Discrimination in Metropolitan Housing Markets: National Results from Phase I HDS 2000

Final Report

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ACKNOWLEDGEMENTS

FOREWORD

Ending illegal housing discrimination is one of the highest priorities I have as Secretary of Housing and Urban Development. That is why we are pleased to release an important new report: *Housing Discrimination Study 2000* (*HDS 2000*). The study was designed to determine the extent of housing discrimination based on race or color that Americans may face today. By any measure, it is the most ambitious analysis of housing discrimination ever produced.

This report, the result of comprehensive testing and sophisticated analysis, provides national estimates of discrimination encountered by African Americans and Hispanics searching for housing to rent or purchase in the year 2000. The results are based on a significant sample: 4,600-paired tests in 23 metropolitan areas nationwide. Because a previous HUD study was conducted in 1989, we are able to accurately measure how housing discrimination has changed in just over a decade.

HDS 2000 found large decreases in the level of discrimination faced by Hispanics and African Americans seeking to a buy a home between 1989 and 2000. There also was a modest decrease in discrimination toward African Americans seeking to rent a unit. However, the report finds that this downward trend does not apply to Hispanic renters. In fact, in the year 2000 Hispanic renters were more likely to experience discrimination in their search for housing than African American renters.

The results underscore our belief that, while housing discrimination is down in general since 1989, it still exists at unacceptable levels. Our study found that Hispanics and African Americans most often encounter discrimination when they inquire about renting a housing unit. Too often, minorities are told that the unit is unavailable – while a non-Hispanic white tester would be able to examine or rent the property. In a departure from the general decline in discrimination, Hispanics are more likely in 2000 than in 1989 to be quoted a higher rent than a white counterpart for the same unit.

Discrimination in the home buying process also is down by most measures for African American and Hispanic homebuyers, but there are several troubling trends. For African Americans, that discrimination most often takes place through "steering." For Hispanics, the discriminatory trend shows that compared to non-Hispanic whites, real estate agents give them little or no help to find mortgage financing.

As the Department works to eliminate housing discrimination, this report offers invaluable assistance by documenting where and how discriminatory practices take place. We continue to expand efforts to learn more about discrimination, and will follow up with three unique reports: national information about discrimination against Asians; statewide estimates of discrimination against Native Americans; and metropolitan estimates of discrimination against persons with disabilities.

While documenting the nation's progress in reducing discrimination, the findings in *HDS 2000* will enable HUD to target more resources – including enforcement that penalizes illegal discrimination – to communities with growing minority populations. The results also will help us use education campaigns to reduce steering and promote equal treatment in mortgage lending and financing assistance. Housing discrimination isn't just unfair – it's also against the law.

Mel Martinez
Secretary

EXECUTIVE SUMMARY

This report presents results from the first phase of the latest national Housing Discrimination Study (HDS2000), sponsored by the Department of Housing and Urban Development (HUD) and conducted by the Urban Institute. These results are based on 4,600 paired tests, conducted in 23 metropolitan areas nationwide during the summer and fall of 2000. In a paired test, two individuals—one minority and the other white—pose as otherwise identical homeseekers, and visit real estate or rental agents to inquire about the availability of advertised housing units. This methodology provides direct evidence of differences in the treatment minorities and whites experience when they search for housing.

Background

Paired testing originated as a tool for fair housing enforcement, detecting and documenting individual instances of discrimination. Since the late 1970s, this methodology has also been used to rigorously measure the prevalence of discrimination across the housing market as a whole. When a large number of consistent and comparable tests are conducted for a representative sample of real estate and rental agents, the results control for differences between white and minority homeseekers, and directly measure patterns of adverse treatment based on a homeseeker's race or ethnicity.

HDS2000 is the third national paired-testing study sponsored by HUD to measure patterns of racial and ethnic discrimination in urban housing markets. Its predecessors, the 1977 Housing Market Practices Study (HMPS) and the 1989 Housing Discrimination Study (HDS) found significant levels of racial and ethnic discrimination in both rental and sales markets of urban areas nationwide. Enforcement tests conducted over the intervening decade have also uncovered countless instances of illegal discrimination against minority homeseekers. Housing discrimination raises the costs of the search for housing, creates barriers to homeownership and housing choice, and contributes to the perpetuation of racial and ethnic segregation.

HDS2000 will ultimately involve three phases of paired testing, in as many as 60 metropolitan areas. HUD's goals for the study include rigorous measures of change in adverse treatment against blacks and Hispanics nationwide, site-specific estimates of adverse treatment for major metropolitan areas, estimates of adverse treatment for smaller metropolitan areas and adjoining rural communities, and new measures of adverse treatment against Asians and Native Americans. Phase I (with testing conducted in 2000) was designed to provide updated national estimates of adverse treatment against blacks and Hispanics and to measure change in the incidence of differential treatment since 1989. In addition, Phase I provides estimates of adverse treatment against blacks and Hispanics in twenty individual metropolitan areas, as well

as exploratory estimates of adverse treatment against Asians (in two metro areas) and Native Americans (in one metro area).

The HDS2000 Methodology

In this study, the basic testing protocols replicated those implemented in the 1989 HDS in order to yield comparable measures of differential treatment. Random samples of advertised housing units were drawn from major metropolitan newspapers on a weekly basis, and testers visited the sampled offices to inquire about the availability of these advertised units. Both minority and white partners were assigned income, assets, and debt levels to make them equally qualified to buy or rent the advertised housing unit. Test partners were also assigned comparable family circumstances, job characteristics, education levels, and housing preferences. They visited sales or rental agents, and systematically recorded the information and assistance they received about the advertised unit and/or other similar units, including location, quality and condition, rent or sales price, and other terms and conditions. Test partners did not compare their experiences with one another or record any conclusions about differences in treatment; each simply reported the details of the treatment he or she experienced as an individual homeseeker.[1]

The results presented here are based on a nationally representative sample of 20 metropolitan areas with populations greater than 100,000 and with significant black and/or Hispanic minorities. This sample of sites was selected from the 25-site sample of metropolitan areas covered by the 1989 Housing Discrimination Study.[2] Black/white testing was conducted in sixteen of the twenty sites, and Hispanic/non-Hispanic testing was conducted in ten. Results are weighted to produce nationally representative estimates.

In addition to this national sample of sites, we selected two large metropolitan areas with significant Asian minorities in which to conduct paired testing for discrimination against Asian homeseekers—Los Angeles and Minneapolis. Finally, our Phase I sample of sites includes one large metropolitan area with a significant Native American population—Phoenix, Arizona—as well as Tucson, a smaller metropolitan area in Arizona, with adjoining rural counties that are home to large populations of Native Americans.

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[1] HDS2000 is designed to measure the extent to which minority homeseekers experience adverse treatment when they look for housing in urban areas nationwide. The tests conducted for this study were not designed to assemble evidence of discrimination in individual cases. The question of when differential treatment warrants prosecution and the related question of whether sufficient evidence is available to prevail in court can only be resolved on a case-by-case basis, which might also consider other indicators of treatment than those reported here.

[2] Selecting the phase I sites from the 1989 sample dramatically improves the precision of national estimates of changes in differential treatment between 1989 and 2000.

Summary of Findings

HDS2000 finds that discrimination still persists in both rental and sales markets of large metropolitan areas nationwide, but that its incidence has generally declined since 1989 (see Exhibit ES-1). Only Hispanic renters face essentially the same incidence of discrimination today that they did in 1989. Otherwise, the incidence of consistent adverse treatment against minority homeseekers has declined over the last decade.[3]

Exhibit ES-1: Consistent Adverse Treatment Against Blacks and Hispanics, 1989 and 2000
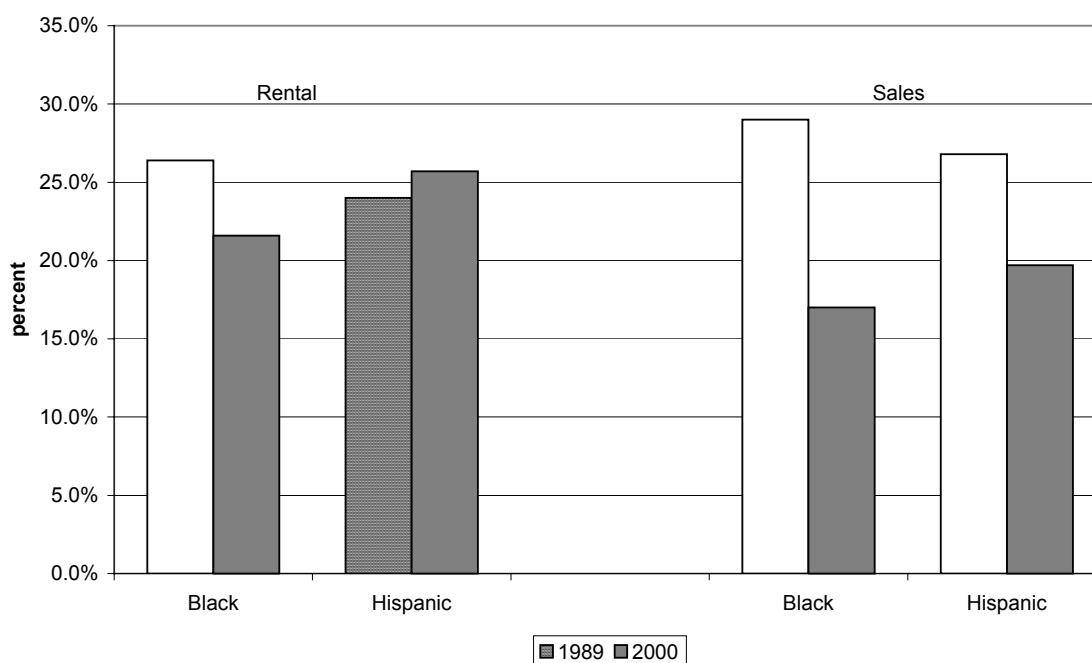
Metropolitan Rental Markets. African Americans still face discrimination when they search for rental housing in metropolitan markets nationwide. Whites were consistently favored over blacks in 21.6 percent of tests. In particular, whites were more likely to receive information

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[3] Note that the 1989 results presented here are not exactly the same as those that were reported in 1989. Comparable measures have been constructed from both years, but these are not exactly the same treatment measures as reported in 1989. Some 1989 indicators could not be replicated because of changes in testing protocols. Other measures have been more precisely defined or revised for greater clarity. See Annex 5 for a complete discussion of changes in the 1989 treatment measures.

about available housing units, and had more opportunities to inspect available units. Discrimination against African American renters declined between 1989 and 2000, but was not eliminated. The overall incidence of consistent white-favored treatment dropped by 4.8 percentage points, from 26.4 percent in 1989 to 21.6 percent in 2000.

