

Black Underrepresentation in Management across U.S. Labor Markets

By
PHILIP N. COHEN
and
MATT L. HUFFMAN

Although many researchers have documented higher levels of black-white inequality in areas with a high concentration of blacks, the mechanisms underlying this finding have been elusive. Black underrepresentation in management may be one such mechanism. We ask whether black workers' underrepresentation in managerial jobs is especially pronounced in labor markets with a larger black population. Using a unique, two-level data set that combines a large data set of private sector firms with Census data on local labor markets, the authors' hierarchical logistic models strongly support this hypothesis. Net of establishment and labor market-level controls, the likelihood that an establishment exhibits a significant underrepresentation of blacks in management is substantially increased when it operates in a high-proportion black labor market context.

Keywords: inequality; management; labor markets; underrepresentation

Racial inequality in the labor market has been the subject of a large body of research aimed at identifying how and where such inequality is produced and reproduced. Investigators have probed a diverse set of topics, including the association between residential segregation

Philip N. Cohen is an associate professor of sociology at the University of North Carolina, Chapel Hill, and a fellow at the Carolina Population Center. His research concerns inequality in labor markets and families, including most recently patterns of inequality across U.S. labor markets, the gender division of labor across countries, and the role of disabilities in work and family outcomes for mothers and children.

Matt L. Huffman is an associate professor of sociology at the University of California, Irvine. His current research investigates inequality by gender and race in organizations and labor markets.

NOTE: The authors contributed equally to this article and list their names alphabetically. We thank Bliss Cartwright and Ronald Edwards from the U.S. Equal Employment Opportunity Commission for their assistance with the data and feedback on the entire article. We also thank Barbara Entwisle for her helpful comments and suggestions. Any remaining errors or omissions are entirely our own.

DOI: 10.1177/0002716206296734

and blacks' disadvantage (Massey and Denton 1993), job and occupational segregation (Cotter, Hermesen, and Vanneman 2003; Huffman and Cohen 2004; Reskin and Cassirer 1996; Tomaskovic-Devey 1993), and employer discrimination (see Darity and Mason 1998). Some studies document racial inequality in specific contexts or occupations, or for specific populations (Adler, Koelewijn-Strattner, and Lengermann 1995; Wilson, Sakura-Lemessy, and West 1999; Catanzarite and Aguilera 2002), while others focus on the demographic composition of contextual units—be they jobs or occupations (Huffman and Cohen 2004; Grodsky and Pager 2001; Jacobs and Blair-Loy 1996; Kmec 2003), organizations (Baron and Newman 1990; Tomaskovic-Devey 1993) or labor markets (Beggs 1995; McCall 2001; Cohen 1998; Hirsch and Schumacher 1992).

Net of establishment and labor market-level controls, the likelihood that an establishment exhibits a significant underrepresentation of blacks in management is substantially increased when it operates in a high proportion black labor market context.

Much of this research operates with an implicit or explicit presumption that the mechanisms for producing inequality are to be found in relations and practices within establishments, especially the actions of managers. For example, neighborhood segregation permits employers to practice racial discrimination through geographic exclusion (Wilson 1996), and local racial composition is thought to affect white hostility, which triggers employer (manager) discrimination in hiring and wage setting (Huffman and Cohen 2004). Despite this presumption, however, access to positions of managerial authority is usually analyzed as an *outcome* for those who seek such jobs, rather than as a condition for reproducing inequality for workers in general. Furthermore, little of this research explicitly examines data at the level of the establishment (Tomaskovic-Devey et al. 2006)—a quarter century after Baron and Bielby's (1980) appeal to "bring the firms back in" to studies of inequality. And no existing large-scale studies on racial inequality link actual work establishments to their local labor market contexts.

Our investigation approaches these deficiencies in several ways. First, we focus on access to managerial jobs within work establishments, using data from all large establishments in the United States reporting to the Equal Employment

Opportunity Commission (EEOC) in 2002. Second, we study the labor markets in which establishments operate, which provide an important social context within which practices are carried out—and normalized or contested. If racial labor market inequality indeed results from the actions of managers, then black access to managerial authority may be an important mechanism for producing inequality for all workers.¹ And variation in the pattern of this access across local labor markets can help us understand the dynamics of this process. Thus, we examine whether local labor market features—in particular racial composition—condition the level of access to management for black workers.

Contextual Effects on Inequality

Many studies link population proportion black to black-white inequality in the United States across an array of labor market outcomes (e.g., Beggs 1995; Huffman and Cohen 2004; Cohen 1998, 2001; Semyonov, Hoyt, and Scott 1984; Tienda and Lii 1987). The “competition” or “visibility-discrimination” hypothesis attributes this positive association between racial concentration and inequality to a white response to the threat posed by larger minority group size (Blalock 1967; Burr, Galle, and Fossett 1991; Beggs, Villemez, and Arnold 1997). Additionally, whites have more to gain from discriminating in areas with a higher percentage black (Glenn 1963).

Research on both the behaviors and attitudes of whites supports the visibility-discrimination hypothesis (Burr, Galle, and Fossett 1991). Beyond labor market outcomes, the relationship between black representation and whites’ antiblack behaviors has been shown in, for example, lynching and race riots (Reed 1972; Tolnay and Beck 1995; Olzak, Shanahan, and McEneaney 1996; Tolnay, Deane, and Beck 1996), school segregation (Pettigrew 1957), and voting for segregationist candidates (Heer 1959). These studies complement research showing a positive relationship between percentage black in the local population and whites’ antiblack attitudes (Fossett and Kiecolt 1989; Taylor 1998) and evidence of greater white opposition to government policies that alleviate racial inequality, such as busing (Quillian 1996; Olzak, Shanahan, and West 1994). Because the black composition of most areas in the United States does not change dramatically from decade to decade, these effects may produce long-lasting results through the stable association between race and job composition, the legacy of political structures, corporate culture, and so on.

