Chapter 1

The Influence of Market Structure on Labor Market Discrimination

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The motivation for this book comes from many years of involvement in an often acrimonious debate over the influence of increased product market competition on labor market outcomes. This debate is often phrased as whether product competition reduces labor market discrimination. The formal suggestion that it does reduce discrimination nears its fiftieth birthday as Nobel Prize winner Gary Becker (1957) first proposed what is often referred to as the “neoclassical” theory of discrimination. The essence of that proposal is that prejudice is costly. The desire to replace a more efficient worker with a less efficient worker because of preferences over gender, race, ethnicity, or religion reduces the profit that would otherwise be earned. Thus, asks Becker, which firms are in a position to “afford” these costs? As competition forces the economic rate of return to zero and only those firms with positive economic profit can afford discrimination, the firms in a position to act on their prejudice are those in monopolistic product markets enjoying monopolistic rates of return.

This relatively straightforward logic is subject to a rather long series of important caveats. Owners with prejudice may gain utility from discrimination and may be willing to pay for it in any market structure not just those associated with positive economic profit. Indeed, they may experience economic losses but value the utility they receive sufficiently to compensate for those losses. Yet, the more common story is one in which the managers who run the firm have prejudice, and owners, separated from operations of the firm, care only about profits. In this case, Becker’s prediction depends on sufficiently severe agency problems that managers’ discriminatory behavior cannot be controlled by owners or eliminated through the corporate takeover mechanism. In addition, the exact
impact of the prejudice on wages and employment depends dramatically on the underlying labor supply and demand elasticities at the product market, or industrial, level. Perhaps most importantly, the source of prejudice may be outside the direct authority of the firm. Customers or workers may be prejudiced and willing to pay more for a product sold by a particular type of person or be willing to work for less to have those same people as coworkers. In this case, there is no particular reason to anticipate that competition will fully eliminate the resulting discrimination, discrimination that can be in the profit interest of the firm. A full list of these and other caveats are found in Heywood (1998) but the point is that sophisticated observers have never assumed that increased competition will, in all cases and in all times, eliminate discrimination.

This view has often been lost in the sometimes loud cries of both supporters and opponents of Becker’s original proposition. For instance Epstein (1992, 9) writes in strong support claiming: “Competitive markets with free entry offer better and more certain protection against invidious discrimination than any anti-discrimination law.” In opposition, Coleman (2002) dismisses the Becker proposition as a largely unsubstantiated belief in “the magic of the market-place.” In contrast to these rather hardened positions, the authors of this volume come to the subject with the desire to provide the detailed empirical work that delineates both the scope and limitations of the proposition that product market competition reduces workplace discrimination.

As will be emphasized, testing for the role of competition in reducing discrimination remains an area of vital interest. One of the most recent areas of testing focuses on international trade as an element of product market competition. Globalization has often been blamed for generating greater inequality within the U.S. labor force. Yet, Black and Brainerd (2004) emphasize that the true story is more complex and that while inequality across skill groups has increased due to foreign trade pressure, that same trade pressure has reduced the ability of U.S. firms to engage in gender discrimination. In nearly parallel findings from outside the United States, Hazarika and Otero (2004) show that foreign trade has dramatically increased product market competition in Mexico and that as a consequence of this increase, gender discrimination has been reduced in that country. Thus, despite nearly fifty years of being a “textbook” theory, the proposition that product market competition reduces discrimination remains under active debate.

Yet, while many of the chapters in this volume address this fundamental proposition head-on, we have tried to expand on the relationships examined previously in the literature. We hope to present a broader def-
inition of the dimensions of the product market and trace some of these
dimensions through to their potential influence on labor market treat-
ment. Thus, chapters 2–5 can be viewed as efforts to examine the rela-
tionship between product market competition and discrimination in
roughly the same vein as has been followed since Becker. Chapters 6–9
represent an effort to pick up new threads by focusing on dimensions of
the product market beyond simply a measure of monopolization.