Hispanic renters nationwide also face significant levels of discrimination. Non-Hispanic whites were consistently favored in 25.7 percent of tests. Specifically, non-Hispanic white renters were more likely to receive information about available housing and to inspect available units than were Hispanic renters. Discrimination against Hispanic renters appears to have remained essentially unchanged since 1989. Although the incidence of adverse treatment dropped for some forms of agent behavior, the overall incidence of consistent adverse treatment was not significantly different in 1989 than in 2000. Hispanic renters now appear to face a higher incidence of discrimination than African American renters.

Patterns of differential treatment for both African American and Hispanic renters vary across metropolitan areas. The incidence of consistent adverse treatment against black renters significantly exceeds the national average in Atlanta, while Chicago and Detroit rental markets had rates below the national average. None of the metropolitan-level estimates of consistent adverse treatment for Hispanic renters significantly exceeded the national average, but in Denver, the incidence of consistent adverse treatment against Hispanics was significantly less than the national average.

Metropolitan Sales Markets. African American homebuyers—like renters—continue to face discrimination in metropolitan housing markets nationwide. White homebuyers were consistently favored over blacks in 17.0 percent of tests. Specifically, white homebuyers were more likely to be able to inspect available homes and to be shown homes in more predominantly white neighborhoods than comparable blacks. Whites also received more information and assistance with financing as well as more encouragement than comparable black homebuyers. Discrimination against African American homebuyers declined quite substantially between 1989 and 2000, but was not eliminated. The overall incidence of consistent white-favored treatment dropped by 12.0 percentage points, from 29.0 percent in 1989 to 17.0 percent in 2000. However, geographic steering rose, suggesting that whites and blacks are increasingly likely to be recommended and shown homes in different neighborhoods.

Hispanic homebuyers also face significant levels of discrimination. Non-Hispanic whites were consistently favored in 19.7 percent of tests. In particular, non-Hispanic whites were more likely to receive information and assistance with financing, and to be shown homes in non-Hispanic neighborhoods than comparable Hispanic homebuyers. Discrimination against Hispanic homebuyers declined since 1989. Specifically, the overall consistency measure dropped by 7.1 percentage points—from 26.8 percent in 1989 to 19.7 percent in 2000.

Patterns of differential treatment for both African American and Hispanic homebuyers vary across metropolitan areas. Metro areas where the incidence of consistent white-favored treatment in the sales market significantly exceeds the national average include Birmingham, and Austin, while white-favored treatment falls below average in the sales market of Atlanta and Macon. Consistent adverse treatment of Hispanic homebuyers significantly exceeded the national average in Austin and New York, and fell significantly below the national average in Pueblo and Tucson.

Measurement Issues

A paired test can result in any one of three basic outcomes for any measure of treatment: 1) the white tester is favored over the minority; 2) the minority tester is favored over the white; or 3) both testers receive the same treatment (which may be either favorable or unfavorable). The simplest measure of adverse treatment is the share of all tests in which the white tester is favored over the minority. Because there are also tests in which minority testers receive better treatment than their white partners, we report both the incidence of white-favored treatment and the incidence of minority-favored treatment.

Gross and Net Measures. Although these simple *gross measures* of white-favored and minority-favored treatment are straightforward and easily understandable, they almost certainly overstate the frequency of systematic discrimination.[4] Specifically, differential treatment may occur during a test not only because of differences in race or ethnicity, but also because of random differences in the circumstances of their visits to the real estate agency. For example, in the time between two testers' visits, an apartment might have been rented, or the agent may have been distracted by personal matters and forgotten about an available unit. Gross measures of white-favored and minority-favored treatment include both random and systematic elements (see Exhibit ES-2), and therefore provide *upper-bound estimates* of systematic discrimination.[5]

One strategy for estimating systematic discrimination, that is, to remove the cases where non-discriminatory random events are responsible for differences in treatment, is to subtract the incidence of minority-favored treatment from the incidence of white-favored treatment to

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[4] We use the term "systematic discrimination" to mean differences in treatment that are attributable to a customer's race or ethnicity, rather than to any other differences in tester characteristics or test circumstances. This term is not the same as "intentional" discrimination, nor is it intended to mean that these differences would necessarily be ruled as violations of federal fair housing law.

[5] Note that it is conceivable that random factors might *reduce* the observed incidence of white-favored or minority-favored treatment, so that the gross-incidence measure is technically not an absolute upper-bound for systematic discrimination.

produce a *net measure*. This approach essentially assumes that all cases of minority-favored treatment are attributable to random factors—that systematic discrimination never favors minorities—and that random white-favored treatment occurs just as frequently as random minority-favored treatment. Based on these assumptions, the net measure subtracts differences due to random factors from the total incidence white-favored treatment (again, see Exhibit ES-2). However, it seems unlikely that all minority-favored treatment is the result of random factors; sometimes minorities may be systematically favored on the basis of their race or ethnicity. Therefore, the net measure subtracts not only random differences but some systematic differences, and therefore probably understates the frequency of systematic discrimination. Nevertheless, the net measure reflects the extent to which the differential treatment that occurs (some systematically and some randomly) is more likely to favor whites than minorities. Thus, net measures provide *lower-bound estimates* of systematic

Exhibit ES-2: Understanding Paired Testing Estimates of Housing Discrimination
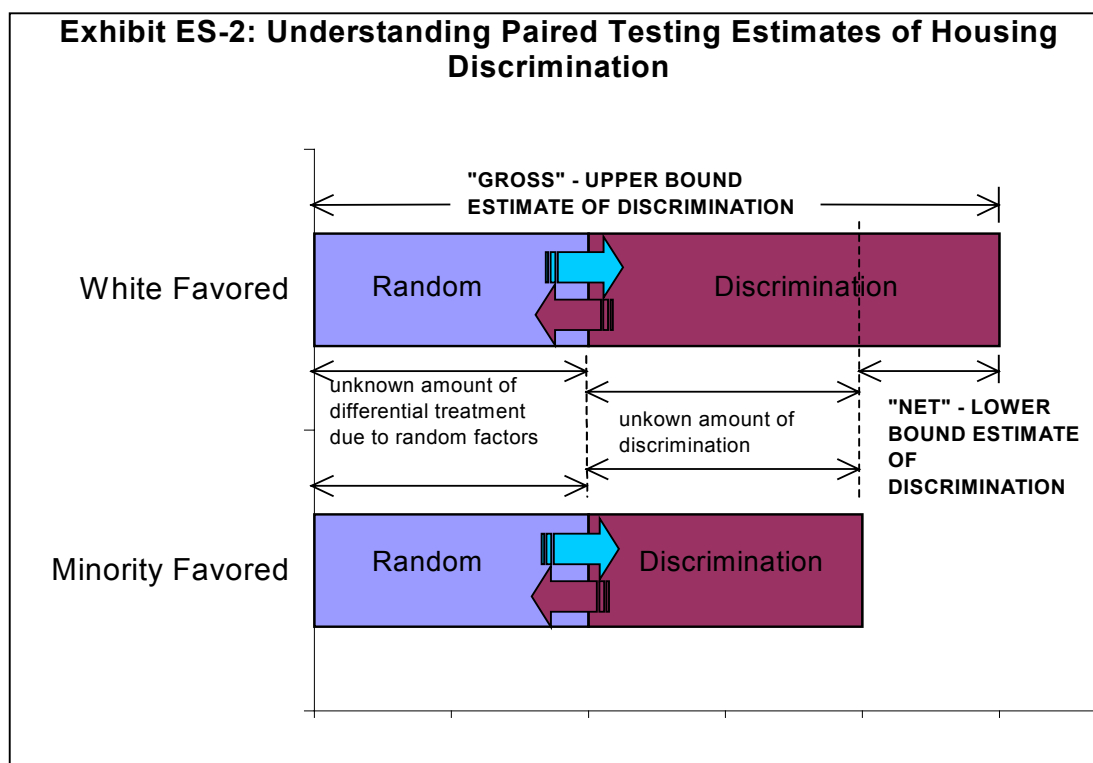
discrimination.[6]

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[6] Even when no statistical pattern of race-based differential treatment is observed, individual cases of discrimination may occur. Specifically, even if the gross incidence of white favored treatment is statistically insignificant, this does not mean that discrimination never occurred, but only that the number of cases was too small to draw any conclusions about systematic patterns across the sample as a whole. Similarly, for variables where the

The body of this report presents both gross and net measures, because in combination, they indicate not only how often whites are favored over comparable minority homeseekers, but the extent to which white-favored treatment systematically exceeds minority-favored treatment. These two measures provide upper- and lower-bound estimates of systematic discrimination against minority homeseekers.

Summary Measures. A visit with a rental or sales agent is a complex transaction, and may include many forms of favorable or unfavorable treatment. This report presents results for a series of fourteen individual treatment indicators, but also combines these individual indicators to create *composite measures* for categories of treatment (such as housing availability or housing costs) as well as for the transaction as a whole. For rental tests, treatment measures include the availability of advertised and similar units, opportunities to inspect units, housing costs, and the encouragement and assistance from rental agents. For sales tests, measures include the availability of advertised and similar homes, opportunities to inspect homes, the neighborhood characteristics of recommended and inspected homes, assistance with mortgage financing, and encouragement and assistance from the sales agent.

Two types of composite measures have been constructed. *Consistency measures* (presented in Exhibit ES-1) reflect the extent to which the different forms of treatment that occur in a visit consistently favor one tester over the other. Specifically, tests are classified as white-favored if the white tester received favorable treatment on one or more individual items, while his or her partner received *no* favorable treatment. Tests were classified as "neutral" if one tester was favored on some individual treatment items and his or her partner was favored on even one item. Consistency measures were used in 1989 to summarize testing results across individual treatment indicators. In HDS2000, however, we also developed *hierarchical measures* by considering the relative importance of individual treatment measures to determine whether one tester was favored over the other. For each category of treatment measures and for the full set of measures, a hierarchy of importance was established *independently* of the testing results, to provide an objective set of decision rules for comparing treatment across indicators.[7]

The body of this report presents both consistency measures and hierarchical measures. These alternative measures (including both lower-bound and upper-bound estimates of systematic discrimination) tell a consistent story about the existence of discrimination and trends

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net measure is close to zero, there may in fact be instances of race-based discrimination, even though the overall pattern does not systematically favor one group.

