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# The Empirical Verification of Becker's Theory of Discrimination: What Have We Learned?

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## 1. Introduction

In a private market economy in which business firms seek to maximize profits, racial discrimination in the workplace makes no economic sense. Why? Because it is costly. When an employer hires or pays wages on the basis of race rather than productivity, the outcome is inefficient and profits are sacrificed. Why, then, would a profit-driven firm ever knowingly trade off profits in order to practice racial discrimination? Nobel Laureate Gary Becker, in his Ph.D. dissertation (1957) and in a later book in which he refined and extended his dissertation research (1971), provides a simple but powerful answer. Racial discrimination is preference-based and utility-maximizing. If an employer has a preference (i.e., taste) for discrimination, then the ability to act on this preference increases the employer's utility.

For over 30 years now empirical research on racial discrimination in the workplace has been defined by, and focused on, Becker's insight. The literature is now extensive, highly technical, and to some extent fragmented—as groups of analysts have concentrated on different aspects of the problem. This paper is intended to be a “primer” on this work for the non-specialist who wants to get up to speed on, or possibly begin contributing to, this line of research. In what follows, therefore, I highlight some of the important articles, key methodological advances, and central results that have been obtained to date. More specifically, in the rest of this section I lay out Becker's theory of discrimination and its central predictions. In Section 2 I introduce the reader, in a nontechnical way, to the scope of the research effort that has developed in the wake of Becker's work. I then turn, in Section 3, to studies of racial employment patterns in the airline and trucking industries and highlight the contributions of these studies to our understanding of discrimination in the workplace. Multi-industry studies of discrimination in the setting of wage rates are the focus of Section 4. In conclusion I offer some comments on what we have learned to date, and where do we go from here.

Becker's theory can be understood in a “principal-agent” context. Suppose that the principal—a business owner, or a group of owners such as shareholders—has incomplete information concerning the operations of the firm. This provides the agent—the business manager—with the opportunity to maximize his/her own utility by engaging in discretionary behavior. If the manager acts on this opportunity, and if the manager has a preference for discrimination, then the manager will seek to exercise this preference. But doing so results in a

loss of profits for the firm. So, the key question is this: Under what circumstances is a manager actually able to indulge his/her taste for discrimination? Becker's answer is straightforward: When the firm is in a non-competitive industry and therefore earning excess profits. It is these excess profits that enable the firm to absorb the inefficiency associated with discrimination and continue to earn profits for the owner(s).

This conjecture leads directly to what I will call the "Basic Becker Hypothesis": Racial discrimination in the workplace will be more pronounced in non-competitive industries than in competitive industries. Enhanced competition in product markets, therefore, should lead to less racial discrimination in the workplace. Now, does this mean that Becker thinks (or argues) that the preference for discrimination is a positive function of product market concentration? No. Becker's point is that the ability to exercise a given preference for discrimination is positively correlated with product market concentration. Firms with monopoly power are not inherently more discriminatory than firms in competitive industries. They simply have more of an ability—thanks to the existence of excess profits—to act on their preferences. Firms in competitive industries do not engage in less racial discrimination in the workplace because they are more "virtuous" in this regard, but rather because they can't. Under intense pressure to manage costs, and without excess profits to expend on costly indulgences, such firms cannot afford to practice racial discrimination.

## 2. 30 Years of Empirical Testing: A Non-technical Introduction

Empirical research on the extent to which the Basic Becker Hypothesis explains patterns of racial discrimination in the workplace has taken two approaches. Some analysts focus on the relationship between "Employment Discrimination" and market structure, by asking the following questions: Is minority employment inversely correlated with product market concentration? Does enhanced competition in an industry lead to increased employment opportunities for minorities? In general, are racial hiring patterns influenced by product market structure? Other economists train their sights on the relationship between "Earnings Discrimination" and market structure. The key questions asked in these studies are: Is the black/white wage gap, for similar workers in similar occupations, positively correlated with product market concentration? Does enhanced competition in an industry result in smaller racial wage gaps? More generally, are minority wages and salaries a function of product market structure?

