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Source: *American Sociological Review*, Aug., 1995, Vol. 60, No. 4 (Aug., 1995), pp. 612-633

Published by: American Sociological Association

Stable URL: <https://www.jstor.org/stable/2096297>

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## THE INSTITUTIONAL ENVIRONMENT: IMPLICATIONS FOR RACE AND GENDER INEQUALITY IN THE U.S. LABOR MARKET\*

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*I link institutionalism in organizational theory with research on stratification and document the effects of the institutional environment, a noneconomic variable, on economic inequality. Using multiple indicators, I create a scale measuring how much the social environment within a state endorses equality of opportunity. Using 1980 Census data, I test whether industries with more of their employment in states with environments less supportive of equality exhibit greater race/gender inequality in earnings and in access to good (skilled white-collar) jobs. I find that the more egalitarian the institutional environment, the less the inequality between Black men or Black women and White men. Results on whether the state institutional environment affects inequality between White women and White men are equivocal. Industries with stronger ties to the national institutional environment are more favorable in terms of jobs and earnings for Black men, Black women, and White women, relative to White men. All analyses include controls for group differences in human capital, hours worked, average establishment size, and whether the industry is in the core sector.*

One compelling area of recent sociological research is the quest to understand the structure of labor-market inequality. The American labor market has changed over the past 50 years in its patterns of incorporation of minority and women workers (Wilson 1978). These changes have occurred more rapidly in some parts of the economy than in others, however, and receptiveness to non-White and female workers has varied by industry, as well as by region, occupation,

and firm. Researchers have documented the effects of a variety of economic structures on inequality, including the characteristics of industries and firms. But studies on inequality in the American labor market have ignored the effects of noneconomic factors on inequality, even though conceptions of noneconomic factors are present, at least implicitly, in theories of inequality—human capital, status attainment, and discrimination (in individualistic theories), and institutional economy, dual labor market, and segmented economy (in structural theories).<sup>1</sup>

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<sup>1</sup> Although the human capital theorists may not see the environment as affecting the labor market, it surely affects pre-labor-market activity. Women, for example, choose “appropriate” college majors (Polachek 1978). Status attainment research (Blau and Duncan 1967; Sewell, Haller, and Portes 1969; Sewell, Haller, and Ohlendorf 1970) sees the aspirations of individuals as being developed through socialization and as orientations to action. Becker’s (1975) taste model of discrimination focuses on attitudes. The structuralists (institutional economists, dual labor market, and dual/segmented economy theorists) argue that customary typifications of social reality

The organizational literature on institutional environments explicitly focuses on noneconomic factors affecting inequality in the labor market. The institutional environment in which an organization operates—the institutionalized rules and norms of society (Selznick 1948)—is seen to affect the structure of that organization. I argue that the institutional environment also affects the employment and pay practices of organizations. I demonstrate that local and national institutional environments influence race and gender inequality in job level and pay. My analysis adds an important new dimension to our understanding of how inequality is structured by demonstrating the effect of this noneconomic factor on inequality. Further, this study extends organizational research by demonstrating that the institutional environment affects, not only organizational structures, but also the economic opportunities of the individuals in these organizations.

## THEORETICAL BACKGROUND

Research in sociology and economics has established the effects of a wide range of economic structures on inequality in the labor market. Stolzenberg (1978) found a positive effect of the number of employees in an establishment on returns to education, although Sakamoto and Chen (1991) have questioned this result. Villemez and Bridges (1988) demonstrated that the effects of firm and establishment size on earnings are partially mediated by the presence of internal labor markets and by industry and occupation as well. Bielby and Baron (1986) studied the role of organizational context (organization size, formal governance structure, production technology) and job characteristics (specialization, complexity) on the gender composition of jobs. Beck, Horan, and C. Tolbert (1978) and Hodson (1983) examined the effects of industrial structure on earnings.

A related line of research builds on Selznick's (1948) argument that the institutionalized rules and norms of society intrude on

the internal structures of organizations. P. Tolbert (1985) defined this institutional environment as being composed of shared understandings and expectations of appropriate behavior. These "normative obligations" often become reified as social facts that must be considered (Meyer and Rowan 1977:341).

Studies by Meyer and Rowan (1977), Fennell (1980), DiMaggio and Powell (1983), P. Tolbert and Zucker (1983), Meyer and Scott (1985), P. Tolbert (1985), and Dobbin, Sutton, Meyer, and Scott (1993) have focused on the relationship between organizations and the broader social fabric. Two central concerns of this research have been the way that organizational forms in the broader social structure are reproduced within organizations, and the degree of congruence between normative structures in organizations and society. This congruence is important, because "[o]rganizations compete not just for resources and customers, but for political power and institutional legitimacy, for social as well as economic fitness" (DiMaggio and Powell 1983:150). Whether and to what degree an organization incorporates this institutional environment will affect the way it is viewed by society. Meyer and Rowan (1977) speculate that "[e]mployees, applicants, managers, trustees, and governmental agencies are predisposed to trust the hiring practices of organizations that follow legitimated procedures—such as equal opportunity programs, or personality testing—and they are more willing to participate in or to fund such organizations" (p. 349). Organizations will follow such "legitimated procedures" because the legitimation they gain by doing so enhances their stability and chances for survival (Meyer and Rowan 1977; Fennell 1980; DiMaggio and Powell 1983; P. Tolbert and Zucker 1983; Meyer and Scott 1985; Dye 1990). Meyer and Rowan (1977:343) list the force of public opinion, views of important constituents, knowledge legitimated through education, social prestige, laws, and definitions of negligence and prudence used by the courts as mechanisms that encourage organizations to respond to the institutional environment. When new definitions or practices become legitimated and accepted (institutionalized), organizations are under considerable pressure to incorporate them (P. Tolbert and Zucker 1983; DiMaggio and Powell 1983).

guide placement of individuals in the labor market. Brinton (1988) emphasizes the importance of considering the role that values and prejudices have in the development of gender differences in human capital.

Anecdotal evidence of environmental pressures abounds. For example, such pressures were manifest in boycotts by Operation PUSH challenging the treatment of minorities by manufacturers of beer (Budweiser) and athletic shoes (Nike). Pressures were also evident when advertisers for the 1990 U.S. Open golf tournament canceled their air time after the public learned that the tournament was to be played at a club that had no minority members. The literature on the institutional environment has described these effects and has focused on such outcomes as hiring practices. I extend this literature by examining the effects of the institutional environment on monetary outcomes as well as on hiring practices. I argue that, to the extent that organizations are embedded in societal environments with different orientations, different inequality structures will emerge. More specifically, I expect industries (groups of organizations producing similar products) that operate in environments supportive of equal labor-market opportunities to have low levels of inequality in employment and pay structures.

### *Conceptual Dimensions of the Institutional Environment*

The institutional environment encompasses our culture and incorporates the value structures of our society. Such an amorphous concept could never be measured in its entirety. However, in this test of the effects of the institutional environment on labor-market inequality, I am concerned with only a restricted range of the values in this environment: those values expressing norms of equality. Recent works (Dobbin et al. 1993) have suggested that older, paternalistic notions, which argued that minorities and women had more limited career goals than white men, have been replaced by more modern conceptions that **"portray ambition and achievement orientation as characteristics of all individuals"** (p. 423; see also Dye 1990). Ritzman and Tomaskovic-Devey (1992) also have noted the predominance of such notions of equality in the United States. **Such norms of equality may affect (constrain) the actions of firms in hiring and pay, and thus determine the level of inequality** (Dobbin et al. 1993).

I argue that both the national and the local institutional environments exist, and I examine the effects of both. Local institutional environments will vary in the degree to which norms of equality are present. The degree to which norms of equality are present at the national level can affect actions at the local level, even if the overall national conception differs from the local. This can be exemplified by the history of Fair Employment Practice Laws (FEPs). The first FEPs were passed by states in the late 1940s. By the time the Civil Rights Act was passed in 1964, approximately one-half of the states had FEPs in place. Immediately after the passage of the Civil Rights Act, nearly every remaining state passed an FEP. In this way, the laws of most remaining states were brought into line with Federal legislation, making these states appear more legitimate and reducing variation across states.

