

Dissertation Awards

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# Inequality in Housing and Labor Markets: Three Essays: Dissertation Summary

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# Discrimination in Housing and Labor Markets: Three Essays

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Nearly 50 years after the peak of the Civil Rights movement, inequality persists in American society. However, while the existence of racial and gender differentials is generally well known, and the act of observing and measuring these differentials is straightforward, their source remains more elusive. Although the three essays that comprise this dissertation focus on different markets and use different data, they are all united in an attempt to more thoroughly understand the magnitude and source of inequality in our society. The first essay uses self-collected data from local television news stations to explore a new theoretical model of firm differentiation in response to customer discrimination. The second uses panel data for spatial clusters of homes to examine the interplay of neighborhood characteristics, household race, and housing prices. The third essay uses the repeal of state-sponsored affirmative action in California as a natural experiment for measuring the impact of removing affirmative action.

As a whole, the essays in this dissertation highlight the importance of taking into account not only direct discriminatory behavior, but also the more subtle forces of preference and prejudice. In the local news market, although customers themselves are not forcing firms to segregate, it is their preferences that drive that outcome. In housing markets it is the prejudices of neighbors that cause housing prices to fall following an influx of blacks, although these neighbors themselves are not taking money out of anybody's hands. Yet when looking at affirmative action, 25 years of state policy aimed at changing preferences and prejudices evidently has not had the desired impact. These essays sound a cautionary note for government. Even if we could effectively eliminate supplier discrimination in housing or employer discrimination in labor markets, the preferences of demanders could continue to drive inequality.

I now turn to a brief overview of each of the essays in turn.

## Chapter 1

### Labor Market Discrimination as a Competitive Device: The Case of Local Television News

Local television news does not seem to fit the mold that we economists have cast for customer discrimination. As Gary Becker (1957) first demonstrated, the racial preferences of customers can directly affect the marginal

revenue product of labor of different groups and, hence, labor market outcomes. But if, as is frequently suggested, consumers prefer not to interact with minority employees, then why do we see so many blacks, Asians, and Hispanics on the local news? In 2002 an average of 21 percent of broadcast news employees at local television stations were minorities versus 12 percent of newspaper journalists and 8 percent of radio broadcast employees (Robert Paper 2003; American Society of Newspaper Editors [ASNE] 2003). Given the frequent supposition of prejudice against minorities, it seems strange at first glance that minorities have greater representation in the more visible media. Might it be the case that customers actually have a preference for diversity in some circumstances? Or are other factors at play here?

Casual observations of diversity are not the only source of interest in the market for local television news. Identifying the presence and extent of customer discrimination is not an easy task; it requires either directly or indirectly finding a way to measure the preferences of different labor market agents and how these attitudes affect labor market outcomes. As a result, most studies of customer discrimination have focused on professional sports, where worker output and customer demand are easily observable. The evidence from these studies has varied considerably with the particular sport, time period, and type of position examined. Gwartney and Haworth (1974) find that black players increased attendance at baseball games in the 1950s; Sommers and Quinton (1982) find that blacks had an insignificant effect on baseball team revenue in the 1970s; and Nardinelli and Simon (1990) find that baseball cards picturing minority players sell for less than those of white players. Studies of basketball have tended to find evidence of discrimination (e.g., Kahn and Sherer 1988; Burdekin and Idson 1991; Kanazawa and Funk 2001) with the exception of trading cards for players from the 1970s (Stone and Warren 1999). Looking at football quarterbacks, Arcidiacono et al. (2004) find evidence of customer tastes for diversity. The disparities in the empirical literature could indicate that the degree and magnitude of customer discrimination is affected by the visibility of employees and the racial composition of customers and/or employees. Recent studies of markets in which a large percentage of employees are black tend to find evidence of discrimination, while studies in which blacks are not as prevalent or as visible are less likely to find evidence of discrimination. Finally, none of these studies, which all rely on sports markets and firms with little direct competition, have allowed for the consideration that firms may choose to differentiate along the lines of employee characteristics as a competitive device.