[7] Again, it is important to emphasize the difference between methods used for the statistical analysis of paired testing results and methods used to assemble or assess evidence of unlawful conduct in an individual case. No pre-determined set of decision criteria can substitute for case-by-case judgements about test results.

since 1989. Like the "best estimates" discussed earlier, they indicate that discrimination generally declined during the 1990s, but still occurs at statistically significant levels. Therefore, in this summary, we focus on a single measure—the gross incidence of consistent white-favored treatment across all treatment indicators. The share of tests in which the white was consistently favored over his or her minority partner (and the minority was favored on no treatment items) provides a conservative estimate of the overall incidence of discrimination, and is the same approach that was implemented in the 1989 Housing Discrimination Study.[8]

Strengths and Limitations of This Research

Paired testing is a powerful tool for directly observing differences in the treatment that minority and white homeseekers experience when they inquire about the availability of advertised housing units. The results presented here provide strong evidence that discrimination persists in metropolitan housing markets, but that it has declined significantly over the past decade for African American renters and homebuyers and for Hispanic homebuyers.

Despite the strengths of this methodology, HDS2000, like previous national paired testing studies, is limited in its coverage of metropolitan housing markets and the experience of minority homeseekers. The sample of real estate and rental agents to be tested was drawn from newspaper advertisements, and the economic characteristics of tester teams were matched to the characteristics of the advertised units. However, not all housing units for sale or rent are advertised in major metropolitan newspapers, not all real estate and rental agents use newspaper advertising to attract customers, and not all homeseekers rely upon newspaper advertisements in their housing search. Therefore, results presented here do not necessarily reflect the experience of the typical minority homeseeker, but rather of homeseekers qualified to rent or buy the average housing unit advertised in a major metropolitan newspaper.

Moreover, the results presented here do not encompass all phases of the housing market transaction. HDS2000, like most paired testing studies, focuses on the initial encounter between a homeseeker and a rental or sales agent. Additional incidents of adverse treatment may occur later in the housing transaction, when a renter submits an application or negotiates lease terms, or when a homebuyer makes an offer on a particular unit or applies for mortgage financing. In spite of these important limitations, HDS2000 provides the most complete and up-to-date information available about the persistence of housing market discrimination against African American and Hispanic homeseekers in large urban areas of the United States today and about the progress we have made in combating discrimination over the last decade.

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[8] Although consistent minority-favored treatment also occurs in some instances, the definition of the consistency measure makes it unlikely that this reflects random differences in treatment. Therefore, we do not report net measures for the consistency composite.

1.   BACKGROUND AND INTRODUCTION

This report presents findings from the first phase of the latest national Housing Discrimination Study (HDS2000), sponsored by the Department of Housing and Urban Development (HUD) and conducted by the Urban Institute. HDS2000 is the third national paired-testing study sponsored by HUD to measure patterns of racial and ethnic discrimination in U.S. housing markets. Its predecessors, the 1977 Housing Market Practices Study (HMPS) and the 1989 Housing Discrimination Study (HDS), found significant levels of racial and ethnic discrimination in both rental and sales markets of metropolitan areas nationwide. Housing discrimination of this kind raises the costs of housing search, creates barriers to homeownership and housing choice, and contributes to the perpetuation of racial and ethnic segregation. The first phase of HDS2000 was designed to rigorously measure current levels of adverse treatment against African Americans and Hispanics for large metropolitan areas nationwide, document any changes in these levels since 1989, and provide local estimates of adverse treatment for twenty individual metropolitan areas.

Paired Testing Methodology

In a paired test, two individuals—one minority and the other white—pose as otherwise identical homeseekers, with comparable housing needs and resources. Both testers visit a real estate or rental agent to inquire about the availability of housing, making the same requests and providing the same information about themselves. Each tester systematically records the information and assistance he or she receives from the agent. If the minority and white are treated differently in important ways, a test provides direct and powerful evidence of differences in the treatment minorities and whites experience when they search for housing.

Paired testing originated as a tool for fair housing enforcement, detecting and documenting individual instances of discrimination. Since the late 1970s, this methodology has also been used to rigorously measure the prevalence of discrimination across the housing market as a whole. When a large number of consistent and comparable tests are conducted for a representative sample of real estate and rental agents, the results directly measure patterns of adverse treatment based on a homeseeker's race or ethnicity.

For the results presented here, basic testing protocols replicated those implemented in the 1989 HDS in order to yield comparable measures of differential treatment. Random samples of advertised housing units were drawn from major metropolitan newspapers on a weekly basis, and testers visited the sampled offices to inquire about the availability of these advertised units. Both minority and white partners were assigned income, assets, and debt levels to make them equally qualified to buy or rent the advertised housing unit. Test partners were also assigned comparable family circumstances, job characteristics, education levels, and

housing preferences. They took turns visiting sales or rental agents and systematically recorded the information and assistance they received about the advertised unit and/or other similar units, including location, quality and condition, rent or sales price, and other terms and conditions. Test partners did not compare their experiences with one another or record any conclusions about differences in treatment; each simply reported the details of the treatment he or she experienced as an individual homeseeker.[1]

HDS2000 Study Scope

HDS2000 will ultimately involve three phases of paired testing. HUD's goals for the study include rigorous measures of change in adverse treatment against blacks and Hispanics nationwide, site-specific estimates of adverse treatment for major metropolitan areas, estimates of adverse treatment for smaller metropolitan areas and adjoining rural communities, and new measures of adverse treatment against Asians and Native Americans.

Phase I (with testing conducted in 2000) was designed to provide updated national estimates of discrimination against blacks and Hispanics and to measure change in the incidence of discrimination since 1989. In addition, Phase I provides estimates of adverse treatment against blacks and Hispanics in twenty individual metropolitan areas, as well as exploratory estimates of adverse treatment against Asians (in two metro areas) and Native Americans (in one metro area). Exhibit 1-1 summarizes the key design components of Phase I of HDS2000.

HDS2000, like previous national paired testing studies, is limited in its coverage of metropolitan housing markets and the experience of minority homeseekers. The sample of real estate and rental agents to be tested was drawn from newspaper advertisements, and the economic characteristics of tester teams were matched to the characteristics of the advertised units. However, not all housing units for sale or rent are advertised in major metropolitan newspapers, not all real estate and rental agents use newspaper advertising to attract customers, and not all homeseekers rely upon newspaper advertisements in their housing search. Therefore, results presented here do not necessarily reflect the experience of the typical minority homeseeker, but rather of homeseekers qualified to rent or buy the average housing unit advertised in a major metropolitan newspaper.

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[1] HDS2000 is designed to measure the extent to which minority homeseekers experience adverse treatment when they look for housing in metropolitan areas nationwide. The tests conducted for this study were not designed to assemble evidence of discrimination in individual cases. The question of when differential treatment warrants prosecution and the related question of whether sufficient evidence is available to prevail in court can only be resolved on a case-by-case basis.

Moreover, the results presented here do not encompass all phases of the housing market transaction. HDS2000, like most paired testing studies, focuses on the initial encounter between a homeseeker and a rental or sales agent. Additional incidents of adverse treatment may occur later in the housing transaction, when a renter submits an application or negotiates lease terms, or when a homebuyer makes an offer on a particular unit or applies for mortgage financing. Despite these limitations, HDS2000 provides the most complete and up-to-date information available about the incidence and severity of housing market discrimination against minority homeseekers in large metropolitan areas of the United States today.

Exhibit 1-1: HDS2000 Phase I Design Summary

National Estimates	Tnational estimates of discrimination (and change since 1989) for blacks and Hispanics
Metropolitan Estimates	Tnational sample of 20 large metropolitan areas with significant black and/or Hispanic populations Tblack/white testing in 16 of the 20 metros THispanic/non-Hispanic white testing in 10 of the 20 metros T2 additional metropolitan sites with significant Asian minorities (Korean, Chinese, and Southeast Asian) T1 metropolitan site with a large Native American population
Sample of Available Housing Units	Tweekly samples of advertised housing units drawn from major metropolitan newspapers Tdisproportionate sampling of ads from communities that are under-represented in metro newspapers in 4 "enhanced" sites Texploratory non-ad-sampling in 5 sites
Total Number of Tests	T4,600

Organization of the Report

The remainder of this report consists of seven chapters. Chapter 2 presents the methodology implemented in Phase I of HDS2000, including the sample of metropolitan areas in which tests were conducted, the procedures used to draw a sample of available housing units in each of these metropolitan areas, the paired testing protocols implemented for both rental and sales housing, and the statistical procedures used to estimate the incidence of adverse treatment. Chapter 3 presents current national estimates of adverse treatment against African American and Hispanic renters and homebuyers, as well as estimates of change in differential treatment since 1989. Chapter 4 presents metropolitan-level estimates of adverse treatment against African Americans and Hispanics compared to the national level for each of the twenty

large metropolitan areas in our sample, highlighting metropolitan areas with significantly higher or lower rates of adverse treatment. Chapter 4 also presents results from exploratory testing for adverse treatment against Asians and Native Americans. Chapter 5 uses multivariate analysis methods to test hypotheses about potential sources of random and systematic differences in treatment, and addresses some of the major methodological criticisms that have been leveled at paired testing research. Chapter 6 presents expanded measures of geographic steering in the sales market. Chapter 7 explores systematic variations in the incidence of adverse treatment, and assesses the extent to which they support hypotheses about the causes of discrimination. Finally, Chapter 8 reviews all the findings from Phase I of HDS2000 and discusses their implications, both for future paired testing research and for ongoing enforcement efforts. Technical annexes to this report are provided in a separately bound volume.

2.   PHASE I DESIGN AND METHODOLOGY

Although the paired testing methodology originated as a tool for fair housing enforcement, it has been successfully adapted for research purposes. In order to yield reliable measures of differential treatment in housing market transactions, paired testing must be applied to a representative sample of housing providers or available housing units in selected markets, and must adhere to highly standardized protocols. Phase I of HDS2000 was designed to replicate the 1989 Housing Discrimination Study, provide updated national estimates of adverse treatment against African Americans and Hispanics, and rigorously measure any changes that may have occurred during the 1990s. This chapter describes the sampling procedures, testing protocols, and analysis techniques implemented in Phase I of HDS2000.

