	10.3	9.96
Rate Entering (first year)	0.104	0.147	0.114	0.142
Rate Exiting (last year)	0.083	0.113	0.089	0.103
Job Tenure (years)	5.96	4.67	5.68	4.80
AKM Firm Fixed Effect	0.352	0.373	0.468	0.477
Firm Pay per Employee (logged)	3.93	3.94	4.08	4.09
Workplace Pay/Worker (logged)	3.85	3.86	3.97	3.97
Firm Employment (logged)	5.29	5.67	7.27	7.41
Firm Average Payroll (logged)	9.17	9.58	11.33	11.48
Firm Older than 20 Years	0.535	0.569	0.646	0.658
Firm Younger than 10 Years	0.245	0.225	0.184	0.175
Workplace Employment	99	127	255	288
Workplace Payroll	5297	6830	15907	18020
Workplace Revenue (logged)	9.38	9.77	10.69	10.89
Workplace Revenue/Worker	5.49	5.54	5.93	5.95
Workplace Profitability	0.035	0.044	0.079	0.084
Workplace Profits Per Worker	46.5	49.2	92.7	95.5
Main Regression Weight	0.070	0.233	0.095	0.175

We here split our main statistics based on race as well as our measure of performance-oriented bureaucracy. This table uses the same variables and data sources as Table A.5.

Table A.7: Descriptive Statistics on the Black by Worker-Protective Bureaucracy Interaction

	Non-Black Non-Union	Black Non-Union	Non-Black Union	Black Union
Earnings (logged)	10.92	10.60	11.07	10.81
Black	0	1	0	1
SMP	0.525	0.583	0.608	0.637
Union	0	0	1	1
Less than High School	0.087	0.166	0.073	0.144
High School	0.339	0.382	0.341	0.375
Some College or Associates	0.334	0.328	0.329	0.336
4-year College	0.241	0.124	0.257	0.145
Male	0.756	0.771	0.787	0.771
Age	45.6	43.7	47.1	45.6
AKM Worker Fixed Effect	10.3	9.9	10.4	10.1
Rate Entering (first year)	0.112	0.151	0.100	0.120
Rate Exiting (last year)	0.087	0.112	0.083	0.092
Job Tenure (years)	5.72	4.51	6.17	5.53
AKM Firm Fixed Effect	0.393	0.414	0.500	0.506
Firm Pay per Employee (logged)	3.99	4.00	4.13	4.12
Workplace Pay/Worker (logged)	3.88	3.90	4.03	4.03
Firm Employment (logged)	6.06	6.43	7.53	7.63
Firm Average Payroll (logged)	10.0	10.4	11.6	11.7
Firm Older than 20 Years	0.569	0.600	0.696	0.697
Firm Younger than 10 Years	0.228	0.208	0.153	0.154
Workplace Employment	153	187	303	341
Workplace Payroll	874	10711	19883	22663
Workplace Revenue (logged)	9.87	10.24	10.93	11.09
Workplace Revenue/Worker	5.65	5.70	6.04	6.05
Workplace Profitability	0.055	0.064	0.076	0.082
Workplace Profits Per Worker	65.0	69.6	96.6	100.3
Main Regression Weight	0.083	0.213	0.089	0.152

We here split our main statistics based on race and our measure of worker-protective bureaucracy. This table uses the same variables and data sources as Table A.5.