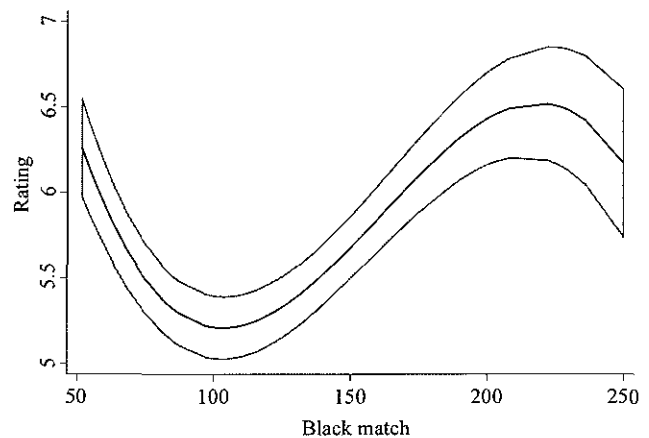
Television news presents another window into customer discrimination, both because employees are

visible to customers and because it offers a measure of customer preferences through television ratings. In this paper, I use a combination of Nielsen ratings for November 2003 broadcasts of local television news in 25 U.S. cities and self-collected data on the demographic characteristics of on-air personalities. Because there is evidence of sorting among stations within a market, with some having a much larger number of minorities on their newscasts than others, I present a theory demonstrating that customer discrimination can cause intramarket segregation in which firms select their racial compositions to cater to certain groups of customers. This theory relies on one adjustment to the assumptions of the classic Becker model of customer discrimination: I assume that customers interact with more than one employee at a firm and that they care about the overall racial composition of the firm. With this rather modest change, it is relatively simple to view the composition of employees as yet another dimension along which firms might choose to differentiate, and with most formulation of the costs and benefits of differentiation, I obtain a Nash equilibrium in which firms are indeed predicted to use discrimination as a competitive device.

Looking at the data on local television news, I find first that there is a strong negative correlation between the racial, age, and gender composition of competing stations. Furthermore, because of the notoriously large labor pool of television journalists, this negative correlation is unlikely to be attributable to supply factors. As further evidence that firms have some flexibility in the racial characteristics of their hires, I show that changes in Equal Employee Opportunity enforcement regimes explain some, but far from all, of the differences in station compositions.

Turning to the question of demand, if firms are indeed using employee composition as a means of differentiation, then the response of viewers to small changes in composition should be different for the different firms. Indeed, this prediction holds in a rather striking way. Consider the case of black employees. If a straightforward customer taste for discrimination holds, then ratings should either rise or fall with the addition of black newscasters. If there is instead a nonlinear taste for diversity, then ratings should rise as blacks are added until the customer "bliss point" is reached, at which time ratings should fall. However, I find a very different result from the two possibilities that have previously been considered. *Figure 1* presents market/time-slot fixed-effect estimates of mean Nielsen rating as a function of the match between a station's black composition and the market's black composition. The variable *black match* is constructed so that a match of less than 100 indicates that a station has fewer blacks relative to the market in which it broadcasts and a match of over 100 indicates

**Figure 1 Impact of Station/City Black Match on Nielsen Rating**



that the station overrepresents blacks relative to the market. Strikingly, stations with few blacks see a decline in ratings as they add black employees, while for a wide range of stations with an overrepresentation of blacks, we see that ratings rise as they add blacks. I go on to show similar results for gender and age composition but obtain predictions for Asians and Hispanics that are more consistent with a customer taste for diversity. These findings suggest another layer of complexity to consider with the basic Becker model of customer discrimination. Local news stations appear to respond to the racial composition of their competitors and try to differentiate themselves by race, age, and sex of their on-air employees. For three of the five groups examined, the ratings regressions indicate that the response of consumers varies with the racial composition of the firms in a manner consistent with the predictions of this model of racial differentiation. Viewers of the more "white" stations have a stronger negative reaction to an increase in blacks than do viewers of the "black" stations, suggesting that stations with few blacks cater to consumers with a high discrimination coefficient against blacks, while stations with more blacks cater to customers who are less prejudiced or who prefer blacks. Similarly, viewers of stations with more females and older employees have a smaller negative response to these groups than viewers of stations with lower concentrations. While the results for Hispanics and Asians suggest a customer preference for diversity rather than differentiation or strict racial preferences as originally modeled in the literature, it seems likely that the exclusion of foreign language local news has biased the estimates. Taken as a whole, the results here suggest that customer discrimination may be a more complex phenomenon than we have previously considered. This added complexity, moreover, suggests that we need to rethink the welfare implications of customer discrimination and the heretofore accepted fact

that customer discrimination would always produce wage differentials that would not be eliminated by competition.

