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ABSTRACT

The purpose of this paper is to analyze the conditions under which "discrimination" can or cannot produce persistent wage differentials among equally productive labor services differing only by color, sex, or ethnic affiliation. The central conclusion is that discriminating preferences cannot produce equilibrium wage differentials in an open-market economy.

The reason is that if, for example, equally productive nonwhites are paid less than whites, firms can increase profits by employing nonwhite labor at their low, discriminating wages. In other words, if the behavior of most employers resulted in a racial wage gap, there is a large temptation for "non-discriminators" to shift to nonwhite labor, which would eliminate the price differential by changing market demands. To thwart this result, one or more mechanisms must be postulated which prevent the behavior of profit-seekers from equalizing the prices of equally productive assets or factor services. None of the mechanisms specified in the economics literature is sufficient to produce racial wage differentials.

The review of mechanisms includes the market consequences of discrimination by employers, employees, trade unions, and customers. A concluding section discusses some of the empirical evidence on discrimination and some effects of public policies designed to reduce the amount of discriminatory behavior.

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There is incontrovertible evidence that various racial, ethnic, and sex groups differ by income in the United States. So, for example, black median income is currently about 65 percent of white median income. Or, female median income is about 60 percent of male median income. Or, families headed by persons of Russian origin have median incomes 50 percent higher than the median for all families.[1] The list of differences in polyglot America can be expanded to include the Chinese, Japanese, American Indians, Italian-Americans, Spanish-speaking, and so on. Besides median income differences, groups also tend to differ in other parameters of their respective income distributions.[2] For example, families headed by persons of Polish origin have median incomes 6 percent higher than the median for families headed by persons of English origin, but 3.2 percent of English families exceed $25,000 per year versus only 1.3 percent of Polish families.[3] Not surprisingly, occupational distributions also differ between groups.

The scientific problem is to explain why this is so. Any explanation (or model) must meet the usual standard of logical consistency and produce a wide spectrum of verifiable implications. Another desirable feature is that new models not be "ad hoc" theories in the sense that while possibly valid for a small class of cases, they should not contradict more general theory which is valid for a wider class of cases.

If we take a sufficiently broad point of view, it is apparent that the explanations for income differences between groups have ranged from those which place the blame (or credit) upon the ethnic group itself (or their genes) to those which put the blame (or credit) upon the failings or barriers created by some "dominant" group (or their genes).[4] There is now a widely held belief among social scientists that income differences between whites and nonwhites are caused by discriminatory behavior in the labor market, or at least nonwhites receive a significantly lower income than whites, even after adjusting for real productivity differences. Although these arguments have rarely been invoked to explain the income gap between Jews and Gentiles, or Chinese and Irish, discrimination models have recently been offered as explanations for economic differences between females and males.

Since most of the income variation between groups reflects differences in wage rates rather than hours worked or nonlabor income, the primary task is to explain wage rate differentials. Like all factor inputs, the prices for labor services are determined in markets by the interaction of supply and demand. Models which invoke discrimination to explain wage differentials must ultimately involve a decrease (shift) in <u>market demand</u> for the labor services of one group relative to another, despite equivalent productivity. Explanations which ignore discrimination factors must rely upon "supply" characteristics to account for wage differentials between groups, in other words, they contend that real productivity differences are simply correlated with color or sex and that the latter are often "spuriously" cited as causal by discrimination advocates.

The purpose of this paper is to analyze the conditions under which "discrimination" can or cannot produce persistent wage differentials among equally productive labor services differing only in color, sex, or ethnic affiliation. Despite widespread adherence to "discrimination" models, separate papers by Arrow and Mancke have recently posed a crucial problem for these models.[5] The problem is that if equally productive nonwhites are paid less than whites, firms can increase profits by employing nonwhite labor at their low, discriminatory wages. In other words, if the behavior of most employers resulted in a racial wage gap, there is a large temptation for "nondiscriminators" to shift to nonwhite labor which would then eliminate the differential by changing market demands. To thwart this result, one or more mechanisms must be postulated which prevents the behavior of profit-seekers from equalizing the prices of equally productive assets or factor services.

Although hardly a novel insight, we shall pursue this problem in the case of discrimination in some detail. The emphasis is on the economic logic of discrimination rather than empirical testing of implications. Section I defines "discrimination" and discusses the importance of the distribution of such "tastes." Succeeding sections deal individually with the market consequences of discrimination by employers, employees, trade unions, and finally, customers. Concluding sections consider the empirical basis of our knowledge about discrimination and the effects of public policies designed to reduce the amount of discriminatory behavior.

