SKILLS AND RACE IN HIRING: QUANTITATIVE FINDINGS FROM FACE-TO-FACE INTERVIEWS

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INTRODUCTION

The Problem

Racial disparities in labor market outcomes are on the rise. In particular, both earnings and employment of young black men are falling further behind those of their white counterparts [Bound and Freeman, 1992]. While the employment gap has been growing for some time, widening of the wage differential is relatively new. This means that the relative price and quantity of black men's labor are simultaneously declining, suggesting that decreases in employers' demand must, in part, explain black men's worsening labor market fortunes.

One particular explanation for this change is the skill mismatch hypothesis: the relative demand for less-skilled labor has declined, and this decrease has disproportionately hurt black men, whose skills are below average.

Substantial evidence suggests that black men's skill levels remain below average. Young black men lag behind whites in standardized test scores measured in national data sets, such as the Armed Forces Qualifying Test [Ferguson, 1993; O'Neill, 1990]. Blacks also perform less well on standardized tests administered in the public schools, though blacks are closing the mean gap [Jencks, 1991].

The existing literature also confirms a shift in demand away from low-skill labor which appears to result both from shifts in industry and occupation composition and from limited skill upgrading within particular jobs [Blackburn, Bloom, and Freeman, 1990; Bound and Johnson, 1992; Katz and Murphy, 1992].

In principle, if blacks have fewer skills for which demand is increasing they would be expected to be at an increasing disadvantage in the labor market. However, evidence linking the skill shifts described above to the fate of black men in the labor market is equivocal. Bound and Freeman [1992] find that deterioration in the black/white wage ratio (for men with fewer than ten years of experience) during 1973-89 is not explained by an increasing payoff to education. In fact, the largest deterioration in black men's relative wages is among college graduates. Although black men still

Eastern Economic Journal, Vol. 21, No. 3, Summer 1995

lag behind whites in educational attainment, they have narrowed the gap over this period, more than offsetting the effect of increasing returns to education.

Nonetheless, other researchers have argued that for skills that are *not* well captured by years of education, black men are suffering from a growing mismatch with the market. Ferguson [1993] argues that the demand, and therefore the premium paid, for the types of skills measured by test scores is rising faster than the gap is being closed. O'Neill [1990] makes a similar argument. Their conclusion about the impact of skills rests on an inference that the premium for skills is increasing, although they do not have direct evidence of employers' changing needs or use of skills.

Most of the research on the impacts of demand-side changes, including changes in the demand for skills, has employed microdata describing individuals' employment and earnings experience to investigate aggregate compositional shifts in employment. Thus, this research has tracked employment shifts across sectors (manufacturing to services), across industries and occupations (those requiring less education to those requiring more education), and across locations (one region to another or from city to suburb). However, such analyses have been able to explain only part of these widening gaps [Bound and Freeman, 1992; Moss and Tilly, 1991]. Much less research has been done using the firm as the unit of analysis and even less than that is based on detailed observation of the individual firm.

Our research strategy is to analyze the extent and sources of changes at the individual firm level. The standard microdata have been fairly thoroughly exploited, and, in any case, offer no purchase on employer attitudes and hiring procedures. So rather than using microdata, we conducted a set of open-ended interviews of employers themselves. The works of Kirschenman and Neckerman [1991], Neckerman and Kirschenman [1991], and Waldinger [1993] demonstrate that open-ended interviews of employers can offer important new insights on race in employment.

Our interviews have yielded both qualitative and quantitative data on employer demand decisions. The qualitative findings, summarized very briefly below, have been presented in two previous papers [Moss and Tilly, 1995a; 1995b]. In this paper, we report our analyses of the numerical data. In addition to changes in businesses' skill needs, we examine two related issues: negative employer perceptions of potential black employees (perceptions they often voice in terms of skills) and employer use of recruiting and screening procedures that disproportionately exclude black men.

Data and Methods

Although our interviews were open-ended, they were structured to generate comparable data across interviewees. The same structured questionnaire was administered to all respondents. In almost all cases, the sequence of questions was identical, as was the wording of the questions.

We spoke to employers in the Los Angeles and Detroit metropolitan areas. Although Bound and Freeman [1992] find that racial gaps in employment and wages have widened for male college graduates as well as less-educated men, we chose to focus on entry-level jobs employing people with no more than a high-school education, since this group of black men suffers the most acute disadvantage in the labor force.