Table A.8: Controlling for Prior Earnings

Outcome	Logged Individual Annual Earnings						
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black	-0.268***	-0.287***	-0.332***	-0.292***	-0.084***	-0.017***	-0.031***
	(0.008)	(0.011)	(0.007)	(0.006)	(0.004)	(0.003)	(0.004)
SMP	0.100***	0.099***	0.025***	0.025***	0.022***	0.024***	0.026***
	(0.007)	(0.007)	(0.007)	(0.006)	(0.004)	(0.003)	(0.004)
Union	0.138***	0.134***	0.029**	0.019*	0.008	0.018***	0.025***
	(0.010)	(0.010)	(0.009)	(0.008)	(0.004)	(0.004)	(0.005)
Black × SMP		0.018	0.024**	0.030***	0.010*	0.002	0.003
		(0.014)	(0.008)	(0.007)	(0.004)	(0.004)	(0.004)
Black × Union		0.043*	0.059***	0.060***	0.026***	0.016***	0.018***
		(0.020)	(0.010)	(0.009)	(0.005)	(0.004)	(0.005)
Year F.E.	Y	Y					
N×M×Y F.E.			Y	Y	Y	Y	Y
Productivity+			Y	Y	Y	Y	Y
Human Capital				Y	Y	Y	Y
Prior Earnings					Y	Y	
AKM Worker F.E.						Y	Y
R^2	0.04	0.04	0.49	0.58	0.81	0.87	0.85

Significance p-values: *** = .001; **= 0.01; * = 0.05. For space, we do not here include the first model in the series, i.e., with only the Black race indicator and year fixed effects (the estimate for the coefficient on Black in that model is -0.255 and is significant at the .01 level, with an R^2 of 0.019). We keep the first full earnings year for workers with a credibly observed prior job, i.e., for which we observed at least one employer-year earnings record that fulfilled our sample criteria of above-20-hours-per-week-minimum-wage-equivalent for 4 subsequent quarters. This leads to 2,093,000 worker-employer-year observations, one per worker-employer. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.9: Focusing on Workers Observed at a Non-Surveyed Firm During the AKM Window

Outcome	Logged Individual Annual Earnings					
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.267***	-0.282***	-0.305***	-0.354***	-0.302***	-0.021***
	(0.007)	(0.006)	(0.008)	(0.005)	(0.005)	(0.003)
SMP		0.128***	0.126***	0.026***	0.03***	0.024***
		(0.006)	(0.006)	(0.005)	(0.005)	(0.003)
Union		0.147***	0.144***	0.038***	0.014*	0.03***
		(0.009)	(0.009)	(0.007)	(0.007)	(0.004)
Black × SMP			0.028**	0.029***	0.035***	0.002
			(0.010)	(0.006)	(0.006)	(0.003)
Black × Union			0.026	0.058***	0.052***	0.015***
			(0.015)	(0.009)	(0.008)	(0.004)
Year F.E.	Y	Y	Y			
N×M×Y F.E.				Y	Y	Y
Productivity+				Y	Y	Y
Human Capital					Y	Y
AKM Worker F.E.						Y
R^2	0.02	0.04	0.04	0.45	0.56	0.85

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This split of the main sample comprises 19,760,000 worker-year observations (67%). This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.10: Focusing on Workers Never Observed at a Non-Surveyed Firm During the AKM Window (Complement to Table A.9)

Outcome	Logged Individual Annual Earnings					
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.315***	-0.337***	-0.389***	-0.448***	-0.363***	-0.008
	(0.016)	(0.016)	(0.021)	(0.012)	(0.011)	(0.004)
SMP		0.196***	0.193***	0.016	0.022**	0.019***
		(0.011)	(0.011)	(0.009)	(0.008)	(0.004)
Union		0.087***	0.083***	0.003	-0.022*	0.025***
		(0.013)	(0.013)	(0.011)	(0.010)	(0.005)
Black × SMP			0.054*	0.108***	0.099***	0.002
			(0.025)	(0.013)	(0.012)	(0.005)
Black × Union			0.056	0.079***	0.087***	-0.004
			(0.030)	(0.016)	(0.015)	(0.005)
Year F.E.	Y	Y	Y			
N×M×Y F.E.				Y	Y	Y
Productivity+				Y	Y	Y
Human Capital					Y	Y
AKM Worker F.E.						Y
R^2	0.02	0.04	0.04	0.55	0.64	0.93

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This split of the main sample comprises 9,711,000 worker-year observations (33%). This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.11: Incorporating a Worker Fixed Effect

