

Inward Foreign Direct Investment and Racial Employment Patterns in US Manufacturing

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In the latter quarter of the twentieth century the United States became the largest host country of foreign direct investment (FDI) with foreign owners investing primarily in capital-intensive industries (Edward M. Graham and Paul R. Krugman 1995). This recent increase in foreign ownership in the United States has the potential to influence significantly domestic occupational employment patterns. Investment in capital-intensive industries requires the employment of highly skilled workers to operate high-technology machinery and to supervise and train a highly skilled work force. Empirical evidence supports the hypothesis that inward FDI in developed countries is more likely in industries with workforces comprising a large share of skilled workers (Karl Taylor and Nigel Driffield 2005). Past research, however, does not examine whether racial minorities benefit from foreign owners' demand for high-skilled jobs. Such an examination is important, in part because of the non-trivial loss of jobs for racial minorities in US manufacturing industries during the current period of globalization. At question is whether FDI activity promotes employment opportunities for racial minorities in an increasingly competitive business environment.

This study addresses the dearth of research in this area by exploring whether foreign owners have an incentive to engage in nondiscriminatory employment practices and whether stepped-up labor market competition from these owners can influence the employment decisions of their domestic rivals. Empirical analysis is provided to test whether FDI activity influences racial employment patterns in US manufacturing. Findings indicate that FDI is associated with an

improved probability of black employment in high-wage and mid-level-wage jobs versus low-wage jobs. These findings are interpreted to suggest that enhanced competition for US workers creates a business environment that can provide greater job opportunities for individuals from groups traditionally underrepresented in high-paying occupations.

I. Recent Racial Employment History in US Manufacturing

Prior to the civil rights era, employment discrimination against blacks was a common business practice in US manufacturing (Raymond Wolters 1971). Blacks were disproportionately employed in low-skilled occupations. The lack of opportunities for upward mobility in the manufacturing sector led to the enactment of equal employment policies in the 1960s. The enforcement of these policies contributed to nontrivial and uneven employment gains for blacks in manufacturing. Major gains occurred in the steel and tire industries, which experienced an increased share of black workers, going from negligible numbers to 8.3 percent and 12.8 percent, respectively. The momentum toward a declining racial employment gap in steel and tire manufacturing is of added significance, since workers in these industries are now highly likely to be employed by foreign owners.¹

Despite overall employment gains, blacks remained heavily underrepresented in high-skilled jobs in the early 1970s. Global market forces in the 1970s presented an additional mechanism through which further economic racial disparity erosion could arise. For instance, stepped-up international competition increased the risk of profit losses arising from discriminatory employers exercising their employment preferences (Sandra E. Black and Elizabeth

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¹ A list of industries with high FDI activity is available from the authors upon request.

Brainerd 2004). In an increasingly competitive product market, discriminatory employers place themselves at a competitive disadvantage by forgoing productivity gains associated with the use of qualified individuals from nonpreferred racial groups. Past findings suggest that international competition is associated with significant erosion of racial earnings disparity for low- and medium-skilled nonunion workers in highly concentrated industries (Jacqueline Agesa and Richard Agesa 2006). These findings for low- and medium-skilled nonunion workers in monopolistic industries, however, only represent 5 percent of the study's sample population.

II. Inward FDI's Influence on the Domestic Labor Market

Racial employment disparities may have persisted from the 1960s through the 1970s, in part because domestic employers continued to possess oligopsonistic power in the labor market. Indeed, a few dominant domestic employers in manufacturing still control a substantial share of their respective industry's work force.² Such labor-market power presents employers with the latitude to exercise discriminatory preferences, since potential employees face limited employment choices in oligopsonistic labor markets (Alan Manning 2003). A potential labor-market outcome associated with inward FDI activity is the weakening of this oligopsonistic labor-market power resulting from the increased number of employers competing to hire skilled domestic workers. Employers who indulge in discriminatory employment practices are placed at a competitive disadvantage compared to their nondiscriminatory rivals who base hiring decision and promotions on performance.