The first of two waves of firm interviews in each city was conducted during June and July of 1991 and the second in January of 1992. The second wave included some repeat visits to firms interviewed in the first wave as well as new firms. In total, 63 interviews were conducted with 56 firms or agencies.

The sample was chosen strategically rather than randomly, using four representative industries: auto parts manufacturing, retail clothing stores, insurance companies, and the public sector and related services (primarily consisting of local government agencies, but also including some public utilities and private hospitals). Within each industry, we attempted to sample both suburban and central-city establishments of varying size. Where possible, we included black-owned businesses in the sample. The sample was drawn from the *Yellow Pages* in each city, business directories, and more idiosyncratic sources such as suggestions from academic, business, community, and union contacts.

Initial contact at the companies was made with the highest-ranking personnel official who had detailed knowledge of the hiring process. Interviews were typically conducted with this person or a deputy. Some interviews included up to three informants from one company. We asked respondents to focus their answers on the modal entry-level job in the firm that could be performed with a high-school degree or less education. When there was choice among sample jobs, we attempted to direct attention on the job most likely to employ males. Interviews typically lasted about 1.25 hours and were taped and transcribed for analysis. Sixty-four numerical variables were then coded for each interview.[1]

Given the size of the sample, and the way in which the sample was drawn, the quantitative results we present should be interpreted as descriptive of the patterns among this set of employers and not as sample estimates of the entire population of employers in Detroit and Los Angeles.[2] In addition, all interviews were conducted during a nationwide recession. This cyclical fact surely affected employer responses, such as their assessment of the availability of an adequate number of job candidates possessing requisite skills.

A Summary of Firm Characteristics

The 63 interviews at 56 firms or agencies translated into 58 interview sites, since informants at one firm gave us detailed information on three different sites (the office, warehouse, and store sections of a retailer). Table 1 profiles the 58 sites.

We sampled auto parts manufacturing and retail clothing most heavily. After speaking to roughly equal numbers of respondents from each of the four selected sectors in the summer 1991 interviews, we identified particularly interesting changes in auto and retail and greatly expanded the samples for these two sectors during the January 1992 interviews. We also oversampled firms located in what we term the "inner city": poor communities of color, regardless of whether they sit within the central city of a metropolitan area or in the suburbs.

The firms we selected and the jobs we focused on are far from typical. High levels of unionization reflect the concentration of the auto industry and the public sector. Despite union influence, wages for the sample jobs languished at $6.54 an hour, well

TABLE 1
Characteristics of the 58 Sites

Variable	Number of observations with missing data	Proportion or mean
Industry		
Auto parts manufacturing	0	33%
Retail clothing	0	29%
Insurance	0	14%
Public sector, related services	0	24%
Location		
Inner city	0	47%
Rest of city	0	12%
Suburban	0	24%
Mixed	0	17%
Relocated in last 10 years or so	0	14%
When relocated	51[a]	1977
Other background firm characteristics		
Any part of firm unionized	1	39%
Sample job unionized	1	37%
Minority-owned	1	11%
Mean firm size	0	1795
Employment rising	3	16%
Employment falling	3	51%
Sample job entry wage	5	$6.54
Rising competition in product market	0	59%
Employee demographics		
Black	5	32%
Latino	7	27%
Person of color	4	64%
Female	8	50%
Normalized employee demographics (index) [b]		
Black	5	1.9
Latino	7	0.8

a. 51 of the 56 firms had not relocated in the previous 10 years.
b. To normalize the proportions of employees who are black or Latino, we divide by the proportions of the metropolitan population who are black or Latino, respectively. A normalized index of 1.0 means that the proportion of a group in the workplace matches that in the population; a higher index signifies overrepresentation of the group in that workplace.

below the $10.59 average for nonsupervisory employees in all private nonagricultural establishments [U.S. Council of Economic Advisors, 1993, 396]. (Recall that the sample job, the subject of much of the interview, is defined as the largest job category *requiring no more than a high-school education.*) The high rate of minority ownership stems from our efforts to identify minority-owned auto parts manufacturers.

Although we spoke to firms with as few as six employees, the mean firm size was 1795, due to a number of very large public agencies, insurance offices, and manufacturing plants. Employment had been declining recently for the majority of employers — not surprising, given the recession years involved. Correspondingly, 59 percent of the sites reported stiffening competitive pressures in the product market.