On the other hand, a queuing or “overflow” mechanism suggests that, where there are more black workers in the labor market, their absolute presence should increase in higher-status positions—or at least those of middling status—as positions at the bottom of the labor market hierarchy (or queue) are filled (Lieberson 1980; Tienda and Lii 1987). In fact, residential and school segregation may actually enhance opportunities for potential black managers, by creating more demand for their work. However, as Semyonov, Hoyt, and Scott (1984) demonstrated, the competition and queuing processes are not mutually exclusive, and

even where a larger number of black workers occupy better jobs, this does not imply increased *odds* of attaining higher-status positions for individual black workers—they may in fact suffer greater discrimination *and* greater absolute presence in higher-status jobs. Put another way, suitable for our purposes here, underrepresentation depends on the relevant pool of available labor. For example, if the managerial workforce is 6 percent black in one city and 20 percent black in another, the latter market might in fact reflect greater underrepresentation if its relevant pool of black workers is larger.

Although research strongly suggests that the white racism associated with black population size produces and sustains labor market inequality, we do not know exactly how this translates into labor market inequality. Unfortunately, most available data sets and research designs are of little help, as they do not permit us to pinpoint the mechanisms at work (Reskin 2003). Nevertheless, there is suggestive evidence. In our earlier work (Huffman and Cohen 2004) we tested whether the positive association between black-white wage inequality and the percentage black in the local population is driven more by job segregation than by a wage penalty associated with black-dominated jobs. We found that segregation is the more likely mechanism. However, that study lacked data on actual work establishments—we constructed “jobs” from local occupation-industry cells. Even narrowing the mechanism down to either job segregation or composition penalties does not solve the question of whose action is responsible, although employers—and the managers who may act on their behalf—are the presumptive suspects. The identity of managers is thus of central importance.

Access to Managerial Authority

Compared to nonmanagers, managers typically enjoy more prestige, job autonomy, authority, and earnings (Reskin and McBrier 2000; Jacobs 1992). Inequality research has therefore treated managerial jobs as scarce resources that are unequally distributed and contested. Most of this research has centered on women’s access to management, often with a focus on organizational demography (Blau 1977; Kanter 1977; Pfeffer 1983), and the positive effect of female representation in lower levels of the hierarchy on the representation of women in management (Blum, Fields, and Goodman 1994; Huffman 1999; Reskin and McBrier 2000).

Research on race/ethnic inequality in management is less common, but such bottom-up pressure has been found with regard to race/ethnicity as well (Elliott and Smith 2001; Shenhav and Haberfeld 1992; Stainback and Tomaskovic-Devey 2006). On the other hand, increasing representation among subordinate groups may heighten majority resistance and the tendency to discriminate (Jacobs 1992; Pfeffer and Davis-Blake 1987). Previous research also suggests management is better integrated in larger establishments, either because of the need for legitimacy associated with greater visibility (Scott 1992; Stainback and Tomaskovic-Devey 2006; Tomaskovic-Devey 1993), or as a result of formalized personnel

decisions (Reskin and McBrier 2000; Szafran 1982). Finally, some industrial niches also are more integrated (Baron, Jennings, and Dobbin 1988).

Recent research has begun to address more systematically the access by women and race/ethnic minority group members to managerial positions, using data now available from the EEOC, and we benefit from this development (Tomaskovic-Devey et al. 2006). However, studies have not yet fully taken advantage of the geographic variation in patterns of underrepresentation apparent in the data. Thus, for example, although Stainback and Tomaskovic-Devey (2006) found minority managerial representation is greater in establishments with more minority workers, they did not control for local population composition, which might drive this association. We address that question in this article. On the other hand, existing research using EEOC data, as well as this article, are limited by the inability to distinguish between levels of managerial authority or rewards to managers. For example, we cannot test whether it is beneficial to have black managers in higher-level management positions, as has been postulated for women (Cohen and Huffman 2006).

Research Agenda

We investigate the long-standing finding of greater inequality in high percentage black labor markets by testing the relationship between black underrepresentation in managerial jobs and local population percentage black. The direct examination of managerial jobs is a significant innovation in this area of research. Although previous research has examined overall job segregation (e.g., Huffman and Cohen 2004), and relative access to broad occupational categories (e.g., Semyonov, Hoyt, and Scott 1984), there is no test of this association that measures black representation in managerial jobs at the level of actual work establishments.

We also benefit from research on methods for measuring discrimination and underrepresentation that have been developed for employment discrimination litigation (Bendick 2000; Gastwirth 1984, 1992). Although we are not engaged in identifying discrimination in a legal sense, or directly analyzing the hiring or promotion practices of establishments, we are able to take advantage of several innovations from that research to refine our questions here. First, rather than simply measuring the proportionate representation of black managers, we pay careful attention to the relevant labor pool to construct measures of underrepresentation. Second, we measure underrepresentation using a statistical test of the difference between establishments' managerial composition and that of the relevant labor pool. We describe each of these innovations in turn.

Labor pools

We explore large establishments' black managerial composition in the private sector workforce relative to four populations or labor pools. First, we compare

managerial representation to the composition of the *entire local workforce*.² This is the broadest measure and represents the endpoint of many processes, including local access to education, work experience, and access to other kinds of jobs. Previous research has shown that the black population composition effect is substantially mediated by such premarket factors (Cohen 1998). This measure is thus the least directly linked to the concept of employer discrimination but rather simply identifies workplaces in which the authority structure is out of balance with the racial composition of the local workforce, which may be an important determinant of managerial decision making.³ Using our measure, 19 percent of establishments—employing 32 percent of black workers—have an underrepresentation of blacks in management relative to this pool.

Second, we compare managerial representation to the composition of *managers in the local workforce*. For managerial positions that require skills that are broadly applicable across industrial settings, such as human resource managers, establishments may hire from a pool of all local workers with managerial experience. Even if they hire instead from a pool of workers just entering management, they presumably compete with local companies hiring similarly qualified managers. In either case a lower proportion black among managers in the establishment might reflect hiring discrimination. We find that 4 percent of establishments with 6 percent of black workers have black underrepresentation based on this availability pool.