One of the valuable contributions of this collection is to expand not
only to other dimensions of the product market but also to provide ad-
ditional investigations from countries beyond the United States. Thus,
the investigations of Germany, the United Kingdom, and Hong Kong are
respectively among the first inquiries using data from those countries to
explore the Becker proposition. There is no reason to think that the the-
ory behind that proposition holds any less outside the United States. In-
deed, other countries stand as additional laboratories for testing the
proposition, laboratories that differ in labor market regulations, product
market characteristics, and ethnic and racial makeup.

In the end, the collecting of the chapters in this volume has provided
us all an opportunity to take stock of one of the potentially more important
consequences of product market structure. If dimensions of the product
market influence treatment in the labor market, the practical effort of de-
tecting and punishing discrimination can be directed more effectively.
Part of the profile in searching for and confirming discriminatory behav-
or may emerge as specific dimensions of product market structure. If to
any extent the chapters in this collection can point to such dimensions, we
will consider it to have been a highly successful enterprise.

We now turn to brief highlights of the chapters but emphasize that
this but touches the surface. We encourage the reader to continue to the
chapters to dig beneath that surface for a more complete sense of the
findings, their limitations, their prescriptions, and their suggestions for
future research. What follows is designed only to whet the appetite.

In chapter 2 Agesa and Monaco use a new approach to examine the
influence of product market competition on racial earnings differentials.
They note that the standard empirical approach estimates earnings equa-
tions looking for an effect of product market concentration on the coeffi-
cient associated with minority racial status. While many (but not all) of
these studies find larger racial earnings differentials in monopolistic
market structures, they also suggest that the association between market
structure and racial earnings differentials may be limited to nonunion
workers. They emphasize that unions standardize wages severely limiting
the effect of many worker characteristics, including race, on earnings.
Agesa and Monaco argue that in addition to union status, the extent to which market structure influences racial earnings may be limited to workers with lower skill levels and earning potential. This argument returns to the notion that discrimination represents a reduction in the demand for minority workers (Becker). On the one hand, a reduction in demand will be translated into a larger earnings decline for those minority workers with a less elastic supply schedule and one might anticipate that the more highly skilled have a less elastic supply schedule. On the other hand, Agesa and Monaco suggest that the effect of a discriminatory decline in demand is more likely to be offset in the market for the highly skilled. This offset occurs on both sides of the ledger. First, the relative supply of highly skilled blacks is small, helping to maintain earnings similar to those of highly skilled whites. Second, there may be an offsetting demand for firms, and especially prominent firms with market power, to hire highly skilled black workers. This offsetting demand may be the result of public pressure and scrutiny directed toward these very visible positions and additional governmental attention by equal opportunity authorities (Shepherd, 1969).

Constructing data from Current Population Survey files, Agesa and Monaco divide their population sample by union status and estimate quantile regressions to examine the effect of competition on racial wage differentials at different places in the earnings distribution. The findings reinforce some old insights and provide some new insights. Within the union sample, market structure is not significantly associated with racial earnings differentials at any of the quantiles examined. There is also some evidence that the size of the racial earnings differential within the union sample declines in the upper end of the earnings distribution. Within the nonunion sample, less concentrated market structure is significantly associated with lower racial earnings differentials among those in the middle and bottom of the wage distribution. In contrast, there appears to be little or no influence from market structure at the high end of the earnings distribution but it is among high wage workers that nonunion racial earnings differentials are smaller. These latter findings support this study’s general hypothesis that competition may help shrink racial earnings differentials but is likely to do so among nonunion workers in the middle and bottom of the skills and earnings hierarchy.

In chapter 3 Belfield and Heywood examine a large representative survey from the United Kingdom. This survey includes linked employer and employee data. Thus, detailed individual wage equation estimates that control for specific worker characteristics and human capital can be married to extensive characteristics of the specific firm for which they
work. This is an important innovation in the work examining the Becker proposition as much of the previous work has assumed that matching aggregate industry data on market structure to individual workers is sufficient. Yet, to the extent that there are differences in market structure across firms within the same industry this could be a misleading aggregation that might bias previous studies away from finding results that actually exist. An illustration of such a difference can be generated by dramatic asymmetries in market shares of firms within the same industry. Thus, we would not expect the latitude to express prejudice to be the same between a dominant firm and a firm in that same industry that is part of a competitive fringe. Moreover, the definition of the relevant product market from the point of view of the firm, as given in the survey, may be much more relevant than a matched governmental measure of industrial concentration at an industrial level that may be overly narrow or broad in terms of both the product and geographical market definition.