I. Tastes for Discrimination

Throughout human history, individuals from different racial, ethnic, and religious groups have "disliked" members from other groups, whether they be whites and blacks, Arabs and Jews, Catholics and Huguenots, or Japanese and Koreans.[6] If we allow sociology the task of investigating the source of these preferences, our task is simply to define and describe these preferences in economic terms. This is easily accomplished if the amount of "association" with members of other groups is viewed as an economic good in a particular productive or consumptive situation. Let

$$U_i = U(X,Y)$$

where U_i = utility of the ith individual, $i = 1,\ldots,n$;

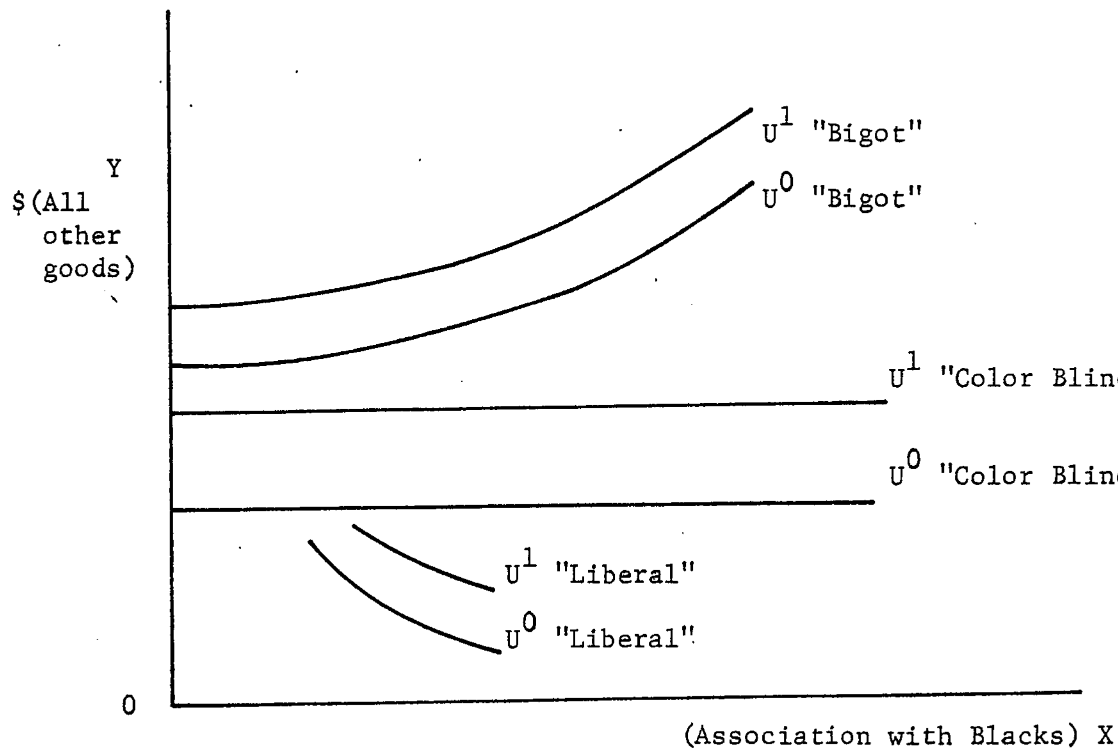
X = quantity of association with members of a group, say, blacks,[7]

and Y = composite index of all other economic goods.

Some individuals dislike blacks, $\frac{\partial U_i}{\partial X} < 0$, some like blacks, $\frac{\partial U_i}{\partial X} > 0$, and some are strictly indifferent, $\frac{\partial U_i}{\partial X} = 0$. That is, association with blacks can be a negative, positive, or zero economic good. Figure 1 represents this in terms of indifference curves. The three types of preference patterns are represented and higher utility levels are indicated by upward movements in each case.

Figure 1

Racial Indifference Curves



The lower portion of Figure 1 describes the tastes of the "liberal," who obviously could be black. This individual is willing to sacrifice some wealth, Y, for more association with blacks, X, with the usual diminishing rate of substitution.* The "color blind" individual is not willing to sacrifice any wealth to associate with blacks, regardless of his present level of association. Naturally, the rate of substitution is zero because color is irrelevant. The "bigot" is willing to substitute between Y and X, but with an increasing rate of substitution.** In other words, to tolerate increased association with blacks, he demands increasing increments of Y to remain indifferent.

An <u>act</u> of discrimination occurs when an individual exercises a taste or preference by treating an individual member of a group unequally or differently solely because of his or her membership in that group. For example, suppose we divide the U.S. population into two mutually exclusive groups based upon some characteristic like race or sex. Label these groups A and B and assume that some decision-maker is hiring semi-skilled labor or admitting students to college. Qualified members from both groups are available on the same terms. If "A types" are always chosen, rather than flipping a coin, there is a revealed preference for members of group A or, there is discrimination against members of group B.[8] Conversely, if "B types" are always chosen, the individual discriminates against "A types."

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* $$\left.\frac{d\left(-\frac{dy}{dx}\right)}{dx}\right|_{dU = 0} < 0$$

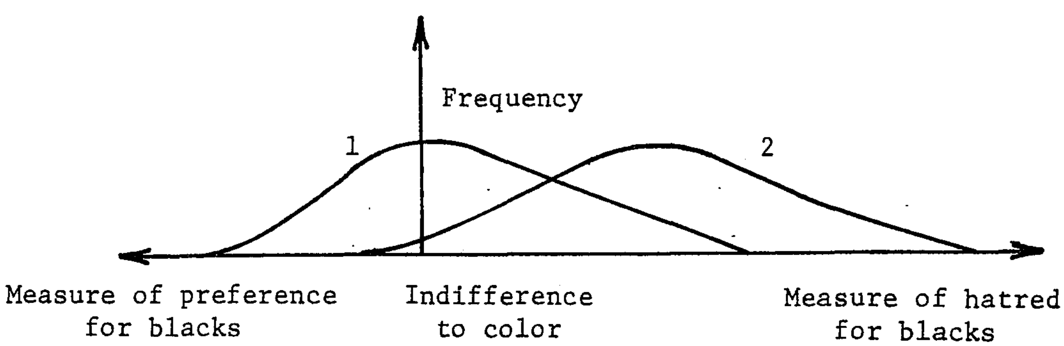
** $$\left.\frac{dY}{dX}\right|_{dU = 0} > 0$$

