

# Minority Job Concentration and Wages

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*This article explores wage inequality resulting from the segregation of minorities and whites into different jobs. Specifically, my analyses investigate the relationship between workplace minority concentration and the hourly wages of blacks and Latinos relative to whites. Using individual-level data from the Multi-City Study of Urban Inequality linked to establishment-level data from the Multi-City Telephone Employer Survey, I find wages are lower for workers in mostly black and Latino jobs compared to mostly white jobs, net of individual, human capital, job, occupation, establishment, and city controls. The study supports two main conclusions. First, racial minorities suffer disproportionately from lower wages because they are more likely than whites to have minority co-workers. Second, jobs, as opposed to local occupations or establishments, are the sites of mechanisms responsible for producing racial wage inequality. Drawing on devaluation and queuing theories to interpret these results, I elaborate on how this analysis advances our understanding of job-level wage processes and racial wage inequality in general.*

A cursory glance at the demographic characteristics of U.S. workplaces finds an uneven distribution of minorities and whites in jobs, occupations, and establishments. Nationwide, blacks work in job cells that are roughly 57 percent black while Latinos and whites rarely work in job cells with more than four percent black workers; Latinos work in job cells that are roughly 60 percent Latino but blacks and whites rarely work in job cells that are over two percent Latino (Bayard et al. 1999).<sup>1</sup> At the occupation level, roughly one-third of blacks (or whites) would have to change their position to achieve an even black-white occupational distribution (Kaufman 2001). Meanwhile, nearly 25 percent of establishments employ no racial minorities, and just over 25 percent employ fewer than 10 percent racial minorities (Reskin, McBrier, and Kmec 1999).

A workplace's racial composition is an important feature of its structure. The racial composition of a workplace influences the likelihood of cross-racial contact among workers and indicates the extent to which race serves as a means to differentiate workers across the economy (Reskin, McBrier, and Kmec 1999). At the same time, the distribution of whites and minorities across a workplace has considerable implication for the allocation of wages because of the tendency of a workplace's social and demographic structure to influence its wage structure. Using individual-establishment linked data, analyses in this article investigate the relationship between workplace minority concentration and individuals' hourly wages. In doing so, I highlight the effect workplace racial composition has on workplace racial inequality.

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1. A "job cell" refers to an establishment-occupation cell. Kimberly Bayard and associates (1999) use 72 occupational categories in their estimations. To my knowledge, no nationally representative measure of *job* race composition exists. Bayard and associates' (1999) estimates are the closest estimates to *job* level race composition for a representative sample of U.S. workers.

Research on the connection between a workplace's *racial* structure and its wage structure is in its nascent stage and the existence of an association between wages and the relative workplace distribution of whites and minorities remains unresolved. Some scholars find robust minority concentration-wage associations (Browne et al. 2001; Browne, Tigges, and Press 2001; Catanzarite 1998, 2000, 2002, 2003; Catanzarite and Aguilera 2002; Elliott 1999; Shenhav and Haberfeld 1992) while others discover no net relationship between workplace minority concentration and wages (England 1992; Jacobs and Blair-Loy 1996; Jacobs and Steinberg 1990; Reid 1998). The inconsistency in findings is partly due to the level at which a researcher measures workplace race composition (e.g., as it occurs in an establishment-specific job, an occupation, or at the establishment level).<sup>2</sup> In examining further the relationship between workplace racial composition and wages, I assess how job race segregation contributes to racial wage inequality and address methodological issues relating to the measurement of workplace race composition.

The primary goal of this article is to examine the problem of racial inequality which results from job segregation. In light of inconsistent conclusions about the relationship between minority concentration and wages, a second goal and important component of this analysis is to examine the level of aggregation—*job*, *occupation*, or *establishment*—at which workplace minority concentration is associated with wages. To do this, I separately and simultaneously model the relationship between job, occupation, and establishment minority concentration and hourly wages. This is one of the first analyses to simultaneously test all three levels of minority concentration in wage attainment models net of detailed individual, job, occupation, and establishment-level controls. A third objective of this article is to offer a rationale for why we would expect the patterns of association between workplace minority concentration and wages to differ at the job, occupation, and establishment levels.

When found, the association between minority concentration and wages is negative; wages are lower in workplaces with a concentration of racial minority workers compared to workplaces with predominantly white workers (e.g., Baron and Newman 1989, 1990; Browne, Tigges, and Press 2001; Catanzarite 1998, 2000, 2002, 2003; Catanzarite and Aguilera 2002; Elliott 1999; Parcel 1989; Rosenbaum 1985; Sorensen 1989). Devaluation and queuing theories provide insight into this negative relationship.<sup>3</sup> Because cross-sectional data cannot distinguish between the two theories, I present both as possible explanations for the minority concentration-wage relationship but I discuss alternative theoretical interpretations of the findings in the conclusion.<sup>4</sup>

Scholars have used both devaluation and queuing theories to describe the association between female workplace concentration and wages (see especially Aman 1995; England 1992; Reskin and Roos 1990). Issues of racism in society at large would lead us to hypothesize that racial minority concentration may also be associated with wages. In fact, explanations for the relationship between wages and female workplace concentration provide insight into the association between racial minority concentration and wages. But as I explain below, differences in gender and race distributions in the U.S. suggest that the association between wages and race composition will not operate the same as the association between wages and gender composition.

2. I refer to "establishment-specific job" as "job" throughout this article. A *job* differs from an occupation in that it refers to a specific position in a physical site or workplace whereas an *occupation* is a collection of jobs involving similar activities across establishments (Bielby and Baron 1986).

3. Devaluation and queuing are not mutually exclusive and may operate simultaneously (see Catanzarite 2003).

4. Longitudinal research distinguishing between devaluation and queuing is in its nascent stage. To my knowledge, Lisa Catanzarite's recent work is the first to use longitudinal data to assess whether race-sex composition affects wages, whether wages affect race-sex composition, or whether both processes occur. She found black men's and white women's 1971 and 1982 occupational representation negatively affected white men's median pay in 1981 and 1992, respectively, while occupation percent black female had a negative effect on white men's earnings in the later period (Catanzarite 2003). In Los Angeles, an occupation's share of new Latino and Latina immigrants and other race-sex groups over time had a negative effect on native women and men's earnings (Catanzarite 2002).

Devaluation theory argues that employers set a lower wage in a job *because* minorities predominate in the job. Alternatively, queuing theory explains that employers hire racial minorities into *already* low-paying positions. Taking these arguments into account, I hypothesize that wages are lower in minority-dominated workplaces, specifically minority-dominated jobs, relative to wages in predominantly white workplaces. Devaluation and queuing theories assume that wage penalties extend equally to all workers. It is possible that the relationship between wages and minority concentration varies for different race-sex groups because each race group occupies a different labor market status position. My analyses investigate this possibility.