Outcome	Logged Individual Annual Earnings
SMP	0.018***
	(0.003)
Union	0.018***
	(0.004)
Black × SMP	-0.007*
	(0.003)
Black × Union	0.035***
	(0.004)
N×M×Y F.E.	Y
Productivity+	Y
Tenure	Y
Worker Fixed Effect	Y
R^2	0.95

Significance p-values: *** = .001; ** = 0.01; * = 0.05. Please note that 'Worker Fixed Effect' here is simply a fixed effect for each worker, not the human capital ability measure created through an AKM model, as in our other models. This sample, limited to worker for whom we have observations at a minimum of two surveyed workplaces in the acceptable window around the survey year, comprises 3,063,000 worker-year observations. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.12: Adding Hispanic and Asian Workers

Outcome	Logged Individual Annual Earnings	
Analysis	+Hispanic/Asian	
Model	(5)	(6)
Black	-0.355***	-0.014***
	(0.005)	(0.002)
SMP	0.018***	0.022***
	(0.005)	(0.003)
Union	0.028***	0.026***
	(0.007)	(0.004)
Black × SMP	0.035***	0.000
	(0.006)	(0.003)
Black × Union	0.072***	0.014***
	(0.008)	(0.004)
Hispanic	-0.362***	-0.038***
	(0.005)	(0.002)
Asian	-0.222***	-0.029***
	(0.009)	(0.004)
Hispanic × SMP	0.035***	0.004
	(0.006)	(0.003)
Hispanic × Union	0.015	0.000
	(0.009)	(0.004)
Asian × SMP	0.032**	0.001
	(0.011)	(0.010)
Asian × Union	0.089***	0.019**
	(0.014)	(0.006)
N×M×Y F.E.	Y	Y
Productivity+	Y	Y
Human Capital+		Y
R^2	0.48	0.87

Significance p-values: *** = .001; ** = 0.01; * = 0.05. Sample includes workers classified as Hispanic and Asian according to the Census LEHD Individual Characteristics File, comprises 35,280,000 workers (120% of the main sample). This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.13: Controlling for Firm-Level Pay Premia for Black Workers

Outcome	Logged Individual Annual Earnings				
Model	(1)	(2)	(3)	(4)	(5)
SMP	0.019**	0.019**	0.021*	0.018	0.008
	(0.006)	(0.007)	(0.010)	(0.010)	(0.005)
Union	0.022*	0.021*	-0.014	-0.022	-0.013*
	(0.010)	(0.010)	(0.016)	(0.015)	(0.006)
Black × SMP		0.001	0.006	0.007	0.004
		(0.012)	(0.009)	(0.008)	(0.004)
Black × Union		0.022	0.029*	0.026**	0.007
		(0.016)	(0.011)	(0.010)	(0.005)
Employer×Black	Y	Y	Y	Y	Y
N×M×Y F.E.			Y	Y	Y
Productivity+			Y	Y	Y
Human Capital				Y	Y
AKM Worker F.E.					Y
R^2	0.32	0.32	0.43	0.54	0.87

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This sample, with recall records removed to ensure we are only making comparisons within re-surveyed workplaces, comprises 18,160,000 worker-year. Note the main Black coefficient is absorbed by the fixed effects, so there is no row for this variable and no equivalent to Model 1 in the main results. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.14: Recoding Bureaucracy Measures and Controlling for Workplace Condition Proxies

Outcome	Logged Individual Annual Earnings	
Analysis	Work Conditions	
Model	(1)	(2)
Black	-0.305***	-0.007
	(0.009)	(0.004)
SMP	0.026***	0.023***
	(0.005)	(0.003)
Union	0.033***	0.028***
	(0.007)	(0.004)
Black × SMP	0.030***	0.000
	(0.006)	(0.003)
Black × Union	0.056***	0.014***
	(0.009)	(0.004)
N×M×Y F.E.	Y	Y
Productivity+	Y	Y
Human Capital+		Y
Work Conditions	Y	Y
R^2	0.47	0.87

Significance p-values: *** = .001; ** = 0.01; * = 0.05. These models incorporate a series of proxies for workplace conditions specifically attractive to Black workers and linked to pay, as discussed in the appendix text. This table otherwise uses the same variables, specifications, and data sources as Table 3, and Human Capital+ includes the Human Capital and "AKM Worker F.E." terms.