In the 1970's, during the years immediately following the publication of the second edition of Becker's The Economics of Discrimination (1971), a flurry of empirical studies attempted to test the Basic Becker Hypothesis in a multi-industry context. The results were mixed. The issue of Employment Discrimination was tackled by Comanor (1973), Shepherd & Levin (1973), and Haessel & Palmer (1978), who focused on the relationship between the racial composition of employment and product market concentration. A later reviewer of these studies (Heywood, in a 1987 paper otherwise focused on Earnings Discrimination) concluded that they found a "moderate" or "reasonable" level of support for the Basic Becker Hypothesis. But the two major studies done on Earnings Discrimination—Fujii & Trapani (1978) and Johnson (1978)—found no clear connection between product market concentration and minority wages.

Then, a wave of Deregulation swept through U.S. industry in the late 1970's and early 1980's. From 1976 to 1984, the U.S. Government loosened its grip on the trucking, railroad, airline, and telecommunications industries by deregulating (1) entry into and exit from markets and (2) prices and rate-setting. The goal of these regulatory reforms was to promote competition

by allowing private market forces to play a greater role in determining prices, profits, and entry into markets. Economists were thus given a golden opportunity to test the Basic Becker Hypothesis: Researchers now had the chance to study Deregulation's effect on racial hiring patterns and racial wage differentials in a single industry over time.

Work on the relationship between Deregulation and Earnings Discrimination began with Rose (1987). Her findings, along with those obtained by Heywood (1998), Peoples & Saunders (1993), and Peoples & Robinson (1996), reveal strong support for the Basic Becker Hypothesis. When Deregulation generates enhanced competition in an industry, racial wage gaps get smaller. Deregulation's effect on Employment Discrimination will be discussed later, in Section 3, where I highlight the work of Agesa (2001) on racial employment patterns in the airline industry and compare her results with those obtained in studies of the trucking industry.

Empirical work on the relationship between product market structure and racial discrimination in the workplace, up to the present, has been sustained and driven by three key factors. First, improvements in data collection have enabled researchers to construct more useful and appropriate data sets. In particular, during the 1980's it became possible for researchers to match up workers more accurately with concentrated and unconcentrated industries. Second, advances in econometric techniques have made it possible to examine the market structure/discrimination connection more carefully and correctly. Researchers now have a good understanding of the control variables, dummy variables, and interaction terms necessary to identify and highlight the differential impact of market structure on white and black workers. More generally, economists now have more of an understanding of, and an ability to correct for, specification error—especially in wage equations.

Third, the results that have been obtained over the years continue to stimulate thinking, both empirical and theoretical, on the nature of racial discrimination in the workplace. Recent work has uncovered three features of the labor-market context that qualify the Basic Becker Hypothesis in important respects: Unionization, job-skill level, and labor supply constraints at various skill levels. Taken together, these results have not caused researchers to reject the Basic Becker Hypothesis, but rather to develop a more nuanced, context-specific view of the relationship between product market concentration and racial discrimination in the workplace.

Beginning with Peoples (1994), research on the effects of unionization has shown that the behavior of labor unions alters the relationship between market structure and Earnings Discrimination. The focus of unions on negotiating standardized wages for their members—what I will call the “union wage-standardization effect”—appears to offset the influence of product market concentration on racial wage gaps in a variety of settings. At present, some analysts (e.g., Agesa & Agesa, 2007 forthcoming) are exploring the empirical limits, or reach, of the union wage-standardization effect—in terms of its ability to prevent Earnings Discrimination across different occupational categories in unionized, concentrated industries.

The question of how job-skill levels influence the market structure/discrimination relationship has led to an explicit theoretical extension of the Basic Becker Hypothesis, which has provided the impetus for continued empirical research. The so-called “Skill Based Hypothesis,” developed in Heywood & Peoples (1994), states that the form which racial discrimination in a profitable non-competitive industry takes (i.e., Employment or Earnings Discrimination) is a function of the skill level of workers. For black low-skill workers who supply their talents elastically to an industry, discrimination will be employment-based rather than earnings-based. Black high-skill workers, who supply their labor inelastically to an

industry, will face a greater earnings gap as a result of product market concentration, but will experience little or no Employment Discrimination. The following simple supply and demand analysis highlights, intuitively, the nature of this argument.