Belfield and Heywood examine gender earnings differentials in the United Kingdom, finding that within the set of establishments that identify themselves as being in a highly competitive product market the gender differential is approximately .12 log dollars per hour in favor of men. This contrast with the differential within the set of establishments that identify themselves as being in a less competitive product market where the gender differential is approximately .18 or half again larger than among the highly competitive establishments. Separating these estimates by union status brings a dramatic difference. Within the union sector, the highly competitive and less competitive establishments report more nearly similar gender differentials. Within the nonunion sector, the gender differential among the establishments in less competitive markets is more than twice that among the establishments in the more competitive markets.

The authors go on to examine the determinants of financial performance of the UK establishments in the survey. In particular, they find that those establishments with a large share of women workers tend to be more profitable all else equal. This is taken as evidence that women workers are “on sale,” a direct implication of the Becker hypothesis. Thus, firms willing to avoid prejudice and hire those discriminated against by others will benefit from doing so. It is in this sense that Posner (1998, 716) claims that “the least prejudiced sellers will come to dominate the market.” The evidence on establishment performance and gender composition is then divided by market structure with mixed results. In some specifications the influence of gender composition on performance is greater among those establishments in less competitive markets.
structures but this is not uniform. Thus, to the extent that the neoclassical theory would predict that the greatest gains to hiring more women would come from those firms in the least competitive markets, there is not convincing support.

In chapter 4 Jirjahn and Stephan exploit matched employer and employee data from Germany. Recognizing that output-based pay such as piece rates are unusually common in Germany (Jirjahn, 2001), they focus on the relationship between the use of such pay, market competition, and the gender earnings differential. Following past work on the determinants of using output pay, the authors confirm that when German industries are more competitive, their employees are more likely to receive output pay. This follows earlier theoretical work arguing that heightened competition forces firms to rely on compensation methods that more closely tie a worker’s earnings to their productivity. In a second stage estimation, individual earnings equations are estimated separately for both men and women. The estimation reveals that women receive a larger positive increase in their earnings from working under an output-based pay scheme than do men. Confirming increased earnings from such schemes is relatively common across estimations from many countries, reflecting, at least in part, the increased effort of workers in response to the incentives inherent in output pay. The fact that women receive a larger increase in Germany means that the gender differential among those earning output pay is smaller than that for those not on such pay. In turn, the authors argue, the fact that increased competition is associated with greater use of output pay implies that increased competition is associated with reduced gender earnings differentials.

In addition to this indirect effect through output-based pay, the authors search for a simultaneous direct effect of competition on the gender differential. In their individual earnings equations by gender, the authors include a fixed effect for every employer in their sample. These fixed effects by gender are then subtracted from each other to provide a gender differential fixed effect for every employer. This represents the gender differential at each employer not explained by the regressors in the individual-level estimates. This gender differential fixed effect becomes a dependent variable in a third stage employer-level regression. Among the explanatory variables are two measures of product market competition: the domestic concentration ratio and a measure of international competition to which the employer is subject. The signs of each measure suggest a direct effect for competition but only the measure of international competition is statistically significant. When establishments are subject to greater international competition, there is a reduction in the gender earnings differential that is a direct effect and happens
simultaneously with the influence competition has indirectly through increasing the use of output pay.

Several additional points on the German case are worth making. First, it provides an interesting case study for examining the role of collective bargaining on gender differentials as the level of the bargaining. The authors find that for men bargaining at the firm level tends to increase the earnings by a larger amount than bargaining at the industry level but that this is reversed for women. Second, none of the authors’ estimates suggest that the combination of the direct and indirect effects of competition eliminate the gender earnings differential, which remains around 15 percent, even when controlling for the influence of output pay and the establishment fixed effects. Finally, it is interesting to note that the share of women within the establishment is an important determinant of the gender differential fixed effect. The gender differential within the firm is larger as the share of women grows.