Table A.15: Black Employment, Unionization, and SMP Across Areas within Manufacturing

	Food/ Beverage	Textile/ Paper	Chemical/ Plastics	Metal/ Machinery	Computer/ Electric
Percent Black	16	10	11	9	8
Percent Union	32	17	25	18	15
Percent SMP	63	46	61	52	64
Workplaces	6,000	12,000	12,000	19,000	4,000
Workers	875,000	968,000	1,143,000	1,929,000	588,000

This table presents descriptive statistics to complement Table A.16. These figures are at the workplace level. This table uses the same variables and data sources as Table 3.

Table A.16: Splitting the Sample by Areas within Manufacturing

Outcome	Logged Individual Annual Earnings					
Area	Food/Beverage		Textile/Paper		Chemicals/Plastics	
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.368***	0.008	-0.410***	-0.031***	-0.366***	-0.021***
	(0.017)	(0.007)	(0.011)	(0.005)	(0.011)	(0.005)
SMP	0.04*	0.036***	0.017	0.022***	0.049***	0.028***
	(0.020)	(0.010)	(0.010)	(0.006)	(0.012)	(0.007)
Union	-0.002	0.016	0.040*	0.034***	0.029	0.019*
	(0.026)	(0.012)	(0.014)	(0.008)	(0.016)	(0.009)
Black × SMP	0.046*	-0.004	0.041**	0.005	0.037**	-0.002
	(0.018)	(0.007)	(0.014)	(0.006)	(0.012)	(0.005)
Black × Union	0.050*	-0.001	0.038	0.016	0.086***	0.017**
	(0.022)	(0.008)	(0.024)	(0.010)	(0.014)	(0.006)
N×M×Y F.E.	Y	Y	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y	Y	Y
Human Capital+		Y		Y		Y
R^2	0.50	0.88	0.42	0.86	0.51	0.88

Area	Metals/Machinery		Computer/Electric	
Model	(7)	(8)	(9)	(10)
Black	-0.381***	-0.018***	-0.399***	-0.017*
	(0.009)	(0.004)	(0.012)	(0.007)
SMP	0.009	0.019***	0.003	0.008
	(0.007)	(0.004)	(0.022)	(0.010)
Union	0.026*	0.026***	0.02	0.029*
	(0.011)	(0.006)	(0.033)	(0.013)
Black × SMP	0.048***	0.003	0.036	-0.002
	(0.010)	(0.005)	(0.022)	(0.008)
Black × Union	0.062***	0.006	0.051	0.015
	(0.017)	(0.006)	(0.032)	(0.011)
N×M×Y F.E.	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y
Human Capital+		Y		Y
R^2	0.39	0.85	0.51	0.90

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.17: Investigating the Association of Bureaucracy and Black Workers' Education

Outcome	4-year College Attainment			Technical BA		
Subsample	All ACS Respondents			All ACS BA Respondents		
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.099***	-0.114***	-0.164***	-0.044	-0.099*	-0.039
	(0.009)	(0.012)	(0.007)	(0.031)	(0.045)	(0.030)
SMP	0.052***	0.051***	0.010*	0.063***	0.059***	0.030**
	(0.005)	(0.005)	(0.004)	(0.011)	(0.011)	(0.009)
Union	0.009	0.008	-0.018**	0.017	0.022	0.018
	(0.006)	(0.007)	(0.006)	(0.014)	(0.014)	(0.013)
Black × SMP		0.015	0.027***		0.130*	0.032
		(0.016)	(0.008)		(0.055)	(0.029)
Black × Union		0.025	0.011		-0.117*	-0.046
		(0.018)	(0.009)		(0.057)	(0.032)
Year F.E.	Y	Y		Y	Y	
N×M×Y F.E.			Y			Y
Productivity+			Y			Y
R^2	0.01	0.01	0.39	0.01	0.01	0.51
Worker-Years		5,923,000			1,697,000	