FDI activity's influence on employment practices faces significant limitations, however. For instance, racial employment disparities may still persist in a competitive labor market given the high job search costs for workers from underrepresented groups (Dan A. Black 1995). It is quite common for employers to fill job vacancies

using informal networks that tend to generate bias toward workers from underrepresented groups because informal hiring practices use less objective criteria by which to judge applicants (Harry J. Holzer 1987). Even if objective measures are used to judge applicants, members of underrepresented groups may still face high job search costs because they are likely to receive information on job openings less frequently than members from a more widely represented group. This uneven distribution of information arises partly because social networks, through which job information flows, tend to be nonrandom and circulate within members of the same race or ethnic group (Peter V. Marsden 1987).³ In sum, the expected effect of FDI activity on racial employment patterns is not obvious a priori. Hence, empirical analysis is required to further our understanding of this labor market issue.

III. Data and Specification of Employment Equation

Information on individual workers and industries is used empirically to examine FDI's influence on racial employment patterns. Information on individual workers is taken from the 1991 Current Population Survey-Outgoing Rotation Group files (CPS-ORG). Files from this data source report information on worker characteristics, regional and local residence, as well as the individual worker's industry and occupation of employment. The population sample is limited to individual male respondents who are 16 years of age or older and employed in the manufacturing sector. A sample population of 16,219 workers is compiled from satisfying these sample selection criteria.

Industry information is taken from two data sources. The 1991 Bureau of Economic Analysis

³ Foreign owners might face less of an impediment hiring minorities than domestic owners. This may be the case particularly if foreign direct investment is characterized as a "green field investment" as opposed to an acquisitions or joint venture. In contrast to acquisitions or a joint venture that entails acquiring an existing company in the foreign market, greenfield investment requires setting up new plants and, as such, impedes the social network structure that allows well entrenched members of the same ethnic groups to control the job information flows (Mark Lorenzen and Volker Mahnke 2000).

² Census data used in this study reveal that the four largest firms in an industry supply at least 40 percent of the output for nearly half of the manufacturing industries in the United States.

(BEA) survey of foreign ownership of US firms provides information on foreign-owned employment shares of the US industry work force. Information on industry four-firm concentration ratios, average firm sizes, and industry capital-labor ratios is taken from the Census of Manufactures.

The individual worker information from the CPS files is merged with the industry information from the BEA and Census of Manufacturers to estimate the employment equation below:⁴

$$\begin{aligned} \Pr(\text{high-wage category} = 1) \\ = \Phi\{\beta_1 + \beta_2 Z + \beta_3 V + \beta_4 \text{Black} + \beta_5 \text{FDI} \\ + \beta_6 (\text{Black} \times \text{FDI})\}, \end{aligned}$$

where Φ is a normal probability function, and the dependent variable *high-wage category* is a binary variable with a value of one if the individual is employed in a high-wage occupation and zero if the individual is employed in a relatively lower-wage occupation. Wage-occupational categories are partitioned into three groups: high-wage, mid-level-wage, and low-wage. Professionals, managers, and technicians comprise the high-wage category. Clerical, non-transportation operatives, and craft workers comprise the mid-level-wage category, while laborers, service workers, and transportation operatives comprise the low-wage category. Sample populations comprising workers from a combination of two categories are used to estimate employment equations.

The matrix Z consists of a set of worker residency and worker profile variables. These explanatory variables include residency dummy variables for US geographic quadrant and urban residency status. The worker profile measures are dummy variables depicting a worker's union, marital, full-time, military veteran, and educational status, as well as the age of the individual worker. The matrix V consists of a set of industry characteristic variables that measure industry capital-labor ratios, average firm size,

⁴ A random effects technique is used to estimate the employment equation.

TABLE I—PARTIAL RESULTS ON OCCUPATIONAL EMPLOYMENT PROBABILITY
(Probit estimation of the employment equation using an industry random effects approach: Marginal effects presented in columns 1–3)

	(1)	(2)	(3)
Black	-0.3273 (-5.83)	-0.1307 (-5.49)	-0.1092 (-3.54)
FDI	0.00316 (3.18)	0.0012 (2.28)	0.0020 (3.56)
Black × FDI	0.0035 (1.66)	0.0027 (2.38)	0.00004 (0.07)
Includes covariates in matrices Z and V	Yes	Yes	Yes
Number of observations	6240	11808	13490
Log likelihood	-1911.0328	-5248.90	-5111.263
Prob > χ^2	0.0000	0.0000	0.0000

Notes: Column (1) presents information on probability of employment in a high- versus low-wage occupation; Column (2) presents information on probability of employment in a mid-level-wage versus low-wage occupation; Column (3) presents information on probability of employment in a high- versus mid-level-wage occupation. Complete results are available from the authors upon request.

and four-firm industry concentration ratios. The variable *Black* is a dummy variable equaling one if the individual is black and zero if he is white. The variable *FDI* is a continuous variable measuring the percentage of an industry's domestic US work force that is employed in foreign-owned establishments. The final variable presented in the employment equation is the interaction of the *Black* and *FDI* variables.