We asked employers for a demographic breakdown of entry-level jobs, but in some cases we were able to obtain only race and gender proportions for the firm as a whole. Black workers are overrepresented in our firms, since we oversampled low-skill jobs and inner-city locations. Latinos are overrepresented in Los Angeles, but underrepresented in Detroit, presumably reflecting the localization of Detroit Latinos in particular areas and jobs not sampled. As one measure of overrepresentation, we computed a normalized index by dividing the proportion of a firm's workers in a given category (the proportion black, for example), by the proportion of the metropolitan area's population in the same category. A black index well over 1.0 bespeaks a high concentration of black workers.

In the analyses reported below, we pooled the data for Detroit and Los Angeles; characteristics differed very little between the two cities. In most of the quantitative analyses, we included a dummy variable for Detroit, but did not estimate interaction effects of the other variables by city.

Key Qualitative Findings

Before reporting quantitative results in the next section, we briefly summarize our qualitative findings, which set the general context (see Moss and Tilly [1995a; 1995b] for more detailed accounts).

Open-ended interviewing did help us to explore some of the issues that are difficult to understand with other methods. To begin with, we uncovered important distinctions in the types of skills employers demand in their workers. We found a strong and growing employer concern over what we term *"soft skills."* We define soft skills as distinct from hard skills such as literacy and numeracy at the low end, and more job-specific technical skills higher up the scale. We identify two clusters of soft skills that are important to employers in our interviews. The first, *interaction*, regards ability to interact with customers and co-workers, including friendliness, teamwork, ability to fit in, spoken communication skills, and appearance and attire. A second cluster we call *motivation* encompasses characteristics such as enthusiasm, positive work attitude, commitment, dependability, and willingness to learn.

Further, employers perceive black male applicants as having fewer soft skills along both dimensions. The objective reality behind this assessment is difficult to judge from our data. Part of the perception may be the result of racial stereotypes and discrimination — statistical discrimination or discrimination pure and simple. In some cases, the perception may be an improper reading of cultural differences. Finally, some portion of the perceived lack of soft skills may be accurate. The schools and neighborhoods from which young blacks come may generate less opportunity to develop soft skills — the interaction skills felt to be most important in the workplace,

and the motivational skills at entry-level jobs fostered by expectations of reward and advancement in the workplace. This is the argument of William Julius Wilson [1987].

More generally, we confirmed earlier findings of widespread negative employer perceptions of black men, although we are unable to determine how these perceptions — or actions based on them — have changed over time if at all. Overall, the negative views expressed range from crude stereotypes characterizing black men as "lazy" or "scary," to more sympathetic assessments of the educational and environmental disadvantages faced by African-Americans. Some respondents argue instead that problems of interaction and motivation represent management shortcomings rather than deficits of black employees.

Our qualitative data generate a host of findings and possible links between changes occurring within firms and the employment opportunities of black men. The qualitative data, however, do not allow us to explore the magnitudes of the discovered connections. Neither do they tell of the extent of differences in employer behaviors across sectors. Finally, the separate effects of the different demand-side influences we have studied, when considered simultaneously, can only be assessed with quantitative data. We turn now to our quantitative results.

FINDINGS

We discuss quantitative findings in four parts: skill requirements in the jobs in question, employers' perceptions of racial differences in workforce quality, hiring procedures and models of the determination of a firm's racial composition.

Skill Requirements

Frequencies of Skill Requirements. Despite the relatively low skill level of the jobs considered, employers expressed a variety of concerns and observations about skills (Table 2). Less than one-fifth of the employers required high school, but more than four-fifths required some basic literacy or math. Indeed, despite the rarity of a hard-and-fast high-school requirement, 70 percent of the sample job workforce held a high-school diploma or equivalency certificate. (Recall that these are, by selection, jobs that require no more than high school.) The amount of time required to learn the sample job ranged from a derisory five minutes to over two months, with the average about 1.5 weeks.

As noted in the introduction, we discovered intense employer interest in soft or social skills. Almost half mentioned soft skills first when asked what skills or qualities were most important in hiring a candidate for the sample job. Nearly 90 percent mentioned soft skills at some point in their answer. Most employers also stated that their skill needs are rising, with growing need for hard skills slightly outpacing the growing demand for soft skills. Almost nobody reported declines in required skill levels; the only declines were in *hard* skill needs.

Almost three-quarters of the employers complained of a worsening labor force in the geographic area. However, a considerably smaller number (53 percent) reported that they, themselves, were having a harder time finding qualified workers.