Other managerial positions demand more specialized skills or experience, such as engineering managers. For such jobs the relevant pool of available workers is narrower than the entire population of local managers. Thus, our third measure compares managerial representation to the composition of *managers in the same industry of the local workforce*—which we refer to as the local industry. Because our indicator of management jobs is very broad, we cannot distinguish between types of manager or levels of authority, as is possible with more detailed occupational data (Cohen and Huffman 2006). We believe detailed industrial identification will help differentiate these cases. Based on this pool, approximately 3 percent of establishments with 4 percent of all black workers have an underrepresentation of black workers in management jobs.

Finally, we compare managerial representation to the composition of *all workers within the establishment*. Clearly, some managerial positions cannot be filled from the lower ranks within an organization. For example, accounting managers are not likely to be hired from among the pool of mechanics in an auto dealership. However, consistent evidence shows that the composition of the nonmanagerial workforce is associated with both the race/ethnicity and gender of those in positions of authority (Smith 2002; Stainback and Tomaskovic-Devey 2006). We note that similar to our first indicator, this measure is not directly linked to the concept of employer discrimination. Regardless of whether the outcome represents discrimination in the hiring of managers, however, this indicator of racial disparity in internal authority structure—with managers who are not black managing black workers—might be a mechanism for the production of racial wage gaps. We find that approximately 13 percent of the establishments in our data set have a significant deficiency of black workers in management using this pool for

comparison. However, because of interfirm segregation, these establishments employ more than half—53 percent—of all black workers.

We are particularly interested in whether these outcomes vary across labor markets as a function of population racial composition. If establishments in labor markets with greater black concentration are more likely to exhibit black underrepresentation in management—at any of these levels—that may help explain the persistent finding that racial wage disparities are greater in such labor markets. This finding would complement those we previously reported (Huffman and Cohen 2004) by demonstrating another mechanism through which black population concentration magnifies labor market inequality.

Underrepresentation

Our second innovation is to use measures of underrepresentation drawn from discrimination litigation analysis. We determine whether each establishment has significantly fewer black managers than would be reasonably expected given their availability in the relevant labor pool and the number of managers in the firm. We use a binomial test common in statistical approaches to employment discrimination to classify each establishment in terms of how its employment of black managers compares to the racial composition of the establishment's availability pool (see Bendick 2000; Gastwirth 1984; Finkelstein and Levin 2001). The test statistic is based on the discrepancy between the number of managers in an establishment who are black and the expected number given random selection and the racial composition of the available labor pool. This discrepancy, when divided by the standard deviation of the expected number of black managers, approximates a standard normal random variable. Therefore, it can be assigned a p -value that can be used to determine whether an establishment's representation of black managers is below what one would reasonably expect to occur by chance (Bendick 2000; Gastwirth 1984). We use a 5 percent cutoff (one-tailed) to identify which establishments have a statistically significant underrepresentation of black workers in managerial positions.⁴ Establishments are assigned scores on a dichotomous indicator for each of the four labor pools if they surpass the cutoff point. These indicators are the dependent variables in our multivariate models.⁵

Data and Method

Data

Our analyses are based on establishment-level data on U.S. private sector firms from the EEOC for the year 2002. As part of its efforts to gauge compliance with equal employment legislation, the EEOC has collected data on the sex and racial/ethnic composition of private sector employment since the mid-1960s. These data include employment counts by race and sex across nine occupational categories: officials and managers, professionals, technicians, sales workers, office

and clerical workers, craft workers, operatives, laborers, and service workers.⁶ The EEOC data also include geographic identifiers, allowing us to link establishments to U.S. metropolitan areas (MAs) using data from the U.S. Census Bureau's Summary Files, which we use to define local labor markets.⁷ Other strengths and weakness of using the EEO reports to study race and gender segregation are discussed in Robinson et al. (2005) and Tomaskovic-Devey et al. (2006). We include only those establishments with ten or more workers in our analysis.⁸ This restriction leaves 171,780 establishments with complete information.⁹

Measures

Our variables are measured at two levels: establishments and MAs. At the establishment level, dependent variables are dummy variable indicators of statistically significant ($p < .05$) black managerial underrepresentation relative to the four labor pools discussed above.¹⁰ At the MA level, our primary independent variable is the adult population proportion black.

Control variables at the establishment level include the natural logarithm of the *total establishment size*, the *proportion female* and *proportion black* in each establishment, and the *proportion of workers in establishment who are managers*. The proportion of workers in management has been used to measure the demand for managers in other research predicting the demographic composition of management positions (see Reskin and McBrier 2000). Finally, we control for systematic differences across broad industry categories by using nineteen dummy variables, each corresponding to a two-digit North American Industrial Classification (NAICS) industry category.¹¹

At the MA level, we include several key control variables in addition to our key independent variable, percentage black. These controls include *percentage Latino*, the *log of population size*, the *unemployment rate*, the *percentage of workers employed in public sector*, the *percentage in-migration*, and the *percentage in manufacturing*. These are similar to those used in other research on labor market variation in black-white inequality (Huffman and Cohen 2004). Descriptive statistics for all variables appear in Table 1.

Statistical models

Our data comprise establishments nested within local labor markets; as such, establishments in our data set share values on all local labor market variables. Because of this nested structure, we estimate two-level hierarchical logistic models (Guo and Zhao 2000; Raudenbush and Bryk 2002; DiPrete and Forristal 1994).¹² Hierarchical models allow simultaneous estimation of micro- and macro-level equations. In our analysis, the micro-level model is estimated at the establishment level, while the macro-level model is estimated at the level of the labor market. Because our outcome variables are dichotomous (coded 1 if the establishment has an underrepresentation of blacks in management), we model them as probabilities using a logit link function (Raudenbush and Bryk 2002, 294-301; Guo and Zhao 2000).¹³