The effects of the local institutional environment on industries are exerted through diffuse mechanisms, such as the force of public opinion (Meyer and Rowan 1977; P. Tolbert and Zucker 1983). The effects of the national institutional environment on industries are, I contend, more direct;<sup>2</sup> I examine the effects of the national institutional environment by measuring federal public sector employment.

### HYPOTHESES

As stated above, Selznick (1948) and those following in this tradition have focused on the influence on organizations of the institutionalized rules and norms of society. Their argument implies that greater environmental support for equality should result in greater equality of outcomes within organizations. Environmental support for equality can be manifested at either national or local levels. To capture effects at the local level, I develop

<sup>2</sup> The force of public opinion, particularly as articulated in and refracted by interest groups, affects the production and reproduction of the national institutional environment (see Neustadt 1990); those effects are causally prior to, and outside the scope of my analysis. The direct effects of the national institutional environment on inequality to which I refer occur only after the resolution (at the national level) of the tension between contrasting notions of equality.

a measure of the local institutional environment incorporating approximately 130 variables (see measurement discussion below). Scores indicating the local institutional environment are assigned to industries based on the proportion of their employment that is located in states with higher or lower scores. I then assess whether industries concentrated in states with more egalitarian institutional environments have more equal employment and earnings outcomes by race and gender. At the national level, the federal government serves as an important conduit for environmental influences (see discussion of Hypothesis 2 below). I therefore use the proportion of federal public sector employment in an industry to capture the effects of the national institutional environment on inequality in that industry.<sup>3</sup>

Implicit in this argument is the assumption that “the firm” is the mechanism through which effects on inequality are exerted. There has been some controversy over whether the industry group or the firm is the appropriate unit of analysis for this type of research (Baron and Bielby 1980; Hodson 1983). I believe that the processes I describe occur in both firms and industries. Although firms within an industry certainly possess varied characteristics, they generally produce similar, if not identical, products, face similar, if not identical, market structures, and are often joined through their participation in industry trade associations. I argue that firm and industry effects are additive and correlated, and I ignore any variation by firm that is not captured at the industry level. Further, because I specify effects that are initiated outside the industry, I argue that these processes are as well represented at the industry level as at the firm level. Spilerman (1977), Kaufman, Hodson, and Fligstein (1981), C. Tolbert, Horan, and Beck (1980), Bridges (1982), and Hodson (1983) have used the industry level of analysis for similar studies. Thus, industries, as defined by the U.S. Bureau of the Census three-digit industry codes, are my unit of analysis.

<sup>3</sup> Another avenue for government effects is its role as customer. Previous research (Kaufman 1986) has shown that the effects of this role are limited. I therefore examine only the effects of federal government employment.

The dependent variable in this study is race/gender inequality. Because inequality is a function of job opportunities and earnings, I examine both earnings and access to high quality jobs. To assess high quality jobs, I examine the race/gender composition of high quality jobs in the industry. I examine individual earnings—measures such as family income are inappropriate because they include unearned income, and such income sources lie outside the scope of this work. I therefore measure earnings inequality between minority race and gender groups (Black men, Black women, and White women) and White men by industry as my second dependent variable.

### *Local Institutional Environment*

I predict that, within an industry, inequality in earnings and in access to high quality jobs will be affected by the local institutional environment of an industry:

H<sub>1</sub>. Within industries, the higher the proportion of workers employed in states with high support for equality, the lower the levels of race and gender inequality in jobs and earnings.

This hypothesis flows from the institutional perspective on organizations. I measure environmental support for equality using a measure (discussed below) I constructed from numerous indicators of public sentiment and actions, aggregated to the state level.

### *National Institutional Environment*

I predict that the greater the level of federal government involvement in the economics within an industry, the lower the levels of race and gender inequality should be. I focus on federal employment in the public sector. I take as given the endorsement of norms of equality in the national institutional environment, because that endorsement is evident in federal legislation and executive orders (e.g., the 1964 Civil Rights Act, the 1968 Fair Housing Act, the 1965 Voting Rights Act, etc.).

Because it depends on public sentiment, the federal government should be cognizant of the will of the general public; its policies



should reflect public support for equality more than policies in the private sector. The government formulates its own hiring and pay policies, and employment and pay practices of the federal public sector are therefore the most direct means by which the government can affect inequality. Thus, the strongest and most consistent effect of the national institutional environment should be felt in industries with the highest percentage of federal public sector employees.<sup>4</sup>

**H<sub>2</sub>: The higher the proportion of federal public sector employees in an industry, the lower the levels of race and gender inequality in jobs and earnings.**

Kaufman (1986) found a positive effect of public sector presence on the likelihood of Black male employment across sectors, defined jointly by industry and occupation. My analysis extends his in two ways: First, I examine race and gender inequality in employment; second, I include both employment and earnings as dependent variables.

#### ***Other Hypothesized Effects: Necessary Controls***

**I expect human capital inequalities in education and labor-market experience among race/gender groups to be associated with inequalities in job quality and earnings.** I therefore control for these variables.

**I also control for industrial structure.** I expect the location of an industry in the *core sector* to affect labor-market inequality by race and gender (Hodson 1983; Beck et al. 1978). The argument is that when Blacks and women gain access to jobs in core industries, they are often relegated to “low” positions because the “supra-normal” profits in these (often oligopolistic) industries allow employers to discriminate. **Establishment size has also been shown to be related to earnings** (Villemez and Bridges 1988), so it is controlled. The federal government may influ-

ence earnings indirectly through its regulatory powers (Hodson 1983). Working conditions in a regulated industry may open opportunities for minorities that are not present in unregulated industries. I therefore control for the **amount of federal government regulation in an industry**. To control for the effects of **skill levels of workers** in an industry that might not be captured by the human capital measures of education and experience, I include a measure of the skill level within an industry: the percent of employees in an industry holding managerial, professional, and technical occupations. Including this measure also allows me, when analyzing inequalities in the quality of employment, to examine these inequalities net of the skill structure of an industry.

#### **DATA**

My data come primarily from the 1980 U.S. Census, particularly the Public Use Micro Sample (PUMS), combined one- and five-percent samples (U.S. Bureau of the Census 1984b). I aggregated these individual-level data into Census three-digit industrial categories. Before aggregating the PUMS data to the industry level, I excluded from the sample any individuals who, in 1979, worked less than five weeks or who worked less than four hours per week (this was done to exclude transient labor). Data on race, gender, education, age, earnings, state of residence, industry, occupation, and class of worker (i.e., federal public sector employment) were extracted from these files. These data were supplemented by data from the Input-Output study of 1977 (U.S. Bureau of Economic Analysis 1982).

As part of their study, “The Creation and Persistence of Business Interest Associations,” Aldrich and Staber (1980) developed data on industrial regulation and also coded portions of the 1977 economic census data in machine-readable form. I use portions of their file. I supplemented these data with data from the 1982 economic census (U.S. Bureau of the Census 1984a, 1985a, 1985b) and the 1980 county business patterns (U.S. Bureau of the Census 1982). Data from “Jobs and Workers in a Metropolitan Labor Market” (Villemez and Bridges 1980), which provided detail on labor-market history, are used

<sup>4</sup> These effects may be either direct or indirect. Direct effects involve individuals working in the public sector. Indirect effects are exerted when employers compete in a labor market in which a significant amount of public sector employment exists, and they must adopt hiring and pay practices that are consistent with the public sector in order to secure good employees.

to generate a prediction equation for labor-market experience. Data used to develop the measure for the local institutional environment are discussed below.

## MEASURES

### *Independent Variables*

**The local institutional environment.** To develop a measure of the local institutional environment, I collected data on a large number of indicators that might tap support for notions of equality (Beggs 1991).<sup>5</sup>

Public sentiment regarding equality varies considerably by region and even within regions. For example, between 1945 and 1964, approximately 25 of the 50 states passed Fair Employment Practice laws (FEPs). These states were from all regions of the country; the highest concentration was in the Northeast and the lowest in the South. This indicates that attitudes vary both across and within regions of the United States; I therefore use state-level measures for the local institutional environment. Bergmann and Lyle (1971) and Landes (1968) have presented support for using measures of the local (metropolitan area and state) institutional environments (see also Burstein 1989).