## Theoretical Explanations

“Devaluation theory” and “queuing theory” present useful frameworks for explaining the relationship between workplace minority concentration and wages. Both theories look to employer and society-wide stereotypes and beliefs about minorities to explain the wage disadvantage associated with minority workplace concentration. Employers’ biases against minority workers—the phenomenon which devaluation and queuing theories attempt to explain—are widespread and well documented (see Browne and Kennelly 1999; Kennelly 1999; Kirschenman and Neckerman 1991; Moss and Tilly 1995, 1996, 2001; Wilson 1996). Below I outline each theoretical argument and discuss how biases play a part in the minority concentration-wage association.

### *Devaluation Theory*

This theory parallels the argument advanced within the comparable worth literature about the negative association between female and minority workplace concentration and wages (see England 1992) and is similar to Donald Tomaskovic-Devey’s (1993) “status composition” process. Comparable worth proponents and the status composition perspective assert that positions filled with a marginalized race or sex group tend to have pay levels lower than what are commensurate with the position’s skill demands. The lower pay in subordinate positions results from the under-valuing of subordinate work. Along these same lines, devaluation theory argues that once a position becomes filled with women or racial minorities, the position’s pay will fall. More specifically, biases relating to subordinate minority group concentration and wages present themselves in the wage-setting process. A position becomes filled with subordinate group members, in this case racial minorities, and pay deterioration follows. This occurs primarily because the social composition of a job’s incumbents is linked with the job’s value; once a job is associated with a subordinate group, the job’s pay declines because it suffers from “status contamination” (Barnett, Baron, and Stuart 2000; Bygren 2000). This process is similar to the one Michael Piore (1979) described to account for low pay in immigrant-filled positions. He explained that both employers and workers expect the status of a job to match its wage structure. When a low status group enters a job, the expectation is that its prestige and wages will decline. One North Carolina employer even demonstrated this when he blamed workers’ belief that Latino worksites are “culturally polluted” for the decline in black and white applicants to his mainly Latino workplace (Leiter, Hossfeld, and Tomaskovic-Devey 2001). Tomaskovic-Devey (1993) found evidence of the devaluing of work performed by racial minorities in his North Carolina sample. He observed that white workers in typically black jobs were paid wages consistent with their jobs, not their race.

### *Queuing Theory*

Queuing theory maintains that a different process is responsible for the minority concentration-wage link. Similar to Tomaskovic-Devey’s (1993) “status closure” process, racial biases

are tied to the hiring process. It is *because* a position is low paying that an employer hires a minority into it. The queuing argument originated in the work of Lester Thurow (1975) and Stanley Lieberman (1980) and focused mainly on *employer* ranking of workers and overlooked *worker* ranking of jobs. Barbara Reskin and Patricia Roos (1990) later suggested that both workers and employers are involved in the ranking process. They explained that employers rank workers according to their desirability in what they call “labor queues,” while workers rank jobs according to their desirability in “job queues.” Employers hire from as high in the labor queue as possible while workers accept the best jobs available. Employers’ rankings reflect an applicant’s training and skill (proxies for productivity) as well as patterns of race and sex ordering. Building on Reskin and Roos’ (1990) arguments, Robert Kaufman (2002) maintained that jobs carry a race label, based on the content of a job’s tasks, which identifies a job as “appropriate” or “inappropriate” for minority workers. In general, employers rank minorities lower than whites in the labor queue for jobs that require high skill and authority, and, consequently, jobs that are rewarded with high pay (Kaufman 2002). These jobs are deemed “inappropriate” for minorities. At the same time, employers consider jobs with poor working conditions, subservient tasks, low prestige, and low pay as “appropriate” for minorities (Kaufman 2002). Because they are low on employers’ queues, minorities have little power to bargain for high-paying jobs. This dual ranking process not only limits minority access to high-paying jobs but places minorities in positions with little or no bargaining power. To that end, queuing theory assumes low pay, poor working conditions, and low prestige already exist in a position before racial minorities enter it. Regardless of which process is correct—that pay deteriorates after minority entry or that minorities are denied access to high-paying jobs—we would expect to find lower wages in minority workplaces than in similar white workplaces. In the next section, I present reasons for why we would expect these processes to play out at the job level.

### ***Rationale for Different Job, Occupation, and Establishment Patterns of Inequality***

There are two main reasons why job-level measures of minority concentration are more suitable than either occupation- or establishment-level measures for identifying racial workplace inequality. First, distinct processes that occur across workplace units suggest the job is “where the action is” (Baron and Bielby 1980). An individual works in, and receives wages from, a particular job in an actual establishment. The job is the site of laboring activity and is the work unit most proximate to both employer’s decisions and the processes that allocate people to employment positions (Tomaskovic-Devey 1993). Additionally, the mechanisms responsible for producing inequality, such as the interpersonal interactions between employers and workers or barriers to advancement, occur at the job level (Reskin 2002). For example, employers can design jobs to provide the needed training for advancement and differently assign whites and minorities to these jobs. In one workplace, Tomaskovic-Devey (1999) found that employers hired blacks and whites into low-level jobs at similar rates but employers gave whites machine-operating jobs and blacks physical labor jobs. Machine operation prepared workers for advanced levels, so whites gained experience needed to advance while blacks did not. Although the outcomes of such mechanisms may appear at the establishment level because establishments are a collection of jobs, the specific processes that influence wages occur at the job level.

The second reason job-level measures are appropriate for specifying the link between minority concentration and wages is that job measures best capture the uneven workplace distribution of whites and minorities. To illustrate this, I draw on the parallels between race and gender concentration and wages. The distribution of women and men in the U.S. is relatively even because women and men live in similar neighborhoods and local areas. Indeed, throughout the U.S., we can find predominantly female occupations. For example, secretaries in virtually every establishment in the U.S. are women. It comes as little surprise that research on the association

between female workplace concentration and wages finds the association at the *occupation* level. By comparison, there is no analog for minority workers, particularly because the nation-wide distribution of racial minorities is uneven and minorities are a small share of the population in most areas. Because of residential segregation and racial geographic variations, whites and minorities live in different neighborhoods, local areas, and even work in different places. As a result, we would expect there to be only a few predominantly minority occupations at the local level and almost no predominantly minority occupations at the national level. We would expect little mismatch between national and local workplace female concentration and a substantial mismatch between national and local workplace race composition. In fact, Tomaskovic-Devey (1993) found that using national Census occupational measures as proxies for the sex composition of jobs closely approximated the actual distribution of women and men in jobs, but the same was not true of national occupation estimates of job race composition. So, while racism is society-wide, the uneven distribution of minorities and whites in the U.S. suggests the presence of minorities in occupations or establishments may be too limited to allow for a national-level relationship between occupation minority concentration and wages (Catanzarite 2002; Jacobs and Blair-Loy 1996).