Sampling

The sampling plan for the first phase of HDS2000 was designed to achieve multiple objectives. Its principal goal was to measure temporal changes (since 1989) in adverse housing treatment against African Americans and Hispanics. In addition, the sampling plan was designed to produce metropolitan estimates that profile the incidence of adverse treatment for individual urban areas. Third, sites were selected to pilot paired testing for Asians and Native Americans in selected sites. And finally, the Phase I sample was designed to be compatible with additional phases (and sites) to form a larger national sample that will serve as a baseline for future housing discrimination studies.

Sampling was based on an *integrated, clustered, two-stage probability sample design*. First-stage sampling units are composed of Metropolitan Statistical Areas (MSAs) and are selected via stratified sampling with probabilities proportional to a measure of size based on population totals. Separate site selections were made for African American testing, Hispanic testing, Asian testing, and Native American testing, although there was considerable overlap of sites for these various groups, so that testing was conducted for more than one minority group in several sites. In the second stage of selection, ads for rental and sales housing were selected with probability sampling from weekly Sunday newspapers covering the sample sites during the testing period. The sampled ads were assigned to paired testers on a weekly basis.

National Sample of Metropolitan Areas. The results presented here are based on a nationally representative sample of 20 metropolitan areas with population greater than 100,000

and with significant black and/or Hispanic minorities. This sample of sites was selected from the 25-site sample of metropolitan areas covered by the 1989 Housing Discrimination Study.[1]

Exhibit 2-1: National Sample of Metropolitan Areas for
Black/White and Hispanic/Non-Hispanic White Testing

Black ONLY	*Hispanic ONLY*
Atlanta	San Antonio
Philadelphia	Pueblo
Detroit	San Diego
Washington, DC	Tucson
New Orleans	
Pittsburgh	*Black/Hispanic*
Dayton-Springfield	Los Angeles
Orlando	New York
Macon/Warner/Robins	Chicago
Birmingham	Houston
	Denver
	Austin

Metro areas were included in the 1989 sampling frame if the proportion of blacks or Hispanics in their central cities were greater than their national average analogues. Five sites were chosen with certainty because they were major metropolitan areas with large minority populations. For the remaining sites, the probability of site selection depended on the minority population in the metro area. The HDS2000 sample includes all five of the metro areas that were selected with certainty in 1989 (Atlanta, Chicago, Los Angeles, New York, and San Antonio), while the remaining 15 sites were selected based on their minority population sizes. Black/white testing was conducted in 16 of the 20 sites, and Hispanic/non-Hispanic white testing was conducted in 10. Exhibit 2-1 lists the metropolitan areas in our national sample. In addition to this national sample of sites, we selected two large metropolitan areas with significant Asian minorities in which to conduct paired testing for discrimination against Asian homeseekers—Los Angeles and Minneapolis. These sites were selected subjectively to explore the feasibility of testing for discrimination against different ethnic sub-groups of the Asian population. In Los Angeles (which is also a black/white and Hispanic/non-Hispanic white site in the national sample) we conducted paired tests for discrimination against both Chinese and Korean homeseekers. In Minneapolis we tested for discrimination against Southeast Asians.

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[1] Selecting the Phase I sites from the 1989 sample dramatically improves the precision of national estimates of changes in differential treatment between 1989 and 2000 relative to drawing an independent sample at each period.

Finally, our Phase I sample of sites includes a large metropolitan area with significant Native American population—Phoenix, Arizona—as well as Tucson, a smaller metropolitan area in Arizona with adjoining rural counties that are home to large populations of Native Americans. This combination of sites was selected to assess the feasibility of conducting large numbers of paired tests for discrimination against Native Americans in smaller metropolitan areas and in rural areas adjacent to tribal lands.

Sample of Advertised Housing Units. The basic objective of a paired testing study is to observe the relative treatment that housing agents provide to white and minority homeseekers in the private market. In order to measure this agent behavior, one would ideally draw a representative sample of rental and sales agents, where an agent's probability of selection reflects his or her share of currently available housing units. In addition, however, the sampling methodology needs to incorporate information about the specific housing stock offered by an agent. The reason is that our field protocols require both members of a testing team to be assigned characteristics (such as household size and income) and preferences (such as housing type and location) that correspond to the agent's available listings. Consistent with previous national testing studies, HDS2000 utilized classified advertisements in major metropolitan newspapers to generate samples of rental and sales agents. Within each metro area, paired tests were triggered using ads from a representative sample of housing units available for sale or rent, randomly selected from the Sunday classified advertisements of the major metropolitan newspaper.[2] Specifically, a fresh sample of advertisements was selected from a site's Sunday newspaper for each week in which testing was conducted.

The weekly sample selection methodology involved intense, time sensitive sampling tasks. Copies of major metropolitan newspaper for each site were picked up on Saturday night or Sunday morning and delivered to the Urban Institute by courier.[3] Probability sampling was used for ad selection. For a given race, tenure, week and site, sampling occurred with equal probabilities. Thus, ads for a given race/tenure exhibit equal selection probabilities *within a week*, but have different selection probabilities *across weeks.* This was due principally to weekly fluctuations in ad volume.

Sampling teams used a combination of "spatial sampling," in which ads were selected if they were located within randomly selected locations on the newspaper page, and "systematic

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[2] Samples were drawn from all pages containing real estate advertising in the major Sunday newspapers (including pages of "display ads," often full-page ads bought by a single realty company, as well as pages containing actual classified ads).

[3] In some metropolitan areas, several different versions of the classified real estate sections are published, based upon geographic advertising "zones." In these cases, ads were selected from a different zone each week, on a rotating basis.

sampling," in which every n*th* ad was selected using a random start and predetermined sampling interval.

Only advertisements that were eligible for paired testing were selected. Exhibit 2-2 provides the eligibility criteria for Phase 1 of HDS2000.

Exhibit 2-2: Eligibility Criteria for Ad Sampling

Rental Housing	For-Sale Housing
Housing units in permanent structures (excluding mobile homes, houseboats, recreational vehicles)	
Housing intended for year-round occupancy (excluding seasonal housing, vacation properties, time-shares)	
Housing units not restricted for occupancy by certain types of household (excluding subsidized housing, cooperative housing developments, retirement communities, developments for the elderly or disabled)	
Advertised rent or price below the 90th percentile for the metropolitan area (excluding luxury properties)	
Listed by a real estate agency, rental property management company, or locator service	Listed by a real estate or other sales agent (excluding sale by owner)
For occupancy by an individual household (excluding single room occupancy units and shared living arrangements)	For sole residential use by the owner-occupant (excluding farms, owner-occupied rental properties, income-generating properties)

As needed, supplemental Sunday ad samples were drawn throughout the week based on requests from the sites. In some cases, a large share of ads were found to be ineligible for a number of reasons, including (but not limited to):

- ineligibility of the listing based on information received during the advance call;

- advertised agents were not available;

- testing organizations were able to complete a larger-than-normal volume of tests in a given week;

- saturation of an agent or agency (e.g., the specific agent had already been tested by a paired testing team earlier in the week, thus presenting a serious risk of disclosure).

The weekly ad-sampling methodology offers several important benefits. It yields a representative sample of housing agents who use the major metropolitan newspaper to advertise available units, where an agent's probability of selection is proportionate to his or her

share of all units advertised in this way. Because metropolitan newspapers are readily available (regardless of race, ethnicity, or other characteristics), this sampling frame includes agents who can realistically be accessed by any homeseeker. Secondly, the weekly sampling methodology provides a consistent and credible starting point for each test, tying the characteristics and preferences of testers to housing actually available from the sampled agent, and sending consistent signals from both members of a tester team. Finally, this methodology addresses one of the major ethical concerns about paired testing—that it imposes an unreasonable cost burden on housing agents who have to spend time responding to testers' inquiries and potentially violates their expectations of privacy regarding these inquiries (Fix and Struyk 1993). By advertising in a widely available outlet, a housing agent is explicitly inviting inquiries from the general public and is implicitly declaring his or her compliance with federal fair housing laws.

Despite the many advantages of this sampling methodology, relying upon metropolitan newspapers to represent the housing market as a whole has some weaknesses. The 1989 HDS found that substantial geographic areas within metropolitan housing markets were under-represented in the Sunday newspaper advertisements that formed the sampling frame for the discrimination tests. In Phase I of HDS2000, this problem was addressed in two ways. First, in four metropolitan areas (Atlanta, New York, Chicago, and San Antonio)[4], we compared the distribution of advertised units (from Sunday newspapers) to housing stock distributions (from census data) across geographic communities separately for rental and sales units. The geographic distributions from newspaper ad distributions were constructed from data aggregated over a four-week period (to increase sample sizes in under-represented areas). The geographic communities named in the newspaper were then matched as closely as possible to census tract boundaries, and estimates of total rental and sales units in these geographic communities were constructed from tract-level estimates (from 1990 census data) obtained from Claritas, Inc. In each metropolitan area, three to five of the geographic communities named in the newspaper were found to account for substantially fewer rental or sales ads than one would expect based upon the total distribution of housing units. For these geographic communities, we disproportionately over-sampled ads in order to more accurately reflect the geographic distribution of available units on the market.[5]

In addition to geographic over-sampling, in five metropolitan areas (Atlanta, New York, Chicago, San Antonio, and Los Angeles) we drew supplemental samples of available units for

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[4] The original phase I sampling plan called for geographic over-sampling in Los Angeles as well, but the definition of geographic communities identified in the Los Angeles newspaper did not align with other data sources. As a result, it was not possible to estimate differences between ad volumes and market share for geographic communities within the metropolitan area.

[5] In some sites, the geographic communities selected for over-sampling of rental ads were different from the communities selected for over-sampling of sales ads.

communities that had low or no representation in the Sunday classified advertisements. Information for these supplemental samples was obtained from secondary newspapers in each metropolitan area, community newspapers, and from locally available apartment- and home-seekers' guides, as well as from "for sale" and "for rent" signs displayed in the selected communities. These supplemental samples were designed to explore the feasibility and effectiveness of using multiple information sources to assemble a more representative sample of available housing units.