Because I used a large number of indicators (approximately 130) to develop my measure of the local institutional environment, preliminary data reduction was necessary. I used a principal components factor analysis with an oblique rotation method to develop scales from these indicators.<sup>6</sup> This analysis

yielded a total of 19 factor scales. I chose five of these scales, which had the greatest face validity, as being related to equal opportunity. These five scales represent: (1) state actions on passage of the Equal Rights Amendment; (2) state actions on FEP laws and Civil Rights issues; (3) votes of Congressional Representatives on equal opportunity issues (e.g., on busing); (4) individual orientations (i.e., liberal vs. conservative) of state residents (e.g., a ratio of subscription rates to *Ms Magazine* vs. *Ladies' Home Journal*); (5) voting patterns within the state concerning the election of women to office. A state's score for this local institutional environment scale was the average of the scores on these five scale components. (See Appendix A for primary indicators for each component of the factor scale; see Appendix B for state scores on the factor scale.)<sup>7</sup>

To tap the effects of the local institutional environment on labor-market inequality, I needed to determine the extent to which industries are embedded in an environment supporting the notion of equality measured by my variable. I appended the local institutional environment scale score for their state of residence to the record for each individual in the PUMS file.<sup>8</sup> I then aggregated the individual data to the Census three-digit industry categories and averaged the local institutional environment scale across all individuals employed in that industry (or who had work experience in that industry in 1979). This created a score for each industry that indicates the normative institutional environment that is a function of the states in which its firms and workers are located (see Appendix C for a list of 10 industries with the 5 highest and 5 lowest values).

**The national institutional environment—federal public sector employment.** The fed-

<sup>5</sup> The list of indicators and their sources is too extensive to be included in this paper; it is available from the author upon request.

<sup>6</sup> Because the number of indicators exceeded the number of states, I divided the indicators into five areas (prior to factor analyzing them), distinguished primarily by the actors involved. These areas are: Congressional votes, interest-group ratings of members of Congress, state actions (e.g., passage of ERA or FEP laws), voting patterns of state residents, and measures of individual orientation (e.g., subscription rates to liberal or conservative publications, family structure). I conducted a separate factor analysis for each of these five areas. Further details of the factor analytic procedures are available from the author upon request.

<sup>7</sup> To keep the scale similar to that of the other measures in the analysis, I rescaled the score on the local institutional environment to center on 30 with a standard deviation of 10.

<sup>8</sup> Some individuals who lived in a metropolitan area that crossed state boundaries were given a state of residence code of "99." In those instances, I attached the code for the state which contained the majority of the metropolitan area. This resulted in some misclassification, but often people living in these areas worked in the state whose code they were given.

eral public sector is an important conduit for the effects of the national institutional environment. I therefore use federal public sector employment to tap the effect of the national institutional environment on inequality by industry. This measure also allows me to assess the effects of the local institutional environment on inequality, net of the effects of the national institutional environment.

My measure for federal public sector employment comes from the 1980 Public Use Micro Sample (PUMS), which included an indicator for federal public sector employees. I aggregated this measure to the three-digit industry categories and constructed a measure of the percentage of each industry's workers that are employed by the federal government. About one-half of the industries have a score of 0 percent, and 1 industry (U.S. Postal Service) has a score of 100 percent. The remaining industries (e.g., hospitals) score between 0 and 100 percent, with about 10 percent of the industries scoring above 10 percent. I use a natural log transformation of this measure in my analysis.

### *Dependent Variables*

**Quality of employment.** I tap the quality of employment using three measures to contrast the percent of a minority race/gender group (Black men, Black women, White women) in an industry who are in managerial, professional, and technical occupations to the percent of white men in that industry who are in these occupations.<sup>9</sup> The first of these three measures is a ratio of these percentages. The second is a log transformation of the first measure (referred to below as the log transformation measure). Last, I developed a third measure, which contains elements of each of the first two measures. Like the log transformation measure, this third measure is stan-

dardized to a mean of 0 (equality). A minority race/gender group's score on this measure is derived by retaining the sign of the log transformation measure and assigning a value equal to the exponent of the absolute value of the log. A value of +1 on this measure indicates that a minority race/gender group has twice the relative share of high-skill employment in an industry that White men have. Conversely, a score of -1 indicates that White men have twice the relative employment share of the minority race/gender group in an industry. I developed this measure because it retains the advantages of a log transformation (with a mean of 0 and having a sign that indicates which group is advantaged), while also containing some of the metric properties of the ratio. I refer to this measure as the *inequality of relative share* (IRS) index.

**Earnings inequality.** The second part of this analysis examines local and national institutional environmental effects on earnings inequality. I employ six measures of earnings inequality. Inequality is a relational, rather than an individual property; I use the following six measures because they tap inequality structures directly. This makes my analysis a more direct examination of inequality structures than studies which use individual attainment (income, earnings, or prestige) as a dependent variable and include race, gender, and industrial structure as predictors. Inequality structures are best measured and studied directly, not inferred from the outcomes of individuals. Each of these measures is constructed for comparisons between each of the minority race/gender groups (Black men, Black women, White women) and White men.

The first measure is the net difference measure developed by Lieberman (1976). Fossett and South (1983) evaluated measures of intergroup inequality, including the net difference measure. They noted that, although the net difference measure considers rank positions, it does not consider the distances between ranks. I therefore use the net difference measure plus three other measures evaluated by Fossett and South, one of which they developed. Finally, I create a measure that is a variation on the one developed by Fossett and South (1983) and use an IRS index (described above).

<sup>9</sup> Occupations in this high-skill category are identified by Burstein (1989) as the focus of discrimination suits. These include all managerial and professional specialty occupations, technical and related support occupations, sales representatives in finance and business services, supervisors in administrative support occupations, and computer equipment operators (1980 Census codes 003–259 and 303–309).



The net difference measure interprets the differences in the ranks of individuals across groups. For example, in comparing any two groups, all pairs of individuals are considered across the groups. For each pair of individuals, a score of +1 is assigned if the individual from Group A is of higher rank, -1 if the individual from Group B is of higher rank, and 0 if the individuals are of equal rank. These scores are summed across all pairs, and divided by the total number of pairs. The net difference measure is generally expressed in percentage terms (Burr, Galle, and Fossett 1991); thus, it can take on any value between +100 and -100. For example, a score of +100 indicates that all the members of Group A are in a higher position (in this case they would have higher earnings) than all the members of Group B; a score of 0 indicates no inequality between the two groups.

Fossett and South (1983) adjusted this measure by changing the calculation of the pairwise comparisons. Rather than using scores of +1 and -1 for pairwise differences, they subtracted the earnings of the Group B member from that of the Group A member, and divided that difference by the higher of the two. They then used the dividends as weights, summed them across all pairs, and divided by the number of pairs. When expressed in percentage terms, this measure ranges from +100 to -100. The interpretation is similar to that for the net difference measure: A score of +100 on this measure indicates that Group A is not only in a higher position, but possesses all of the earnings. A score of 0 indicates no inequality between these two groups. A score of -50 indicates that Group B members, on average in the pairwise comparisons, have a 50 percent earnings advantage over Group A members. Fossett and South called this measure the average relative advantage (ARA), because it measures the average relative distance between ranks. This is my second measure of earnings inequality.

My third measure of earnings inequality is a variation of Fossett and South's (1983) ARA measure. Although their measure does account for the relative distance between ranks, it does not consider the absolute distance between groups. My third measure of earnings inequality adjusts their measure in

two ways. First, my measure sums all of the between-group differences before dividing, and thus it provides a better measure of absolute advantage for a group. Second, I sum across all pairs the total amount of money split between each pair, and then use that total as the denominator for the measure (rather than using the count of pairs). Unlike the net difference measure, which has a maximum value of 100 minus the percent of the tied pairs, this measure has a maximum value of 100 minus the percent of earnings that are split equally across all pairs. This measure, too, ranges from +100 to -100 when expressed in percentage terms. A score of +100 indicates that Group A earns the total amount of earnings being compared. Obviously, this score is highly unlikely. A score of 0 indicates that the two groups have the same earnings, on average. A score of -40 indicates that, across the pairwise comparisons, Group B averages 40 percent more of the earnings than Group A. I refer to this as the net distance measure.