To summarize, job-level measures are the most suitable means of identifying workplace inequality because individuals work in and receive wages in a specific job. Job holders are most proximate to both employer decisions and the mechanisms that influence how workers are compensated. Likewise, because of the uneven distribution of white and minority workers in the U.S., jobs capture finer distinctions of race segregation and minority concentration than either occupations or establishments. Accordingly, we would expect that the relationship between minority concentration and individual wages presents itself at the job level.

The social structure of a workplace is only one factor influencing individual wages. The organizational structure in which workers are embedded also affects their wages (Ibarra 1993). Minorities and whites work in different organizational settings. For example, racial minorities work in lower-paying establishments than whites (Hertz, Tilly, and Massagli 2001; Hodson 1983) and in lower skilled jobs than whites (England, Christopher, and Reid 1999). Without contextual controls, it is not possible to determine whether wages are lower in minority versus white settings because of the characteristics of minority work settings or because of the presence of minorities. I consider the role organizational context plays in the wage process by controlling for detailed characteristics of jobs, occupations, and establishments in wage attainment models.

This article makes four main contributions to our understanding of workplace race inequality and the relationship between minority concentration and wages. First, it informs us how job-level race segregation contributes to racial wage inequality. Second, it provides justification for why the relationship between minority concentration and individual wages operates differently at the job, occupation, and establishment levels. Third, these analyses are among the first to simultaneously model the relationship between three levels of workplace race composition and individual wages net of individual, job, occupation, and establishment characteristics. As a result, the article addresses methodological concerns and locates the job as the unit where workplace minority composition is associated with wages. Finally, these analyses underscore that the mechanism driving the wage penalty is not strictly individual-level. Instead, minority concentration plays a more consequential role in constraining wage outcomes than do an individual's own attributes (Bygren 2000).

## **Data, Measures, and Methods**

### ***Data***

This study uses data from two primary sources: the Multi-City Study of Urban Inequality (MCSUI) and the Multi-City Telephone Employer Survey (MCTES). The MCSUI is a multi-stage stratified, clustered area-probability sample of adult residents in Atlanta, Boston, Detroit,

and Los Angeles. Researchers in all cities over-sampled blacks and low-income households while researchers in Boston and Los Angeles also over-sampled Latinos. As part of the MCSUI project, a group of researchers surveyed employers in the same four metropolitan areas to gather demand-side information (Holzer et al. 1998). Part of the employer sample in each city was identified by employed MCSUI household respondents who provided their employers' name. Interviewers contacted these employers and administered a telephone survey to the person responsible for hiring low-skilled workers. Together the two surveys result in a sample of 1,179 individuals linked to their respective employers (the unit of analysis is the establishment but the sample consists of individuals).<sup>5</sup>

I limit my sample to those respondents in Atlanta, Boston, and Los Angeles. Workers in Detroit did not provide information about job race type or work experience because of questionnaire differences in that city. Analyses exclude seven Native Americans, 59 Asians, 66 "other" non-whites, and those who reported they were self-employed, currently unemployed, retired, or who had not worked in the five years prior to the survey. The final sample consists of 635 individuals.

Two data-related caveats are in order. First, since the sample includes only establishments in large U.S. metropolitan areas, my findings may not hold outside these urban areas. Second, interviewers only asked employers to report the percentage of minority workers in *non-professional* positions, so the measure of establishment minority concentration refers only to the race composition of non-professionals. I dropped from the sample approximately seven percent of establishments because they employed zero non-professional workers. The sample of workers includes both those in professional and non-professional positions and those with and without college degrees. This mismatch between the sample and the establishment-level race composition measure is unfortunate. The job-level and occupation-level minority concentration measures, however, apply to workers at *all* levels.

### Measures

Table 1 provides summary statistics for the variables used in this study. The dependent variable is *logged hourly wage*. The main independent variables are three sets of measures of workplace minority concentration. I measure *job race type* with a set of dichotomous variables indicating the worker-reported race of most of the workers doing their respective job in their respective establishment. The variables are coded as mostly white, black, Latino, Asian, mixed race, or "other" non-white race group job (the reference category is "mostly white job"). In this sample, 48 percent of Latinos work in mostly Latino jobs compared to five percent of whites, while 44 percent of blacks work in jobs with mostly black co-workers compared to only six percent of whites. Ideally, a job race composition measure would include a count of persons of each race in a job, but data limitations require I use this qualitative measure of job race type.<sup>6</sup> Nonetheless, my measure offers a less biased estimate of race composition than either *job site* (Catanzarite and Aguilera 2002) or *occupation-industry cell* (Reid 1998)

5. Harry Holzer (1996) explained that 70 percent of all establishments provided by individuals were screened and that roughly 68 percent of these establishments completed surveys. Currently unemployed household respondents (whom I drop from analyses) and black, center city respondents were less likely than others to provide the name of their employer (Holzer 1996). This is only problematic if the wage-minority concentration association differed for blacks and whites or center city versus suburban residents. Non-significant *black × minority job* and *center city × minority job* interactions suggest this is not the case. I also tested the mean difference of variables in the models for non-linked and linked employed household respondents and found they were *not* significantly different on measured characteristics.

6. James Elliott (2001) and Elliott and Ryan Smith (2001) used the same job race type variable in analyses and explained that the measure is reliable. Data limitations prevent me from measuring job size, but I control for establishment size.

**Table 1 • Weighted Means and Standard Deviations of Variables Used in Study (N = 635)**

<i>Variable</i>	<i>Mean</i>	<i>Std. Deviation</i>
Hourly wage (Ln)	2.34	0.52
Independent variables		
Job minority concentration <sup>a</sup>		
Mostly black job	0.12	—
Mostly Latino job	0.13	—
Mostly Asian job	0.04	—
Mostly “other” non-white job	0.04	—
Mostly mixed race job	0.08	—
Mostly white job (reference)	0.59	—
Local occupation minority concentration <sup>b</sup>		
Proportion black	0.19	0.01
Proportion Latino	0.05	0.002
Proportion Asian	0.02	0.002
Proportion “other” non-white	0.01	0.003
Establishment non-professional minority concentration <sup>a</sup>		
Proportion black	0.31	0.13
Proportion Latino	0.22	0.16
Proportion Asian	0.05	0.09
Individual-level characteristics <sup>a</sup>		
Race		
Black (n = 262)	0.41	—
Latino (n = 130)	0.20	—
White (reference) (n = 243)	0.38	—
Sex		
Female	0.53	—
Years of education	13.15	0.38
English language ability		
Reading proficiency (minimum = 1, maximum = 5)	3.39	1.36
Speaking proficiency (minimum = 1, maximum = 5)	3.76	0.09
Immigrant	0.14	—
Years of previous experience	6.72	0.43
Years of tenure	2.78	4.58
Full time	0.85	—
City		
Boston	0.31	—
Los Angeles	0.43	—
Atlanta (reference)	0.26	—