Figures 1 and 2 below highlight the interaction between the supply of and demand for labor in a particular industry. Suppose that all workers, black and white, are identical in terms of skills and productivity. In Figure 1 the workers are low-skilled and easily replaced, so the supply of labor overall ( $S_L$ ) is perfectly elastic. In the absence of discrimination total employment will be  $E^*$  and the wage rate will be  $W^*$ , as determined by the intersection of  $S_L$  and  $D_L$ . For illustrative purposes only, assume an equal amount of white and black employment ( $E_{W,B}$ ) so that  $E_{W,B}$  is one-half of  $E^*$ . Suppose now that this industry is non-competitive and that firms earn excess profits. If employers have a preference for discrimination and act on it, and if overall employment remains constant, then the result will be a decline in black employment coupled with an increase in white employment. This can be thought of as a bifurcation of labor demand: at any given wage rate the demand for black labor ( $D_{BL}$ ) will be less than the demand for white labor ( $D_{WL}$ ). As a result,  $E_B + E_W = E^*$  and  $W^*$  remains unaffected.

In Figure 2 the workers are high-skilled and the overall supply of labor ( $S_L$ ) is perfectly inelastic. In the absence of discrimination total employment will be  $E^*$  and the wage rate will be  $W^*$ , as determined by the intersection of  $S_L$  and  $D_L$ . Assume once again an equal amount of white and black employment at  $E^*$ . If this industry is non-competitive, firms earn excess profits, and employers act on a preference for discrimination, the result will be a decline in black wages relative to white wages. A racial wage gap equal to  $(W_W - W_B)$  will be created by the bifurcation of labor demand into the demand for black labor ( $D_{BL}$ ) and the demand for white labor ( $D_{WL}$ ). But Employment Discrimination will not be present.

Figure 1

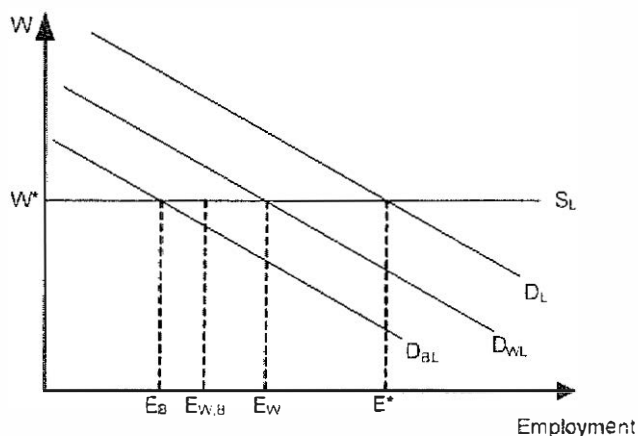
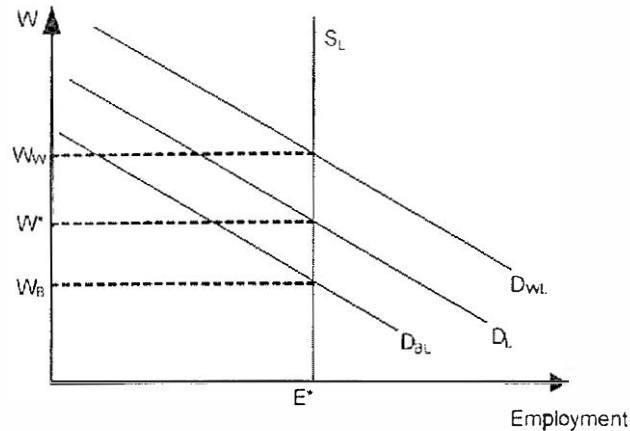


Figure 2



Single-industry and multi-industry tests of the Skill Based Hypothesis (Heywood & Peoples, 1994; Agesa & Monaco, 2004) confirm the predicted Employment Discrimination effects: the employment of black low-skill workers is indeed negatively correlated with a lack of competition in product markets, whereas the employment of black high-skill workers appears to be unrelated to the extent of product market concentration. A recent multi-industry study of the Earnings Discrimination implications of the Skill Based Hypothesis, however, finds that both unionization and black labor-supply constraints at higher skill levels influence the actual relationship between job-skill level and the racial wage gap in concentrated industries (Agesa & Monaco, 2006).