Fossett and South (1983) suggested the use of the next two measures of earnings inequality. The first is the ratio of the mean earnings of the groups A and B. The second is the difference between the logs of the mean earnings for each group—the log transformation of the mean ratio. The net distance measure is more highly correlated with these last two measures than it is with either the net difference or the average relative advantage measures. My sixth and final measure of earnings inequality is an IRS index (presented above in relation to jobs), which uses mean values instead of percentages.

### Control Variables

**Industrial structure.** My first indicator of industrial structure is *susceptibility of an industry to public pressure*. This is not a measure of the environment, and thus, is not a central independent variable of this study. It is a measure of the level of direct interaction between an industry and the general public. Its inclusion allows me to measure environmental effects on inequality, net of susceptibility of industries to the influence of public pressure.

To operationalize susceptibility to public pressure, I consider two aspects of the rela-

tionship between an industry and the general public. The first is the way an industry presents itself to the public. To measure this dimension, I use data from the Detailed Input-Output Structure of the U.S. Economy for 1977 (U.S. Bureau of Economic Analysis 1982), which tapped the amount and percent of total industrial inputs that were spent on advertising. The second dimension of susceptibility to public pressure is how dependent an industry is on the public for its product market. I again used 1977 data from the Detailed Input-Output Structure of the U.S. Economy, extracting a measure of the amount and percent of total commodity output that went to personal consumption.<sup>10</sup> In the anecdotal examples above, the Operation PUSH activity illustrates the importance of the final demand component, and the U.S. Open Golf tournament the importance of the advertising component.

Because the government can also exert influence indirectly through its regulatory powers (Hodson 1983), I control for the *level of government regulation* in an industry, using data collected by Aldrich and Staber (1980). They reviewed the Federal Register (1941–1978) and recorded each reference to an industry,<sup>11</sup> when possible using three-digit Standard Industrial Codes (SIC). In many cases, however, a reference to an industry involved multiple three-digit SIC codes; in those cases, a two-digit SIC

code level was used. Because of this inconsistency, I aggregated all industry references to two-digit SIC codes and then reclassified each reference according to the appropriate Census code for that industry.<sup>12</sup> Thus, the final measure for government regulation is a summary for each industry of all references in the Federal Register between 1970 and 1978 for each industry.

My third indicator of industrial structure is C. Tolbert et al.'s (1980) measure of *core/periphery industrial location*. This measure taps such characteristics as capital intensity and industrial concentration. I also measure *establishment size*, using data drawn from the 1977 and 1982 U.S. Economic Censuses (U.S. Bureau of the Census 1984a, 1985a, 1985b);<sup>13</sup> I supplement these data with information on 1980 county business patterns (U.S. Bureau of the Census 1982). Finally, I control for *skill-level effects* that are not captured by measures of human capital using a measure of the percentage of employees in an industry employed in professional, technical, and managerial occupations.

**Human capital inequality.** I use measures of education and labor-force experience as human capital measures, obtaining both from the PUMS data. Because the PUMS data contain no measure of number of years of prior labor-market experience, I constructed an estimate of *labor-force experience*. To do this, I used the Villemetz and Bridges Metropolitan Employment Worker Study (MEWS) data (Villemetz and Bridges 1980), which measured experience, to construct a prediction equation based on an individual's age, education, race, and gender. I then used this equation to estimate experience in the PUMS data. I chose this procedure because I consider the usual procedure of measuring experience as age minus education minus six years to be inadequate, particularly in estimating experience for women. The estimated

<sup>10</sup> I chose to use both an absolute amount and a percentage measure for each of these dimensions because, although an industry may have a relatively small absolute level of output, it will be highly susceptible to public pressure if it spends a high percentage of its output on advertising or if a high percentage of its output goes to personal consumption. At the same time, an industry with a very large total output (e.g., automobile manufacturers) may devote a relatively small percentage of its total revenues to advertising, while the absolute amount of money spent on advertising is very large. In that case, a high susceptibility to public sentiment still exists. I combined the measures of the two dimensions of susceptibility by standardizing each of the measures and summing the standardized figures.

<sup>11</sup> Because these data do not specify the type of regulation, I cannot use them to measure equal opportunity regulation in the national institutional environment.

<sup>12</sup> In many cases, a single two-digit SIC code was applied to multiple Census codes.

<sup>13</sup> Findings regarding the effects of establishment size on earnings are mixed; see Kaufman (1986), Villemetz and Bridges (1988), Bridges and Villemetz (1991). Because of missing data, it was necessary to estimate establishment size for six industries in the government administrative sector.

years of labor-market experience measure ranges from 1 to 40.<sup>14</sup>

*Education* was measured as the number of years of school completed (0–20). I then divided the data into 10-year age cohorts and standardized the data, using the 25–35-year-old age group as the baseline.<sup>15</sup> This procedure allowed me to measure education, net of the changing structure of the distribution of educational attainment: This education measure thus reflects individuals' positions in the educational queue as they enter the labor force, not the changing nature of educational attainment.

Using these definitions of education and labor-force experience, I construct the same six measures for each variable (by industry) that I constructed to measure earnings inequality.

**Employment inequality.** I also included in all analyses a measure of the *relative rate of*

*employment* of a minority race/gender group in an industry. This measure is similar to an IRS index: A value of 0 indicates equality, a value of 1 indicates that the minority race/gender group has twice the employment presence in an industry that White men do, and a value of –1 indicates that White men have twice the employment presence that the minority race/gender group does. I included the rate of employment measure to ensure that observed environmental effects on each dependent variable were net of the rate of employment of a given race/gender group.

The second measure of employment inequality is differences across race/gender groups in the *number of hours worked* in 1979 (the year preceding the 1980 Census).<sup>16</sup> I generated this measure for each race/gender group by multiplying the reported number of weeks worked by the reported number of hours worked per week. I use this measure to create six measures of employment inequality which were described above for earnings inequality for each industry.

## METHODS

My analysis of the effects of the institutional environment on labor-market outcomes proceeds in two stages. I use **multiple regression analysis in both stages to estimate the effects of my independent variables on quality of employment and earnings. First, I regress my measures of inequality in quality of employment on measures of the institutional environment at the local and national levels and on the control variables.** I exclude the hours worked measure because I am explaining job

<sup>14</sup> That equation was:

$$\begin{aligned} \text{Estimated Experience} = & (-14.6) + (.92 \times \text{age}) \\ & - (.162 \times \text{education}) + (4.252 \times \text{female}) \\ & - [.29 \times (\text{age} \times \text{female})] + [.157 \\ & \times (\text{female} \times \text{education}) - (1.06 \times \text{black}) \\ & + (2.625 \times (\text{black} \times \text{female}))]. \end{aligned}$$

To evaluate this measure, I regressed a measure of actual experience on the measure of experience predicted by this equation (using data from Villemez and Bridges (1980)). The coefficient representing the effect of the predicted on the actual measure was 1.00; the intercept was .006, and the  $R^2$  was .86. When I substituted the traditional estimate for labor-market experience, the coefficient for its effect on actual experience was .762, the intercept was 2.79, and the  $R^2$  was .775. I therefore judged this equation to be a superior measure compared to the traditional one because of the form of the parameters and the greater explained variance.

This measure was coded 1 if years of labor-market experience was estimated to be less than 1, and was coded 40 if years of experience was estimated to be greater than 40. In all other cases, the actual estimated years of experience was used.

<sup>15</sup> This standardization was done by assigning each individual a z-score for their position in their 10-year age cohort. I then transformed the z-score to a measure for years of education completed by multiplying it by the standard deviation for the 25–35-year-old cohort (2.78906) and adding that product to the mean years of school completed for the 25–35-year-old cohort (13.3805).