TABLE 1
DESCRIPTIVE STATISTICS FOR VARIABLES USED IN THE ANALYSIS

	Mean	SD	Range
Establishment-level variables (<i>N</i> = 171,780)			
Underrepresentation: All workers in metropolitan area (MA)	0.19	0.39	0.00-1.00
Underrepresentation: All managers in MA	0.04	0.20	0.00-1.00
Underrepresentation: All managers in MA industry	0.03	0.17	0.00-1.00
Underrepresentation: All workers in establishment	0.13	0.34	0.00-1.00
Proportion managers in establishment	0.12	0.11	0.00-1.00
Proportion black in establishment	0.14	0.17	0.00-1.00
Proportion female in establishment	0.46	0.24	0.00-1.00
Log of establishment size	4.86	0.86	2.30-10.39
MA-level variables (<i>N</i> = 275)			
Percentage black (18+)	10.03	10.31	0.20-47.73
Percentage Latino (18+)	8.12	13.65	0.44-93.60
Log of population size	12.75	1.12	10.97-16.87
Unemployment rate	5.87	1.76	2.64-13.09
Percentage in public sector	15.64	4.98	6.60-36.10
Percentage in-migration	27.90	3.44	16.99-35.62
Percentage in manufacturing	13.98	6.75	2.02-42.56

Specifically, if p_{ij} is the probability that establishment i in labor market j has a statistically significant ($p < .05$) underrepresentation of blacks in management, our establishment-level model can be expressed as

$$\text{Log}[p_{ij}/(1 - p_{ij})] = \beta_{0j} + \beta_{10}X_{1ij} + \beta_{20}X_{2ij} + \dots + \beta_{k0}X_{kij},$$

where β_{0j} is the intercept of the establishment-level model, and the coefficients β_{10} through β_{k0} represent the net effects of the k establishment-level predictors (which include eighteen industry dummy variables). All of our establishment-level predictors except for proportion black are centered around their grand means (see Raudenbush and Bryk 2002).

Thus, the intercept (β_{0j}) can be interpreted as the predicted log odds that an establishment with average characteristics on the establishment-level variables exhibits black managerial underrepresentation. At the labor market level, then, we are interested in predicting variation in the intercept of the establishment-level model: whether local labor market black population composition is associated with the odds of statistically significant black managerial underrepresentation. Here, our key independent variable is the proportion black in the local labor market. Our MA-level model is

$$\beta_{0j} = \gamma_{00} + \gamma_{01}W_{1j} + \dots + \gamma_{0q}W_{qj} + u_{0j},$$

TABLE 2
CORRELATION BETWEEN UNDERREPRESENTATION INDICATORS

Indicator of Underrepresentation	1	2	3
1. Relative to all workers in metropolitan area (MA)	—		
2. Relative to all managers in MA	.07	—	
3. Relative to all managers in MA-industry	.05	.46	—
4. Relative to all workers in establishment	.31	.05	.04

NOTE: All correlations significant at $p < .001$ (two-tailed tests).

where γ_{00} is the intercept of the MA-level model, and γ_{01} through γ_{0q} are the net effects of the q MA-level variables. At the MA level, proportion black is our key predictor. If the coefficient for this variable is significant and positive, it suggests that net of our establishment and labor-market controls, establishments operating in labor markets with higher proportion black populations have a higher likelihood of an underrepresentation of blacks in management than those in other comparable labor markets with lower black population concentrations. The final term in our MA-level model (u_{0j}) is assumed to be a normally distributed random variable with mean 0 and variance τ_{00} . All MA-level variables are centered at their grand means except population percentage black.

Results

As noted above, underrepresentation relative to the pool of nonmanagerial workers is much more common than that relative to the pool of managers. In other words, black workers are underrepresented in management *generally* relative to their numbers in the workforce, whether measured at the establishment or labor market levels. Significant underrepresentation relative to the pool of managers in the local industry or local labor market is less common, because underrepresentation is systematic rather than concentrated among a few establishments. This pattern is further seen in Table 2, which shows the correlations between establishments on the underrepresentation variables. Here we see high correlations between the worker-pool indicators (.31) and between the manager-pool indicators (.46), but lower correlations across these levels of comparison (all are highly significant).

The EEOC data set represents individual establishments as data points regardless of their size. Thus, large corporations and small establishments count equally toward the means in Table 1, the bivariate correlations in Table 2, and the regression results to follow. This is appropriate if one considers each establishment a site for decision making. Nevertheless, because of the counts of workers provided in the data, it is possible to determine how many workers are found in establishments with various qualities. As noted above, interfirm segregation

TABLE 3
BLACK UNDERREPRESENTATION IN MANAGEMENT:
HIERARCHICAL LINEAR REGRESSION RESULTS

Dependent Variable	Y_1 Coefficient	Y_2 Coefficient	Y_3 Coefficient	Y_4 Coefficient
Metropolitan area (MA) variables				
Intercept	-6.476***	-5.817***	-6.383***	-5.344***
MA proportion black	0.332***	0.111***	0.112***	0.078***
MA proportion Latino	-0.011	-0.002	-0.011	-0.013°
Log of population size	0.324**	0.329***	0.453***	0.207***
Unemployment rate	-0.118	-0.044	-0.016	-0.099°
Percentage manufacturing	-0.033°	-0.011	-0.022	-0.003
Percentage public sector	-0.047°	-0.030°	-0.030	-0.022
Establishment variables				
Proportion black	-9.766***	0.095	-0.066	7.177***
Proportion female	-0.214***	0.021	0.085	-0.099
Proportion managers	12.520***	0.248°	0.200	5.500***
Log of establishment size	2.077***	0.026	0.003	1.430***
Variance components				
Intercept (τ_{00})	1.579***	0.270***	0.517***	0.401***
Chi-square (267 <i>df</i>)	10,950	930	1,235	3,532

NOTE: All models include controls for industry (eighteen dummy variables—see text for industry definitions). Dependent variable definitions: Y_1 = underrepresentation relative to all workers in MA. Y_2 = underrepresentation relative to all managers in MA. Y_3 = underrepresentation relative to all managers in MA industry. Y_4 = underrepresentation relative to all workers in the establishment.