### 3. Single-Industry Studies of Employment Discrimination: Lessons from Airlines and Trucking

Studies of Deregulation's effect on Employment Discrimination in the for-hire segment of the trucking industry include Heywood & Peoples (1994) and Agesa (1998). The major case study of Deregulation and Employment Discrimination in the airline industry is Agesa (2001). In this section I review Agesa (2001) in some detail. By comparing and contrasting her results with those obtained in the trucking studies, I highlight two key factors that influence Deregulation's effect on racial employment patterns.

Deregulation began in the airline industry with the Airline Deregulation Act of 1978, which suspended minimum pricing policies. In 1981, entry restrictions were removed. Agesa (2001) studies these reforms' effects on racial employment patterns in five airline occupations: managers, pilots, mechanics, ticket agents, and flight attendants. All data on these occupations, covering the period 1973 - 1996, were obtained from Current Population Survey documents.

Agesa tests a specific formulation of the Basic Becker Hypothesis: Deregulation will reduce the industry's ability to exercise a given preference for racial discrimination in hiring, and minority (non-white) employment will rise. The argument proceeds as follows. During the period of Regulation (from the 1930's up to the Airline Deregulation Act) entry and exit restrictions were in place, along with fare controls. The government also controlled merger activity within the industry. This regulatory regime, presumably, reduced the level of competition among carriers. This lack of competition, in turn, may have resulted in excess profits—which would have given employers the ability to exercise a preference for racial discrimination in employment. Deregulating the industry, and hence promoting increased competition among (existing and new) carriers, should lead to a decline in the level of

## Employment Discrimination.

To test this argument, Agesa asks three specific questions. First: How did airline deregulation influence racial employment in each of the five airline occupations, relative to racial employment in an economy-wide comparison group containing all non-agricultural/non-airline workers in similar occupations? To answer this question Agesa uses dummy variables in her regressions to identify, for both the Pre-deregulation period (1973-78) and the Post-deregulation period (1979-96), the racial employment gap for each airline occupation: the difference between the racial employment pattern in that occupation and the racial employment pattern in that occupation's nation-wide comparison group. Agesa then includes a term capturing the interaction between racial employment in the airline industry and Deregulation. This variable reveals the difference between the racial employment gap in each occupation during 1973-78 and the racial employment gap in each occupation during 1979-96. If the Basic Becker Hypothesis is true, the coefficient on this interaction term—for each airline occupation—should be significant. Specifically, the racial employment gaps should decrease as a result of Deregulation.

The second question Agesa focuses on is: Were the changes in racial employment in each of the five airline occupations, over the entire period 1973-1996, the result of Deregulation, or of nation-wide trends in racial employment? Finally, Agesa asks: What was the size of the “racial employment gap” between each airline occupation and its national comparison group over the entire sample period, at each two-to-three year interval? Answering these questions required two additional regression specifications.

Agesa's findings, on the surface, do not support the Basic Becker Hypothesis. The coefficient on the key interaction term in her first regression specification was small and insignificant for all five occupations, indicating that Deregulation had little or no influence on any of the racial employment gaps. With respect to the second question, in four of the five airline occupations (all except flight attendants) the changes that occurred in racial employment over the entire sample period can be attributed to the changes in racial employment that occurred in similar occupations nation-wide. Finally, Agesa's third specification yields no strong evidence of Employment Discrimination in the airline industry, either before or after Deregulation. In sum, it appears as if the Basic Becker Hypothesis, in this particular context, should be rejected.