## Chapter 2

### **Discrimination and Neighborhood Effects: Understanding Racial Differentials in U.S. Housing Prices**

*(Published in the Journal of Urban Economics,  
September 2004)*

Research on racial housing price differentials has yielded vastly different results ranging from indications in the early literature that black households pay premiums for housing to estimates of significant discounts in the more recent literature. This decline and reversal of the differential might be due to a reduction in discriminatory practices over the past 40 years. However, differences in estimation techniques and data sets may also explain some, perhaps all, of the perceived decline.

The key to identifying the results of discrimination is to ask whether blacks and whites pay different amounts for *identical* housing. This requires controlling not only for characteristics of the house itself, but also for characteristics of the surrounding neighborhood. Controlling for neighborhood effects is important for two reasons. First, as described in this essay, economic theory predicts that discrimination can produce price differentials within a neighborhood, while prejudice and segregation produce price differentials between neighborhoods. Thus, if neighborhood characteristics are not controlled for, these forces will be confused and it will be impossible to separate the causes of an observed racial price differential. Second, evidence suggests that black neighborhoods tend to have relatively higher crime rates, lower wealth, poorer provision of public goods, and other negative characteristics. Since being black is correlated with living in a black neighborhood, a researcher who does not control for neighborhood characteristics may find that blacks tend to pay less for housing than do whites. Such a result would be biased by neighborhood quality and would not reliably indicate the presence or absence of discrimination.

In relatively recent studies, such as Chambers (1992) and Kiel and Zabel (1996), researchers have typically used large national data sets and, if they controlled for neighborhood characteristics at all, have used census tracts or larger areas as neighborhood proxies. Census tracts, the smallest areas that have been used, have between 1,500 and 8,000 inhabitants, with an optimum given by the census bureau of 4,000 inhabitants. Given that the Census Bureau reports that the average number of people per household in the United States was 2.62

in 2000, a census tract with 4,000 inhabitants would represent about 1,527 houses, or about 100 city blocks of 15 houses each. Although the Census Bureau intends them to be proxies for neighborhoods, it seems likely that there is still substantial variation within tracts with such a large number of houses. The results of studies using these proxies indicate that blacks receive price discounts relative to whites. However, since neighborhood racial composition and other amenities may have been insufficiently controlled for, this negative finding could be due to the tendency of blacks to live in lower-priced black neighborhoods rather than due to the absence of discriminatory behavior of suppliers.

This essay attempts to remedy this problem by controlling for neighborhoods at a much smaller level than that of census tracts. The 1985, 1989, and 1993 national American Housing Surveys (AHS) contain a special "neighbors sample" that is composed of sub-sampled "kernel" housing units and observations about the 10 nearest neighbors of each. Using these data, I control for the racial composition, educational attainment, income levels, and other characteristics of neighborhoods defined by relatively small areas that should be more homogenous than census tracts. By using information about the composition of the neighbor group surrounding each household, I hope to more thoroughly control for neighborhood effects, and thus be able to separate any racial price differential into portions that are 1) due to neighborhood effects, and 2) due to supplier discrimination. I also deviate from previous studies, which have used only cross-sectional techniques and take advantage of the time-series characteristics of the AHS.