° $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed tests).

means that black workers are concentrated in a disproportionately small number of firms—the average black worker in the data works at an establishment that is 33 percent black, even though the average establishment is only 14 percent black. This distinction is most significant with regard to underrepresentation relative to the worker pools. We will return to this issue later in the discussion.

*What kinds of firms exhibit underrepresentation?*⁹

The hierarchical logistic regression models for our underrepresentation outcomes are shown in Table 3. The top part of the upper panel shows effects of labor market (MA) characteristics on the log odds of black managerial underrepresentation, and the bottom part shows the establishment-level effects. The lower panel shows variance components for the intercepts, which are the only coefficients in the models permitted to vary across labor markets. Overall, the establishment-level model appears to explain underrepresentation for the worker

pools (first and fourth models) better than it does for the manager pools (second and third models).

Establishments with more black workers are less likely to show managerial underrepresentation relative to all workers in the labor market, reflecting the tendency of black managers to lead black workers; but these firms are more likely to show underrepresentation relative to their own workforces, reflecting racial hierarchies within the firms. This is consistent with previous findings that black workers are concentrated under black managers (Stainback and Tomaskovic-Devey 2006) but further shows that even this concentration of managers is more likely to reflect underrepresentation *relative to the pool of workers below*. Surprisingly, establishments with more managers and larger establishments are more likely to show significant managerial underrepresentation. This differs from the findings of Stainback and Tomaskovic-Devey (2006), because they analyzed percentage-minority as their outcome, while we measure statistical underrepresentation—which is mathematically more likely to occur in larger establishments. None of the establishment-level variables are significantly associated with underrepresentation relative to the managerial pool in the local industry (Y_3), which is commonly used as the benchmark in antidiscrimination lawsuits (Bendick 2000).

Our principal concern is the association of MA population proportion black and managerial underrepresentation, and here the regression results in Table 2 are clear: on all four measures, black managerial underrepresentation is predicted to be more likely in local labor markets with a greater concentration of black residents. The size of the net effect of black labor market concentration is substantial in all four models. In an odds ratio metric, the coefficients on MA proportion black range from 1.08 ($e^{0.078} = 1.08$) in the model predicting Y_4 , to 1.39 ($e^{0.332} = 1.39$) in the model predicting Y_1 . In percentage terms, establishments at the mean of all firm and labor market characteristics are predicted to show underrepresentation relative to managers in the local industry in just 0.5 percent of cases in labor markets that are 10 percent black. But in markets that are 30 percent black that prediction is more than nine times greater, 4.7 percent. At the high end of the range, more than 45 percent black, predicted probabilities of underrepresentation are greater than 50 percent for all indicators except that for establishment workforce composition.

Taken together, our results are consistent with an interpretation of black-white wage inequality in which inequality results from the actions of managers and black managers are less likely to contribute to such inequality. If that is the case, the patterns uncovered here would reflect an important mechanism for the common finding that greater wage inequality is observed where black population concentration is higher.¹⁴

Discussion and Conclusion

Our primary goal in this article was to investigate the long-standing finding of greater inequality in high proportion black labor markets by subjecting the

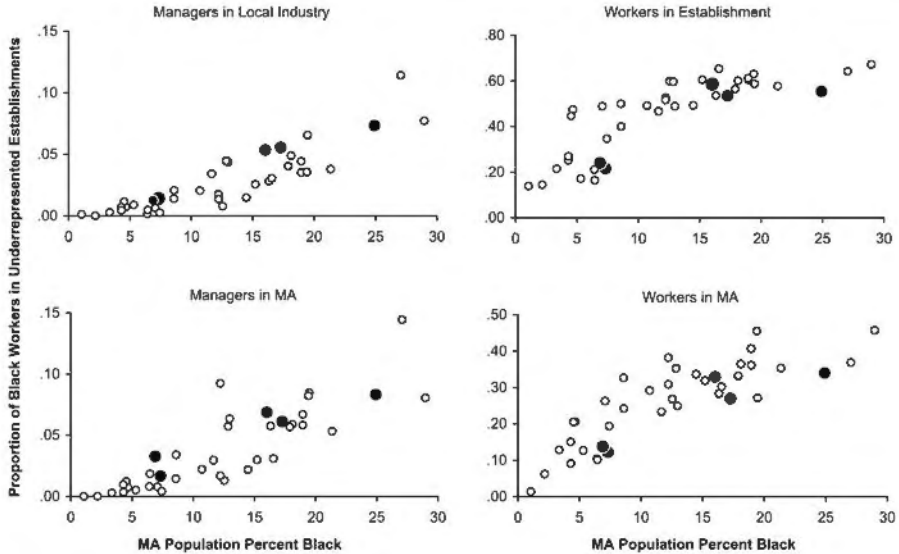
relationship between black representation in managerial jobs and local population composition to close empirical scrutiny. In doing so, we explore possible mechanisms underlying this relationship. Although a large body of previous research documents the overall relationship, virtually none of that research uncovers the mechanisms that may account for it. We consider our research an important step in that direction.

As such, the current research complements our earlier work (Huffman and Cohen 2004), which found that local black population concentration was positively associated with black-white job-level segregation. Our main substantive conclusion—that proportion black in the local labor market significantly increases the odds that black workers will be underrepresented in managerial roles—is consistent with the presumption that managerial action contributes to racial inequality, and that access to management may affect the patterns of such action across labor markets.

*Our main substantive conclusion is
that proportion black in the local labor
market significantly increases the odds
that black workers will be underrepresented
in managerial roles.*

We stress that this conclusion is important even if population composition is not in fact the causal variable driving managerial underrepresentation. Whatever the reason for the association, it may be responsible for the population composition effect on wage inequality and job segregation that has so often been observed (Tienda and Lii 1987; Cohen 1998; Huffman and Cohen 2004). We illustrate this point with Figure 1, which shows the proportion of black workers found in establishments with black underrepresentation in management on each of the four measures, across the thirty-nine metropolitan areas that have one thousand establishments or more in the data set, with no statistical controls. Clearly, black workers are more likely to find themselves concentrated under the authority of nonrepresentative management structures in labor markets with larger black populations. If such manager pools are more likely to make hiring, promotion, firing, and wage decisions that disadvantage black workers, then we would expect more black-white inequality in these markets. The association between managerial composition and wage inequality at the labor market level remains to be examined in future work.