$$\left.\frac{d\left(\frac{dY}{dX}\right)}{dX}\right|_{dU = 0} > 0$$

The most important feature about discriminatory (or ethnic) preferences is the diversity of attitudes among the total population. Since the central problem is to isolate the conditions under which racial preferences can result in persistent wage differentials for labor equal in all but color, it is crucial to recognize that any distribution purporting to describe racial attitudes in the U.S. toward blacks are illustrated in Figure 2. Any distribution will serve equally well for subsequent

Figure 2

Distribution of Racial Preferences



economic results, as long as the presence of <u>some</u> people with a positive or zero preference for association with blacks is admitted. This seems difficult to deny given the presence of some 25 million black people today, perhaps significant numbers of sympathetic or "guilty" whites, and some profit-seekers who are little concerned with color in their economic activity. Hereafter, the discussion is often confined to blacks and whites, but the analysis is perfectly general for other groups as well. Finally, note that the amount of discriminatory behavior exhibited is not predetermined by tastes alone, any more than other behavior. The extent or amount will depend upon its price, just as the quantity of other things, which is nothing more than the law of demand for a "good" called discrimination.[9]

II. The Wage Effects of Employer Preferences

The usual behavioral postulate for the firm is profit or wealth maximization. This is simply a special case of utility maximization. That is, pecuniary wealth is one argument in an employer's or owner's utility function, among the many things of which he would prefer more rather than less. Individual employers are willing to substitute among these things and give up some wealth for more "whiteness" among employees or some other characteristic.[10]

Competitive, open markets automatically impose costs upon discriminators, providing a powerful temptation to reduce such behavior. To begin with the simplest model, assume that "perfectly competitive" conditions prevail for all firms in an industry, that is, market prices for output and all inputs are identical data for all firms and there is equal access to technology (identical production functions across firms). Suppose that because of discrimination among all employers, white labor is currently available at $3 per hour and equally productive black labor is available at $2 per hour.[11] Under these conditions, any individual firm could increase profits by employing black labor because the prices of output and all other inputs are invariant with respect to color of labor services employed by the firm. Such a firm would expand its output relative to other firms in the industry because it has "discovered" a lower cost production technique. This output effect means that more than $1 in profits is foregone for each unit of white labor hired. If all present firms in the industry uniformly refuse these profits, other individuals with a lower aversion to blacks (or positive preference)[12] have an incentive to bid away the assets of an existing firm or create a new firm to exploit the profit opportunity.[13] Since blacks are already being employed by other firms at $2 per hour, we should also observe such firms earning economic profits under these conditions.

At the market level of analysis, the entry of marginal profit-seekers would increase (shift) the market demand for black labor and decrease the demand for whites until the price for equally productive labor was equal. The speed of market adjustment would depend upon factors like the costs of detecting differential prices and the costs of executing the adjustment for individual firms. We know little about this, but the present value rewards are greatest for those who act first and the larger is the original price differential, since it will be eliminated over time as others act. Therefore, the price system produces incentives for a faster rather than slower adjustment path.

Once the price difference is erased, discrimination against either white or black labor becomes costless again. If prices are equal, other differences between goods exert a greater influence. Employers and employees will sort themselves out (segregate) on the basis of similarities in nonpecuniary tastes. This means that in equilibrium individuals still exercise racial preferences but with no impact on market prices. If any price divergence reoccurs because of prejudice, the gap will be quickly (or slowly) erased by profit-seekers who perceive it.

Because market adjustment only requires that some "marginal" buyers of labor services shift to lower-priced black labor, it seems difficult to argue that wage differentials by color can persist. But we must consider some of the mechanisms which might prevent equalization. For example, some firms may be monopolists in the product market and face a lower risk of being driven out of business when hiring labor on grounds other than efficiency. If the assets of monopoly firms are transferable, they will generally be acquired by those who can extract maximum wealth.[14] The new owners would realize profits by ceasing to discriminate on irrelevant racial grounds. To the extent that this fails to occur, however, monopoly firms have somewhat more latitude to indulge their "profit-reducing" tastes and remain viable.

A more important source of discrimination results from market restrictions and institutional arrangements which limit the ability to realize profits when reducing discrimination. Suppose an employer is already forced to pay a wage above the competitive rate because of a union contract or minimum wage law. The excess supply can be eliminated through costless exercise of employer preferences. He can hire only whites (or blacks) or only men (or women) as he wishes. The "restriction" on taking additional satisfaction in pecuniary form implies that other preferences will be substituted, or more discrimination appears at zero cost.