Significance p-values: *** = .001; ** = 0.01; * = 0.05. For space, we removed the coefficients representing the raw associations of Black race identification for the two sample/outcome pairs: those associations are -0.096 with a 0.009 standard error for the BA attainment prediction (all workers who ever responded to the ACS), and -0.036 with a 0.032 standard error for the technical BA prediction (all workers who ever responded to the ACS and responded that they had obtained a BA). This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.18: Selection Analysis Splitting Sample on Non-moving, Entering, and Exiting Worker-Years

Outcome	Human Capital Ability					
Subsample	Non-moving		Entering		Exiting	
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.368***	-0.426***	-0.353***	-0.339***	-0.363***	-0.346***
	(0.007)	(0.006)	(0.013)	(0.007)	(0.012)	(0.007)
SMP	-0.016***	-0.011*	0.070***	0.002	0.046***	-0.011
	(0.005)	(0.005)	(0.008)	(0.007)	(0.008)	(0.006)
Union	0.022**	-0.001	0.112***	0.026**	0.119***	0.068***
	(0.007)	(0.007)	(0.010)	(0.009)	(0.011)	(0.008)
Black × SMP	0.029***	0.068***	0.007	0.013	0.012	0.003
	(0.009)	(0.007)	(0.017)	(0.009)	(0.016)	(0.008)
Black × Union	0.074***	0.072***	0.026	0.025*	0.001	0.013
	(0.011)	(0.009)	(0.028)	(0.012)	(0.028)	(0.011)
Year F.E.	Y		Y		Y	
N×M×Y F.E.		Y		Y		Y
Productivity+		Y		Y		Y
R^2	0.04	0.32	0.06	0.61	0.05	0.56
Worker-Years	23,460,000		3,220,000		3,444,000	

Significance p-values: *** = .001; ** = 0.01; * = 0.05. The outcome is our AKM-based proxy for time-invariant earnings potential. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.19: Considering Workers' Earnings at their Next Jobs

Outcome	Next Job Logged Individual Annual Earnings					
Model	(1)	(2)	(3)	(4)	(5)	(6)
Black	-0.282***	-0.292***	-0.270***	-0.299***	-0.267***	-0.024***
	(0.015)	(0.015)	(0.018)	(0.009)	(0.009)	(0.006)
SMP		0.120***	0.121***	0.033***	0.032***	0.020***
		(0.010)	(0.011)	(0.007)	(0.007)	(0.004)
Union		0.141***	0.148***	0.064***	0.042***	0.027***
		(0.014)	(0.014)	(0.010)	(0.009)	(0.006)
Black × SMP			-0.014	-0.004	0.001	-0.008
			(0.027)	(0.011)	(0.010)	(0.007)
Black × Union			-0.07	0.017	0.021	0.005
			(0.042)	(0.018)	(0.016)	(0.010)
Year F.E.	Y	Y	Y			
N×M×Y F.E.				Y	Y	Y
Productivity+				Y	Y	Y
Human Capital					Y	Y
AKM Worker F.E.						Y
R^2	0.03	0.04	0.04	0.57	0.62	0.82

Significance p-values: *** = .001; ** = 0.01; * = 0.05. We keep the first full earnings year for workers with a credibly-observed next job, i.e., for which we observed at least one employer-year earnings record that fulfilled our sample criteria of above-20-hours-per-week-minimum-wage-equivalent for 4 subsequent quarters. This leads to 1,563,000 worker-employer-year observations, one per worker-employer. This table otherwise uses the same variables, specifications, and data sources as Table 3.