<sup>16</sup> Hours worked includes both a work access and a work choice component: The choice component could be construed as a measure of effort (human capital), whereas the access component reflects the effects of market and nonmarket factors (e.g., discrimination). I cannot distinguish these components with these data. Petersen (1989) argues that it is preferable to measure earnings per hour rather than measuring annual earnings and controlling for hours worked when estimating an earnings function with individual-level data. However, I am not trying to explain an individual-level earnings function; I am examining the structure of earnings differences at the aggregate level.

acquisition.<sup>17</sup> Second, I regress my measures of earnings inequality on measures of the institutional environment at the local and national levels, on employment inequality, and on the control variables. I include additional measures of employment inequality in this stage of the analysis: a measure of differences in hours worked, and inequality in quality of employment (from the first stage of the analysis), which I include to control for between-group differences in occupational positions.<sup>18</sup>

## RESULTS

### *Analyses*

My central hypotheses concern the effects of the institutional environment at the local and national levels on inequality, as measured by differences in quality of employment and annual earnings. The presence of an environment more supportive of equality should lead

<sup>17</sup> Following methods described in Bollen and Jackman (1985), I examined influence statistics (hat diagonal, covariance ratio, dffits, and dfbetas). This examination indicated that some industries were exerting undue influence in the analysis. Certain industries were eliminated because they had atypical employment structures (e.g., generally, few high-skill jobs, and/or low concentrations of a particular race/gender group). Four industries were eliminated from all analyses: industries 880 (religious organizations); 780 (barber shops); 230 (logging); and 761 (private household). Industry 402 (taxi cabs), and industry 681 (retail florists) were excluded from the comparisons involving Black women and White women. Industry 381 (clock/watch manufacturing) was eliminated for Black women. Industry 862 (child daycare), and industry 770 (other lodging places) were eliminated for White women. Industry 661 (sewing and needlework, retail) was eliminated for Black men. This provided a common set of industries for each race/gender group that was used in both stages of the analysis. I also eliminated any industries in the sample that employed fewer than 75 individuals in either race/gender group in a given comparison in order to maintain enough data points for stable estimates of my measures. This affected primarily comparisons involving Black women.

<sup>18</sup> In the equations using the net difference, ARA, and net distance income inequality measures, I used the log transformation for this measure. In all other instances, I used comparable forms of inequality measures.

to less inequality. In each set of analyses, three groups—Black men, Black women, White women—are compared to White men.

**Quality of employment.** I first examine the effects of the institutional environment on my three measures of inequality in quality of employment; each of these measures contrasts, within an industry group, the percent of a minority race/gender group (Black men, Black women, White women) in high-skill white-collar occupations to the percent of White men in similar occupations. These results are presented in Table 1. The effects of the local institutional environment are in the predicted direction: Environments that are more supportive of equality are associated with decreased inequality in high quality employment among each minority race/gender group (i.e., the relative position of each minority race/gender group is improved). For Black men, the effect of the local institutional environment is significant in all three equations. For Black women and White women, the measure of support for equality in the local institutional environment significantly affects two of the three measures of inequality in quality of employment.

As I predicted in Hypothesis 2, the national institutional environment, as represented by the share of federal public sector employment in an industry group, plays an important role in determining quality of employment for each minority race/gender group. The coefficients indicate significant and positive associations with the quality of employment of all three minority race/gender groups, regardless of which measure of inequality is used. As the level of federal public sector employment in an industry group increases, the relative quality of employment for each minority race/gender group also increases.

Characteristics of industrial structure also affect inequality in quality of employment. There is significantly less inequality in high-skill occupations between Black men and White men in industries that are more susceptible to public pressure. For Blacks, the most important factor in explaining inequality in quality of employment is being located in industries that offer more high-skill jobs (see standardized coefficients in parentheses in Table 1). As the presence of high-skill jobs in an industry increases, Blacks, both men

Table 1. Effects of Institutional Environment on Quality of Employment

Independent Variable	Black Men			Black Women			White Women		
	Ratio of Percent High White Collar	Difference Log Percent High White Collar	IRS Index	Ratio of Percent High White Collar	Difference Log Percent High White Collar	IRS Index	Ratio of Percent High White Collar	Difference Log Percent High White Collar	IRS Index
<i>Institutional Environment</i>									
Local (state)	.013* (.10)	.040** (.13)	.160** (.15)	.010 (.08)	.049* (.14)	.298** (.18)	.010 (.06)	.023* (.09)	.062* (.12)
National (federal employer)	.035** (.23)	.086** (.23)	.243** (.18)	.050** (.33)	.118** (.28)	.366* (.18)	.038** (.19)	.057** (.19)	.100** (.16)
<i>Industrial Structure</i>									
Susceptibility to public pressure	.014** (.19)	.039** (.21)	.136** (.21)	.004 (.05)	.021 (.10)	.122 (.12)	-.003 (.03)	-.002 (-.01)	.001 (.00)
Federal regulation	.003 (.04)	.009 (.04)	.051 (.06)	.010 (.11)	.014 (.06)	-.031 (-.03)	.019* (.16)	.023 (.13)	.033 (.09)
Core sector	-.043 (-.10)	-.150* (-.14)	-.683* (-.18)	-.039 (-.09)	.006 (.01)	.789 (.14)	-.039 (-.07)	.020 (.02)	.051 (.03)
Establishment size	-.024* (-.14)	-.043 (-.10)	-.085 (-.06)	-.019 (-.12)	-.067 (-.14)	-.344 (-.15)	-.039** (-.18)	-.054** (-.17)	-.098* (-.15)
Percent in high- skill occupation	.009** (.67)	.020** (.57)	.054** (.43)	.005** (.38)	.019** (.48)	.086** (.46)	.002 (.12)	.005** (.19)	.013** (.23)
<i>Human Capital Inequality</i>									
Education	2.91** (.48)	6.08** (.44)	17.06** (.39)	1.74** (.46)	4.55** (.48)	15.52** (.40)	2.69** (.56)	4.53** (.67)	8.82** (.71)
Experience	.039 (.02)	-.207 (-.05)	-1.28 (-.10)	.009 (.00)	-.145 (-.04)	-.772 (-.06)	-.132 (-.04)	-.168 (-.05)	-.199 (-.04)
<i>Employment Inequality</i>									
Rate of employment	-.002 (-.09)	-.009** (-.13)	-.037* (-.15)	-.002** (-.39)	-.005** (-.30)	-.018** (-.21)	-.035** (-.35)	-.040** (-.26)	-.064** (-.21)
Intercept	-2.82** .710	-2.11** .673	-6.98** .523	-1.71** .514	-2.80** .503	-12.7** .382	-2.20** .582	-1.23** .594	-2.77** .556
R <sup>2</sup>									
Number of industries	197	197	197	181	181	181	203	203	203

\*p < .05 \*\*p < .01 (two-tailed tests) \*p < .05 (one-tailed tests)

Note: Reference group is White men. Dependent variables are coded such that a higher score indicates a higher status of the indicated minority group relative to White men (i.e., less inequality). Standardized coefficients are in parentheses. Standard errors are available on request.



and women, have better relative access to these jobs, and inequality decreases. For White women, two facets of industrial structure are consequential. Establishment size has a negative impact on their relative quality of employment: As establishment size increases, inequality in high-skill occupations also increases. As was the case for Blacks, being located in an industry with more high quality jobs decreases inequality in quality of employment (i.e., increases the relative position of White women).

Education plays an important role in determining relative quality of employment, but experience does not. The effect of differences in education on job quality is consistent with the human capital literature. For White women, education inequality is the strongest predictor of inequality in quality of employment. Employment inequality (rate of employment) has a significant negative effect on the relative quality of employment for all three minority race/gender groups.