In chapter 5 Heywood and Wei present empirical results from Hong Kong. They use data they collected in the months immediately prior to the return of Hong Kong to China in the summer of 1997. They use a sample of establishments to investigate the determinants of gender composition. The authors make the case that Hong Kong is a unique laboratory as it is frequently identified as the single most competitive and unregulated labor market in the world. Importantly, the data was collected during a period in which there were no formal prohibitions on gender discrimination. Thus, they provide a snapshot available in few U.S. studies, one in which the pattern of gender hiring is not influenced by governmental policies.

In setting the stage the authors point out Hong Kong’s unique success despite the absence of prohibitions on gender discrimination. Female earnings are, on average, 84 percent of male earnings, a ratio higher than that in the United States, the United Kingdom, and Canada. Nonetheless, the majority of the gender earnings gap in Hong Kong cannot be explained by typical controls. Moreover, there has been a strong tendency for women to be concentrated in particular types of occupations and industries.

The authors use the share of female workers in an establishment as a dependent variable in a series of log-odds estimations. Despite using nearly two dozen relevant controls, the role of market structure emerges very strongly. Those establishments that dominate their product market are projected to have a female share of employees that is as much as 13 percentage points lower than those establishments in more competitive product markets. This is an enormous difference given that the average female share of employment is 44 percent and that the estimate holds
constant many statistically significant controls such as industry and occupation, the age of the establishment, and the tenure of the workers, as well as others.

The authors bring the reader up to date on the institutional changes in Hong Kong, including the establishment of an equal opportunities commission empowered with legislation prohibiting gender discrimination. The results of the establishment estimations might inform the actions of the commission, encouraging it to concentrate detection and enforcement resources in those product markets dominated by a few firms. Finally, the authors are careful to point out that their data do not allow estimation of typical individual-level earnings equations and that the role of product market structure in determining earnings and gender earnings differentials in Hong Kong remains for future research.

While each of the previous chapters involve measuring the extent of product market competition across industries on an economy-wide basis, the next set of chapters move beyond that single dimension of the product market.

In chapter 6 Peoples and Talley examine the effect of privatization on racial earnings differentials in the public sector. Most research examining the effect of competition on racial earnings disparities focus on wage patterns in the private sector. The lack of research on public sector disparities seems warranted since the environment in this sector is less supportive of earnings discrimination. For instance, public sector employers traditionally faced both strict enforcement of Equal Employment Opportunity Commission guidelines and a highly organized workforce. Indeed, the adherence to equal opportunity guidelines may be a reason why the public service sector is a major source of high wage jobs for minorities. Nonetheless, racial earnings differential might still arise across employers in the public sector. Indeed, the existing empirical evidence suggests that while racial earnings differentials are smaller in the public sector than in the private sector, they are not zero (Heywood, 1989).

While a large percentage of blacks reside in southern localities that are rural, nonunion, and pay relatively low public sector wages, a large percentage of blacks also reside in large, heavily unionized metropolitan areas paying relatively high public sector wages. These residency patterns take on importance when estimating the consequences of the increasing tendency to privatize local public services. Peoples and Talley use Sam Peltzman’s political economy model to identify the effect of privatization on black–white earnings differentials. They hypothesize that privatization occurs mainly in large high wage metropolitan areas where a disproportionate share of blacks reside and where public sector racial earnings differentials may be smaller. Given both the threat of competitive privatization and these racial
residency patterns, Peoples and Talley argue that privatization maybe associated with smaller racial earnings differentials.