(Continued)

proxy measures of establishment-specific jobs. The former measure suffers from measurement error because a “job site” combines workers in different jobs who work in the same location. The latter “local occupation-industry” measure is no different than an occupation measure in occupations specific to one industry (for example, the occupation “hotel clerk” only exists in the service industry so the “hotel clerk-service industry” cell provides no more detail than the occupation measure). I measure *local occupation race composition* with four variables indicating the proportion of black, Latino, Asian, and “other” non-white workers in a 3-digit census

Table 1 • (continued)

Variable	Mean	Std. Deviation
Job and establishment characteristics <sup>a</sup>		
Unionized job	0.20	—
Minority supervisor	0.49	—
Occupation cognitive skill <sup>c</sup> (minimum = -5.13, maximum = 9.02)	1.14	0.25
Local occupation proportion female <sup>b</sup>	0.50	0.04
Establishment size (Ln)	5.08	0.13
Establishment proportion unionized	0.22	0.03
Establishment has internal labor market	0.69	—
Center city establishment	0.61	—
Private establishment	0.79	—
Establishment main industry		
Construction	0.01	—
Manufacturing	0.14	—
Transportation, communication, and other public utilities	0.06	—
Wholesale trade	0.03	—
Retail trade	0.13	—
Finance, insurance, and real estate (FIRE)	0.07	—
Public services	0.01	—
Entertainment	0.02	—
Public administration	0.05	—
Professional	0.31	—
Business and repair	0.07	—

<sup>a</sup> 1992–1994 Multi-City Study of Urban Inequality and Multi-City Telephone Employer Survey.

<sup>b</sup> 1990 Census of Population and Housing, Detailed Occupation by Race, Hispanic Origin, and Sex File.

<sup>c</sup> Revised Codebook for 1980 Occupational Characteristics Data Set.

occupation in a specific metropolitan statistical area (MSA).<sup>7</sup> I appended this information to individual records from the 1990 Census Detailed Occupation by Race, Hispanic Origin, and Sex files (U.S. Bureau of the Census 1992).<sup>8</sup> *Establishment race composition* comprises three employer-reported variables indicating the proportion of non-professional black, Latino, and Asian workers in an establishment.<sup>9</sup>

*Individual and Human Capital Characteristics.* To be certain the association between wages and minority concentration exists net of demographic, human capital, and structural charac-

7. On a national level, Catanzarite (2003) found a negative effect of 1981 occupation percent black female, occupation percent white female, and occupation percent black men on white men's 1992 median occupation wages. Using cross-sectional data, Lori Reid (1998) did not find a difference in the relationship between national occupation percent black female and percent white female. My models do not include local occupation race-sex composition measures of local industry-occupation cell measures.

8. Analyses include 202 separate occupational categories. Concerned that small occupations might obscure occupational race composition findings because they may be more heavily influenced by the presence of minorities, I dropped nine occupations with fewer than 50 incumbents in an MSA and re-estimated analyses (not shown). Doing this did not change the patterns of findings. Occupations range in size from 22 to 54,119 in Atlanta, from 13 to 36,749 in Boston, and from 33 to 210,326 in Los Angeles.

9. I tested alternate measures of workplace minority concentration. I measured job race type with a dichotomous variable indicating a "mostly minority job." The coefficient was negative but given that the pattern differs for various race-typed jobs, I did not use this specification. I also created a dichotomous "minority establishment" variable coded "1" if the proportion of minorities in an establishment was 0.50 or more. The coefficients were not significant. I used the more specific measures to make them comparable to the job race type measure.

teristics, models include a host of statistical controls (Smith 2000). A person's *race* is measured with two dichotomous variables indicating if a respondent is black or Latino (the reference category is "white"). *Sex* is a dichotomous variable indicating if a respondent is female. Race differences in human capital contribute to the differential job placement and earnings of whites and minorities (Mincer 1974). If minority workplaces are disproportionately filled with workers with low human capital, failure to control for such variables would produce misleading coefficients on minority concentration measures. To avoid this, models include a control for *years of education* (respondents were limited to reporting a maximum of 17 years of education). Individual skill is measured as respondent's *English speaking* and *reading proficiency* ranging from "1" (do not speak/read English well at all) to "5" (speak/read English very well).<sup>10</sup> To capture differences in workplaces of non-natives, especially among Latinos, I also include a variable indicating if a respondent is an *immigrant*.<sup>11</sup> Twenty percent of Latinos were born outside the U.S. compared to 13 percent of blacks and four percent of whites. *Previous work experience* is the respondent's report of previous years of pre-hire experience (excluding schooling) in his or her current type of job and its squared term. The squared term never reached statistical significance so I dropped it from my models. *Tenure* with current employer is the number of years a respondent has worked for his/her present employer. I include an employment status variable indicating *full time* work, defined as working 35 or more hours per week. An individual's *city of residence* is measured with a set of dichotomous variables indicating residence in Boston or Los Angeles (the reference category is Atlanta).

*Job and Establishment Characteristics.* The association between wages and minority concentration may be due to the less advantageous structural attributes present in minority workplaces. To avoid a spurious relationship between minority composition and wages, I estimate the relationship net of establishment and job characteristics. Including such controls also renders the test of queuing more conservative because it estimates other discrimination practices that systematically sort people into different workplaces.<sup>12</sup>

Pay levels for workers with minority supervisors may be lower compared to those with white supervisors for two reasons. First, minority managers may be segregated into less profitable establishments (Shenhav and Haberfeld 1992). Second, even when they have positions of authority, minority supervisors may not have the same power as whites (Kluegel 1978). Charles Mueller and Toby Parcel (1986) found that about 63 percent of black managers as opposed to 52 percent of white managers felt they did not have the power or the responsibility to make decisions that directly affected subordinates. This absence of power may prevent minority supervisors from mobilizing profitable resources that yield higher pay levels for their subordinates. *Minority supervisor* is a variable signaling whether the employer is a racial minority (black, Latino, Asian, or "other" non-white male or female) or white female.<sup>13</sup> Because minorities work in lower-skilled occupations than whites (England, Christopher, and Reid 1999), I control for occupation cognitive skill with a factor score created by a principal components analysis of eleven DOT variables attached to the respondent's 1990 Census 3-digit

10. Tests of mean race differences in English reading and speaking ability indicate significant English reading ability differences among blacks (3.63), Latinos (3.11), and whites (4.23) and significant English speaking ability differences among blacks (3.39), Latinos (3.08), and whites (3.90). These measures control for important race differences in individual skill.

11. *Immigrant*  $\times$  *English reading ability* and *immigrant*  $\times$  *English speaking ability* interactions were not significant, suggesting that the effect of English ability on wages is the same for immigrants and natives.

12. Job and establishment-level variables come from the MCTES with the exception of *local occupation proportion female*, which comes from the U.S. Bureau of the Census Detailed Occupation by Race, Hispanic Origin, and Sex computer files (U.S. Bureau of the Census 1992), and *occupation cognitive skill* which is from the Dictionary of Occupational Titles (see England 1993). I appended both onto respondent's records according to their 1990 Census 3-digit occupation.