The studies of Deregulation's effect on racial employment in trucking generated a very different set of results. Trucking, like the airline industry, began to be deregulated in 1978. In 1980 the Motor Carrier Act completed the process. In the aftermath of these reforms the industry experienced a huge increase in the number of carriers. Total employment exploded, and the International Brotherhood of Teamsters lost quite a bit of control over the industry labor supply (Peoples, 1998). Heywood & Peoples (1994) and Agesa (1998) found, moreover, that minority employment increased significantly as a result of Deregulation. In contrast to what happened in the airline industry, Deregulation in trucking led directly to a reduction in the level of Employment Discrimination.

Why were such different results obtained for trucking and airlines? As Agesa (2001) points out, two key insights enable us to understand, and reconcile, the observed correlation between Deregulation and racial employment patterns in each industry. First, the Basic Becker Hypothesis predicts that the level of racial discrimination in an industry is not influenced by Deregulation in and of itself, but rather by the change in product market structure that results from Deregulation. Trucking is a naturally competitive industry with low barriers to entry (Hirsch & Macpherson, 1998; Peoples, 1998). Deregulating trucking, therefore, transformed the

structure of this industry. Prior to Deregulation trucking was a sheltered, protected, non-competitive industry. In the wake of the 1978 and 1980 regulatory reforms, life as a provider of trucking services changed entirely: competition for business became, and has remained, fierce.

Deregulating the airline industry, however, did not change the competitive nature of the business. Although carriers did not engage in price competition under Regulation, they did compete with each other along non-price service-oriented dimensions (Peoples, 1998). Airlines fought for business by adjusting their flight schedules, flying different types of aircraft, offering varied seating arrangements and options, and providing other passenger amenities. Deregulation merely shifted the focus of competition to pricing. Carriers, in sum, competed with each other fiercely (albeit in different ways) both before and after Deregulation. Employers in the airline industry had little if any ability—throughout the sample period 1973-1996—to indulge a costly preference for racial discrimination in hiring.

Second, as Agesa (2001) points out, there is a significant difference between trucking and airlines in terms of the general skill level of employees. In trucking, low-skill workers predominate. During the early to mid-1970's 51% of employees in trucking were in low-skill occupational categories such as “operators” and “laborers,” whereas only 17% of employees were in high-skill occupational categories (Agesa, 2001). The supply of labor to the trucking industry can thus be considered as relatively elastic: most workers are easily replaced, and the needed skills can be quickly acquired on the job or with a little bit of training. Airline employment, in contrast, is concentrated in high-skill occupational categories. According to Agesa (2001), during the 1973-78 Pre-deregulation period the majority of airline employees were in high-skill occupations, with only 8% of employees classified as low-skill “operators” or “laborers.”

In light of these two features of the trucking and airlines industries, the Basic Becker Hypothesis predicts that Deregulation should result in (1) no change in the level of racial discrimination in the airline industry, and (2) a drop in the level of racial discrimination in trucking. More specifically, the Skill Based Hypothesis laid out in Section 2 predicts that Deregulation should result in (1) little or no change in racial employment patterns in the airline industry, and (2) a decline in the amount of Employment Discrimination in trucking.

The results obtained by Agesa (2001) for airlines, and by Heywood & Peoples (1994) and Agesa (1998) for trucking, match these predictions. These single-industry case studies of the relationship between Deregulation and Employment Discrimination thus provide support for the Basic Becker Hypothesis and its skill-based extension—once the product market consequences of Deregulation, and the occupational structure of each industry, are taken into account and incorporated into the analysis.

#### 4. Multi-Industry Studies of Earnings Discrimination: Key Contributions and Results

Three important multi-industry studies of the relationship between product market concentration and the racial wage gap are Heywood (1987), Peoples (1994), and Agesa & Monaco (2006). In this section I highlight the contributions these articles make to the literature, and summarize what they uncover about the forces driving Earnings Discrimination in the workplace.