The mean earnings in this study show smaller racial earnings differentials for the privatized versus the nonprivatized municipalities. Black municipal workers residing in privatized localities that pay high public wages explains the small racial earnings premiums. Multivariate estimation results indicate that differences in the characteristics of local public sector workers across privatized and nonprivatized localities help explain the smaller racial earnings differentials in these localities. Despite this, in three of the four public services with a significant negative racial differential, privatization continues to emerge with a large and positive interaction with race indicating a narrowing of the local public sector racial earnings differential. These smaller public sector racial differentials in locations that have privatized closely resemble the racial earnings differentials reported for private businesses providing the same public service. The authors suggest that a pro-competitive policy such as privatization may contribute as much to lower racial earnings differentials in the public sector as increased structural competition does in a private sector market.

The succeeding chapter by Baldwin focuses on customer prejudice toward the disabled, arguing that the nature of product market remains an important determinant. Customer prejudice was one of the original sources of discrimination cited by Becker. Examining discrimination of the disabled presents special research challenges such as distinguishing health-related limitations on productivity from the effects of discrimination. Yet, the heterogeneity of the disabled provides a unique opportunity to test alternative theories of discrimination. Specifically, the heterogeneity allows distinguishing disabilities that are more or less observable. These distinctions, in part, allow Baldwin to test for the influence of disability-related discrimination by customers.

Baldwin also identifies whether workers’ job responsibilities require direct contact with customers. Having customer contact is an obvious necessary condition for the prejudice of customers to influence the employment conditions of the disabled. Making this assessment allows estimating the probability that disabled workers attain jobs that might involve visibly serving prejudiced customers. While those with visible disabilities are less likely to be in jobs requiring customer contact, Baldwin finds large disability wage discounts for men in jobs that require greater customer contact than in those that do not require such contact. Moreover, the more visible the impairment, the greater are the earnings loss for those in jobs requiring customer contact. These findings combine to support the notion that prejudice is the source of discriminatory earnings patterns and that this prejudice emanates, at least in part, from customers.
Identifying consumer prejudice as a determinant of earnings and employment for disabled workers is important because it indicates that antidiscrimination legislation aimed at employers may have limited success eliminating labor market disparities faced by the disabled. This follows because if customers are the source of prejudice, discriminatory behavior by the employer can be important for maximizing profit. Indeed, Baldwin reports that even as earnings disparities have eroded following the antidiscrimination laws, disabled men still face substantial, and even growing, employment discrimination. Competitive market structure with many firms allows those customers that do not have prejudice to purchase from nondiscriminatory employers; while a monopolistic firm will be discriminatory if most, or perhaps even many, customers have prejudice.

The chapter by Husbands Fealing and Peoples examines whether pro-competitive policies in network industries reduce racial employment disparities. The advantage of examining network industries is that businesses in these industries experienced both government policies, encouraging stepped-up competition and antidiscrimination legislation and enforcement. Hence, this study is able to compare the effectiveness of both government equal opportunity intervention and product market changes on racial employment disparities.

During the civil rights era antidiscrimination legislation and enforcement targeted racial employment disparities in several network industries. The success of these policies could be influenced by the industry market structure. William Shepherd (1969) argues that national monopolies are most likely to adhere to equal employment guidelines because they are secure enough to take such measures. This chapter reports evidence supporting Shepherd’s argument. During the civil rights era, the most impressive employment gains by minorities occurred in the monopolistic telecommunications industry. Less impressive minority employment gains occurred in rail, airlines, and public utilities. The least impressive minority employment gains during the civil rights era were in trucking. These employment trends prompt the questions, Would pro-competitive deregulation further contribute to minority employment gains in telecommunications, rail, airlines, and public utilities, and would any minority employment gains arise in trucking? Husbands Fealing and Peoples contend that deregulation should help the telecommunications industry at least sustain its impressive minority employment record. The inherently competitive trucking industry, though, presents the best opportunity for postderegulation employment gains by minorities given this industry’s low barriers to entry and the elastic labor supply schedule faced by truck drivers.
The authors’ statistical evidence shows a complete erosion of employment disparities among black and white union drivers following deregulation. Occupational employment results for the five network industries reveal that minority employment gains made immediately after the implementation of civil rights era affirmative action policies were sustained following economic deregulation even as some of those policies became less binding. Husbands Fealing and Peoples interpret these employment findings as suggesting that pro-competitive policies such as deregulation are most likely to discourage employment discrimination in industries with low barriers to entry and highly elastic labor supply.