13. Having a white female supervisor was not statistically different than having a racial minority supervisor so I include white females in the measure of "minority supervisor."

occupation code. The skill measure ranges from  $-5.13$  to  $9.02$ . Variables tapped by the factor include occupational training time in specific vocational development, intelligence aptitude, general education development, and verbal aptitude (England 1992). *Female occupational concentration* is associated with lower wages so I include a measure of the proportion of women in the 1990 Census 3-digit occupation in a specific MSA. Data limitations prevent me from measuring female concentration at the job level.

Latinos work in smaller establishments than whites (Bayard et al. 1999) while on average, blacks work in larger establishments than whites (England, Christopher, and Reid 1999). I control for establishment size to minimize its influence, no matter what direction, on wage estimates. *Establishment size* is the employer-reported (natural) log of the number of employees.<sup>14</sup> I control for *establishment unionization concentration* because unions reduce within-establishment inequality and benefit groups that would normally have the lowest earnings in non-union settings (Freeman and Medoff 1984; Pfeffer and Ross 1981a, 1981b). This variable is measured as the proportion of all non-professional/managerial employees in an establishment covered by collective bargaining. Models also include a dichotomous variable for whether the job is covered by a *labor union or collective bargaining agreement*.

The presence of internal labor markets affects wages and access to them may differ for whites and minorities. I control for *establishment internal labor market (ILM)* with a dichotomous variable indicating if an establishment has formal procedures for posting internal job openings and soliciting applications. I include a dichotomous variable for working in the *private sector*. Center city establishments may have lower wage levels than those in the suburbs, and minorities are more likely than whites to work in the center city, so models include a dichotomous variable specifying if an establishment is located in the *center city*. Finally, models include a control for a set of eleven dichotomous *industry* variables including construction, manufacturing, transportation/communication/other public utilities, wholesale/retail trade, entertainment, public administration, FIRE, professional, personal services, and business and repair.

### Statistical Models

To illustrate the association between minority concentration and wages at each workplace level and all three levels combined, I estimate five ordinary least squares (OLS) models:

- (A)  $(\ln) \text{ hourly wage} = \alpha + \beta_1(\text{black}) + \beta_2(\text{Latino}) + \beta_3(X_1) + \varepsilon$
- (B)  $(\ln) \text{ hourly wage} = \alpha + \beta_1(\text{black}) + \beta_2(\text{Latino}) + \beta_3(X_1) + \beta_4(\text{job race type}) + \varepsilon$
- (C)  $(\ln) \text{ hourly wage} = \alpha + \beta_1(\text{black}) + \beta_2(\text{Latino}) + \beta_3(X_1)$   
 $+ \beta_4(\text{local occupation proportion minority}) + \varepsilon$
- (D)  $(\ln) \text{ hourly wage} = \alpha + \beta_1(\text{black}) + \beta_2(\text{Latino}) + \beta_3(X_1)$   
 $+ \beta_4(\text{establishment proportion minority}) + \varepsilon$
- (E)  $(\ln) \text{ hourly wage} = \alpha + \beta_1(\text{black}) + \beta_2(\text{Latino}) + \beta_3(X_1) + \beta_4(\text{job race type})$   
 $+ \beta_5(\text{local occupation prop. minority})$   
 $+ \beta_6(\text{establishment prop. minority}) + \varepsilon$

14. In results not shown, I included a control for *local occupation size*, measured as the (natural) log of the number of workers in an occupation in a specific MSA, to make certain that 3-digit local occupation measures do not suffer from small sample size. The measure never reached significance and did not change results. I also estimated interactions between each *local occupation percent minority* and *local occupation size* to ensure the effect of occupation minority concentration on wages did not differ across occupation size. We might expect this non-linearity because only large establishments may have enough incumbents to capture any association. This was not the case as interactions were not significant. I dropped the occupation size measure and product terms from models.

The term  $X_i$  is a vector of city of residence, individual demographic, human capital, job, and establishment controls and  $\varepsilon$  is an error term. I weight descriptive statistics with the MCSUI sample weights, but do not weight regression analyses (see Winship and Radbill 1994).

I use Multiple Imputation (MI) to handle missing data.<sup>15</sup> MI is superior to the dummy variable adjustment, marginal and conditional mean imputation, and listwise and pairwise deletion methods that can produce biased estimated test statistics (Allison 2001). To avoid underestimating the variances and covariances of variables with missing data, MI uses a repeated imputation process along with a random component to produce estimates (Allison 2001; Schafer 1997). Results from identical models using marginal mean imputation to handle missing data (not shown) were not substantively different.

## Findings

The empirical analysis is designed to examine the relationship between workplace minority concentration and wages at the job, local occupation, and establishment levels. It attempts to identify the link between workplace race segregation and race wage inequality, as well as where mechanisms responsible for producing minority-white wage differences occur. To preview the main results from regression analyses, I find that net wages are lower in mostly black and mostly Latino jobs compared to similar mostly white jobs. In a full model including controls for all three levels of workplace minority concentration, this association is not present at the occupation and establishment levels. What is more, the wage-minority concentration relationship is similar for whites, blacks, and Latinos. Finally, even when the individual-level association between race and wages is not statistically significant, the association between job minority concentration and wages remains. This suggests that workplace race inequality presents itself at the macro-level and that job-level race segregation contributes to workplace race inequality. The following discussion focuses on the relationship between wages and workplace minority concentration.

### *Minority Concentration-Wage Patterns at the Job, Occupation, and Establishment Levels*

Multivariate results find different patterns of association between minority concentration and wages at the job, occupation, and establishment levels (see Table 2).

By transforming the unstandardized  $\beta$  coefficients shown in Table 2 with the formula:  $[(e^\beta - 1) \times 100]$  (Allison 1999), I can discuss the percentage change in wages associated with a 1-unit change in a predictor variable. In the case of a dichotomous independent variable, I interpret the percentage wage difference in the target category compared to the reference category. The gross wage gap (not shown) is substantial and statistically significant. Whites earn 9 percent more per hour than blacks and 28 percent more per hour than Latinos. Model A in Table 2 presents results from a baseline model including individual race, sex, human capital, city, job, and establishment characteristics, but excluding the major independent variables of interest. A *race*  $\times$  *sex* product term testing whether the effect of race differed for women and men was not significant in any model so I dropped it from analyses. Net of sex, human capital, city of residence, job, occupation, and establishment attributes, I observe no significant wage differences between whites and blacks or Latinos. The association between individual race and

15. Wage data was missing for nine percent of the sample, supervisor race data was missing for 10 percent of the sample, establishment race composition data was missing for 22 percent of the sample, job race type data was missing for 25 percent of the sample, and work status data was missing for 25 percent of the sample.

wages is not statistically significant because of minority-white differences on these control variables that affect wages. However, to conclude race does not matter at this point would deflect our attention from how minority job concentration is associated with pay at the job level, a point I develop below.