FIGURE 1
METROPOLITAN AREA (MA) POPULATION PERCENTAGE
BLACK AND PROPORTION OF BLACK WORKERS IN
UNDERREPRESENTED ESTABLISHMENTS



NOTE: Thirty-nine MAs with one thousand or more establishments. The five largest MAs are highlighted: New York, Los Angeles, Chicago, Washington, D.C., and San Francisco.

This finding also is important for other theoretical questions. For example, a queuing perspective, which predicts an increase in blacks' presence in higher-status positions when there are more black workers in the labor market, is unsupported by our findings. Even if there are more black managers where their population is relatively large, we find strong evidence that the *odds* of their underrepresentation are much higher when local proportion black is higher. Thus, even though black workers may have a greater absolute presence in higher-status jobs in high proportion black areas, they may in fact be subject to increased discrimination in such a context, resulting in stronger race-based social closure processes (Tomaskovic-Devey 1993) and overall lower odds of attaining managerial positions. This is where our explicit focus on the available labor pool—largely unique to this research—becomes critical.

We also note several provocative findings regarding the relationship between establishment characteristics and the likelihood of observing an underrepresentation of black workers in management. For example, establishments with a larger percentage of black workers are more likely to exhibit managerial representation that approximates the pool of all workers in the local labor market. This could result from "bottom up ascription," the tendency for black managers to

manage black workers (Stainback and Tomaskovic-Devey 2006). At the same time, these establishments are more likely to show underrepresentation relative to their own workforces, reflecting greater internal racial hierarchies, the nature or causes of which we are not able to ascertain from this analysis. Additionally, large establishments, and those with a larger percentage of managers, are more likely to show managerial underrepresentation on three of our four measures. Although they were not our central focus, these establishment-level effects clearly beg for more theoretical and empirical attention—we hope that our results spur future research in those directions.

Clearly, black workers are more likely to find themselves concentrated under the authority of nonrepresentative management structures in labor markets with larger black populations.

Although we make important substantive, theoretical, and methodological contributions to the literature, our analysis is not without limitations. First, although the EEOC data are exceptional in terms of sample size and coverage of the U.S. private sector work force, they do not provide all relevant establishment-level information. For example, we have no information about establishments' personnel practices, recruitment methods, or level of formalization, all of which could be important for predicting the composition of an establishment's managerial workforce (e.g., Huffman 1999; Reskin and McBrier 2000). In addition, the EEOC data do not allow us to distinguish between levels of managerial authority or the rewards that may accrue to managers (Cohen and Huffman 2006). However, it should be noted that EEOC definition of managers includes low-level managers; as such, our results regarding the relationship between local proportion black and underrepresentation might be even stronger if the definition included only upper-level managers.

Notes

1. This assumes black managers have both the motivation and the power to discriminate less against black workers than do other managers, which also has been the subject of a very limited collection of studies (Elliott and Smith 2004; Shenhav and Haberfeld 1992; Smith 2002).

2. We use the term "local workforce" to refer to workers in large private sector establishments, those required to report the race/ethnic and gender composition of their employees to the Equal Employment Opportunity Commission (EEOC). In contrast, we measure the local population using Census data, which include all people in the metropolitan area.

3. Note that in the case of race, much more than in the case of gender (e.g., Stainback and Tomaskovic-Devey 2006) the composition of the local labor market is a more relevant benchmark than that of the national population. Overall, of course, we expect there to be greater representation of black workers among managers in labor markets with higher concentrations of black population.

4. The one-tailed test is suitable because we are only testing for black underrepresentation, not overrepresentation; our concern is with the probability that a *lower* than expected number of black managers is likely to have occurred by chance.

5. The applicability of such indicators in employment discrimination litigation hinges crucially on the identification of the relevant labor pool from which employers are determined to be hiring or promoting. Thus, all workers in the labor market or establishment are unlikely to be used as benchmarks in legal cases. However, from the point of view of social inequality—not limited to the question of discriminatory culpability on the part of particular managers—these indicators clearly are important. An alternative approach is to count the workers in a given reference pool (e.g., the establishment, industry, or local industry) who are and are not in management positions, and calculate the relative odds that black versus white workers hold management positions. These odds ratios can be compared across firms or industries to identify those with greater or lesser racial inequalities (see U.S. EEOC 2006).

6. One shortcoming of the EEOC data is that they include race-sex distributions for specific workplaces at the aggregate level of major occupational groups (e.g., managers, professionals, technicians, etc.). However, Robinson et al. (2005) have shown that estimates based on the EEOC data are generally reliable and valid.

7. We use CMSAs (consolidated metropolitan statistical areas). Where applicable, we use NECMAS (New England consolidated metropolitan areas).

8. Of the establishments included in our analysis, approximately 3 percent have fewer than fifty employees. Because the EEO-1 reporting requirements apply to establishments with fifty or more employees, the 3 percent with fewer than fifty are normally headquarters facilities. Because these facilities also employ managers, we include them.

9. The original 2002 EEO file contains 225,541 records. Of the cases not used in our analysis, approximately 96 percent were excluded because they were either outside metropolitan areas (MAs) or aggregate reports for multiestablishment companies. The remaining 4 percent comprised establishments with fewer than ten employees and six establishments we deleted that were coded as public sector.

10. We note that our use of dichotomous variable indicators increases interpretability of the outcome at the expense of lost details on the extent of underrepresentation, which could be the subject of additional analysis (see Gastwirth and Greenhouse 1987).