Target sample sizes were set at 72 tests per tenure and racial or ethnic group for each metropolitan area, with an additional 6 tests (per tenure and racial or ethnic group) in the sites with over-sampling and an additional 5 tests (per tenure and racial or ethnic group) for supplemental, non-newspaper sampling. This target was set to ensure that at the metropolitan level, differences between white-favored and minority-favored treatment as small as 5.3 to 7.1 percent could be discerned at a 90 percent level of statistical significance. At the national level, the large pooled sample sizes provide a much higher level of statistical precision, with differences between white-favored and minority-favored treatment as low as 3.0 to 4.8 percent discernible at a 95 percent level of statistical significance.

Not all of the sites achieved their targets in Phase I (see Exhibit 2-3). In two of the sites in the national sample (Philadelphia and Pittsburgh), test coordinators were not successful in completing the high volume of tests required on a weekly basis, and a substantial number of tests failed to meet the Urban Institute's quality control standards. Therefore, these sites were required to conduct additional testing during Phase II (summer of 2001) in order to yield sufficient tests to report results at the metro level. In addition, targets for Southeast Asian sales tests in Minneapolis and for Native American sales tests in Phoenix were not achieved. In both these sites, local testing organizations had difficulty recruiting and retaining minority testers, in part because little testing has been conducted with Southeast Asians or Native Americans in the past. Moreover, the minority testers, few of whom had any real-life experience with homeownership, had particular difficulty completing sales tests, which require much more extensive interaction with real estate agents than rental tests. The experience in Minneapolis and Phoenix helps inform subsequent phases of testing in HDS2000. The target sample sizes for Tucson and its adjoining rural counties were never designed to produce generalizable results, and therefore no results were reported for Native Americans in Tucson.

Exhibit 2-3: Final Sample Sizes by Metropolitan Area

	STANDARD PAIRED TESTS (Rental/Sales)				NON-AD PAIRED TESTS (Rental/Sales)	
	Blacks	Hispanics	Asians (subgroup)	Native Americans	Blacks	Hispanics
Black/Hispanic/Asian						
Los Angeles	69/69	75/69	*Chinese* 74/72 *Korean* 75/73	—	26/26	25/24
Black/Hispanic						
New York	83/78	75/79	—	—	14/17	18/14
Chicago	72/70	69/74	—	—	22/22	24/26
Houston	70/78	68/76	—	—		
Denver	72/71	73/78	—	—		
Austin	69/75	70/72	—	—		
Black ONLY						
Atlanta	90/89	—	—	—	22/26	
Philadelphia	52/27	—	—	—		
Detroit	66/72	—	—	—		
Washington, DC	74/71	—	—	—		
New Orleans	68/76	—	—	—		
Pittsburgh	79/50	—	—	—		
Dayton-Springfield	70/70	—	—	—		
Orlando	72/76	—	—	—		
Macon/Warner/Robins	69/74	—	—	—		
Birmingham	77/66	—	—	—		
Hispanic ONLY						
San Antonio	—	83/85	—	—		22/28
Pueblo	—	74/76	—	—		
San Diego	—	69/75	—	—		
Hispanic/Native American						
Tucson	—	75/75	—	10/10		
Asian ONLY						
Minneapolis	—	—	*SE Asian* 77/17	—		
Native American ONLY						
Phoenix-Mesa	—	—	—	80/16		
Balance of Cochise County, AZ	—	—	—	10/9		
Total:	*1152/1112*	*731/759*	*226/162*	*100/35*	*84/91*	*89/92*

Analytic Weights. Analytic weights were generated for the calculation of *national* estimates. In this section we describe both the rationale for and methodology used in construction of HDS2000 analytic weights.

To begin, we note that the population of inference for the HDS200 is the collection realtors and other housing agents who interact with minority households seeking to purchase or rent a home and who use Sunday newspaper ads as their entryway into the housing market. Recall that the HDS2000 sample design involves two-stage probability sampling, where the first stage sites are sub-sampled from the HDS1989 sites, and the second stage sample is composed of probability samples of weekly Sunday newspaper ads that were drawn throughout the field period. Consequently, analytic weights based on the selection probabilities can be calculated. Use of these weights in estimation/analysis invokes classical finite population sampling theory to make statistical inference to the population of Sunday newspaper ads covering the field implementation period. However, this is *not* the desired population of inference.

The HDS2000 population of inference comprises the collection of real estate and other housing agents who interact with minority households seeking to purchase or rent a home and who use Sunday newspaper ads as their entryway into the housing market. Because of the discordance between the "sampling weight based population of inference" and the actual population of inference, we developed a model-based weighting approach that balances the sample by stratum using Census 2000 data. The weights are *model based* in that they rely on a plausible "model" that posits the distribution of housing agents being distributed like population in the US. Specifically, the model assumes that the percentage distribution of minority population across sampling strata (separately for each minority group) reflects the percentage distribution of agents who serve minority homeseekers across those strata.

The methodology for calculating the analytic weights is relatively straightforward. It involves the creation of a two factor weight:

$$AWT \ = \ SWT \ x \ POP\_ADJ \hspace{3cm} (1)$$

Where AWT denotes the *analytic weight*, SWT represents the first stage sampling weight, and POP_ADJ represents a *population adjustment* using Census 2000 data (calculated separately for black and Hispanic samples and for each tenure).

The stage-one sampling weight is simply the reciprocal of a site's selection probability:

$$SWT(i) \ = \ 1/P(i) \hspace{4cm} (2)$$

where P(i) is the selection probability of site i.

The population adjustments, POP_ADJ, are created separately for black and Hispanic paired tests. The adjustments represent enhancements to the sampling weights that align the sample to known Census 2000 population distributions across our sampling strata. For each stratum j, Census data were used to generate stratum totals C_TOT(j). The adjustments simply comprise the ration of the weighted Census control stratum totals and the corresponding total generated from paired tests using the sampling weight, namely S_TOT(j). Thus, for each stratum j,

$$ADJ(j) \quad = \quad C\_TOT(j)/S\_TOT(j). \tag{3}$$

The weight adjustments were calculated separately by race (i.e., black, Hispanic) and tenure (i.e., sales, rental).

The overall analytic weight is simply the product of the sampling weight and the census adjustment. The analytic weights were calculated separately by race and tenure.

For site specific/metropolitan estimates, the paired tests were weighted equally. Given the nature of the population of inference, we chose not to incorporate differential weighting associated with weekly fluctuations of tester productivity and ad volume. We should note that the geographic oversample tests and the non-ad sample tests are not included in the formation of either the national replication or the metropolitan estimates. Such tests are available for secondary analyses (e.g., to examine steering).

Field Implementation and Paired Testing Protocols

Phase I of HDS 2000 focused on r*eplicatin*g the 1989 Housing Discrimination Study in order to enhance the ability to measure change in the incidence of discrimination between 1989 and 2000. This replication included, in large part, the protocols for field implementation. A few changes were made in HDS2000, however, primarily to clarify existing protocols or substantially improve implementation of the testing. The HDS2000 field implementation was directed by two national sub-contractors (Abt Associates, Inc. and Progressive Management Resources) under the supervision of the Urban Institute's Director of Field Operations. These two entities, in turn, subcontracted with a local fair housing organization in each MSA to conduct the testing. Staff of these local testing organizations, designated as Test Coordinators, were responsible for the day-to-day testing activities, directing testers and ensuring that tests were completed according to established procedures and protocols. This section describes the field guidelines and procedures implemented in Phase I, including procedures involved in 1) preparing to test, 2) conducting the test, and 3) following the test. Exhibit 2-4 provides a graphic overview of the field implementation procedures for Phase I of HDS2000.

Preparing to Test. For each advertised housing unit selected for testing, Urban Institute staff prepared a Test Authorization Form (TAF), which was forwarded to the local testing organization via fax. Each test was identified by a unique control number, and the TAF specified the parameters of the test structure:

- Transaction Type – the test tenure, whether rental or sales;

- Testing Type – the racial/ethnic group identified for the particular test;

- Required Sequence – the randomly assigned order (minority/non-minority) in which the testers should make their test visits;

- Sales and Rental Information – the type of housing (single-family or condo, furnished or unfurnished) of the advertised unit; and

- Ad Information – the information from the newspaper advertisement (name of paper, edition, location of ad), including ad copy.

Each TAF was returned to the Urban Institute, whether or not it had been used to conduct an actual test. The used TAFs were attached to the test file. Those TAFs that were deemed ineligible or were unused because they were not needed were placed in a separate file and forwarded to the Urban Institute's database team for data entry. This system allowed for all of TAFs to be accounted for.

Local testing organizations were required to use the TAFs they received each week in order, and to begin by making advance calls both to confirm the eligibility of the advertised units and to obtain information needed to make credible test assignments. Advance calls were made for all rental tests. For sales tests, advance calls were only made when the ad did not state a location of the home, a price for the home, or the number of bedrooms for the home. Advance callers were instructed to obtain specific pieces of information about every advertised unit, such as the exact date of availability (for rentals); the housing price; the number of bedrooms; and the address of the apartment or home. In the case of a rental test, if the advertised unit was no longer available, the advance caller inquired about other units that might be coming available. In order to facilitate the test visits, the advance caller also asked about office hours and whether or not an appointment was needed to view the housing or speak with a housing provider.[6]

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[6] Advance callers were required to make at least five attempts to reach a housing provider (calling at different times of the day on different days) before a TAF could be deemed ineligible.

Exhibit 2-4: HDS2000 Field Implementation Overview

OVERVIEW OF FIELD IMPLEMENTATION PROCESS FOR HDS2000		
PREPARING TO TEST	CONDUCTING THE TEST	FOLLOWING THE TEST

SAMPLE HOUSING ADVERTISEMENTS

PREPARE & TRANSMIT TEST AUTHORIZATION FORMS

CONDUCT ADVANCE CALLS

PREPARE TEST ASSIGNMENTS

BRIEF TESTERS

TESTERS CALL FOR APPOINTMENTS

TESTERS CONDUCT SITE VISITS

PARTICIPANTS IN FIELD IMPLEMENTATION PROCESS

THE URBAN INSTITUTE

PROGRESSIVE MANAGEMENT RESOURCES

LOCAL TESTING ORGANIZATIONS

TESTERS COMPLETE REPORT FORMS TO DOCUMENT TEST EXPERIENCES

DEBRIEF TESTERS

ASSEMBLE AND TRANSMIT COMPLETED TEST FILE

CONDUCT QUALITY REVIEW

DATA READY FOR CODING & ANALYSIS

Personal, household and financial characteristics, along with a detailed set of instructions, were provided to each tester prior to conducting a test.[7] Responsibility for developing tester characteristics was shared by the Urban Institute and the Test Coordinators. Test Coordinators developed the tester's personal information, such as their current employer, names of household members, and names of creditors, sometimes using the tester's real characteristics, if appropriate. Extensive training was provided to Test Coordinators on how to assign personal characteristics to testers (e.g., employers and occupations to avoid). Other test characteristics, such as number of bedrooms to request and type of approach, were determined by the Test Coordinator using information obtained during the advance phone call.