**Earnings inequality.** Next, I examine the effects of the institutional environment on earnings inequality. Tables 2-A, 2-B, and 2-C present the relevant results. The effect of the local institutional environment is significant and positive in 16 of the 18 equations reported: Environments that are more supportive of equality are associated with an increased economic standing for Blacks and women relative to White men. (The two nonsignificant effects involve White women relative to White men.) This important finding clearly demonstrates the positive effect of a supportive local institutional environment on equality in earnings. Regardless of which of the six measures of earnings inequality is used, the effect of the local institutional environment is strong. Thus, inequality is affected by whether or not the local institutional environment supports equality of opportunity. This extends the finding in the organizational literature—that organizational structures are affected by the institutional environment in which they operate—by showing that individual outcomes are also affected.

The national institutional environment, as indicated by federal public sector employment, significantly affects the earnings differential between each minority race/gender group and white men. This effect is significant in 17 of the 18 equations reported in

Table 2. (Again, the nonsignificant coefficient involves White women's earnings relative to those of White men.) The positive effect indicates that, as federal public sector employment in an industry group increases, the earnings position of each minority race/gender group, relative to White men, also increases (inequality decreases).

That the local and the national institutional environments significantly affect inequality, net of each other, is an important finding. Because these results indicate that these two levels of the institutional environment have independent and additive effects they underscore the importance of separately measuring the two levels of the institutional environment and simultaneously examining their effects.

One aspect of industrial structure, the susceptibility of an industry to public pressure, has a significant effect on earnings inequality for Black women. In every equation involving Black women, the susceptibility of an industry to public pressure significantly and positively affects their earnings relative to White men. In other words, the relative economic standing of Black women is higher in industries where there is more direct interaction with the general public (as measured by markets for personal consumption products and advertising expenditures). Federal regulation does not, generally, affect the relative earnings of these minority race/gender groups (relative to White men). Only 2 of the 18 coefficients for the effect of regulation are significant.

Among the variables measuring industrial structure, establishment size yields the most consistent effect on earnings inequality. In four of the six equations for White women and three of the six equations for Black women (but none for Black men), establishment size decreases earnings inequality (i.e., improves earning position relative to White men). In each of these equations, the measure of earnings inequality employed taps distance and rank difference (net distance, mean ratio, IRS index, and difference in log means). The effect of establishment size on the net difference measure is also significant for all three groups, but in the opposite direction. This highlights the importance of considering multiple measures of earnings inequality. If one considers the presence or absence of a rank difference, there is more inequality in those

Table 2-A. Effects of Institutional Environment on Earnings Inequality for Black Men

Independent Variable	Net Difference	Average Relative Advantage	Net Distance	Mean Earnings Ratio	Difference Log Means	IRS Index
<i>Institutional Environment</i>						
Local (state)	1.10** (.20)	.469** (.13)	.453** (.13)	.007** (.13)	.008* (.11)	.011* (.10)
National (federal employer)	.559+ (.08)	.693** (.16)	.584* (.14)	.007* (.12)	.013* (.14)	.024** (.17)
<i>Industrial Structure</i>						
Susceptibility to public pressure	.281 (.08)	.070 (.03)	-.021 (-.01)	-.001 (-.02)	.000 (.00)	.003 (.04)
Federal regulation	-.193 (-.05)	-.129 (-.05)	.232 (.09)	.004 (.12)	.005 (.10)	.006 (.07)
Core sector	-2.38* (-.12)	-1.87* (-.15)	.162 (.01)	-.007 (-.04)	-.002 (-.01)	.003 (.01)
Establishment size	-1.10* (-.15)	-.297 (-.06)	.085 (.02)	.001 (.01)	.001 (.01)	.000 (.00)
Percent in high-skill occupation	.055 (.08)	-.015 (-.04)	-.057 (-.14)	-.002** (-.26)	-.002* (-.19)	-.001 (-.10)
<i>Human Capital Inequality</i>						
Education	.436** (.44)	.818** (.42)	1.56** (.49)	1.08** (.42)	1.56** (.46)	2.35** (.51)
Labor-force experience	.371** (.37)	.390** (.45)	.471** (.46)	.355** (.42)	.470** (.45)	.581** (.45)
<i>Employment Inequality</i>						
Rate of employment	.239** (.19)	.141** (.18)	.126** (.16)	.002** (.16)	.003** (.15)	.003* (.12)
Hours worked	.516** (.31)	.539** (.25)	.464** (.15)	.392** (.16)	.521** (.16)	.719** (.17)
Quality of employment	2.48+ (.14)	2.91** (.25)	3.52** (.31)	.162** (.38)	.075** (.31)	.018** (.18)
Intercept	-25.6**	-10.3*	-14.0*	-1.19**	-.233*	-.310+
R <sup>2</sup>	.729	.688	.646	.671	.657	.619
Number of industries	197	197	197	197	197	197

\* $p < .05$  \*\* $p < .01$  (two-tailed tests) + $p < .05$  (one-tailed tests)

Note: Reference group is White men. Dependent variables are coded such that a higher score indicates a higher status of the indicated minority group relative to White men (i.e., less inequality). Standardized coefficients are in parentheses. Standard errors are available on request.

industries with larger establishments. However, if one considers distance *and* difference between ranks, larger establishments have lower levels of inequality. Thus, while industries with larger establishments tend to have more White men ranking higher in earnings, the distances between their ranks and those of minority race/gender groups tend to be less in these industries. Location in a core industry significantly decreases relative earnings (i.e., increases inequality) for those measures most closely tied to rank differences (net dif-

ference, average relative advantage), but core location does not significantly affect the measures that most strongly reflect distance between ranks.

Location in an industry with a high percentage of high-skill occupations has different effects on the relative standing of Black men and the relative standing of women. Percent of high-skill occupations has a negative effect on the relative standing of Black men (increases inequality) in two of the six equations. But in four of the six equations for

Table 2-B. Effects of Institutional Environment on Earnings Inequality for Black Women

Independent Variable	Net Difference	Average Relative Advantage	Net Distance	Mean Earnings Ratio	Difference Log Means	IRS Index
<i>Institutional Environment</i>						
Local (state)	.689** (.09)	.486** (.09)	.538** (.11)	.007** (.12)	.014** (.11)	.039** (.11)
National (federal employer)	.725* (.08)	1.11** (.18)	1.06** (.18)	.012** (.19)	.027** (.18)	.071** (.16)
<i>Industrial Structure</i>						
Susceptibility to public pressure	.480** (.11)	.308** (.10)	.267* (.09)	.003* (.10)	.007* (.09)	.018* (.08)
Federal regulation	-.086 (-.02)	-.054 (-.01)	.196 (.05)	.003 (.07)	.004 (.04)	.001 (.00)
Core sector	-2.21* (-.09)	-1.98* (-.11)	-.046 (.00)	-.001 (-.01)	-.007 (-.02)	-.017 (-.02)
Establishment size	-1.33** (-.13)	-.199 (-.03)	.762* (.11)	.006 (.09)	.022** (.13)	.072** (.15)
Percent in high-skill occupations	.120** (.1)	.059 (.10)	.000 (.00)	.000 (.01)	.001 (.07)	.008** (.19)
<i>Human Capital Inequality</i>						
Education	.250** (.35)	.756** (.46)	1.49** (.55)	.840** (.52)	2.15** (.63)	6.65** (.78)
Labor-force experience	.312** (.39)	.343** (.43)	.345** (.30)	.236** (.30)	.439** (.32)	.830** (.29)
<i>Employment Inequality</i>						
Rate of employment	.024 (.07)	.014 (.06)	-.001 (.00)	-.000 (-.02)	-.000 (-.03)	-.000 (-.01)
Hours worked	.658** (.47)	.837** (.47)	1.00** (.46)	.704** (.47)	1.17** (.43)	2.11** (.35)
Quality of employment	2.18* (.11)	2.24** (.15)	2.59** (.18)	.062** (.15)	.037* (.10)	.004 (.02)
Intercept	-30.0*	-23.7**	-29.9**	-1.29**	-.660**	-1.33**
R <sup>2</sup>	.847	.831	.799	.752	.808	.814
Number of industries	181	181	181	181	181	181

\**p* < .05    \*\**p* < .01 (two-tailed tests)    \**p* < .05 (one-tailed tests)

Note: Reference group is White men. Dependent variables are coded such that a higher score indicates a higher status of the indicated minority group relative to White men (i.e., less inequality). Standardized coefficients are in parentheses. Standard errors are available on request.