Table 2
Skill Needs at the 58 Sites

Variable	Number of observations with missing data	Proportion or mean
Skill required in sample job		
High-school graduates as proportion of sample job workforce	6	70%
Require high school	0	17%
Require basic literacy or math	0	83%
Hours needed to learn job (mean)	7	56
Soft skills first in list among most important hiring criteria	1	47%
Soft skills among most important hiring criteria	1	86%
Job entails SPC or other precise measurement of output	0	29%
Manual job	1	46%
Changes in skill requirements		
Overall skill requirements rising	0	64%
Hard skill requirements rising	0	50%
Soft skill requirements rising	0	43%
Overall skill requirements falling	0	3%
Hard skill requirements falling	0	10%
Soft skill requirements falling	0	0%
Labor force quality		
Believe area labor force is getting worse	0	72%
Harder to find satisfactory workers	0	53%

Skill and Industry Composition Shifts. Our data also support the notion that recent shifts in the composition of employment have heightened soft-skill requirements, although the effect on hard-skill requirements is ambiguous at best. Schematically, manufacturing and public sector employment has shrunk, whereas service employment — which retail and insurance typify — has grown.

Service employers virtually by definition place greater emphasis on employee relations with customers than do manufacturing businesses and have a reputation for greater attention to service than the public sector. Table 3 demonstrates that in our sample, retailers and insurers were indeed the most likely to seek soft skills of some kind and the most likely to mention interaction skills specifically. On the other hand, retail lagged behind auto parts and the public sector in the perceived importance of motivation, although insurance led the pack. Respondents from insurance companies and, particularly, retail businesses were by far most likely to mention soft skills *first* in the list of desired qualities (Table 4).

The record on hard skills is more mixed and suggests that employment composition changes may even have *diminished* hard skill demands (Table 4). Retailers were *least* likely to require basic literacy or math, much less high school; insurers were most concerned with literacy and numeracy, but demand high school less often than

TABLE 3
Qualities Sought in Entry Level Employees
(Frequency with Which Each Category Was Mentioned)

Industry	Hard Skills	Soft Skills Total	Soft Skills Interaction	Soft Skills Motivation
Auto parts manufacturing	58%	74%	32%	63%
Retail clothing	22	100	78	38
Insurance	67	100	67	78
Public sector, related services	100	79	60	60

Informants typically mentioned more than one desired quality.

TABLE 4
Frequency of Job Requirements, by Industry

Industry	Soft skills mentioned first among most important qualities	High school required	Basic literacy or math required
Auto parts manufacturing	21%	21%	79%
Retail clothing	88	6	71
Insurance	50	50	100
Public sector, related services	36	71	93

the public sector. Given that manufacturing jobs have disappeared more quickly than public sector jobs, and retail jobs have grown more quickly than insurance jobs, we can draw no obvious conclusion about hard skills. Thus, although (as noted above) employers were raising hard-skill entry requirements *within* industries, industry mix changes probably did not contribute greatly to this trend, and may cut against it.

Employer Perceptions of Racial Differences Among Workers

On the whole, respondents were quite frank about their views — something Kirschenman and Neckerman [1991] also found. And the views expressed bode poorly for black men in the labor market.

First of all, employers were acutely aware that black men lag behind their white counterparts in education. When asked to explain why black men have an especially hard time finding and keeping jobs, many cited deficits in education and related basic skills.

But in addition, many employers see less-educated black men as lacking the interpersonal and self-direction skills that are an increasingly essential part of the job description. Personnel officials, particularly in retail, described less-educated black men as "really scary," (30), "intimidat[ing]," (39), "hostile," (22), and "defensive," (28). (Numbers in parentheses identify interviews, for our own tracking purposes.) In

TABLE 5
Employer Perceptions of Racial Differences in the Workforce

	Number of observations with missing data	Proportion or mean
Negative views of black men		
Black men interact poorly with others	1	32%
Black men are poorly motivated	1	40
Other negative views	1	65
Customers or coworkers dislike	0	29
Views of other groups		
Black women better workers than black men	10	48%
See immigrant work ethic	5	72

Total number of observations is 58.

many cases, employers linked these evaluations to negative views of black men's attitude, dependability, motivation, and level of effort.