11. The industries are (1) Agriculture, Forestry, Fishing and Hunting; (2) Mining; (3) Utilities; (4) Construction; (5) Manufacturing; (6) Wholesale Trade; (7) Retail Trade; (8) Transportation and Warehousing; (9) Information; (10) Finance and Insurance; (11) Real Estate and Rental and Leasing; (12) Professional, Scientific, and Technical Services; (13) Management of Companies and Enterprises; (14) Administrative and Support and Waste Management and Remediation Services; (15) Educational Services; (16) Health Care and Social Assistance; (17) Arts, Entertainment, and Recreation; (18) Accommodation and Food Services; and (19) Other Services (except Public Administration).

12. The models were estimated using the HLM software package (v. 6.0).

13. For reasons outlined by Raudenbush and Bryk (2002, 303–4), we report results from unit-specific models rather than population-average models. In our case, the two sets of results are substantively similar.

14. Because of how our measures of underrepresentation are constructed, some establishments with very few managers have no chance of showing underrepresentation. To address this, we reestimated our models including only those establishments ($N = 88,525$) with ten or more managers. The results—especially our key finding regarding the effect of labor market percentage black—are substantively similar to the results we present here.

References

- Adler, Marina A., Gijsberta J. Koelewijn-Strattner, and Joseph J. Lengermann. 1995. The intersection of race and gender among chemists: Assessing the impact of double minority status on income. *Sociological Focus* 28 (3): 245–59.

- Baron, James N., and William T. Bielby. 1980. Bringing the firms back in: Stratification, segmentation, and the organization of work. *American Sociological Review* 45:737-65.
- Baron, James N., P. D. Jennings, and Frank R. Dobbin. 1988. Mission control? The development of personnel systems in U.S. industry. *American Sociological Review* 53:497-514.
- Baron, James N., and Andrew E. Newman. 1990. For what it's worth—Organizations, occupations, and the value of work done by women and nonwhites. *American Sociological Review* 55 (2): 155-75.
- Beggs, John J. 1995. The institutional environment: Implications for race and gender inequality in the U.S. labor market. *American Sociological Review* 60:612-33.
- Beggs, John J., Wayne J. Vellemez, and Ruth Arnold. 1997. Black population concentration and black-white inequality: Expanding the consideration of place and space effects. *Social Forces* 76:65-91.
- Bendick, Marc, Jr. 2000. Using EEO-1 data to investigate claims of employment discrimination. Paper Presented to the American Bar Association, July 10, New York.
- Blalock, Hubert M. 1967. *Toward a theory of minority group relations*. New York: Wiley.
- Blau, Peter M. 1977. *Inequality and heterogeneity*. New York: Free Press.
- Blum, Terry C., Dail L. Fields, and Jodi S. Goodman. 1994. Organization-level determinants of women in management. *Academy of Management Journal* 37 (2): 241-68.
- Burr, Jeffery A., Omer R. Galle, and Mark A. Fossett. 1991. Racial occupational inequality in southern metropolitan areas: 1940-1980: Revisiting the visibility-discrimination hypothesis. *Social Forces* 69:831-50.
- Catanzarite, Lisa, and Michael B. Aguilera. 2002. Working with co-ethnics: Earnings penalties for Latino immigrants at Latino jobsites. *Social Problems* 49 (1): 101-27.
- Cohen, Philip N. 1998. Black concentration effects on black-white and gender inequality: Multilevel analysis for U.S. metropolitan areas. *Social Forces* 77 (1): 207-29.
- . 2001. Race, class, and labor markets: The white working class and racial composition of U.S. metropolitan areas. *Social Science Research* 30:146-69.
- Cohen, Philip N., and Matt L. Huffman. 2006. Working for the woman? Female managers and the gender wage gap. Manuscript, University of North Carolina, Chapel Hill; and University of California, Irvine.
- Cotter, David A., Joan M. Hermsen, and Reeve Vanneman. 2003. The effects of occupational segregation across race. *Sociological Quarterly* 44:17-36.
- Darity, William A., and Patrick L. Mason. 1998. Evidence on discrimination in employment: Codes of color, codes of gender. *Journal of Economic Perspectives* 12 (2): 63-90.
- DiPrete, Thomas A., and Jerry D. Forristal. 1994. Multilevel models: Methods and substance. *Annual Review of Sociology* 20:331-57.
- Elliott, James R., and Ryan A. Smith. 2001. Ethnic matching of supervisors to subordinate work groups: Findings on "bottom-up" ascription and social closure. *Social Problems* 48:258-76.
- . 2004. Race, gender, and workplace power. *American Sociological Review* 69:365-86.
- Finkelstein, Michael O., and Bruce Levin. 2001. *Statistics for lawyers*. New York: Springer.
- Fossett, Mark A., and K. Jill Kiecolt. 1989. The relative size of minority populations and white racial attitudes. *Social Science Quarterly* 70:820-35.
- Gastwirth, Joseph L. 1984. Statistical methods for analyzing claims of employment discrimination. *Industrial and Labor Relations Review* 38:75-86.
- . 1992. Statistical reasoning in the legal setting. *American Statistician* 46 (1): 55-69.
- Gastwirth, Joseph L., and Samuel W. Greenhouse. 1987. Estimating a common relative risk: Applications in equal employment. *Journal of the American Statistical Association* 82:38-45.
- Glenn, Norval D. 1963. Occupational benefits to whites from the subordination of Negroes. *American Sociological Review* 28:443-48.
- Grodsky, Eric, and Devah Pager. 2001. The structure of disadvantage: Individual and occupational determinants of the black-white wage gap. *American Sociological Review* 66:542-67.
- Guo, Guang, and Hongxin Zhao. 2000. Multilevel modeling for binary data. *Annual Review of Sociology* 26:441-62.
- Heer, David M. 1959. The sentiment of white supremacy: An ecological study. *American Journal of Sociology* 64 (6): 592-98.
- Hirsch, Barry T., and Edward J. Schumacher. 1992. Labor earnings, discrimination, and the racial composition of jobs. *Journal of Human Resources* 27:602-28.