I use these data first to demonstrate that adding measures of neighborhood characteristics dramatically lowers the magnitude of the negative coefficient on householder race, suggesting that unobserved variable bias has indeed been a factor in finding little evidence of discrimination in recent years. However, even with more thorough neighborhood controls than has previously been possible, Hausman specification tests still indicate that unobserved variable bias is a problem. For this reason, I utilize the time-series nature of the data by implementing address-specific fixed effects. These estimates indicate that blacks pay approximately 10 percent more than whites for identical housing in identical neighborhoods, providing evidence of supplier discrimination. Although this coefficient becomes significant only at the 10 percent level, it is measuring how values changed for a given house when the race of the occupants changed, holding constant the remaining neighborhood racial composition, which is exactly what we wish to capture to separate neighborhood composition from discrimination. This offers evidence that supplier price discrimination may still be a force in the ownership market but that it has not

been reliably captured in previous studies because of bias caused by omitted neighborhood effects.

The estimates also provide evidence that prejudice causes house prices to fall as the percentage of blacks in a neighborhood increases. Looking at this effect in three types of neighborhoods—those that start off predominantly white, integrated, and predominantly black—I find evidence of declining house prices in all three as the percentage of blacks rises. The coefficient on racial composition in integrated neighborhoods is negative, but with a  $p$ -value of 0.107 is insignificant. However, the estimates indicate that a 10-percentage-point increase in the percent of neighborhood residents who are black lowers house values in black neighborhoods by an average of 4.8 percent and lowers values in white neighborhoods by an average of 7.1 percent. This significant difference indicates that the impact of racial composition is larger in white neighborhoods than in black neighborhoods.

These results are noteworthy because, for the first time in over two decades, we've had data that allow for the separation of neighborhood effects from discrimination effects which in turn has provided evidence that discrimination does continue to play a role in U.S. housing markets.

### Chapter 3

#### **A Cure for Discrimination? Affirmative Action and the Case of California Proposition 209**

*(Revised and resubmitted to Industrial and Labor Relations Review, summer 2006)*

Introducing and removing affirmative action are not opposite sides of the same coin. Proponents of affirmative action maintain that it will provide a long-term cure for discrimination by allowing victims to demonstrate their skill and worth, thus changing prejudicial attitudes. Under this scenario, if affirmative action “works,” then when it is time to drop the program there will be no deleterious effects for minorities. Opponents of these controversial programs, however, argue that it does not address the root source of inequality and, moreover, that it may create labor market inefficiencies and result in reverse discrimination against white males. Both sides, therefore, suggest that an effective affirmative action program would cause minority employment to rise, but they disagree on whether this increase is efficient and whether it would be sustainable if formal affirmative action were ended.

To date, there has been little opportunity to measure the impact of removing affirmative action programs. While federal support for enforcement has ebbed and flowed, and Supreme Court rulings in the past decade

have chipped away at affirmative action, it is difficult to say whether concurrent changes in minority outcomes were due to affirmative action policy or other trends in inequality. A similar problem plagued attempts to measure the impact of instituting affirmative action in earlier years. While minorities and women made gains in the labor market in the 1970s and 1980s, it is not clear what portion of this was due to affirmative action and what was the result of other influences. Empirical studies of the impact of affirmative action on labor markets have relied on differences in outcomes for government contractors, who are subject to the program, and noncontractors, who are not. While these studies have provided evidence of minority gains among contracting firms, the results could be biased because contractor status is not exogenous: firms with the lowest cost of meeting affirmative action requirements may be more likely to be contractors. Hence, we are left with an incomplete picture of both the impact of a controversial program and the potential consequences of its removal. What is needed is a control group to which we can compare changes in outcomes for those affected by affirmative action.

The enactment of California Proposition 209 provides just such an opportunity. The measure, passed in the 1996 state elections and made effective in November of 1997, essentially outlawed existing local and state affirmative action programs in education, public hiring, and contracting, unless superseded by federal law. This change in state policy presents a natural experiment for measuring the labor market impact of removing of affirmative action programs. I use Current Population Survey (CPS) data to compare outcomes for minorities in California before and after affirmative action was removed to those same outcomes for white males. Then, to control for national trends in minority differentials, I compare this difference to the difference for a control group: states not undergoing similar changes in the law. The use of this triple difference technique to analyze the impact of removing affirmative action on employment, unemployment, labor force participation, and wages provides evidence on the long-term effects of affirmative action.