Decision-makers in nonprofit institutions will take more satisfaction in nonpecuniary form simply because no one can claim the profits from different behavior.[15] Other institutions are profit-making but are restricted or prohibited from exceeding (or appearing to exceed) some profit rate. Public utilities are explicitly regulated by government and others are implicitly threatened with government action if "excessive" profits accrue. Of course, such firms attempt to evade profit restrictions but the cost of other forms of satisfaction like discriminatory behavior are still relatively lower. Profit-seekers have no strong incentive to bid away such institutions from the incumbent owners because restrictions on profit would remain, hence discrimination is more likely in such firms.

These sources of persistent discrimination, however, do not imply that market wages or unemployment rates among minorities will differ from those of equally skilled whites. As long as a number of profit-seeking employers are part of the market demand for a particular skill, any wage gap which opened up between equally productive blacks and whites would be eroded by profit-seekers shifting to the lower wage group.[16] This reduces demand for white labor and raises it for black labor until equilibrium is restored. Only if all purchases of a particular skill were by nonprofit or profit-restricted employers, could such a wage differential endure. Examples of only one "industry" employing all the labor of a particular type, much less an industry entirely composed of nonprofit firms, are special cases at best and cannot be a major source of racial wage differentials in the economy.

Another source of discrimination among employers involves the possible use of color or sex as a predictor of future productivity in the firm, given the costliness of information and the presence of uncertainty. Race and sex affiliation are readily visible, cheaply acquired information which can be used by employers along with information about education, age, and experience to predict a prospective employee's marginal product. The general argument is that a high productivity member of a "poor" category will be less able to find an employer willing to hire him than an equally productive member of a "superior" category.[17] Another way to state this proposition is that employers tend to discount the individualistic dispersion within groups in favor of the cheaply known mean differences between groups. One problem is that such "economic discrimination" is less relevant for higher wage employees, where more expensive investment in predictive information is economic. This appears inconsistent with the common allegation that the racial wage differential is widest among the highly skilled occupations. More important for these models is a failure to trace out the market consequences of these individual decisions. If employers generally hired from the "superior" group rather than from equally productive members of the "poor" group, a wage differential would be established. It would then pay some firms to shift to the lower priced labor. A differential could only endure if, and only if, there were differential search costs between the color groups, which appears unlikely. For example, recent studies of personnel tests show that these tests are equally reliable predictors of job performance for both whites and nonwhites.[18]

A final possibility involves a collusion or conspiracy among employers to reduce the wages of blacks below those of equally productive whites.[19] This would clearly have to be a massive collusion with costly enforcement mechanisms to prevent individual firms from defeating its purpose. The colluders must impose costs on firms employing black labor inputs, say, a tax per unit labor hired. If effectively accomplished, individual firms would employ fewer units of black labor to reestablish the first order conditions for a profit maximum, $VMP_i = MFC_i$, across all i inputs. This produces a reduced market demand for black labor, and drives down their wages until the "tax" is just offset. Hence, blacks receive lower wages despite equal productivity because of the cartel's tax on their services. It is not clear under what conditions, if any, such a collusion could earn any profits, but prohibitively high organizational costs, lack of directly observed operation, and the well-known instability of collusions render it a most implausible explanation. A somewhat similar possibility is that "terrorists" raise the costs of firms employing black labor through sabotage and other measures. Since this is not currently a widely cited mechanism for generating racial wage differentials, we shall ignore it.

To summarize, the analysis of discrimination by employers does not mean that it is nonexistent. Even among competitive, profit-seeking firms discrimination can exist at a given point in time. But there are powerful market forces for reducing its amount and attenuating its effects on wages and employment. It simply takes time for new entrants to recognize it and enter the industry or purchase the assets of discriminating firms. The effect of persistent discrimination exercised by nonprofit and profit-constrained firms is attenuated by the presence of profit-seeking buyers of black labor. Under the most general conditions, discrimination by individual employers cannot result in a market wage rate in equilibrium, which is different for equally productive white or black labor, although a "segregation" effect does occur. When differentials exist, it pays someone, in effect, to arbitrate the market.[20]

III. Employees

Obviously employers are not the only people who have preferences about color and sex. For example, the presence of black workers in a firm may repel some white workers. What market effects are implied by such worker preferences? Suppose that white workers are uniformly averse to working with black workers, that is, they demand additional income of $1 per hour to remain indifferent between employment in "white only" firms and comparable firms with racially mixed employees or "black only" firms. Firms hiring black labor then confront higher prices for complementary white labor and there appears to be an offsetting cost disadvantage to hiring black labor. However, if, for all types of labor inputs, both black and white suppliers exist, the firm would hire only blacks, providing that blacks are no worse than indifferent to working with other blacks and are no higher priced than comparably productive whites for other reasons. If blacks had a positive preference for associating with other blacks in productive activity, the incentive to segregate by color within firms would be even stronger. In the limit, pure segregation would result but no wage differential could persist for any type of labor skill because the behavior of profit-seekers among both types of firms adjusts the relative levels of market demand to ensure equal wage rates.[21]

Let us alter the analysis slightly by assuming a diversity of tastes among whites, ranging from indifference to extreme hostility. Suppose initially that "white only" firms pay higher wages than do racially mixed firms hiring equivalent white labor. New white entrants to the labor force or whites in "mixed" firms will be attracted to "pure" white firms, and the increased labor supply lowers wages for such firms and raises them for mixed firms. On the other hand, suppose that the wages offered by mixed firms were higher than those in white firms. Some marginal whites would be attracted by higher wages in mixed firms, erasing any wage differential once again, in addition to the adjustment of labor demands by expansion and contraction of lower versus higher cost firms.[22] Of course, work forces among firms will be more racially segregated than if no one had color preferences, but this is not synonymous with racial wage differentials.