Heywood (1987) tests the relationship between Earnings Discrimination and concentration in U.S. manufacturing, using data from the 1981 Panel Study of Income Dynamics. His study improves upon the earlier work of Johnson (1978) and Fujii & Trapani (1978) in two important respects. First, Heywood is the beneficiary of a significant improvement in data



collection. Prior to 1980, industries were disaggregated in the needed data sets (e.g., the Panel Study of Income Dynamics) to only the two-digit SIC (Standard Industrial Classification) level. This level of aggregation prevented Johnson and Fujii & Trapani from identifying the true pattern of product market concentration in manufacturing, and from matching up workers accurately with concentrated and unconcentrated industries. Starting in 1980 narrower three-digit SIC industrial definitions were incorporated into the Panel Study of Income Dynamics and other needed data sets. This gave Heywood the opportunity to capture, much more fully, the reality of product market concentration in U.S. manufacturing. He was also able, as a result, to map workers into concentrated and unconcentrated industries more accurately than Johnson and Fujii & Trapani were able to do.

Second, Heywood addressed several key sources of specification error present in Johnson and Fujii & Trapani, by including several new independent variables in his wage equation. For example, Heywood included the four-firm Concentration Ratio itself as an independent variable, arguing that the failure of the earlier studies to do this could well have obscured or distorted the true effect of concentration, by itself, on the racial wage gap. Heywood also included a dummy variable for union status. Unions influence wages, and the Basic Becker Hypothesis states that concentration affects minority wages. But unionization and concentration are highly correlated. Union status, therefore, must be controlled for in the wage equation. Most importantly, Heywood includes a dummy variable for black workers and a term capturing the interaction between black worker status and product market concentration. If the Basic Becker Hypothesis is true then the coefficient on this interaction term is negative: concentration, by itself, depresses black wages relative to white wages, resulting in a bigger racial wage gap in concentrated industries than in unconcentrated industries.

Heywood found that the coefficient on the race-concentration interaction term—under a variety of specifications—was indeed negative and significant. Heywood's results thus reveal strong support for the Basic Becker Hypothesis: the black/white wage gap in U.S. manufacturing does appear to be positively correlated with product market concentration.

Peoples (1994) extends Heywood's work by studying the extent to which unionization affects the relationship between product market concentration and the racial wage gap. Since unions are motivated to standardize wages (Freeman, 1980), Peoples argues that the effect of concentration on the racial wage gap may well be smaller in unionized industries than in non-unionized industries. How did Peoples test this hypothesis? By estimating separate wage equations for union and non-union workers. Heywood, as noted earlier, did incorporate a union status control in his wage equation. But such a variable, by itself, is not enough to isolate and highlight the differential impact of union status on the racial wage gap. Peoples' work, therefore, represents the first full accounting, in the literature on Earnings Discrimination and market structure, of the effects of unionization on the racial wage gap.

Peoples' results support his argument. In the non-union sector, the racial wage gap is indeed a positive function of product market concentration. But in the union sector the racial wage gap is unaffected by the extent of product market concentration. Peoples interprets this result as follows: The "union wage-standardization effect" prevents employers in unionized industries from acting more fully on their preference for racial discrimination as product market concentration increases. Unions, in other words, appear to protect black workers from managers in concentrated industries who otherwise would have more of an ability to indulge a taste for Earnings Discrimination than their counterparts in unconcentrated industries.

Peoples (1994) shows, in sum, that the support for the Basic Becker Hypothesis found by Heywood (1987) is limited to the non-union sector. Future work on the relationship between product market structure and Earnings Discrimination, therefore, must account fully for the impact of unionization.

Agesa & Monaco (2006) extend the work of Peoples (1994) and Heywood (1987) by testing the Earnings Discrimination implications of the Skill Based Hypothesis. Recall that this extension of the Basic Becker Hypothesis predicts that the racial wage gap in concentrated industries will increase along with the job-skill level: blacks in high-skilled occupations will face more Earnings Discrimination than blacks in lower-skilled occupations.

Agesa & Monaco test this prediction using data from the 1991-1996 issues of the Current Population Survey and the 1992 Census of Manufacturers. Following Heywood (1987), they match up workers with concentrated and unconcentrated industries using three-digit SIC industrial definitions. They also include as independent variables the four-firm Concentration Ratio, a dummy variable for black workers, and a race-concentration interaction term that reveals the extent to which product market concentration depresses black wages relative to white wages. Following Peoples (1994), Agesa & Monaco estimate separate wage equations for union and non-union workers, to capture and highlight the unique impact of unionization on the racial wage gap. Where Agesa & Monaco go beyond both Heywood (1987) and Peoples (1994) is in the use of Quantile Regression. This technique allows them to estimate racial wage gaps across the spectrum of job-skill levels, rather than simply the average wage gap faced by all black workers in concentrated industries and the average wage gap faced by all black workers in unconcentrated industries.