- Huffman, Matt L. 1999. Who's in charge? Organizational influences on women's representation in managerial positions. *Social Science Quarterly* 80 (4): 738-56.
- Huffman, Matt L., and Philip N. Cohen. 2004. Racial wage inequality: Job segregation and devaluation across U.S. labor markets. *American Journal of Sociology* 109 (4): 902-36.
- Jacobs, Jerry A. 1992. Women's entry into management—Trends in earnings, authority and values among salaried managers. *Administrative Science Quarterly* 37 (2): 282-301.
- Jacobs, Jerry A., and Mary Blair-Loy. 1996. Race, gender, local labor markets and occupational devaluation. *Sociological Focus* 29:209-30.
- Kanter, Rosabeth M. 1977. *Men and women of the corporation*. New York: Basic Books.
- Kmec, Julie A. 2003. Minority job composition and wages. *Social Problems* 50 (1): 38-59.
- Lieberman, Stanley. 1980. *A piece of the pie: Blacks and white immigrants since 1880*. Berkeley: University of California Press.
- Massey, Douglas S., and Nancy A. Denton. 1993. *American apartheid: Segregation and the making of the underclass*. Cambridge, MA: Harvard University Press.
- McCall, Leslie. 2001. Sources of racial wage inequality in metropolitan labor markets: Racial, ethnic, and gender differences. *American Sociological Review* 66 (4): 520-41.
- Olzak, Susan, Suzanne Shanahan, and Elizabeth H. McEneaney. 1996. Poverty, segregation, and race riots: 1960 to 1993. *American Sociological Review* 61 (4): 590-613.
- Olzak, Susan, Suzanne Shanahan, and Elizabeth West. 1994. School desegregation, interracial exposure, and antibusing activity in contemporary urban America. *American Journal of Sociology* 100:196-241.
- Pettigrew, Thomas F. 1957. Demographic correlates of border-state desegregation. *American Sociological Review* 22 (6): 683-89.
- Pfeffer, Jeffery. 1983. Organizational demography. In *Research in organizational behavior*, ed. Larry L. Cummings and Barry M. Staw, 299-359. Greenwich, CT: JAI.
- Pfeffer, Jeffery, and Alison Davis-Blake. 1987. The effect of the proportion of women on salaries: The case of college administrators. *Administrative Science Quarterly* 32:1-24.
- Quillian, Lincoln. 1996. Group threat and regional change in attitudes toward African Americans. *American Journal of Sociology* 102:816-60.
- Raudenbush, Stephen W., and Anthony S. Bryk. 2002. *Hierarchical linear models: Applications and data analysis methods*. 2nd ed. Thousand Oaks, CA: Sage.
- Reed, John S. 1972. Percent black and lynching: A test of Blalock's theory. *Social Forces* 50 (3): 356-60.
- Reskin, Barbara F. 2003. Including mechanisms in our models of ascriptive inequality. *American Sociological Review* 68 (1): 1-21.
- Reskin, Barbara, and Naomi Cassirer. 1996. Occupational segregation by gender, race and ethnicity. *Sociological Focus* 29 (3): 231-43.
- Reskin, Barbara F., and Debra B. McBrier. 2000. Why not ascription? Organizations' employment of male and female managers. *American Sociological Review* 65 (2): 210-33.
- Robinson, Corre L., Tiffany Taylor, Donald Tomaskovic-Devey, Catherine Zimmer, and Matthew W. Irvin. 2005. Studying race or ethnic and sex segregation at the establishment level: Methodological issues and substantive opportunities using EEO-1 reports. *Work & Occupations* 32 (1): 5-38.
- Scott, Richard W. 1992. *Organizations: Rational, natural, and open systems*. Englewood Cliffs, NJ: Prentice Hall.
- Semyonov, Moshe, Danny R. Hoyt, and Richard I. Scott. 1984. Place, race, and differential occupational opportunities. *Demography* 21:259-70.
- Shenhav, Yehouda, and Yitchak Haberfeld. 1992. Organizational demography and inequality. *Social Forces* 71 (1): 123-43.
- Smith, Ryan A. 2002. Race, gender, and authority in the workplace: Theory and research. *Annual Review of Sociology* 28:509-42.
- Stainback, Kevin, and Donald Tomaskovic-Devey. 2006. Managing privilege: The stable advantage of white males in U.S. labor markets, 1966-2000. Manuscript, University of Massachusetts, Amherst.
- Szafran, Robert F. 1982. What kinds of firms hire and promote women and blacks? A review of the literature. *Sociological Quarterly* 23:171-90.
- Taylor, Marylee C. 1998. How white attitudes vary with the racial composition of local populations: Numbers count. *American Sociological Review* 63 (4): 512-35.

- Tienda, Marta, and Ding-Tzann Lii. 1987. Minority concentration and earnings inequality: Blacks, Hispanics, and Asians compared. *American Journal of Sociology* 93:141-65.
- Tolnay, Stewart E., and E. M. Beck. 1995. *A festival of violence: An analysis of southern lynchings, 1882-1930*. Urbana: University of Illinois Press.
- Tolnay, Stewart E., Glenn Deane, and E. M. Beck. 1996. Vicarious violence: Spatial effects on southern lynchings, 1890-1919. *American Journal of Sociology* 3:788-815.
- Tomaskovic-Devey, Donald. 1993. *Gender and racial inequality at work: The sources and consequences of job segregation*. New York: ILR Press.
- Tomaskovic-Devey, Donald, Catherine Zimmer, Kevin Stainback, Corre Robinson, Tiffany Taylor, and Tricia McTague. 2006. Documenting desegregation: Segregation in American workplaces by race, ethnicity, and sex, 1966-2003. *American Sociological Review* 71:565-88.
- U.S. Equal Employment Opportunity Commission. 2006. *Diversity in the finance industry*. Washington, DC: EEOC Office of Research, Information and Planning. <http://www.eeoc.gov/stats/reports/finance/index.html> (accessed October 19, 2006).
- Wilson, George, Ian Sakura-Lemessy, and Jonathan P. West. 1999. Reaching the top: Racial differences in mobility paths to upper-tier occupations. *Work & Occupations* 26 (2): 165-86.
- Wilson, William J. 1996. *When work disappears: The world of the new urban poor*. New York: Vintage Books.