Hourly wages in jobs with mostly black or Latino workers are lower than wages in jobs dominated by white workers (see Model B). Net of individual, job, establishment, and city controls, compared to the wages in mostly white jobs, wages in jobs with mostly black co-workers are 17 percent less per hour. Wages in jobs dominated by Latinos are 22 percent less per hour than jobs dominated by whites. We observe no significant association between mostly Asian, “other” non-white, or mostly mixed race jobs and hourly wages. Even in this sample of cities with somewhat racially diverse populations, only eight percent of jobs are mostly mixed race and four percent are mostly Asian or other “non-white” jobs. Quite possibly, an association between mixed race, Asian, and “other” non-white jobs and wages is only present when these race typed jobs are more common.

I hypothesized that the association between occupation level minority concentration and wages would not operate the same as the job level association because employer decisions and mechanisms that turn individual-level attributes into advantage or disadvantage operate at the *job* level. I also explained that even local occupation measures may be unable to capture minority-white segregation in the workplace. Results using local (MSA) occupation race composition measures confirm these speculations. Model C adds measures of MSA-level occupation proportion black, Latino, Asian, and “other” non-white to the baseline model (Model A). I observe no significant associations between local minority concentration and hourly wages.<sup>16</sup>

When a relationship between occupation race composition and individual wages has been found, the relationship generally holds in one local labor market (e.g., Browne et al. 2001; Browne, Tigges, and Press 2001; Catanzarite 1998, 2000, 2002). Quite possibly, aggregation of data from three metropolitan areas with different minority populations obscures the occupational-level findings. In separate analyses (not shown) I estimated models with a *city* × *workplace minority concentration* product term to test whether the minority concentration-wage association differed across city. No interactions were significant; the relationship between minority concentration and wages is the same in cities with different local minority concentrations. Lisa Catanzarite’s work (see especially Catanzarite 1998, 2000, 2002) explores the relationship between recent immigrant Latino occupational concentration and wages in Los Angeles. She finds a negative relationship between immigrant Latino presence in an occupation and its wages. The data I use do not distinguish between immigrant and native concentration at the occupation level because unlike Los Angeles, Boston and Atlanta do not have large populations of recent immigrants (Farley 2001). I can only speculate that occupation-level findings might look different across cities with a measure of local immigrant occupation concentration.

Establishment-level Latino concentration is significantly and negatively associated with hourly wages (see Model D). Net of controls, an increased concentration of Latino non-professionals in an establishment is associated with lower hourly wages. The negative relationship between Latino concentration in an establishment’s non-professional jobs and wages could stem from employer and worker-biased reactions to Latino labor or might occur because

16. Lori McCreary, Paula England, and George Farkas (1989) suggest a nonlinear association between minority concentration and wages; as the proportion of minorities in a setting increases, the absolute or relative status of minorities declines at a *decreasing* rate. I tested for nonlinear effects of occupation and establishment race composition and found that higher order terms were not significant. I also estimated Models C and E with the following set of occupation-level race composition measures: 0–10 percent, 11–20 percent, 21–30 percent, 31–40 percent, 41–50 percent, 51–60 percent, 61–70 percent, 71–80 percent minority (there were no occupations with over 80 percent minority in the sample). None were significant. I am unable to test for non-linearities at the job level due to measurement limitations.

**Table 2 • Unstandardized Coefficients from the Regression of Logged Hourly Wage on Workplace Race Composition (standard errors in parentheses) (N = 635)**

	<i>Local</i>					<i>Full Model</i>
	<i>Individual, Job, and Establishment A</i>	<i>Job Level Race Composition B</i>	<i>Occupation Level Race Composition C</i>	<i>Estab. Level Race Composition D</i>	<i>Full Model E</i>	
<b>Individual-level characteristics</b>						
Race (reference: white)						
Black	-0.10 (0.06)	-0.06 (0.06)	0.10 (0.06)	-0.09 (0.07)	-0.06 (0.08)	
Latino	-0.13 (0.07)	-0.08 (0.07)	-0.13 (0.07)	-0.08 (0.08)	-0.08 (0.08)	
Sex						
Female (reference: male)						
Years of education	-0.10 (0.05)	-0.10 (0.05)*	-0.09 (0.05)	-0.10 (0.06)	-0.10 (0.06)	
English language ability	0.03 (0.01)*	0.02 (0.01)*	0.02 (0.01)*	0.02 (0.01)*	0.02 (0.01)*	
Reading proficiency	0.03 (0.05)	0.07 (0.06)	0.06 (0.06)	0.06 (0.06)	0.08 (0.06)	
Speaking proficiency	-0.006 (0.04)	-0.01 (0.05)	-0.01 (0.04)	-0.004 (0.04)	-0.02 (0.05)	
Immigrant	-0.02 (0.07)	-0.03 (0.08)	-0.02 (0.07)	-0.03 (0.07)	-0.04 (0.08)	
Years of experience	0.04 (0.02) <sup>+</sup>	0.04 (0.02) <sup>+</sup>	0.04 (0.02) <sup>+</sup>	0.04 (0.02) <sup>+</sup>	0.05 (0.02) <sup>+</sup>	
Years of tenure	0.02 (0.006)**	0.02 (0.006)**	0.02 (0.006)**	0.02 (0.006)**	0.02 (0.006)**	
Full time	0.09 (0.08)	0.09 (0.08)	0.09 (0.08)	0.09 (0.08)	0.09 (0.09)	
City (reference: Atlanta)						
Boston	0.07 (0.06)	0.05 (0.06)	0.10 (0.06)	0.07 (0.06)	0.10 (0.07)	
Los Angeles	-0.01 (0.08)	0.01 (0.09)	-0.008 (0.09)	0.04 (0.09)	0.02 (0.11)	
<b>Structural characteristics<sup>a</sup></b>						
Job unionized	0.25 (0.09)*	0.23 (0.09)***	0.26 (0.09)*	0.26 (0.10) <sup>+</sup>	0.24 (0.10) <sup>+</sup>	
Minority supervisor	-0.15 (0.04)**	-0.12 (0.04)**	-0.14 (0.04)**	-0.14 (0.05)**	-0.12 (0.04)*	
Occupation cognitive skill	0.05 (0.01)**	0.05 (0.01)**	0.04 (0.01)**	0.05 (0.01)**	0.04 (0.01) <sup>+</sup>	
Local occupation proportion Female	-0.10 (0.08)	-0.10 (0.08)	-0.09 (0.09)	-0.10 (0.09)	-0.09 (0.09)	
Establishment size (ln)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.01 (0.01)	0.01 (0.01)	
Establishment proportion unionized	-0.002 (0.08)	-0.02 (0.08)	-0.01 (0.08)	-0.01 (0.08)	-0.005 (0.09)	
Establishment ILM	-0.01 (0.05)	-0.02 (0.08)	-0.005 (0.05)	-0.02 (0.05)	-0.01 (0.06)	
Center city location	0.01 (0.04)	0.03 (0.04)	0.01 (0.04)	0.03 (0.04)	0.03 (0.04)	
Private establishment	0.04 (0.06)	0.04 (0.06)	0.03 (0.06)	0.03 (0.06)	0.04 (0.07)	