Table A.20: Deepening the Selection Analysis: Splitting Entering and Exiting Based on Attachment

Outcome	Human Capital Ability			
Entering	No Prior Attachment		Prior Attachment	
Model	(1)	(2)	(3)	(4)
Black	-0.349***	-0.300***	-0.333***	-0.345***
	(0.021)	(0.012)	(0.011)	(0.008)
SMP	0.149***	0.022*	0.001	-0.010
	(0.013)	(0.011)	(0.007)	(0.006)
Union	0.155***	0.041**	0.069***	0.007
	(0.017)	(0.015)	(0.009)	(0.009)
Black × SMP	-0.023	-0.010	0.017	0.030***
	(0.028)	(0.016)	(0.014)	(0.008)
Black × Union	-0.002	0.022	0.049**	0.039***
	(0.045)	(0.023)	(0.016)	(0.010)
Year F.E.	Y		Y	
N×M×Y F.E.		Y		Y
Productivity+		Y		Y
R^2	0.07	0.77	0.06	0.47

Exiting	No Future Attachment		Future Attachment	
Model	(5)	(6)	(7)	(8)
Black	-0.412***	-0.382***	-0.305***	-0.315***
	(0.017)	(0.010)	(0.013)	(0.008)
SMP	0.051***	-0.028**	0.034***	0.007
	(0.012)	(0.009)	(0.008)	(0.006)
Union	0.114***	0.071***	0.108***	0.054***
	(0.015)	(0.009)	(0.011)	(0.009)
Black × SMP	0.03	0.021	-0.009	0.000
	(0.023)	(0.012)	(0.019)	(0.010)
Black × Union	0.027	0.027	-0.022	0.020
	(0.037)	(0.016)	(0.025)	(0.014)
Year F.E.	Y		Y	
N×M×Y F.E.		Y		Y
Productivity+		Y		Y
R^2	0.05	0.65	0.06	0.50

Significance p-values: *** = .001; ** = 0.01; * = 0.05. We here further split the samples described in Table A.18 based on whether the worker did or did not attach to a credible job, i.e., for which we observed at least one employer-year earnings record that fulfilled our sample criteria of above-20-hours-per-week-minimum-wage-equivalent for 4 subsequent quarters, before (prior) or after (future) their spell at a surveyed workplace. This table otherwise uses the same variables, specifications, and data sources as in Table 3.

Table A.21: Investigating the Interaction of Bureaucratic Types

Outcome	Logged Individual Annual Earnings			
Model	(1)	(2)	(3)	(4)
Black	-0.315***	-0.019***	-0.383***	-0.026***
	(0.005)	(0.003)	(0.011)	(0.006)
SMP	0.030***	0.025***		
	(0.005)	(0.003)		
SMP Target Formalization			-0.060***	0.004
			(0.012)	(0.008)
SMP Incentive Intensity			0.100***	0.050***
			(0.011)	(0.007)
Union	0.008	0.032***	0.010	0.034**
	(0.009)	(0.005)	(0.019)	(0.012)
SMP × Union	-0.014	-0.01		
	(0.011)	(0.007)		
SMP Target Formalization × Union			0.006	0.017
			(0.029)	(0.018)
SMP Incentive Intensity × Union			-0.023	-0.035*
			(0.028)	(0.018)
Black × SMP	0.044***	0.001		
	(0.006)	(0.003)		
Black × SMP Target Formalization			0.140***	0.014
			(0.017)	(0.008)
Black × SMP Incentive Intensity			0.008	-0.002
			(0.016)	(0.008)
Black × Union	0.040**	0.008	-0.001	0.008
	(0.013)	(0.006)	(0.035)	(0.015)
Black × SMP × Union	0.035*	0.007		
	(0.015)	(0.007)		
Black × SMP Target Formalization × Union			0.089**	-0.011
			(0.040)	(0.018)
Black × SMP Incentive Intensity × Union			-0.002	0.019
			(0.036)	(0.017)
N×M×Y F.E.	Y	Y	Y	Y
Productivity+	Y	Y	Y	Y
Human Capital	Y	Y	Y	Y
AKM Worker F.E.		Y		Y
R^2	0.57	0.87	0.57	0.87

Significance p-values: *** = .001; ** = 0.01; * = 0.05. This table uses the same variables, specifications, and data sources as Table 3.