Thus, almost one-third faulted black men's ability to interact with others, and two-fifths criticized their work motivation (Table 5). Just short of two-thirds expressed other negative views of black men's capacity as workers. Most commonly, "other negative views" categorized employers who stated that black men suffered in the labor market due to a lack of education or a difficult family or community environment—without necessarily spelling out the skill, attitudinal, or behavioral consequences of these problems. Additionally, close to one-third of respondents stated that customers or co-workers in their business prefer not to interact with black men — at least in some settings.[3]

We also asked employers about potential labor market competitors with black men. Nearly half of respondents viewed black women as better workers than black men; nearly three quarters lauded the superior "immigrant work ethic."

One obvious question is *which* employers are most likely to voice particular views of black men. Unfortunately, empirical models of the determination of employer perceptions that we tried revealed little or nothing by way of systematic patterns [Moss and Tilly, 1993].

Hiring Practices

Completing the circle, employers use particular hiring practices to select for the skills they seek. These procedures are shaped by their perceptions of the labor market, and in turn shape those perceptions.

To screen applicants, employers relied most heavily on the personnel interview: 82 percent rated the interview the most important source of information (Table 6). Slightly more than half used a written test of some kind (ranging from aptitude and specific skill tests to "integrity tests" designed to assess applicant tendencies toward theft), and just under half required a drug screen.

TABLE 6
Employer Hiring Procedures

	Number of observations with missing data	Proportion or mean
Interview most important screen	1	82%
Use written test	0	55
Use drug test	2	48
Use Civil Service	0	10
Rely extensively on employee referrals to recruit	3	53

Total number of observations is 58.

TABLE 7
Determinants of Reliance on Employee Referral
(Absolute values of t-statistics in parentheses)

Independent Variable	Model 1	Model 2
Auto parts manufacturing	1.53	—
	(2.29)	
Retail clothing	-1.35	—
	(2.07)	
Insurance	0.53	—
	(0.71)	
Detroit	-0.54	—
	(1.13)	
Inner city	0.91	—
	(1.60)	
Suburb	0.47	—
	(0.63)	
Unionized job	—	-1.05
		(1.69)
Firm size /1000	—	-0.03
		(0.35)
Manual job	—	1.72
		(2.97)
Soft skills among most imp.	—	-1.28
		(1.54)

Estimated using probits. "Soft skills among most imp." means that when asked about the most important qualities sought in an applicant, the respondent mentioned soft skills.

We examined the determinants of three particular employer hiring practices: extensive use of employee referrals for recruitment, primary reliance on the personnel interview, and use of a written test. We encountered strong multicollinearity be-

tween industry identifiers on the one hand and firm and job characteristics on the other, so we estimated two separate models for each dependent variable.

The predictors of referral-based recruiting (Table 7) are straightforward. Blue-collar employers (auto parts, or manual jobs) tended to use employee referral most heavily. In soft-skill-intensive jobs (retail, or jobs where respondents rate soft skills important), employers relied least on referral. Unionized firms, and perhaps larger firms as well, eschewed word of mouth, presumably depending instead on more formal mechanisms. Detroit employers had less use for referrals than those in Los Angeles, consistent with a Detroit focus on harder skills [Moss and Tilly, 1993]. Interestingly, referral appears to be more common in the inner city *and* in the suburbs than in the remainder of the city or in multi-location firms that cut across different types of areas.

Table 8 summarizes evidence on the determinants of screening methods. Insurance companies in the sample invariably relied most on the interview *and* required a written test. Auto parts and retail employers appeared more inclined to emphasize the interview than public sector employers, and less likely to administer written tests to applicants.

Hard-skill-oriented Detroit area employers relied less on the interview, but also used written tests less. Thus, Detroiters drew more on other sources of information, such as work histories or references. Similarly, inner-city employers in both cities leaned less on the interview, whereas suburban businesses *always* rated the interview most important, and more frequently tested as well.

Other job and firm characteristics generally display the screening effects one might expect. Larger firms relied less on interviews, more on written tests. Unionization and manual status were both associated with less stress on the interview, but with less testing as well.

Finally, when respondents mentioned soft skills first in their description of the most important qualities, they were less likely to conduct written tests. In the model shown, they were somewhat more likely to emphasize the interview, but the effect is small and far from statistically significant — and is highly sensitive to changes in specification (not shown). This last finding (or non-finding) surprises us, since a number of interviewees highlighted the interview's centrality for learning about an applicant's soft skills.