Financial characteristics assigned to testers and housing requests to be made by testers were based on the characteristics of the advertised housing unit to be tested, following detailed guides developed for the Test Coordinators:

- minimum number of bedrooms acceptable for the household;
- area or geographic preference;
- reason for moving;
- monthly and annual income for the tester and everyone in the tester's household;
- total household income;
- length of time on the job;
- household assets and debts;
- credit standing; and
- length of time at current residence.

Test Coordinators were required to meet with each tester, individually and in person, prior to a test being conducted. During this initial briefing, the Test Coordinator was responsible for: reviewing the test assignment form with the tester and answering any questions about assigned characteristics, instructions, and/or testing procedures; providing the tester with the appropriate test forms and materials; helping the tester develop a "cheat sheet" for sales tests listing detailed financial information from the Test Assignment form; and reviewing procedures for conducting the test and completing the test report forms. In addition, testers were provided with a detailed set of instructions—or "script"—for every test assignment. These instructions detailed the standard set of tasks testers were expected to accomplish during their test, including how to approach the test site, what questions to ask, and how to end the visit. Annex 1 provides the guidance materials for assigning tester characteristics, a copy of the Tester Assignment Form, and the detailed instructions provided to both rental and sales testers.

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[7] Each tester was provided with only one test assignment at a time and was required to complete that test before receiving another test assignment.

Conducting the Test. HDS2000 required testers to make appointment calls for all sales tests and some rental tests. On sales tests, testers were not to mention the advertised home during this call and were also to refrain from providing their personal and financial information. Testers were also instructed not to commit to bring certain documents, such as tax returns or pay stubs, nor to agree to meet in advance with a lender to be pre-qualified for mortgage financing. If an agent was reluctant to make an appointment with the tester, perhaps stating that there were regular office hours, the tester could specify with the agent what time he or she planned to arrive during those hours in lieu of an actual appointment. While the standard approach for most rental tests was for the tester to "drop in" rather than making an appointment, appointment calls were required when the sampled advertisement did not provide the location of the available housing, when the advertisement indicated that an appointment was required; or when the advance call indicated that an appointment was required.

During their test visits, testers were trained to inquire about the availability of the advertised housing unit that prompted their visit, similar units (same size and price) that might be available, and other units that might meet their housing needs. They tried to inspect at least three housing units, making return visits or appointments with an agent if necessary, and in sales tests they recorded the address, size, and price of any other units that were recommended to them. In response to questions from the real estate or rental agent, testers provided information about their (assigned) household composition, financial characteristics, employment, and housing needs. They were trained to express no preferences for particular amenities or geographic locations, and they did not submit formal applications, agree to credit checks, or make offers to rent or buy available units. In conjunction with these basic testing protocols, testers were also trained to be convincing in the role of an ordinary homeseeker, obtain as much information as possible from the housing provider about available housing, and take notes in order to remember key information about what occurred during the test and what information was provided by the housing provider.

Following the Test. Following every test visit, each tester was required to complete a set of standardized reporting forms (provided in Annex 2). Test partners did *not* compare their experiences with one another or record any conclusions about differences in treatment; each simply recorded the details of the treatment he or she experienced as an individual homeseeker. The site visit report forms record observations made by the tester and information provided by the housing provider. For sales tests, in addition to a site visit report form, each tester completed a log of recommended homes. In addition, for a randomly selected sub-set of tests (approximately 10 percent), testers were required to compose test narratives. The test narrative provided a detailed, chronological accounting of the test experience. Testers did not know prior to their conducting a test if a narrative would be required. This served both to ensure that testers were conducting all tests with equal attention to established protocols and procedures, including taking notes, and to ensure against fabrication of tests.

After completing each test, testers were instructed to contact their Test Coordinator in order to arrange for an in-person debriefing. At the debriefing, the Test Coordinator was responsible for collecting all of the completed test forms, as well as any notes or other materials obtained by the tester; reviewing the forms to make sure the forms were filled out completely; and discussing any concerns the tester may have had about the test or any deviations they may have made from the test assignment or instructions. Many visits to real estate or rental agencies result in follow-up contact, and these contacts were systematically monitored and recorded. All follow-up contacts (including mail as well as telephone calls) were recorded on a Log of Follow-Up Contact, which documented when the follow-up was received, who initiated it, and the nature of the follow-up. Test report forms were retained by the Local Testing Organization for 14 days after each test was completed in order to allow adequate time for follow-up activity to be documented.

Using Paired Tests to Measure Discrimination

Data from a sample of standardized and consistent paired tests can be combined and analyzed to measure the incidence and forms of discrimination in urban housing markets. The remainder of this chapter describes the statistical techniques used to analyze data from Phase I of HDS2000 at both the national and metropolitan level. Specifically, we discuss basic measures of adverse treatment, the challenge of distinguishing systematic discrimination from random differences in treatment, rental and sales treatment indicators, summary indicators, and tests of statistical significance.

Gross and Net Measures. A paired test can result in any one of three basic outcomes for each measure of treatment: 1) the white tester is favored over the minority; 2) the minority tester is favored over the white; or 3) both testers receive the same treatment (which may be either favorable or unfavorable). The simplest measure of adverse treatment is the share of all tests in which the white tester is favored over the minority. This *gross incidence* approach provides very simple and understandable indicators of how often whites are treated more favorably than equally qualified minorities. However, there are instances in which minority testers receive better treatment than their white partners. Therefore, we report both the gross incidence of white-favored treatment and the gross incidence of minority-favored treatment.

Although these simple *gross measures* of white-favored and minority-favored treatment are straightforward and easily understandable, they may overstate the frequency of systematic discrimination.[8] Specifically, adverse treatment may occur during a test not only because of

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[8] We use the term "systematic discrimination" to mean differences in treatment that are attributable to a customer's race or ethnicity, rather than to any other differences in tester characteristics or test circumstances. This term is not the same as "intentional" discrimination, nor is it intended to mean that these differences would necessarily be ruled as violations of federal fair housing law.

differences in race or ethnicity, but also because of random differences between the circumstances of their visits to the real estate agency. For example, in the time between two testers' visits, an apartment might have been rented, or the agent may have been distracted by personal matters and forgotten about an available unit. Or one member of a tester pair might meet with an agent who is unaware of some available units. Gross measures of white-favored and minority-favored treatment include some random factors, and therefore provide *upper-bound estimates* of systematic discrimination.[9]

One strategy for estimating systematic discrimination, that is, to remove the cases where non-discriminatory random events are responsible for differences in treatment, is to subtract the incidence of minority-favored treatment from the incidence of white-favored treatment to produce a *net measure*. This approach essentially assumes that all cases of minority-favored treatment are attributable to random factors—that systematic discrimination never favors minorities—and that random white-favored treatment occurs just as frequently as random minority-favored treatment. Based on these assumptions, the net measure subtracts differences due to random factors from the total incidence white-favored treatment. However, it seems unlikely that all minority-favored treatment is the result of random factors; sometimes minorities may be systematically favored on the basis of their race or ethnicity. For example, a minority landlord might prefer to rent to families of his or her own race or a real estate agent might think that minority customers need extra assistance. Other instances of minority-favored treatment might reflect a form of race-based steering, in which white customers are discouraged from considering units in minority neighborhoods or developments. Therefore, the net measure subtracts not only random differences but some systematic differences, and therefore probably understates the frequency of systematic discrimination. Thus, net measures provide *lower-bound estimates* of systematic discrimination,[10] and they reflect the extent to which the differential treatment that occurs (some systematically and some randomly) is more likely to favor whites than minorities.

Separating Random and Systematic Differences. Is it possible to improve upon these measures, effectively removing the effects of random differences in treatment to yield

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[9] Note that it is conceivable that random factors might *reduce* the observed incidence of white-favored or minority-favored treatment, so that the gross-incidence measure is technically not an absolute upper-bound for systematic discrimination.

[10] Even when no statistical pattern of race-based differential treatment is observed, individual cases of discrimination may occur. Specifically, even if the gross incidence of white favored treatment is statistically insignificant, this does not mean that discrimination never occurred, but only that the number of cases was too small to draw any conclusions about systematic patterns across the sample as a whole. Similarly, for variables where the net measure is close to zero, there may in fact be instances of race-based discrimination, even though the overall pattern does not systematically favor one group. See Annex 3 for a discussion on tests of statistical significance.

reliable estimates of discrimination? One strategy for estimating systematic discrimination is to use multivariate statistical methods to control for non-systematic factors. Chapter 5 presents the results of multivariate analysis, controlling for the order of tester visits, whether both testers met with the same agent, and differences in the real-life characteristics of testers. But this strategy can only control for random factors that are *observable*, and provides no way of knowing whether or how much other random variation remains. Even after controlling for all the observable sources of random differences, an unknown amount of unobservable randomness remains. Therefore, multivariate estimates can be used to assess the robustness of basic gross and net measures, but it would be a mistake to interpret them as definitive measures of systematic discrimination.

An alternative strategy for eliminating the effects of non-systematic factors is to empirically observe differences in treatment between paired testers of the same race. If same-race testers are carefully matched and follow the protocols of a conventional paired test, any differences in treatment that are observed between them must reflect random factors (both observable and unobservable). Phase 2 of HDS2000 experimented with three-part tests in two metropolitan areas, including tests involving visits by two whites and a minority as well as tests involving two minorities and a white.

Preliminary results from these triad tests suggest that the incidence of same-race differences in treatment is generally not significantly different from the incidence of minority-favored treatment (see Annex 4). In other words, minority-favored treatment may be a reasonable proxy for random differences in treatment, and the traditional net measure may provide a reasonable estimate of systematic discrimination. However, for black/white rental tests, the incidence of minority-favored treatment diverges significantly from the incidence of same-race differences. Moreover, because sample sizes are small and not all treatment variables and composites have been considered, these preliminary results should be interpreted cautiously.

Rental and Sales Treatment Indicators. A visit with a rental or sales agent is a complex transaction, and may include many forms of favorable or unfavorable treatment. This report presents results for a series of individual treatment indicators that reflect important aspects of the housing transaction. Many, but not all, of these indicators are common to both rental and sales tests.