Job level minority concentration (reference: mostly white job)		
Mostly black job	-0.17 (0.07) *	-0.18 (0.07) *
Mostly Latino job	-0.22 (0.07) **	-0.15 (0.08) +
Mostly Asian job	0.10 (0.14)	0.08 (0.15)
Mostly "other" non-white job	-0.17 (0.11)	-0.17 (0.12)
Mostly mixed race job	-0.07 (0.11)	-0.06 (0.11)
Local occupation minority concentration		
Proportion black	-0.24 (0.19)	-0.33 (0.23)
Proportion Latino	-0.11 (0.08)	-0.10 (0.08)
Proportion Asian	-0.17 (0.70)	-0.18 (0.71)
Proportion "other" non-white	0.14 (0.20)	0.02 (0.02)
Establishment non-professional minority concentration		
Proportion black		-0.07 (0.14)
Proportion Latino		-0.31 (0.13) *
Proportion Asian		0.28 (0.19)
Intercept	1.50***	1.60***
Adjusted R <sup>2</sup>	44.97	45.09
		47.18
		47.32
		1.71**
		47.81

Notes: Models A-E include eleven industry controls (coefficients not shown); model fit p < .0001 for all models.

+ p < .10 \* p < .05 \*\* p < .01 \*\*\* p < .001 (two-tailed test).

employers tend to concentrate Latinos into “dirty,” low-wage establishments (Leiter, Hossfeld, and Tomaskovic-Devey 2001). Cross-sectional data cannot specify the causal process.

Data limitations may partly explain why I find no other associations between establishment-level minority concentration and wages when others have done so (for minority concentration, see Shenhav and Habersfeld 1992; for female concentration, see Carrington and Troske 1995 and Cohen and Huffman 2001). The Multi-City measure of establishment minority concentration only includes the race of *non-professionals* in an establishment. Studies finding a relationship between establishment-level race composition and wages measured the race of both professionals and non-professionals. To create a better match between the unit to which this measure pertains and the sample on which the model is estimated, I limited the sample to non-professional and non-managerial workers and re-estimated Models D and E (not shown). The association between establishment-level Latino concentration and wages remains in the partial model (Model D), but the relationships between establishment-level black and Asian concentration do not change in this new analysis. Since data limitations prevent me from measuring the race composition of professional and managerial workers, I cannot draw conclusions about an association between establishment-level minority concentration at these levels and individual wages.<sup>17</sup>

To test the robustness of the association between job minority concentration and wages, I estimate a model with all three levels of workplace minority concentration: job race type, local occupation minority concentration, *and* establishment minority concentration (see Model E).<sup>18</sup> Net of controls for occupation and establishment-level minority concentration and baseline controls, the job-level minority concentration association with hourly pay remains significant. Compared to wages in mostly white jobs, net wages are 18 percent less per hour in mostly black jobs and 15 percent lower in predominantly Latino jobs. If a worker with mean and modal values on all control variables worked in a job with mostly white co-workers, she would earn \$12.68 per hour.<sup>19</sup> The typical worker in a mostly Latino job would earn \$10.91 while the typical worker with mostly black co-workers would earn \$10.59 per hour. In one year, the monetary loss associated with working in a full-time, year-round job with mostly Latino co-workers totals nearly \$3,500 and over \$4,200 for those in mostly black jobs. Controlling for less aggregate levels of minority concentration reduces the significant relationship at the establishment level. In the full model, the relationship between establishment-level Latino-concentration and wages is no longer significant. Job-level measures best capture the relationship between workplace minority composition and wages. What is more, these results also highlight the importance of job level race segregation in producing racial wage inequality.

17. Worker contact may be the mechanism through which minority presence affects individual outcomes so the association between minority composition and wages may vary across establishment size. In small establishments where workers have more contact with one another because of shared office space, hallways, and common areas, the relationship between minority presence and wages may differ from that found in larger establishments. I estimated a model including an interaction between *establishment size* and *mostly minority job* categories to determine whether the association between minority concentration and wages depends on establishment size. I measured establishment size with a set of dichotomous variables: small (less than 100), mid-size (101–250), and large (250 or more). In a model including controls for individual-level, job, city, and establishment controls, interactions were not significant. The product term *continuous establishment size* × *minority job* was also not significant. The association between minority job concentration and wages is similar in small establishments with greater daily contact between workers *and* in large establishments with minimal worker contact.

18. Variance Inflation Factors (VIF) indicated no multicollinearity problems when models include all three measures of workplace race composition.

19. The “typical” individual is a native-born black female who works full time and has 13.15 years of education, 6.72 years of previous work experience, and 2.78 years of tenure. She lives in Los Angeles and speaks and reads English fairly well. Her job in the professional industry is not unionized and she has a white supervisor. Her occupation has a cognitive skill score of 1.14 and locally, her occupation is 49 percent female, 19 percent black, two percent Asian, five percent Latino, and one percent “other” non-white. The private establishment she works in is located in the center city, is almost one quarter unionized, has internal labor markets, and employs just over 161 workers.

In this sample and nationwide, minorities are far more likely than whites to work in jobs filled with other minorities. Consequently, the wage penalty associated with job race composition is imposed mainly on minority workers, a point to which I return in the conclusion.

### *Alternative Models*

Devaluation and queuing theories ignore the possibility that the relationship between minority concentration and wages may differ for black, white, and Latino workers. Each race group occupies a different status in the labor market. In general, employers assign white workers the highest workplace status and view black and Latino workers as their low status manual labor force (Kaufman 1986). Some employers rank blacks ahead of Latinos, however. A comparison of Latino and black employment in North Carolina industries found blacks gained employment in growing industries while Latinos moved into declining ones (Skaggs, Tomaskovic-Devey, and Leiter 2000). At the same time, some employers in North Carolina's low-wage manufacturing industry preferred blacks over Latinos in skilled or critical jobs (Leiter, Hossfeld, and Tomaskovic-Devey 2001). If worker status is linked to wage levels, we would expect the relationship between workplace minority concentration and wages to differ for whites, blacks, and Latinos. In this sense, working with a lower status group may not have the same effect on the wages of high and low status workers (Catanzarite 1998, 2002). High status workers may escape the "status contamination" associated with working in subordinate group settings, whereas low status workers may not be as likely to escape such penalties. Consequently, we should observe a different association between wages and workplace minority concentration among whites, blacks, and Latinos.