Determinants of Racial Composition of the Workforce

We have discussed three factors that might be expected to affect black representation in the workplace: skill requirements, employer perceptions, and hiring procedures. As a final analysis, we seek to estimate the relative contribution of each factor to the level of black employment in the sampled firms. We also control for location variables.

To deal with the inter-city differences in the size of the black population, we use a normalized index of black employment at each firm, not the raw percentage of blacks at a firm, as described in the introduction.

TABLE 8
Determinants of Screening Practices
(Absolute values of t-statistics in parentheses)

Independent variable	Interview most important (1)	Interview most important (2)	Require written test (1)	Require written test (2)
Auto parts manufacturing	0.53	—	-1.73	—
	(1.04)		(2.67)	
Retail clothing	0.39	—	-0.30	—
	(0.68)		(0.62)	
Insurance	—	—	—	—
Detroit	-1.01	—	-0.97	—
	(2.07)		(2.31)	
Inner city	-0.41	—	-0.03	—
	(0.92)		(0.06)	
Suburb	—	—	1.66	—
			(2.19)	
Unionized job	—	-0.48	—	-0.60
		(0.89)		(1.14)
Firm size /1000	—	-0.06	—	0.45
		(0.89)		(1.66)
Manual job	—	-0.24	—	-1.44
		(0.46)		(2.82)
Soft skills mentioned first	—	0.07	—	-0.86
		(0.10)		(1.76)

Estimated using probits. "Interview most important" means that the respondent identified the interview as the most important source of information about an applicant. "Soft skills mentioned first" means that when asked about the most important qualities sought in an applicant, the respondent mentioned soft skills first. Insurance respondents invariably responded that the interview was most important, and invariably used written tests; therefore the insurance indicator was dropped to permit estimation. The public sector is the reference industrial category in the table above. Suburban employers also always rated the interview most important, so the suburban indicator was likewise dropped from that model.

As Tables 9 and 10 show, we estimated six models: one for each of the three factors (skill, etc.), one controlling for location variables alone, one combining skill with industry variables, and a last one comprising all the independent variables. Note that in model 6, because of the small number of degrees of freedom, the critical values of t-tests at the 5 percent and 10 percent level are 1.73 and 2.10, respectively.

Among skill variables (models 1, 5, 6), only the literacy/numeracy requirement demonstrates a consistent effect: such a requirement is associated with lower black employment. The high-school requirement has a negative, statistically significant impact on black representation in the combined model, but this sign reverses positive effects measured in less complete models. We emphasize soft skill demands as a barrier to black male employment in our discussion of qualitative results [Moss and Tilly 1995a; 1995b], but the measured effect is neither consistently negative nor statistically significant. A simple explanation for this is that close to 90 percent of employ-

TABLE 9
Determinants of Racial Composition of a Firm's Workforce: Models 1-3
(Absolute values of t-statistics in parentheses)

Independent variable	Model 1 (Skill)	Model 2 (Perceptions)	Model 3 (Hiring practices)
Skill			
Require high school	0.69	—	—
	(1.12)		
Require literacy/numeracy	-1.28	—	—
	(2.12)		
Soft skills mentioned first	-0.30	—	—
	(0.62)		
Manual job	-0.39	—	—
	(0.84)		
Perceptions of black men			
Critical of interaction	—	0.66	—
		(1.18)	
Critical of motivation	—	0.76	—
		(1.40)	
Other negative views	—	0.64	—
		(1.22)	
See immigrant work ethic	—	-0.68	—
		(1.20)	
Hiring practices			
Interview most important	—	—	-1.51
			(3.16)
Use written test	—	—	-0.17
			(0.47)
Use drug test	—	—	0.21
			(0.59)
Rely extensively on referrals	—	—	-0.33
			(0.87)
Location			
Detroit	—	—	—
Suburb	—	—	—
Inner city	—	—	—
Industry			
Auto	—	—	—
Retail	—	—	—
Insurance	—	—	—
Adjusted R-squared	0.11	0.02	0.19

Dependent variable is normalized index of black employment (proportion black in the workplace divided by proportion black in the metropolitan area population).