White women and two of the six equations for Black women, location in an industry with a high percentage of high-skill occupations positively affects their relative standing (decreases inequality).

As expected, differences in human capital play a substantial role in determining earnings inequality; in fact, in most of these equations, it exerts the strongest effect on the earnings differential (as shown by the standardized coefficients). Both education and experience yield significant and positive ef-

fects on earnings differentials—lower levels of human capital inequality are associated with lower levels of earnings inequality.

Among employment variables, differences in the number of hours worked have the strongest and most consistent effect on earnings inequality. Rate of employment also is consistently and positively associated with earnings inequality between Black men and White men. Taken together, these findings suggest the important effect of access to work on earnings inequality:

Table 2-C. Effects of Institutional Environment on Earnings Inequality for White Women

Independent Variable	Net Difference	Average Relative Advantage	Net Distance	Mean Earnings Ratio	Difference Log Means	IRS Index
<i>Institutional Environment</i>						
Local (state)	-.092 (.01)	.151 (.03)	.248* (.05)	.003+ (.05)	.007* (.06)	.028** (.08)
National (federal employer)	.457 (.06)	.749** (.13)	.761** (.12)	.009** (.14)	.019** (.12)	.047** (.11)
<i>Industrial Structure</i>						
Susceptibility to public pressure	.043 (.01)	.037 (.01)	.056 (.02)	.001 (.02)	.002 (.02)	.006 (.03)
Federal regulation	.003 (.00)	-.018 (-.00)	.255* (.07)	.003* (.08)	.006 (.06)	.008 (.03)
Core sector	-4.16** (-.18)	-2.59** (-.15)	-1.14 (-.07)	-.011 (-.06)	-.019 (-.04)	-.014 (-.01)
Establishment size	-1.25** (-.14)	.033 (.01)	.899** (.14)	.007** (.11)	.024** (.14)	.072** (.15)
Percent in high-skill occupation	.098** (.13)	.047* (.09)	.019 (.03)	.000 (.01)	.001* (.06)	.006** (.13)
<i>Human Capital Inequality</i>						
Education	.143** (.25)	.600** (.39)	1.37** (.49)	.720** (.47)	1.97** (.57)	6.44** (.71)
Labor-force experience	.369** (.40)	.368** (.38)	.353** (.23)	.254** (.23)	.472** (.25)	.989** (.26)
<i>Employment Inequality</i>						
Rate of employment	.653** (.16)	.325** (.11)	-.000 (-.00)	-.000 (-.00)	.001 (.01)	.010 (.04)
Hours worked	.630** (.49)	.804** (.56)	.924** (.52)	.661** (.55)	1.09** (.50)	1.94** (.41)
Quality of employment	2.86* (.11)	2.08** (.11)	1.72* (.08)	.025 (.08)	.015 (.03)	-.047 (-.07)
Intercept	-8.96	-15.1**	-26.0**	-1.04**	-.555**	-1.21**
R <sup>2</sup>	.865	.894	.900	.872	.910	.897
Number of industries	203	203	203	203	203	203

\* $p < .05$  \*\* $p < .01$  (two-tailed tests) \* $p < .05$  (one-tailed tests)

Note: Reference group is White men. Dependent variables are coded such that a higher score indicates a higher status of the indicated minority group relative to White men (i.e., less inequality). Standardized coefficients are in parentheses. Standard errors are available on request.

The measure of inequality in quality of job positively affects the earnings differential between each minority race/gender group and White men; the effect is significant and positive in 10 of the 12 equations for Black men and women, and in 3 of the 6 equations for White women.<sup>19</sup> Recall that the local institu-

tional environment is significantly and positively associated with the relative quality of employment (decreased inequality; Table 1). Therefore, in addition to the direct effects described above, the local institutional environment exerts indirect effects on earnings inequality through differences in the quality of jobs.

<sup>19</sup> Inclusion of this measure created some colinearity in the equations for Black men and for White women. I estimated these equations with and without the measure of quality of employ-

ment to ensure that the estimates were stable. They were. Because I believe the model is better specified with this measure, I report the equations in which it is included.

## Summary of Results

**Effects of the institutional environment on quality of employment.** My results demonstrate that the local institutional environment affects race and gender inequality in the quality of employment. As I predicted in Hypothesis 1, greater support for equality in the local institutional environment is associated with lower levels of inequality in quality of employment among minority race/gender groups. The clearest local environment effect is observed for Black men. For women (Black and White), the effect of the local institutional environment on relative quality of employment is significant in two of the three equations examined.

In examining the effects of the national institutional environment, I found that greater federal public sector employment in an industry is strongly associated with less inequality in quality of employment for all minority race/gender groups. For Blacks, this variable has one of the strongest effects on inequality. This result is consistent with my prediction that the effect of the national institutional environment is exerted through federal public sector employment.

**Effects of the institutional environment on earnings.** Differences in the local institutional environment are also associated with earnings differentials for all minority race/gender groups: The greater the support for equality in the local institutional environment, the better the earnings position of each minority race/gender group relative to White men (the lower the level of earnings inequality). This supports Hypothesis 1.

In examining the national institutional environment, I find that the level of federal public sector employment in an industry is positively associated with the earnings position of all minority race/gender groups relative to White men. This finding lends further support to my prediction that the effect of the national institutional environment is exerted indirectly, through federal public sector employment (Hypothesis 2).

## CONCLUSIONS AND DISCUSSION

Considerable effort has been devoted to understanding the structure of race and gender inequality. Although previous research has

established the effects of a variety of different types of economic structures, few researchers have studied the effects of noneconomic structures, such as the institutional environment, on inequality. One obstacle to such investigations has been the difficulty of measuring the local institutional environment for equality of opportunity. I have devised a measure of the local institutional environment, and I have demonstrated that the local (state) and national institutional environments affect race and gender inequality. These effects persist when controlling for industrial structure, human capital inequality, and other employment inequalities; this indicates that the institutional environment effects are not reducible to productivity differences between or within industry groups.

I have also shown that, at least for Blacks, inequalities in the quality of employment are associated with inequalities in earnings relative to White men. Thus, the local institutional environment exerts both direct and indirect effects on earnings inequality, as it affects employment in high-skilled jobs, which in turn affects relative earnings. Of course, there are undoubtedly more indirect effects of the local institutional environment on inequality than those shown here that operate through quality of employment. In comparing the effect of the institutional environment on the development of human capital in the United States and Japan, Brinton (1988) has shown how differences in the institutional environment at the national level affect gender-based patterns of acquisition of human capital. Thus, other indirect effects of the institutional environment on both quality of employment and earnings inequality are exerted through factors that affect the acquisition of human capital. Because education, one type of human capital inequality, is the most important determinant of both employment and earnings inequality in my analyses, these effects are important to consider. Models of inequality should therefore be expanded to evaluate the effects of local and national institutional equality of opportunity environments, not only on inequalities in quality of employment and earnings, but also on the acquisition of human capital.

Other aspects of my findings raise interesting questions. Although the national institu-



tional environment has consistent positive effects for all groups, the effects of the local institutional environment are less consistent for White women than for Black men or Black women. One explanation for this difference may be the relative size of the groups themselves (Burstein 1979, 1985). Burstein (1985) has argued that "women are such a large group . . . that it is difficult to see how they could attain economic parity with white men before all or almost all employers ceased discriminating" (p. 174). Burstein goes on to suggest that Blacks comprise a sufficiently small portion of the labor force that, even if a number of firms continue to discriminate, Blacks can gravitate toward nondiscriminating firms.