The employee trade union introduces another possible vehicle for workers to exercise racial discrimination. If a union is able to raise wages above market clearing rates and also exercises some control over hiring, the incumbent workers, rather than auctioning off the jobs, can choose on the basis of blood relationship to a member or possession of the "right" skin color. Since craft unions have more power in wages and hiring than industrial unions do, minority membership in craft unions is correspondingly low. Industrial unions, blessed with less power, must organize whoever is hired, and industrial employers "happen" to hire large numbers of black workers. The ratio of black to white workers who are unionized in the industrial union sector is about 1:1 but only 1/2:1 in the craft union sector.[23]

The degree of racial discrimination by unions depends not only on their ability but "willingness" to do so. The distribution of tastes for discrimination among members influences the union's discrimination, including the proportion of black membership. If unions are democratic and the distribution of tastes single-peaked, no platform or candidate could receive more votes than one offering the median amount of discrimination. The higher the median taste for discrimination among the members, the more discriminating is the democratic union. If unions are less than "democratic," union leaders have more latitude in racial matters, and their preferences could differ from median discrimination in either direction. Lipset argues that union members are generally more prejudiced or bigoted than their leaders.[24] As an example, he compared the two sailors' unions, the National Maritime Union and the Seafarers International Union. The Maritime Union has a much better record on Negro rights and admission than do the Seafarers. The latter union was led by an old "Wobbly," Harry Lundeberg, who believed in frequent and close consultation with the membership. They refused to adopt policies initiating racially integrated ships. The Maritime Union, however, was dominated by communists, less concerned with democratic niceties, and racially mixed crews were instituted without allowing objection by the membership.

This also accounts for the apparent difference on racial matters in the leadership hierarchy. Union leaders at the national level continuously issue "statesmanlike" proclamations about rooting out racial discrimination in unions. Leaders at the local shop level, however, face contested elections and high turnover in office, and cannot stray far from median membership preferences. Fewer "liberal" sentiments are proclaimed by local leaders.

If unions, especially craft unions, can effectively restrict access to some occupations and trades, this will produce a wage differential between unionized whites and nonunionized blacks. The increased supply of blacks in the nonunion sector reduces their wages. Of course, this does not imply that their wages will differ from comparably productive whites who also are excluded from such union jobs. Blacks would suffer a more than proportionate wage decline if a higher proportion of blacks than whites are excluded by unions and forced into the nonunion sector. Although little is known about these effects, an estimate by Ashenfelter found that wages of all black workers relative to all white workers might have been 1.7 percent higher in 1967 than it would have been in the absence of unionism.[25] The effects are likely to be small because blacks are about as highly unionized as whites (approximately 1 in 4 workers) and the wage impact of unions throughout the economy is not very large.

IV. Customers

The analysis of racial discrimination by purchasers of "final" goods and services is similar to that for buyers of inputs (employers). If customers generally prefer buying a good from a white clerk or salesman, the derived demand curve for white labor increases because customers are willing to pay a higher price for goods produced by white labor. Hence, despite equivalent physical productivity between relevant blacks and whites, the value of their marginal products differ. The market price of white labor will rise relative to black labor and consumers are forced to bear the costs of their racial preferences. This tends to choke off the amount of discrimination exercised by whites, depending upon how much they are willing to pay in higher product prices for the "high quality" service rendered by more expensive white labor.

The less attractive black labor must offset their weaker appeal by accepting lower wages or greater unemployment. But this induces other adjustments to attenuate the initial decline. For example, we can predict that blacks would work in sectors producing goods where it is more costly for customers to identify the color of employees. It is very costly for customers to discover what color labor was used in producing the wheat in their bread or in assembling their automobile or eye glasses. The buyer does not know whether these were produced by whites, blacks, Christians, or Moslems. A wage differential in service activities of high customer contact provides an incentive for blacks to seek employment in goods industries of low customer contact. Black employees need not even perceive this opportunity because employers in goods industries have an incentive to employ the lowest cost labor. John Kain's study weakly supports this prediction because within Negro residential areas, blacks are "most over-represented" in industries having large customer contact and least represented in industries with low customer contact.[26] In predominantly white areas, blacks are disproportionately represented in low customer contact industries and least represented in high customer contact industries. On the other hand, Becker finds that within occupations, relatively more nonwhites were employed in retailing than in manufacturing in 1940.[27] Fields like sports and entertainment, with high customer visibility, also seem to have at least proportionate representation from minority groups, so the "casual" evidence on this aspect of customer discrimination appears mixed at best.

Discrimination by customers can also work in favor of minority workers. Black customers, for instance, pay to see a black baseball star or a black clerk in a ghetto store. The presence of black football players on college teams make black football coaches a more valuable commodity because of their superior productivity in working with black players. Another possibility, suggested by Thurow, is that whites may actually prefer blacks in some jobs which maximize a white's "social" distance from blacks, for instance, blacks as domestic servants or garbage collectors.[28] The same situation occurs if men prefer women rather than men as airline stewardesses or secretaries. If whites or men are willing to pay a premium for this, the value of the marginal product of blacks (women) lies above that for equivalent whites (men) and a wage differential results, assuming that their respective market supply curves are not infinitely elastic. Hence, this form of customer "discrimination" works in favor of minorities, inducing white males to offset their "disadvantage" by working in goods industries.