The triple difference estimates in this analysis rely on three divisions of the data. First, the observations are categorized as before or after the enactment of proposition 209 (e.g., 1995 or 1999, 1995 or 2000, and so on, depending on the years being used). Second, individuals are divided into eight mutually exclusive and collectively exhaustive categories: white males, white females, black males, black females, other males, other females, Hispanic males, and Hispanic females. And third, the country is divided into two groups: an experimental state (California) and the remaining control states or “nation.” I use probits to examine the impact of removing affirmative

programs on labor force status and linear regression models to look at the impact on wages. In the case of the former, I am careful in correctly calculating and interpreting the average marginal effects for a nonlinear model, which is frequently and incorrectly done by simply calculating the marginal effect of the coefficient on the triple interaction term.

Looking at labor force status, the estimates indicate that between 1995 and 1999 the relative employment of all minorities fell by 2.8 percentage points while nonparticipation rose by 2.9 percentage points. Similarly, between 1995 and 2000 relative employment fell by 1.8 percentage points (but the change is not significant), and nonparticipation rose by 2.2 percentage points; between 1995 and 2001 relative employment fell by 2.2 percentage points while nonparticipation rose by 2.0 percentage points. Breaking this down by group, between 1995 and 1999 relative nonparticipation rose by 2.9 percentage points for white females, 4.6 percentage points for black females, 1.4 percentage points for Hispanic males, 5.2 percentage points for Hispanic females, and 6.8 percentage points for other males. This increase in nonparticipation accounts for nearly all of the decline in employment for all groups except black females, who also saw a drop in unemployment. Only black males and other females do not exhibit significant changes in labor force status between 1995 and 1999. By 2001, however, there appears to have been a rise in nonparticipation for all minority groups except for black men, who show a significant fall in nonparticipation. That there is little evidence of negative impact on black men is in keeping with previous findings (e.g., Holzer and Neumark 2000) that in later years affirmative action had a greater impact on women, but it should also be noted that the sample of black males in California is smaller than any of the other minority groups.

As a whole, the results suggest that Proposition 209 moved females and minorities out of the labor force. If, as the results indicate, the removal of affirmative action made it more difficult for women and minorities to find work, then this exit from the labor force is not surprising. Previous work has tended to indicate that women have more elastic labor supplies than men and that they tend to be more responsive along the extensive participation margin (Blau 2005) In addition, when looking at the impact of minimum wage legislation, Mincer (1976) finds that affected groups tend to leave the labor force and, moreover, that females and minorities have relatively high participation elasticities. Furthermore, these estimates look at the impact of Proposition 209 a year and more after its implementation. It may be the case that these groups did initially move from employment to unemployment but that by 1999 they became discouraged and left the labor force.

Turning from labor force status to wages, there is no clear prediction of the impact of removing affirmative action on wages. Relative wage changes will depend on the nature of preexisting discrimination, the effectiveness of affirmative action, and the relative skill levels of the groups affected by its removal. It is thus not surprising that, as a whole, the results do not show a consistent effect for any of the groups. This could indicate that affirmative action had little effect on wages. Affirmative action laws, after all, did not directly address wage equality, which was covered by equal employment law. It could also be the result of skill selection among those leaving employment. Since the wage regressions are conditional on employment, the wages of those who remain employed could rise because they are relatively more skilled or fall because they are relatively less skilled than those who left.

Because the removal of state-sponsored affirmative action in California appears to have the greatest impact on labor force participation, I then consider alternative explanations for the observed fall in participation—changes in school enrollment patterns, immigration policy, child care policy, incarceration rates, and welfare reform. I show that each in turn does not appear likely to have produced the observed effect.

Given that this large decline in minority labor-market participation in California seems to be due to the removal of extensive state affirmative action programs, this result raises doubts about their efficacy to begin with. The drop in participation is consistent with one of three hypotheses from the theoretical literature: 1) that affirmative action is inefficient and creates reverse discrimination, 2) that affirmative action is ineffective at engendering permanent change in prejudices that create labor market inequality, or 3) that the sources of inequality are not prejudice-based. A final possibility is that California's affirmative action programs had not been in place long enough to engender permanent alteration in inequality. However, given that California had pursued affirmative action for over a generation, this may be equally discouraging.

#### Note

All the references can be found in the original dissertation.