TABLE 10
Determinants of Racial Composition of a Firm's Workforce: Models 4-6
(Absolute values of t-statistics in parentheses)

Independent variable	Model 4 (Location)	Model 5 (Skill + Industry)	Model 6 (Combined)
Skill			
Require high school	—	0.98	-1.07
		(1.51)	(2.27)
Require literacy/numeracy	—	-1.65	-1.80
		(2.83)	(4.56)
Soft skills mentioned first	—	-0.76	0.15
		(1.45)	(0.45)
Manual job	—	0.50	-0.12
		(0.80)	(0.23)
Perceptions of black men			
Critical of interaction	—	—	0.31
			(0.86)
Critical of motivation	—	—	-0.22
			(0.68)
Other negative views	—	—	0.59
			(1.77)
See immigrant work ethic	—	—	-0.03
			(0.08)
Hiring practices			
Interview most important	—	—	-1.53
			(4.04)
Use written test	—	—	0.61
			(1.57)
Use drug test	—	—	0.45
			(1.32)
Rely extensively on referrals	—	—	0.79
			(1.72)
Location			
Detroit	0.52	—	0.81
	(1.17)		(2.40)
Suburb	-0.77	—	0.87
	(1.29)		(1.39)
Inner city	0.46	—	0.66
	(0.87)		(1.41)
Industry			
Auto	—	-1.94	-1.89
		(3.18)	(4.64)
Retail	—	-0.32	-0.30
		(0.41)	(0.44)
Insurance	—	-0.03	-1.11
		(0.03)	(1.62)
Adjusted R-squared	0.06	0.17	0.66

Dependent variable is normalized index of black employment (proportion black in the workplace divided by proportion black in the metropolitan area population).

ers listed soft skills among the most important skills, and a variable indicating whether they mentioned soft skills *first* in their list (the independent variable in question) may not be a sufficiently sensitive measure of the importance of soft skills.

Industry (models 5, 6) may also proxy for unmeasured skill variables (as well as a variety of other things!). All three private sector industries show lower black employment than the public sector. Black underrepresentation is most glaring by far in auto parts manufacturing.[4]

Detroit area employers (models 4, 6) hire more black employees, even after controlling for the proportionally larger black population. Businesses in the inner city also hire more blacks than those in the rest of the city or those with multiple locations. Oddly, suburban location leads to the lowest black representation in model 4, but the highest representation in model 6.

We expected to find an inverse connection between negative employer attitudes and black representation — but found no such connection. The results of models 2 and 6 add to the perplexity. "Other negative views" musters a statistically significant coefficient in one model — but carries a positive sign. This is not as surprising as it appears at first. The other negative views for the most part attribute black workers' lower productivity to shortcomings in their education or environment, which is on the whole a more sympathetic assessment than that of employers who criticized black men's motivation or skills in interaction. Employer perception of an immigrant work ethic does consistently predict lower black employment, but in the complete model the effect essentially vanishes, becoming tiny and highly insignificant. The feeble adjusted R-squared for model 2 drives home the weak predictive power of these variables. Several reasons for this are possible: many respondents may offer answers that are "socially acceptable" rather than accurate; views of individual respondents may not proxy well for the overall culture of a business; and perceptions may have an impact only in combination with other factors such as skill requirements.

Among hiring practices (models 3, 6), primary reliance on the interview clearly correlates with reduced black representation, consistent with previous literature [Word, Zanna and Cooper 1974; Pettigrew and Martin, 1987; Neckerman and Kirschenman, 1991]. Indeed, the negative effect associated with interview primacy is almost as large as the mean index of black employment. Other hiring practice effects either change sign depending on specification, fall short of standard significance levels, or both.

F-tests for the significance of the contribution of each of the five sets of variables (skill, perceptions, hiring practices, location, and industry) to the combined model confirm what we have learned from the *t*-statistics. All of the sets *except* employer perceptions contribute significantly at the 5 percent level (not shown), with hiring practices and skills topping the list.

To summarize, these six models highlight four factors clearly related to *lower* black employment:

1. A literacy or numeracy requirement,
2. Belonging to the auto parts manufacturing industry,

3. A Los Angeles area location, and
4. Primary reliance on the personnel interview.

Thus this analysis supports the notion that hard skill needs and interview-centered screening place black men at a disadvantage, but does not offer solid support for a number of other hypotheses about the determinants of black employment we suggested in our qualitative analyses — specifically, the notion that soft skill requirements are a bar to black men in employers' eyes.[5]

CONCLUSION

Our findings clearly suggest the extent of employers' increasing demand for skills, both soft and hard, and of their marked negative perceptions of black men's skills and attitudes. Our data were less successful in uncovering unequivocal associations among key variables suggested from our qualitative analyses. Some interesting associations did manifest themselves.