In chapter 9 Heywood and O’Halloran argue that the method of payment influences the racial pattern of earnings. They present a model that shows workers receiving performance-related pay tend to have smaller racial earnings gaps than those paid time rates. They argue that this follows because prejudice is harder to translate into differential earnings treatment in the face of objective evidence presented by a piece rate or commission-based pay plan. Moreover, the probability of detecting such differential earnings is greater when objective evidence (say, the evidence on sales associated with commissions) does not support those differences. In short, the cost to discrimination becomes greater when pay is tightly tied to objective measures of performance suggesting that less discrimination should be observed.

Heywood and O’Halloran review the evidence from the economics of personnel, predicting the determinants of productivity-based payment schemes. The review isolates that jobs associated with a narrow range of tasks and jobs with little teamwork most often involve productivity, or performance, pay. Importantly, the review isolates the important role played by product market competition. Often, when markets are highly competitive, firms attempt to better link pay and productivity, and previous research confirms a strong positive link between product market competition and the use of performance pay. Hence, the authors suggest an alternative mechanism through which product market competition and earnings discrimination may be linked. Increased competition brings greater reliance on payment methods that more closely link pay and performance, and the presence of this link serves to reduce earnings differentials.

Using panel data from the National Longitudinal Survey, the authors reveal a robust relationship between racial earnings differentials and the method of pay. They show that racial earnings differentials are consistently lower among those workers paid by piece rates or commissions than among those paid time rates. This picture is confirmed by the finding that the additional earnings associated with performance pay are actually larger for racial minorities than for whites. In other words,
minorities have more to gain from performance pay, in part because they are associated with reduced racial earnings differentials. Interestingly, the authors also show that the earnings differential is the very highest among those who are paid bonuses based on a supervisor’s rating. This is the very opposite of objective performance pay. It is pay determined by subjective evaluation. Both this finding on bonuses and the more general finding on performance pay suggest the importance of objective measures of productivity as part of the pay process in reducing earnings differentials. The authors’ findings persist in panel estimates and after correcting for sample selection.

Importantly, the influence of payment methods on racial differentials is not matched by an analogous influence on gender earnings differentials. On the one hand, this may suggest that gender differentials have other roots that are not altered by a more objective payment scheme. On the other hand, the authors tend to favor the view that women are disproportionately attracted to jobs with individual performance pay because they involve less teamwork. Women balancing home and work value a job in which there is less teamwork (duties that must be done together with other workers at a place of employment) as it provides greater flexibility. According to this view, the authors suggest it is possible that the continued large negative gender differential among women paid performance pay may represent, to some unknown degree, a compensating differential associated with value of this flexibility.

The early chapters help provide bounds for the estimates of the influence of product market competition on reducing racial and gender discrimination. The estimates do not suggest that competition is magic and will always completely eliminate discrimination. Most of the studies show significant gender and race differentials even under reasonably competitive product market structures. Yet, neither do the estimates suggest that competition is powerless. Competition is associated with reduced racial earnings differentials in the middle and bottom of the nonunion U.S. wage distribution. It is associated with smaller estimated gender earnings differentials in both the United Kingdom and Germany. It is associated with more nearly equitable employment distributions for women in Hong Kong.

The later chapters expand the types of discrimination examined and the dimensions of product market structure considered. Again, the new dimensions examined appear influential. When the product market means that customers have contact with workers, those workers who have a highly visible disability will suffer greater earnings penalties for their disability. When production allows individual output to be determined and rewarded, racial earnings differentials are lower.
Notes

1. Indeed, it is interesting to note that if one includes the interaction term of race and market structure (only weakly significant at the 10 percent level), the estimated racial earnings differential at the 90th percentile of the earnings distribution among firms with market power is essentially zero.

2. Brown and Heywood (2003) provide a recent review of the international evidence on the association between output-based pay and market structure.

References