A second empirical analysis (not shown) allowed for the possibility that workplace minority concentration operates differently for blacks, whites, and Latinos. I estimated separate ordinary least squares (OLS) regression models for white, black, and Latino women and men. To avoid interpreting differing slopes for each group when differences were not statistically significant, I used the following strategy. First I pooled all race-sex groups in a model including five dichotomous variables representing individual's race-sex ("white male" was the reference category) and interactions of these race-sex variables with each of the workplace minority concentration measures. In these pooled analyses, interactions between race-sex and workplace minority concentration were *not* significant. I followed the same procedure for whites, blacks, and Latinos and controlled for sex. In this pooled model with "white" as the reference category, interactions between race and job, local occupation, and establishment minority composition were not significant. The negative association between wages and working with black and Latino co-workers is the same for all workers.

### *Individual versus Group Effects of Race*

Jeffrey Pfeffer (1983) theorized that the distribution of demographic attributes within a workplace may have a greater association with reward outcomes than do individual-level attributes. More specifically, the relative proportion of a racial group in a work setting may have a stronger association with wages than that of an individual's own race. For example, James Elliott (1999) found that co-worker race composition had a stronger and more consistent net effect than an individual's *own* race on that individual's annual earnings. Turning again to Table 2, we see that a model (Model A) including individual, city, job, occupation, and establishment controls closed the gross individual-level black-white and Latino-white wage gap. Nonetheless, race matters above and beyond the individual level. To conclude that race has no association with wages would be misleading because black and Latino job concentration is associated with wages *even when* the individual-level minority-white wage gap is not

significant (see Model E, Table 2). Moreover, this non-significant individual-level race wage gap conceals minority disadvantage resulting from their over-representation in lower-paying minority jobs.

## Summary

The results I present advance our understanding of the relationship between workplace minority concentration and wages in three ways. First, I demonstrate that wages are lower in minority-dominated jobs, specifically mostly black and Latino jobs, compared to wages in similar mostly white jobs. Individuals with mostly white co-workers have an unmistakable advantage over those with mostly black or Latino co-workers. Second, I show that lower wages in minority-dominated jobs extend to *all* workers, not just to subordinate group workers. All workers in mostly black jobs earn a net 18 percent less per hour and workers in mainly Latino jobs earn a net 15 percent less per hour than their counterparts in predominantly white jobs. Over the course of a year, these differences amount to between \$3,500 and \$4,200 for the average worker. Third, results from OLS regressions indicate the job is the unit that best captures this minority concentration-wage association. Hourly pay is lower in *jobs* filled primarily by blacks and Latinos compared to similar jobs filled mainly by whites, but this association does not hold true at the occupation and establishment levels. These results suggest that patterns of association between wages and minority concentration are not necessarily the same at the job, occupation, and establishment levels. This is because workers occupy specific jobs in specific establishments and workers earn wages in jobs. Jobs are also most proximate to mechanisms that influence the wage allocation process. That is, employers and workers interact in jobs and employers make decisions about specific job holders. Therefore, job-level measures better capture minority-white segregation and pay differentials than either occupation or establishment-level measures.

I suggested two reasons for the lower wages in predominantly black or Latino jobs. First, according to devaluation theory, wages are lower in minority jobs than in similar white jobs because pay deterioration follows minority entry into the position. In this case, employers hire blacks and Latinos into a job and because these race groups generally occupy a low social status, employers devalue their work (Catanzarite 2003). On the other hand, lower pay could result because employers only hire minorities into low-wage “bad” jobs, the mainstay of queuing theory. In this case, employers may consider high-paying jobs “inappropriate” for minorities and block minority access to them. The cross-sectional analyses I present cannot resolve the debate between these theories, but my data allow me to consider alternative mechanisms relating minority concentration and wages. Analyses (not shown) testing whether the association between job race type and wages differs for whites, blacks, and Latinos found that wages are lower for *all* workers in black and Latino jobs than wages in white-dominated jobs.

Scholars have advanced alternative theoretical interpretations of the relationship between workplace minority concentration and wages. I maintain, however, that queuing and devaluation theories provide the best framework for understanding this relationship. Indeed, these alternative explanations draw their arguments in part from queuing and devaluation theories. For example, crowding or competition theory argues that when a large number of workers compete for relatively few positions, wages decline in these positions (Bergman 1986). Thus, minority competition for a fixed number of jobs may drive down wages in such jobs. This competition results, in part, because employers rank minorities at the bottom of labor queues and restrict minority access to high-paying jobs. In this sense, crowding or competition theory resembles queuing theory. Secondary labor market theory also offers an explanation of the minority concentration-wage association. According to this theory, minorities receive lower pay due to minority over-representation in secondary labor markets or in low-wage industrial

sectors (Catanzarite 2002). The over-representation of minorities in disadvantaged workplaces is not a feasible explanation for the lower hourly pay in mostly black and Latino jobs compared to mostly white jobs, however. The analyses presented here find that lower pay in black and Latino jobs endures with the addition of controls for occupation, job, and establishment characteristics. To that end, devaluation and queuing offer valuable insights into the minority concentration-wage relationship.

## Conclusion

In the U.S., the social structure of most workplaces features the segregation of minorities and whites across jobs, occupations, and establishments. As I have demonstrated, the racial demographic structure of jobs has wage consequences for workers. Minority concentration in different jobs, occupations, and establishments than whites is a considerable social problem because it perpetuates racial wage inequality. This article shows that minority job concentration is associated with wages; predominantly black and Latino jobs pay less per hour than similar predominantly white jobs. Although all workers suffer the same wage penalty in black or Latino-dominated jobs, this relationship disproportionately affects minorities. Throughout the U.S., minorities and whites work in different jobs, occupations, and establishments yet at every level, racial minorities are more likely than whites to work with other racial minorities (see Bayard et al. 1999). Consequently, the extent to which pay is lower in minority jobs disproportionately hurts minorities, who are more likely than whites to have minority co-workers. If researchers continue to focus on occupation-level race segregation as they have in the past (e.g., England 1992; Sorensen 1989), they will continue to miss important “action” at the job level. Moreover, the question of whether jobs are the location of inequality-producing mechanisms has important implications for how we solve the problem of racial wage inequality. Racial inequities will persist unless establishments create policies or practices that target specific jobs or employers open job access to racial minorities.

Our understanding of the association between minority concentration and wage inequality does not end here. In fact, we are only beginning to develop sophisticated measures of workplace social structure. Longitudinal data are necessary to determine whether minority concentration affects all workers’ wages, whether wages affect minority concentration, or whether both processes operate (see Catanzarite 2003). Future research should pursue explanations for *why* and *how* the association between minority job concentration and wages occurs. Do employers view Latino and black workers as less skilled than whites? How do employers limit minority access to high-paying jobs? Likewise, research should investigate how patterns of job race-sex segregation influence pay. Qualitative workplace studies are necessary to understand the mechanism linking wages and minority concentration. I look forward to research that can address these questions and advance our understanding of the role minority job concentration plays in sustaining racial inequality at work.

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