Despite convincing qualitative evidence that soft skill requirements screen out black men, we did not find that a priority on soft skills had a significant effect on hiring of blacks in probit analysis. The variable in question—whether employers mentioned soft skills first in describing desired employee qualities — may not be a very accurate measure of the degree of importance employers attach to these skills. A literacy/numeracy requirement *does* show a negative, significant impact on black employment in these models. In spite of our findings of widespread negative employer perceptions of black men, none of our measured variables systematically predict stated negative employer attitudes.

Employers' use of word of mouth and employee referral in recruiting, and their large and growing reliance on the face-to-face interview, appear to perpetuate the exclusion of black men. In probit analyses, relying on the interview as the primary screen has a predicted negative effect on black employment that is almost as large as the mean index of black employment! This is particularly important given that 82 percent of employers rated the interview as the most important source of information.

In any case, this statistical analysis is far from the final word. Our sample is small and non-random, and is more suited to exploring hypotheses than to testing them with classical significance tests. We are currently gathering similar data from a larger and randomly selected sample of employers. Stronger tests of these hypotheses will be possible with this new sample.

NOTES

We wish to acknowledge useful comments from reviewers Lynn Burbridge and Michele Naples, as well as Steve Pressman. We also thank Joleen Kirschenman and participants in the Eastern Economic Association's 1994 meetings, the M.I.T. Industrial Relations Seminar, the University of Massachusetts-Lowell's Committee for Industrial Theory and Assessment, and the Cornell Department of City and Regional Planning for comments on this and closely related work.

1. Because this study investigated employer attitudes, one of our reviewers raised a concern about the relation between willingness to participate in the study by an employer and his or her attitudes about race. Such a relation might be expected to generate a biased sample. We believe this is not a problem in our study. In our solicitation letters and follow-up phone calls, we presented this study as a study exploring "Workforce 2000" issues — changes in the skill needs of employers, the degree to which these needs are met by the available entry level workforce, and future skill needs and likely availability of those skills. The first mention of race to employers was during the interview when we asked for a race/gender/age breakdown of the employees in the firm. Our response rate was about 65 to 70 percent, and the most frequent reason for not participating in the study was that the employer could not make time for interview during the relatively short periods (one week) during which we were in each city for each wave of interviews.
2. In principle, we would like to learn about two things from the quantitative analysis: what explains the *differences* among employers, and what are the impacts of these differences on the overall labor market facing less-educated workers? We report unweighted regression results to address the former. We explored regression results weighted by firm employment to address the latter. However, we choose not to report weighted regression results, for three reasons. First, since the sectors and firms do not constitute a probability sample, weighting them by employment represents a somewhat arbitrary subset of the labor market. Second and related, a few large employers (chiefly public employers) dominate the sample. Of 58 employment sites, the three largest employers — all in the public sector — account for 50 percent of total jobs, and the nine largest account for 80 percent. Among other things, this means that weighting boosts the public sector from one quarter of the sample to half the sample — making the sample *less* representative of the actual job distribution. Third, we conducted a Park-Glejser test for heteroskedasticity correlated with firm size, for weighted and unweighted samples [Pindyck and Rubinfeld 1981, 150-51]. The test found heteroskedasticity for the weighted sample, but not the unweighted one.

   Three of the four key determinants of proportion black identified at the end of this paper (literacy or numeracy requirement, auto parts industry, primary reliance on the interview) retain their sign and significance in weighted regressions. The Detroit/Los Angeles distinction retains its sign, but loses significance in the full model (model 6, shown in Table 12). Results of weighted regressions are available from the authors upon request.
3. Lynn Burbridge queried us about our data and the issue of statistical discrimination. In particular, she was interested in whether employers made distinctions within groups of workers (among black workers in particular). For example, did their attitudes apply to black workers in general, to a subset identified in some way, or to those hired in the firm? While several of our interviewees did draw distinctions between their black employees, and black workers in general, we did not investigate these questions systematically. We hope to learn more about this in our larger study now underway.
4. Interestingly, an indicator for unionized job also garners a negative coefficient if added to model 6 (not shown).
5. We are grateful to Lynn Burbridge for her observation that hard and soft skills may be more closely related than we have suggested here. It is possible that some people may manifest poorer soft skills (for example communication and interaction skills) because they lack the hard skills a better educational experience would generate.

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