Agesa & Monaco report three important results. First, they find no correlation between the racial wage gap and product market concentration—at any skill level—in unionized industries. This confirms the work of Peoples (1994): the “union wage-standardization effect” does indeed protect black workers in unionized industries. Second, Agesa & Monaco find no evidence that concentration increases the racial wage gap for high-skill blacks, regardless of their union status. In fact, across all concentrated industries the racial wage gap shrinks dramatically as the job-skill level rises. Agesa & Monaco offer the following interpretation. In the CPS data there is a negative correlation between the prevalence of black employment and job-skill level: black employment is relatively high in low-skill occupations, and falls off sharply as the job-skill level increases. If this correlation is a labor-supply phenomenon, then the limited supply of high-skill black workers, union and non-union alike, is protecting these workers from increased Earnings Discrimination in concentrated industries. Black labor-supply constraints at higher skill levels, in other words, may be driving the observed pattern of racial wage gaps in concentrated industries.

Finally, Agesa & Monaco discover that in the non-union sector the racial wage gap is positively correlated with product market concentration—for low-skilled and medium-skilled occupations only. This indicates that the support for the Basic Becker Hypothesis found by Peoples (1994) in the non-union sector is driven by the increased Earnings Discrimination faced by low- and medium-skill black workers.

Taken together, the results obtained by Heywood (1987), Peoples (1994), and Agesa & Monaco (2006) do not indicate that the Basic Becker Hypothesis should be rejected. Rather, they point to three key features of the labor-market context that influence the underlying relationship between product market concentration and Earnings Discrimination: Unionization, job-skill level, and a limited supply of high-skill blacks. In cases where black workers are not protected by union membership or by advanced education and training, they appear to be at the mercy of employers in concentrated industries who seek to exercise a preference for racial discrimination in the setting of wage rates.

## 5. Conclusion

More than 30 years after the publication of *The Economics of Discrimination* in 1971, Becker's theory of discrimination continues to define the empirical research effort. The results of this effort to date show, moreover, that the Basic Becker Hypothesis is still the place where researchers must start when attempting to explain patterns of racial discrimination in the workplace. Analysts who have conducted single-industry case studies have found, in general, strong support for the Basic Becker Hypothesis. When the level of competition increases in an industry (e.g., in the aftermath of Deregulation), then employment opportunities for minorities expand and racial wage gaps shrink.

Multi-industry studies have led researchers to develop a more nuanced, context-specific view of the Basic Becker Hypothesis: the actual relationship between product market structure and racial discrimination in the workplace is more complex and multi-faceted than Becker's theory suggests. Product market concentration does appear to influence both racial employment patterns and racial wage gaps across U.S. industry. But other features of the labor-market context also matter, such as unionization, job-skill level, and black labor-supply constraints at higher skill levels.

These results lead directly to two points of concern for the future. First, the decline of unionization in the U.S. is hurting black workers, especially those in low-skill and medium-skill occupations. As union membership continues to decline, more and more low- and medium-skill black workers will likely become victims of employers in concentrated industries who seek to exercise a preference for racial discrimination. Second, if it is the case that high-skill black workers are being protected from discrimination by their limited availability, then increased access to advanced education and training may, paradoxically, expose these workers to more discrimination in the workplace. This may require more, not less, vigilance with respect to Affirmative Action issues in the future.

Finally, where should the research effort go from here? I offer two suggestions. First, it is time (if possible) to take this effort into the services sector. The major studies done to date have focused on U.S. manufacturing, or on the industrial sector as a whole. But the vast bulk of employment in the economy is now, of course, in services. It will be interesting to uncover the extent to which Employment Discrimination and Earnings Discrimination exist in this sector.