Indicators of adverse treatment in rental housing transactions address four critical aspects of the interaction between a renter and a landlord or rental agent. The first group of indicators focuses on the extent to which minority and white partners received comparable information in response to their inquiries about the availability of the advertised housing unit and other similar units that would meet their needs:

- Was the advertised housing unit available?

- Were similar units available?

- How many available units were recommended?

Testers not only inquired about the availability of housing units, but they also attempted to inspect units that were available for rent. Therefore the next group of treatment indicators focuses on whether minority and white partners were able to inspect the advertised housing unit and/or other available units:

- Was the advertised unit inspected (if available)?

- Were similar units inspected (if available)?

- How many units were inspected?

The third group of treatment indicators explores potential differences in the costs quoted to minority and white testers for comparable housing:

- How much was the rent for the advertised unit (if available)?[11]

- Were rental incentives offered?

- What security deposit was required?

- Was an application fee required?

Finally, the last group of treatment measures for rental tests assesses the extent to which agents encouraged or helped minority and white testers to complete the rental transaction:

- Did the agent make follow-up contact?

- Was the tester asked to complete an application?

- Were arrangements made for future contact?

- Was the tester told he or she was qualified to rent?

Indicators of adverse treatment in sales housing transactions address five critical aspects of the interaction between a homebuyer and a real estate agent. The first group of indicators focuses on the extent to which minority and white partners received comparable information in response to their inquiries about the availability of the advertised home and other similar homes that would meet their needs:

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[11] For both rent and security deposit, we performed a manual match of addresses to confirm that the units seen by the white and minority partners were on the same street, in the same building, or were the same unit. Results were robust to this check.

- Was the advertised housing unit available?
- Were similar units available?
- How many available units were recommended?

Testers not only inquired about the availability of homes, but they also attempted to inspect homes that were available. Therefore the next group of treatment indicators focuses on whether minority and white partners were able to inspect the advertised home and/or other available homes:

- Was the advertised unit inspected (if available)?

- Were similar units inspected (if available)?

- How many units were inspected?

The third group of treatment indicators explores potential differences in the neighborhoods where homes were made available for minority and white homebuyers:[12]

- Average percent white for neighborhoods where recommended homes were located?

- Average percent white for neighborhoods where inspected homes were located?

Real estate agents can play an important role in helping homebuyers learn about mortgage financing options. Therefore, the fourth group of sales treatment indicators assesses the assistance agents provided to minority and white homebuyers:

- Was help with financing offered?

- Were specific lenders recommended?

- Were downpayment requirements discussed?

Finally, the last group of treatment measures for sales tests assesses the extent to which agents encouraged or helped minority and white testers to complete the sales transaction:

- Did the agent make follow-up contact?

- Was the tester told he or she was qualified to buy a home?

- Were arrangements made for future contacts?

Because the HDS2000 testing protocols largely replicated the protocols implemented in 1989, comparable data are available from both years for all of these rental and sales treatment measures. However, these are not exactly the same treatment measures as reported in 1989;

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[12] A much wider array of steering indicators is presented and discussed in Chapter 6.

HDS2000 refined and strengthened measures to produce more rigorous estimates of differential treatment. Because real estate markets changed dramatically between 1989 and 2000, some changes in testing protocols were required to maintain the integrity of the testing process, and as a result some variables that were used in 1989 to assess the treatment of minority home seekers were no longer relevant. For example, in the relatively tight housing markets of 2000, testers had to make appointments to meet with rental and sales agents, rather than simply visiting their offices as in 1989. In addition, our understanding of the real estate market has evolved since 1989 leading to different decisions concerning the construction of specific treatment variables. To illustrate, the 1989 study combined information on whether the advertised unit or similar units were inspected, but in 2000 we decided to divide this information into two variables as well as to add an additional treatment variable for whether at least one similar unit was available. Therefore, while the data generated by the 1989 and 2000 studies are comparable, no attempt was made for HDS2000 to replicate the precise results that were originally reported for HDS 1989. Rather, consistent treatment measures were generated using data from both HDS 1989 and 2000. In addition, the 1989 weights that are used for the analysis presented in this report were adjusted to ensure comparability between the estimated 1989 and 2000 incidences of adverse treatment.

Summary Indicators. In addition to presenting results for all of the individual treatment indicators discussed above, this report combines these individual indicators to create *composite measures* for categories of treatment (such as housing availability or housing costs) as well as for the transaction as a whole.[13] The first type of composite replicates the approach implemented in 1989. Specifically, tests are classified as white-favored if the white tester received favorable treatment on one or more individual items, while his or her partner received *no* favorable treatment. Tests are classified as "neutral" if one tester was favored on some individual treatment items and his or her partner was favored on even one item. This approach has the advantage that it identifies tests where one partner was unambiguously favored over the other. But it may incorrectly classify tests as neutral when one tester received favorable treatment on several items, while his or her partner was favored on only one. This approach also classifies tests as neutral if one tester was favored on the most important item while his or her partner was favored on items of lesser significance. Therefore, the 1989 composite methodology may understate the overall incidence of differential treatment across indicators, but nonetheless provides a very useful measure of the *consistency* of adverse treatment.

In addition to the consistency approach, *hierarchical* composites were constructed by considering the relative importance of individual treatment measures to determine whether one

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[13] Again, it is important to emphasize the difference between methods used for the statistical analysis of paired testing results and methods used to assemble or assess evidence of unlawful conduct in an individual case. No pre-determined set of decision criteria can substitute for case-by-case judgments about test results.

tester was favored over the other. For each category of treatment measures (and for the overall test experience), a hierarchy of importance was established *independent* of analysis of the testing results. For example, in the *availability* category, if the white tester was told that the advertised home was available, while the minority was told it was no longer available, then the white tester was deemed to be favored overall, even if the minority was favored on less important items. Exhibit 2-5 presents the decision rules used to create composite measures of differential treatment for both rental and sales tests. The hierarchical composites offer the advantage of reflecting important differences in the treatment of minorities and whites. But because random differences on a single treatment indicator may cause a test to be classified as white-favored or minority-favored, the gross composite measures may over-state the incidence of systematic discrimination. Therefore, we present both *consistency* composites and *hierarchical* composites for each category of treatment and for the overall testing experience.

Exhibit 2-5: Construction of Hierarchical Composites

<u>Rental</u>

Rental Availability	
Advertised Unit Available?	1
Similar Units Available?	2
Number Of Units Recommended	3
Rental Inspection	
Advertised Unit Inspected?	1
Similar Units Inspected?	2
Number Of Units Inspected	3
Rental Cost	
Rent For Advertised Unit (If Available)	1
Rental Incentives Offered?	2
Amount Of Security Deposit	3
Application Fee Required?	4
Rental Encouragement	
Follow-Up Contact From Agent?	1
Asked To Complete Application?	2
Arrangements For Future?	3
Told Qualified To Rent?	4
Rental Overall Treatment	
Advertised Unit Available?	1
Advertised Unit Inspected?	2
Rent For Advertised Unit (If Available)	3
Similar Units Available?	4
Similar Units Inspected?	5
Number Of Units Recommended	6
Number Of Units Inspected	7
Rental Incentives Offered?	8
Amount Of Security Deposit	9
Application Fee Required?	10
Follow-Up Contact From Agent?	11
Asked To Complete Application?	12
Arrangements For Future?	13
Told Qualified To Rent?	14

<u>Sales</u>

Sales Availability	
Advertised Unit Available?	1
Similar Units Available?	2
Number Of Units Recommended	3
Sales Inspection	
Advertised Unit Inspected?	1
Similar Units Inspected?	2
Number Of Units Inspected	3
Geographic Steering	
Steering — Homes Recommended	-
Steering — Homes Inspected	-
Financing Assistance	
Help With Financing Offered?	1
Lenders Recommended?	2
Downpayment Requirements Discussed?	3
Sales Encouragement	
Follow-Up Contact From Agent?	1
Told Qualified To Buy?	2
Arrangements For Future?	3
Sales Overall Treatment	
Advertised Unit Available?	1
Advertised Unit Inspected?	2
Similar Units Available?	3
Similar Units Inspected?	4
Steering — Homes Recommended	5
Number Of Units Recommended	6
Steering — Homes Inspected	7
Number Of Units Inspected	8
Help With Financing Offered?	9
Lenders Recommended?	10
Downpayment Requirements Discussed?	11
Follow-Up Contact From Agent?	12
Told Qualified To Buy	13
Arrangements For Future?	14

3.   NATIONAL ESTIMATES OF DISCRIMINATION AND CHANGE SINCE 1989

One of the central goals of HDS2000 is to measure the incidence of adverse treatment for African Americans and Hispanics in metropolitan rental and sales markets nationwide and to assess any changes in patterns of differential treatment that may have occurred since the last national paired testing study in 1989. This chapter presents a standard set of treatment measures, using data from both the 1989 and 2000 Housing Discrimination Studies for a nationally representative sample of twenty metropolitan areas.[1] The chapter focuses first on black/white rental tests and then on Hispanic/non-Hispanic rental tests, followed by black/white sales tests and Hispanic/non-Hispanic sales tests.

Black/White Rental Testing Results

During the summer and fall of 2000, 1,152 black/white rental tests in a representative sample of 20 large metropolitan areas with significant African American populations. This section presents results of these tests, including both gross and net incidence measures for each category of treatment indicators, composite estimates of the overall incidence of discrimination against black renters, and measures of change in these incidence measures between 1989 and 2000.

Housing Availability. In 2000, African American renters were significantly more likely to be denied information about available housing units than comparable white renters. In 12.3 percent of tests, only the white tester was told that the advertised unit was available, compared to 8.3 percent in which the advertised unit was available only to the black tester. Adverse treatment was considerably more prevalent with respect to the total number of units recommended, with whites favored in 28.3 percent of tests (compared to 23.3 percent black-favored). Overall, whites received favorable treatment on housing availability in 31.5 percent of tests, compared to only 27.6 percent in which blacks were favored. The net measures (lower-bound estimates of systematic discrimination) were statistically significant for availability of the advertised unit (4.1 percent), number of units recommended (5.1 percent), and the overall availability indicator (3.9 percent).