Markets tend to deliver what customers are willing to pay for, and if customers were <u>generally</u> willing to pay more for white than black services, price differences are "compensating" changes which measure customer discrimination. The victims of consumer discrimination are forced either to suffer unemployment, charge lower prices, or sell their wares in an "impersonal" manner that makes it very costly for customers to know who produced the good. While unrestricted market competition often works to the advantage of minority groups, consumer preferences against minorities will be transmitted through markets to the disadvantage of the minorities. Unattractive people do not become movie stars because consumers are not willing to pay as much, and unless preferences change, the "unattractives" seek employment where such qualities are less relevant. However, given that industries with low customer contact generally form a significant part of the demand for most labor skills, no wage differential would persist because these buyers would shift to the cheaper "undesirables" until the differential disappeared. The sports and entertainment industries are obvious exceptions where high visibility is inherent, or low visibility buyers are irrelevant as purchasers of these skills. Pascal and Rapping, however, in a careful empirical study of baseball players, found that players of equivalent baseball skills, which are directly measurable, earned comparable salaries independent of race.[29] Obviously this is insufficient evidence to reach a conclusion about the extent of customer discrimination but it is suggestive.

V. Policies Toward Discrimination

Public policy statements generally proclaim the desirability of reducing discriminatory behavior in economic affairs. If one is interested in reducing discrimination there are only two major ways to achieve it. The first is to persuade people that their tastes are "wrong." Economics is relatively silent about how tastes are formed, much less which actions would influence them in predictable directions. Furthermore, economics can hardly pass on the desirability of molding tastes even if we know how to accomplish it.

Whatever distribution of tastes might exist at any time, discriminatory behavior will vary inversely with its relative cost. Therefore, a second technique for reducing such behavior is to adopt arrangements which make such behavior more costly to "offenders" and attenuates its effects when exercised. As demonstrated in this paper, open and unrestricted competition automatically imposes costs on discriminators. White employers who hire on grounds other than productivity forego higher profits. White workers who insist on working only with whites forego higher wages. White customers who prefer white clerks forego lower product prices. Perhaps it is not surprising that open competition works to the net advantage of minority workers since market restrictions or monopolistic privileges protect incumbents from potential competitors and the "incumbents" are generally white. If labor markets are basically competitive already, government could seemingly do little to further reduce discrimination by this method. But government restrictions in labor markets are responsible for much discrimination. Government licenses for bartending, for instance, are denied to women in many jurisdictions. The exclusionary powers of trade unions rest on government protections. Industries constrained by government from more profit find discriminatory preferences cheaper to indulge. Minimum wage laws penalize social undesirables who are unable to compete in price to offset their "unattractiveness." The list goes on and the implication is that reducing discrimination involves reducing government restrictions in labor markets.

Government has used a more "direct" measure to attack discrimination, however. The federal government and many states have fair employment laws prohibiting discrimination by employers and unions in race, sex, religion, or national origin. These laws attempt to raise the relative cost of arbitrary discrimination by assigning some probability of apprehension and an attendant punishment. Given small enforcement budgets and small punishments (often just publicizing the violation), not much effect could be expected.[30] In fact, these laws are not unambiguous blessings for minorities even if vigorously enforced. While the relative cost of discrimination in hiring rises for employers, the relative cost of firing minority employees also rises. That is, an employer is now more reluctant to hire a minority employee because it is more costly to fire him than someone else. A minority employee can charge his dismissal was on racial grounds and the employer incurs costs for defense against the charge. The effect on firing costs implies that it is profitable for employers to hire fewer minority employees than otherwise and, of those hired, to invest more in predicting their future productivity because of higher expected dismissal costs relative to other employees. The widening unemployment differentials between the races in fair employment states, as reported by Landes, is consistent with this implication. His regressions showed higher relative wages for nonwhites in fair employment states but also a growing unemployment differential.[31] Fair employment laws are a two-edged sword in present value terms and empirically the net effect on minority incomes is unknown.

Whatever fair employment laws can or cannot do, discrimination on nonproductivity grounds in labor markets is a highly exaggerated cause of low wages for minority workers. If these price differentials did not reflect differences in marginal products, some profit-seeking employer would shift to these workers. Denial of this proposition implies that people are throwing away wealth, that not enough firms are willing to sacrifice some "racism" for additional income. While individual acts of discrimination occur continuously, under the most general conditions the market impact on minority wage rates is virtually nil.