Will the Basic Becker Hypothesis and its skill-based extension explain the racial employment patterns and racial wage gaps that do exist in services? What other features of the services-sector labor market influence the relationship between product market structure and racial discrimination?

Second, future research could attempt to focus on the principal-agent nature of Becker's original formulation. What is the connection between the racial composition of firm ownership and racial discrimination in the workplace? Are racial wage gaps and racial employment patterns different (as most would suspect) in black-owned firms than in white-owned firms? Is there a separate, unique effect of white ownership on the relationship between product market concentration and racial discrimination in the workplace? Tackling these questions across the entire economy, of course, may not be possible. But there just might be enough information available on the small-business sector and/or the self-employment component of our economy to get started. Maybe now is a good time to find out.

## References

- Agesa, J. (1998). The impact of deregulation on employment discrimination in the trucking industry. Atlantic Economic Journal, *26*, 288-303.
- Agesa, J. (2001). Deregulation and the racial composition of airlines. Journal of Policy Analysis and Management, *20*, 223-37.
- Agesa, J., & Agesa, R. (in press). Market structure-driven discrimination and the earnings of subordinate managers: An analysis by union density. Journal of Post-Keynesian Economics.
- Agesa, J., & Monaco, K. (2004). Industry racial employment by skill level: The effects of market structure and racial wage gaps. Journal of Labor Research, *25*, 315-28.
- Agesa, J., & Monaco, K. (2006). Market power and racial earnings: A quantile regression approach. In J. S. Heywood & J. H. Peoples (Eds.), Product market structure and labor market discrimination (pp. 15-37). Albany: SUNY Press.
- Becker, G. S. (1957). The economics of discrimination. Chicago: University of Chicago Press.
- Becker, G. S. (1971). The economics of discrimination (2<sup>nd</sup> ed.). Chicago: University of Chicago Press.
- Comanor, W. S. (1973). Racial discrimination in american industry. Economica, *40*, 363-78.
- Freeman, R. (1980). Unionism and the dispersion of wages. Industrial and Labor Relations Review, *34*, 3-23.
- Fujii, E. T., & Trapani, J. M. (1978). On estimating the relationship between discrimination and market structure. Southern Economic Journal, *44*, 556-67.
- Haessel, W. P., & Palmer, J. W. (1978). Market power and employment discrimination. Journal of Human Resources, *13*, 545-60.
- Heywood, J. S. (1987). Wage discrimination and market structure. Journal of Post-Keynesian Economics, *9*, 617-628.
- Heywood, J. S. (1998). Regulated industries and measures of earnings discrimination. In J. H. Peoples (Ed.), Regulatory reform and labor markets. Norwell, MA: Kluwer.
- Heywood, J. S., & Peoples, J. H. (1994). Deregulation and the prevalence of black truck drivers. Journal of Law and Economics, *37*, 133-55.
- Hirsch, B. T., & Macpherson, D. (1998). Earnings and employment in trucking: Deregulating a naturally competitive industry. In J. H. Peoples (Ed.), Regulatory reform and labor markets. Norwell, MA: Kluwer.
- Johnson, W. R. (1978). Racial wage discrimination and industrial structure. Bell Journal of Economics, *9*, 70-81.
- Peoples, J. H. (1994). Monopolistic market structure, unionization, and racial wage differentials. Review of Economics and Statistics, *76*, 207-11.
- Peoples, J. H. (1998). Deregulation and the labor market. Journal of Economic Perspectives, *12*, 111-30.
- Peoples, J. H., & Robinson, R. (1996). Market structure and racial and gender discrimination: Evidence from the telecommunications industry. American Journal of

Economics and Sociology, 55, 309-26.

Peoples, J. H., & Saunders, L. (1993). Trucking deregulation and the black/white wage gap. Industrial and Labor Relations Review, 47, 23-35.

Rose, N. L. (1987). Labor rent sharing and regulation: Evidence from the trucking industry. Journal of Political Economy, 95, 1146-78.

Shepherd, W. G., & Levin, S. G. (1973). Managerial discrimination in large firms. Review of Economics and Statistics, 55, 412-22.