The coefficients of key interest are β_4 , β_5 , and β_6 . The estimated coefficient β_4 measures the difference in the likelihood a black worker, compared to a white worker, is employed in a high-wage occupation if the industry does not consist of foreign owners. The estimated coefficient β_5 measures the marginal effect of FDI activity on the likelihood that a white worker is employed in a high-wage occupational category. The estimated coefficient β_6 measures the marginal effect of FDI activity on the difference in the likelihood a black worker, compared to a white worker, is employed in a high-wage occupation. This marginal effect can be interpreted as FDI activity's effect on black workers' relative employment in high-wage occupations.

IV. Racial Employment Findings

Key occupational employment determinants are reported in Table 1. These findings reveal notable differences in FDI's influence on racial employment patterns. For instance, the estimated coefficient on the black-white race dummy variable in column 1 suggests that compared to whites, blacks in industries having only domestic owners are 32.73 percent less likely to be employed in a high-wage rather than a low-wage job. The estimated coefficient on the *FDI* variable suggests that a 1 percentage point increase in FDI activity is associated with a 0.31 percent increase in the probability that a white worker is employed in a high-wage rather than a low-wage job.⁵ The estimated coefficient on the interaction of the *FDI* and *Black* parameter is positive and statistically significant, suggesting that FDI activity is associated with a decreasing black-white employment differential in high-wage jobs compared to low-wage jobs.

The racial employment pattern for low- and mid-level-wage jobs reported in column 2 resembles the findings in column 1. The estimated coefficient on the black-white race dummy variable suggests that compared to whites, blacks in industries having only domestic owners are less likely to be employed in a mid-level-wage rather than a low-wage job. The estimated coefficient on the *FDI* variable suggests that a 1 percentage point increase in FDI activity is associated with a statistically significant 0.12 percent increase in the probability that a white worker is employed in a mid-level-wage rather than a low-wage job. The estimated coefficient on the interaction of the *FDI* and *Black* parameters is positive and statistically significant, suggesting that a 1 percentage point increase in FDI activity is associated with a 0.274 percent decrease in the black-white employment differential in mid-level-wage jobs compared to low-wage jobs.

⁵ Even though a 0.31 percent employment probability increase might seem small, the range in FDI's industry employment share suggests the potential for substantial high-wage/low-wage employment probability differences. For instance, 71.6 percent of the work force in television and communications equipment is employed by foreign owners compared to a low of 2.2 percent in saw mills. Using the coefficient estimate on the *FDI* parameter to calculate FDI differentials between these two industries suggests an FDI high-wage employment advantage of 21.51 percent.

The findings in column 3 reveal that compared to whites, blacks employed in industries comprising only domestic owners are significantly more likely to be employed in mid-level-wage rather than high-wage jobs, as the estimated coefficient on the *Black* parameter suggests a 10.92 percent racial employment differential. The estimated coefficient on the *FDI* parameter indicates that FDI activity significantly improves the probability of high-wage employment relative to mid-wage employment for whites. The estimated coefficient on the interaction term is not significant, and suggests that FDI activity is not associated with an erosion of the black-white probability differential for employment in high-wage jobs versus mid-level-wage employment. Rather, blacks share with whites the same significant probability increase in high-wage employment.

V. Concluding Remarks

Findings from this study comport well with the notion that inward FDI activity is associated with a labor market that is favorable to black employment in high-paying jobs. Nonetheless, it should be noted that appreciable disparities still persist among black and white workers when controlling for differences in observable characteristics. Given the findings from this study, continued emphasis on US education that promotes high-skill attainment should further enhance black employment gains in an increasingly competitive domestic labor market.

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