A glance at the empirical literature in this area, however, appears to offer a wealth of evidence documenting the sizable impact of labor market discrimination. How is this evidence derived? A recent article by Gwartney is a representative piece of evidence about the income effects of discrimination.[32] Gwartney statistically controls for white-nonwhite differences in five productivity factors--years of education, scholastic achievement, age, region and city size--and finds that one-third to three-fifths of the income differential remains unexplained. He concludes that "this residual may result largely from employment discrimination." This common technique is reminiscent of the early literature on economic growth where the large fraction of output growth which was unaccounted for by growth in measured inputs was labeled "technical change." An equivalent procedure is to claim that racial differences in income which remain after introducing some control factors must be "discrimination," when it is literally nothing more than the net effect of all unmeasured factors. A comment by Ashenfelter and Taussig illustrated the hazardous nature of this procedure by pointing out that Gwartney's technique, which allegedly shows discrimination against nonwhite females over white females, with higher incomes for nonwhites of 8 to 25 percent after controlling for "productivity" differences.[33] Gwartney replied that if hourly earnings rather than income is used, the adjusted female nonwhite/white earnings ratio is 84 to 87 percent, which is "consistent with what one would expect and enhance(s) our confidence in the method."[34] On the contrary, it shows how sensitive and contradictory the results can be with this method, and, in a sense, demonstrates that the "discrimination" thesis cannot be falsified by this technique.

One means of improving our confidence in this procedure would be to test the same variables against groups that are not alleged to be victims of discrimination. For example, if five productivity factors did not entirely close the gap between the higher median income of Jews and the lower median income of Gentiles, most investigators would not conclude that "discrimination" against Gentiles was the cause. The search, both theoretical and empirical, would continue for other controlling variables. More generally, discrimination models should produce additional, indirect implications which can be checked for verification with the evidence, in addition to the hypothesis that minority groups will have lower incomes. For example, if blacks command lower wages than comparably productive whites, we should observe higher profits in firms or industries employing larger numbers of blacks, providing that output prices, other input prices, and access to technology are independent of employee color. These conditions are most likely fulfilled, in general, in "goods" industries like agriculture, manufacturing, and mining. Or, if we believe that the black-white earnings gap is larger in high occupations than in low occupations, we should observe firms and industries with large numbers of high occupation blacks earning larger profits, on average, than firms employing low numbers of blacks.[35]

More disturbing than faulty or unimaginative empirical work, however, is the apparent belief that racial discrimination is somehow consistent with wealth maximization. Ad hoc ideas to explain only discrimination do not appear attractive enough to warrant abandoning microeconomic theory, which has demonstrated an ability to consistently explain an extensive class of empirical behavior. Theories which are inconsistent with more general theory should receive very careful scrutiny. While it may be more difficult to modify existing theory than to freely create new ones, there may also be doubt in some minds about whether the real world will be kind enough to supply the widespread effects we are seeking to explain. Perhaps we had best concentrate on explaining why the skill distributions (productivity variables) differ across ethnic groups if we are interested in explaining income and occupational differences.

FOOTNOTES

[1]U.S. Bureau of the Census, "Characteristics of the Population by Ethnic Origin, November 1969," Current Population Reports, Series P-20, No. 221, Washington: U.S. Government Printing Office, p. 22.

[2]For an extensive comparison of black and white income distributions, see Albert Wohlstetter and Sinclair Coleman, "Race Differences in Income," Ch. 1 in A. Pascal, ed., Racial Discrimination in Economic Life (Lexington, Mass.: Lexington Books, 1972).

[3]Census, op. cit., p. 22.

[4]This distinction is expressed in Thomas Sowell, Economics, Analysis and Issues (Glenview: Scott, Foresman and Company, 1971), p. 305.

[5]Kenneth J. Arrow, "Models of Job Discrimination," Ch. 2; and "Some Mathematical Models of Race in the Labor Market," Ch. 6, in A. Pascal, ed., Racial Discrimination in Economic Life (Lexington, Mass.: Lexington Books, 1972); Richard B. Mancke, "Lower Pay for Women: A Case of Economic Discrimination?" Industrial Relations X (October 1971):316-26.

[6]Corrado Gini, "Race and Sociology," pp. 260-75, and George A. Lundberg, "Selective Association of Ethnic Groups," pp. 304-29, in R.E. Kuttner, ed., Race and Modern Science (New York: Social Science Press, 1967).

[7]X could equally well be defined as a ratio of associations, (Q association blacks)/(Q association whites).

[8]Or, put in somewhat weaker terms, "A types" are chosen with a probability exceeding one-half.

[9]Cf. Harold Demsetz, "Minorities in the Market Place," North Carolina Law Review 43 (February 1965):271-79.

[10]In addition to a fondness for whiteness in labor services, presumably entrepreneurs also have a variety of other "capricious" attitudes about the non-productivity characteristics of all factor inputs which they employ. For example, they might have generally preferred horses to trucks or steam locomotives to diesel locomotives.

[11]"Equally productive" means that an hour of black labor services adds as much to physical output as an hour of white labor, operating in the presence of identical physical flows of all other inputs. Black and white services are perfect substitutes, that is, they have identical marginal product schedules.

[12]Individuals might also be drawn from the "bigot" population, who find the price of discrimination too costly in terms of foregone wealth or who perhaps "enjoy" the thought of making money by hiring cheap black labor rather than white.

[13]In 1969 there were between 450,000 and 500,000 new businesses (Wall Street Journal, April 10, 1969). Also see Henry G. Manney, "Mergers and the Market for Corporate Control," Journal of Political Economy 73 (April 1965):110-21.

[14]Armen A. Alchian and Reuben A. Kessel, "Competition, Monopoly, and the Pursuit of Pecuniary Gain," in National Bureau of Economic Research, Aspects of Labor Economics (Princeton, N.J.: Princeton University Press, 1962).