I suggest that, in addition to seeking employment in local nondiscriminating firms, Blacks may select geographic areas where firms are more supportive of equal opportunity. To investigate this possibility, I ranked states by their local institutional environment score and then divided the distribution into thirds. Between 1960 and 1980 there was a decrease of 7.18 percent (from 54.94 to 47.76 percent) in the percentage of the Black population living in states in the bottom third of the distribution and an increase of 5.34 percent (from 19.76 to 25.10 percent) in the percentage of the Black population living in states in the top third. During that same period, the percentage of the White population that lived in states in the top third of the distribution decreased by 1.54 percent (from 37.28 to 35.74 percent). The presence of Whites in states in the bottom third of the distribution increased by 4.3 percent (from 26.87 to 31.17 percent). This movement of the Black population suggests that Blacks have been leaving areas that are less supportive of equality and locating in areas most supportive of equality. This option is probably less available to White women, many of whom are married to White men.<sup>20</sup> One important aspect of this population distribution is that nearly 75 percent of Blacks live and work in areas that are either very high or very low on my measure of the local institutional environment on equality of opportunity. Because this

distribution implies a stronger contrast for Blacks than for White women on the local institutional environment measure, it may account for the stronger effects of the local institutional environment for Black men and Black women than for White women.

The effects of the national institutional environment on earnings and quality of employment inequality between White women and White men are stronger and more consistent than those for the local institutional environment. Net difference, a measure of rank difference with no distance information, is the only measure of earnings inequality for which there is no significant effect of the national environment. Industries with stronger ties to the national institutional environment are more susceptible to extra-local pressures for equal opportunity. For that reason, these industries more fully incorporate an equal-opportunity orientation into their employment and pay practices. And, as my findings indicate, these industries have lower levels of inequality, both for earnings and for quality of employment.

This does not imply that the local institutional environment has no effect on earnings inequality for White women. The effects it does have are limited to measures of inequality that incorporate information about rank distances (net distance, difference in log of means, mean ratio, IRS index) in addition to differences between rank positions. This indicates that, in industries with local institutional environments more supportive of equal opportunity, there is less distance (or less earnings difference) between the positions of White women and White men in the earnings distribution.

The lack of effects on earnings for the net difference measure may, as Burstein (1985) suggests, be attributable to the large (absolute) number of White women in the work force. The net difference measure only considers whether the position of a White woman in the earnings distribution is above, below, or equal to the position of a White man. For this measure to reflect differences across industries, the absolute number of White women who would have to be in higher positions than White men in the earnings distributions is very large. For Blacks, on the other hand, a similar proportion would have to be in higher positions than White

<sup>20</sup> I assume that women are often constrained to move with their families and that their husbands' job prospects affect the decisions.

men, but the absolute number is much smaller. My results suggest that environments supportive of equal opportunity do decrease the earnings gaps between White women and White men. But, even in these environments, there has been insufficient movement of White women into positions higher than White men in the earnings distribution to affect income inequality measures that consider only rank difference. Thus, the effects of the institutional environment on earnings inequality between White women and White men are currently seen for those measures of inequality that incorporate information about both the difference and the distance between earnings positions.

While the local institutional environment has a stronger effect on earnings inequality for Black men than for White women, the reverse is true for the effect of the national institutional environment on earnings inequality. However, the strongest effects of both the local and the national institutional environments on earnings inequality are for Black women. This suggests that, for Black women, there may be a “double penalty” attached to being in an area that is less supportive of equal opportunity: a penalty for both race and gender.

This paper lays the foundation for pursuing these and other important lines of research. I have brought together ideas from the sociological literature on organizations and stratification in a new way, and in doing so, this study contributes to both. It extends the organizational literature by demonstrating that the institutional environment affects not only organizational structures, but also the economic outcomes of individuals employed by organizations. It contributes to the stratification literature by providing evidence of the effects of a noneconomic factor, the institutional environment, on inequality structures. The results not only provide empirical evidence of the effects of the institutional environment on inequality, but also underscore the importance of examining the institutional environment at both the local and national levels.

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**Appendix A. The Five Components of the Local Institutional Environment Scale: Indicators for Each Component with Factor Pattern Loadings of Greater than .60**

Component/Indicators	Factor Loading
(1) <i>State Actions on Passage of Equal Rights Amendment:</i>	
ERA was passed and not rescinded	.91
ERA was passed	.88
ERA passage scale	.81
(2) <i>State Actions on Civil Rights and Fair Employment Practice Laws:</i>	
Civil Rights scale, work issues, 1961	.95
Civil Rights scale, general, 1966	.89
Civil Rights scale, education, 1961	.88
Civil Rights scale, general, 1961	.87
Passed strong Fair Employment Practice law	.85
Fair Employment Practice law passage, scale, 1966	.81
Civil Rights scale, housing, 1966	.81
Early passage of Fair Employment Practice law	.79
Civil Rights scale, open accommodations, 1966	.70

(Appendix A continued on next page)

(Appendix A continued)

Component/Indicators	Factor Loading
(3) <i>Percent of State Delegation in House of Representatives Voting for Equal Opportunity Position on Selected Roll Call Votes:</i>	
Vote	Subject
CV-72-242	School busing
CV-72-241	School busing
CV-72-244	School busing
CV-72-243	School busing
CV-72-245	School busing
(4) <i>Orientation of Individuals in State:</i>	
Ratio of subscribers to <i>New Republic Magazine</i> to subscribers to <i>National Review Magazine</i> , 1980	.88
Ratio of subscribers to <i>New Republic Magazine</i> to subscribers to <i>National Review Magazine</i> , 1970	.80
Ratio of subscribers to <i>Ms Magazine</i> to subscribers to <i>Ladies Home Journal</i> , 1980	.70
Ratio of subscribers to <i>Ms Magazine</i> , 1973 to subscribers to <i>Ladies Home Journal</i> , 1970	.66
Library circulation, 1982	.69
(5) <i>Voting Patterns of Individuals in State:</i>	
Percent of state-level elected officials who were women, 1980	.92
Percent of state-level elected officials who were women, 1977	.90
Ratio of percent of women elected officials who were state level to the percent of all elected officials who were state level, 1980	.85
Percent of state legislators who were women, 1978	.85
Percent of state legislators who were women, 1975	.71
Ratio of percent of women elected officials who were state level to the percent of all elected officials who were state level, 1977	.66

Appendix B. State Scores on Institutional Environment Scale

State	Score	State	Score	State	Score <sup>a</sup>
Alabama	15.99	Kentucky	25.46	North Dakota	34.77
Alaska	38.51	Louisiana	16.68	Ohio	33.31
Arizona	29.98	Maine	36.24	Oklahoma	19.10
Arkansas	17.86	Maryland	33.91	Oregon	35.84
California	36.29	Massachusetts	41.76	Pennsylvania	33.10
Colorado	37.85	Michigan	33.30	Rhode Island	35.67
Connecticut	38.91	Minnesota	37.65	South Carolina	18.52
Delaware	37.20	Mississippi	16.38	South Dakota	29.84
Dist. of Columbia	42.58	Missouri	26.63	Tennessee	19.35
Florida	20.21	Montana	29.24	Texas	23.99
Georgia	18.40	Nebraska	25.30	Utah	25.37
Hawaii	35.79	Nevada	21.23	Vermont	38.93
Idaho	28.63	New Hampshire	37.56	Virginia	25.91
Illinois	30.82	New Jersey	36.81	Washington	38.25
Indiana	31.19	New Mexico	27.72	West Virginia	24.95
Iowa	32.87	New York	37.20	Wisconsin	37.71
Kansas	31.72	North Carolina	21.22	Wyoming	33.13

<sup>a</sup> Higher score indicates greater support for equality of opportunity. Scores standardized to a mean of 30 and a standard deviation of 10.

Appendix C. Industries with the Highest and the Lowest Institutional Environmental Scores

Industry	Census Industry Code	Local Institutional Environment Score <sup>a</sup>
<i>Top Five Industries</i>		
Photo equipment and supply	380	35.7
Electronic computing equipment	322	34.2
Scientific equipment	371	33.8
Engines and turbines	310	33.8
Guided missiles, space vehicles, and parts	362	33.5
<i>Bottom Five Industries</i>		
Dyeing and finishing textiles	140	25.2
Tobacco manufacturers	130	24.8
Crude petrol and natural gas	42	24.6
Floor coverings (except hard surface)	141	23.1
Yarn thread and fabric mills	142	22.9

<sup>a</sup> Higher score indicates greater support for equality of opportunity. Scores standardized to a mean of 30 and a standard deviation of 10.

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