[15]This category obviously includes government as an employer. To the extent that government is committed to using its hiring ability to narrow black-white economic positions, it can "reverse" its discrimination to favor blacks, just as it could previously favor whites at low cost. Profit firms are less able to discriminate in either direction because of high costs to hiring on "non-efficiency" grounds. If government now discriminates in favor of blacks it implies a wealth transfer from taxpayers as a whole to blacks.

[16]If the special assumption of constant returns to scale held everywhere throughout the economy, a single profit maximizer could produce the entire market equalization of prices. But the presence of many profit-seekers makes this special condition necessary for complete adjustment. In general, the exact number of firms required to accomplish equalization is indeterminate, but firms that are both willing to forego profit opportunities and able to forego them over the long term seem relatively scarce.

[17]Cf. John J. McCall, "Economics of Information and Job Search," Quarterly Journal of Economics 84 (February 1970):113-26; John J. McCall, "The Simple Mathematics of Information, Job Research, and Prejudice," in A. Pascal, op. cit.; Richard L. Peterson, "Economics of Information and Job Search: Another View," Quarterly Journal of Economics 86 (February 1972):127-34, including "Reply" by McCall; and Edmund S. Phelps, "The Statistical Theory of Racism and Sexism," American Economic Review 62 (September 1972):659-61.

[18]Cf. Merle E. Ace, "Psychological Testing: Unfair Discrimination?," Industrial Relations X (October 1971):301-15; Virginia R. Boehm, "Negro-White Differences in Validity of Employment and Training Selection Procedures: Summary of Research Evidence," Journal of Applied Psychology 56 (February 1972):33-39; Sidney Gael and Donald L. Grant, "Employment test validation for minority and non-minority telephone company service representatives," Journal of Applied Psychology 56 (April 1972):135-39.

[19]Throughout this analysis we have implicitly assumed that blacks and whites are employed in a "single economy," and that international trade models which treat blacks and whites as separate countries are inappropriate as devices for generating factor price differentials. For example, see Gary S. Becker, The Economics of Discrimination (Chicago: University of Chicago Press, 1957), Ch. 2; or Anne O. Krueger, "The Economics of Discrimination," Journal of Political Economy 71 (October 1963):481-86. Stiglitz, however, highlights the special conditions which such models require to prevent factor-price equalization. Joseph E. Stiglitz, "Approaches to the Economics of Discrimination," American Economic Review LXIII (May 1973):287-95.

[20]An illustration of this effect are the many firms in California which eagerly employ "alien" Mexican workers. The strong tendency for this effect to occur in an international context implies that it occurs within the U.S. labor market, where government barriers are minimal.

[21]For other discussions of this result, cf. Arrow, op. cit., or Gary S. Becker, The Economics of Discrimination (Chicago: University of Chicago Press, 1957), Ch. 4.

[22]Supply adjustments are even likely among "marginal bigots" because if wage differentials exist between firms, he is giving up income to retain purity of association with whites in the labor market. He has an incentive to foresake bigotry at work in exchange for higher pecuniary wealth, and simultaneously express his prejudice against blacks in relatively cheaper ways, e.g., consumption activity. As W. A. Lewis notes, "There are Poles, and Irish, and Chinese, and Jews, and Germans, and many other ethnic groups. And their way of living together is set by the clock; there is integration between 7 o'clock in the morning and 5 o'clock at night, when all mingle and work together in the center of the city, in the banks and factories, department stores and universities. But after 5 o'clock each ethnic group returns to its own neighborhood." From W. Arthur Lewis, "Black Power and the American University," University, A Princeton Quarterly (Spring 1969):9.

[23]Orley Ashenfelter, "Racial Discrimination and Trade Unionism," Journal of Political Economy 80 (May/June 1972):435-64.

[24]Seymour Lipset, "Negroes and the Labor Movement: A Reply to Herbert Hill," New Politics, Vol. 1, No. 3 (Spring 1962).

[25]Ashenfelter, op. cit., pp. 462-63.

[26]John F. Kain, "Housing Segregation, Negro Employment, and Metropolitan Decentralization," Quarterly Journal of Economics 82 (May 1968): 175-97.

[27]Becker, op. cit., pp. 71-72.

[28]Lester C. Thurow, Poverty and Discrimination (Washington, D.C.: The Brookings Institution, 1969), Ch. 7.

[29]Anthony H. Pascal and Leonard A. Rapping, "The Economics of Racial Discrimination in Organized Baseball," in Pascal, *op. cit.*, pp. 119-56.

[30]Fair employment laws may be just a device to influence tastes rather than impose more direct costs on offenders.

[31]William M. Landes, "The Economics of Fair Employment Laws," *Journal of Political Economy* 76 (July/August 1968):507-52.

[32]James D. Gwartney, "Discrimination and Income Differentials," *American Economic Review* 60 (June 1970):396-408.

[33]Orley Ashenfelter and Michael Taussig, "Discrimination and Income Differentials: Comment," *American Economic Review* 61 (September 1971):746-50.

[34]James D. Gwartney, "Reply," *American Economic Review* 61 (September 1971):751-55.

[35]This empirical work is currently in progress. Preliminary results show no relationship between manufacturing profit rates and percent black or female employment.