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[1] See Annex 5 for a discussion of differences between the 1989 measures reported here and those reported in 1989. In addition, for comparability, Phase I of HDS2000 implemented the same weekly ad-sampling methodology that was used in 1989. However, two supplemental samples of available housing units were selected for a subset of sites in HDS2000. First, additional advertisements for units in under-represented communities were drawn from the major metro newspaper, and second, additional units available for sale or rent were identified from other sources for the most under-represented communities. See Annex 6 for a stratified analysis, based on whether the advertised unit was located in a well-represented community or an under-represented community.

Exhibit 3-1: Differential Treatment for Housing Availability,
Black/White Rental Tests

HOUSING AVAILABILITY	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	12.3%	8.3%	4.1% **	-6.2% **	-3.7% **	-2.5%
Similar units available?	14.3%	15.4%	-1.0%	-7.8% **	1.1%	-8.9% **
Number units recommended	28.3%	23.3%	5.1% **	-10.9% **	-0.4%	-10.6% **
Overall availability	31.5%	27.6%	3.9% *	-14.0% **	-5.3% **	-8.8% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Blacks were substantially less likely to experience adverse treatment on housing availability in 2000 than they were in 1989. For every treatment indicator, the incidence of white-favored treatment declined significantly, with 2000 levels 6 to 15 percentage points lower than 1989 levels. The incidence of black-favored treatment did not change as dramatically between 1989 and 2000. Thus, the overall drop in white-favored treatment not only reduced the upper-bound estimates of discrimination, but the lower-bound (net) estimates as well. The most dramatic change in treatment occurred in the availability of similar units. In 1989, whites were substantially more likely than their black partners to be told that one or more units similar to the advertised unit were available, but in 2000, the net measure for this treatment indicator was not statistically significant. Lower-bound estimates of discrimination on housing availability dropped by 2 to 11 percentage points between 1989 and 2000.

Housing Inspections. In 2000, blacks experienced significant levels of adverse treatment with respect to housing inspections. In 15.6 percent of tests, only the white partner was able to inspect the advertised unit, compared to 9.2 percent of tests where only the black had this opportunity. And whites inspected more units than their black partners in 23.3 percent of tests, while blacks were favored on this indicator in only 16.2 percent of tests. Overall, whites were favored on housing inspections in 27.5 percent of tests, compared to 19.2 percent that favored blacks. The lower-bound estimates of discrimination on housing inspections were statistically significant for the advertised unit (6.4 percent), the number of units inspected (7.0 percent), and the overall measure (8.3 percent).

Exhibit 3-2: Differential Treatment for Housing Inspections,
Black/White Rental Tests

HOUSING INSPECTION	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit inspected?	15.6%	9.2%	6.4% **	-7.0% **	-2.3%	-4.7% **
Similar units inspected?	8.1%	7.2%	0.9%	-2.1%	-2.9% **	0.7%
Number units inspected	23.3%	16.2%	7.0% **	-10.5% **	1.5%	-12.0% **
Overall inspection	27.5%	19.2%	8.3% **	-9.4% **	-3.0%	-6.5% *

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Blacks were less likely to experience adverse treatment on housing inspections in 2000 than in 1989. In 1989, the share of tests in which only the white partner was able to inspect the advertised unit dropped significantly (by 7 percentage points), and as a result, the overall indicator of adverse treatment for inspections declined (by over 9 points). Similarly, the incidence of adverse treatment on number of units inspected dropped by over 10 points from 1989 to 2000. The incidence of minority-favored treatment remained relatively unchanged between 1989 and 2000. Thus, lower-bound estimates of discrimination declined by 5 to 12 percentage points, but were not eliminated.

Housing Costs. The pattern of differential treatment with respect to housing costs was mixed in 2000. Blacks were significantly less likely than whites to be offered rent incentives (whites favored 9.2 percent, blacks favored 6.5 percent), but whites were more likely to be told that an application fee was required (whites favored 10.7 percent, blacks favored 14.5 percent). Differences in treatment on the rent quoted for the advertised unit and the amount of the security deposit required were no more likely to favor the white tester than the black tester. Because of this mixed pattern, both the overall indicator for housing costs reflects a fairly high level of differential treatment, but the net measure is not statistically significant.

Exhibit 3-3: Differential Treatment for Housing Costs, Black/White Rental Tests

HOUSING COST	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Rent for advertised unit	9.3%	12.0%	-2.7%	-4.7% *	-4.4% *	-0.3%
Rental incentives offered?	9.2%	6.5%	2.7% **	-2.8% *	1.0%	-3.7% *
Amount of security deposit	5.3%	5.3%	0.0%	-1.0%	-0.7%	-0.3%
Application fee required?	10.7%	14.5%	-3.8% **	-3.4% **	3.4% **	-6.8% **
Overall cost	21.4%	22.7%	-1.3%	-5.1% **	3.0%	-8.1% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In 1989, differential treatment on housing costs more often favored whites. In particular, the share of tests in which agents quoted lower rents for the advertised unit to whites dropped almost 5 percentage points between 1989 and 2000, and the overall incidence of white-favored treatment on housing costs dropped about 5 points. Net measures declined significantly for rental incentives (by about 4 points), application fee requirements (by almost 7 points), and the overall cost indicator (by 8 points).

Agent Encouragement. Although considerable differential treatment occurred on this group of indicators in 2000, it generally favored blacks just as often as it favored whites. The incidence of differential treatment was very low for two indicators of agent encouragement—follow-up contacts (white-favored 2.5 percent, black-favored 2.1 percent) and statements by the agent that the tester was qualified to rent a unit (white-favored 3.6 percent, black-favored 3.4 percent). In contrast, differential treatment occurred much more frequently with respect to

invitations to complete an application and arrangements for future contact. None of the net measures in this category were statistically significant, suggesting that although overall levels of differential treatment were high, they were no more likely to favor whites than blacks.

Exhibit 3-4: Differential Treatment for Agent Encouragement, Black/White Rental Tests

AGENT ENCOURAGEMENT	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Follow-up contact from agent?	2.5%	2.1%	0.4%	0.3%	-0.7%	1.0%
Asked to complete application?	18.1%	15.8%	2.3%	-1.5%	-1.4%	-0.2%
Arrangements for future?	14.7%	16.3%	-1.6%	-8.6% **	0.1%	-8.7% **
Told qualified to rent?	3.6%	3.4%	0.2%	-1.4%	-1.4%	-0.1%
Overall encouragement	31.3%	28.6%	2.6%	-2.1%	-3.3%	1.2%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

The overall indicator of differential agent encouragement shows little change over the last decade; in 1989, as in 2000, differential treatment was commonplace, but generally no more likely to favor whites than blacks. In 1989, however, agents were substantially more likely to make arrangements for follow-up contact with white testers. By 2000, differences in treatment on this indicator occurred less often and were no more likely to favor the white than the black.

Summary Indicators. Overall, whites were favored in 49.0 percent of rental tests in 2000, while blacks were favored in 41.1 percent. Thus, the lower-bound estimate of discrimination against black renters (the net measure) was 7.9 percent. The consistency measure, which reflects the extent to which whites or blacks were consistently favored across all treatment indicators, was considerably lower. Whites were consistently favored in 21.6 percent of rental tests, while blacks were favored in 19.2 percent. The net measure on this indicator was not statistically significant. In other words, although whites were significantly more likely than blacks to receive favorable treatment, many tests included some treatment that favored the white and some that favored the black.

Exhibit 3-5: Summary Measures of Differential Treatment, Black/White Rental Tests

SUMMARY MEASURES	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Hierarchical	49.0%	41.1%	7.9% **	-5.5% **	-0.1%	-5.4%
Consistency	21.6%	19.2%	2.3%	-4.8% **	3.9% **	-8.7% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the overall incidence of white-favored treatment declined by about 5 percentage points, while the overall incidence of black-favored treatment remained about the same. Although these changes led to a small decline in the overall net measure, the change was not statistically significant. The incidence of consistent white-favored treatment also declined (by almost 5 points), while consistent black-favored treatment increased (by about 4 points). As a result, the net consistency measure dropped significantly between 1989 and 2000 (by almost 9 points). These results suggest that, while significant discrimination against blacks persists in metropolitan rental markets, it has declined over the last decade and is considerably less likely to favor whites consistently across all treatment indicators.[2]

Hispanic/Non-Hispanic White Rental Testing Results

During the summer and fall of 2000, 731 Hispanic/non-Hispanic white rental tests were conducted in a nationally representative sample of 10 large metropolitan areas with significant Hispanic populations. This section presents results of these tests, including national estimates of the incidence of both non-Hispanic white-favored and Hispanic-favored outcomes for each category of treatment indicators, composite estimates of the overall incidence of discrimination against Hispanic renters, and measures of change in these incidence measures between 1989 and 2000.

Housing Availability. In 2000, non-Hispanic whites were often favored over their Hispanic partners in information about housing unit availability. In 12.0 percent of tests, only the non-Hispanic white partner was told that the advertised unit was available (compared to only 5.4 percent Hispanic-favored). And non-Hispanic whites learned about more available units in 29.4 percent of tests, compared to 20.8 percent in which Hispanics were recommended more units. Overall, non-Hispanic whites received more favorable information about unit availability in 34.0 percent of tests, compared to only 22.1 percent of tests in which Hispanics were favored. Lower-bound (net) measures of discrimination were statistically significant for availability of the advertised unit (6.6 percent), number of units recommended (8.6 percent), and overall availability (11.9 percent).

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[2] For more detailed information on the contribution of individual treatment indicators to the two summary indicators, both in 1989 and 2000, see Annex 7.

Exhibit 3-6: Differential Treatment for Housing Availability, Hispanic/Non-Hispanic White Rental Tests

HOUSING AVAILABILITY	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	12.0%	5.4%	6.6% **	-4.5% **	-2.4% *	-2.1%
Similar units available?	12.7%	11.7%	0.9%	-3.3% *	-1.4%	-1.9%
Number units recommended	29.4%	20.8%	8.6% **	-6.0% **	-3.4%	-2.6%
Overall availability	34.0%	22.1%	11.9% **	-7.0% **	-8.0% **	1.0%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In general, the incidence of adverse treatment against Hispanics on housing availability was lower in 2000 than in 1989. The share of cases in which the non-Hispanic white tester was told that the advertised unit was available while his or her Hispanic partner was told the unit was not available declined almost 5 percentage points, the share in which only the non-Hispanic white was told that similar units were available declined about 3 points, and the share in which the non-Hispanic white was recommended more units fell about 6 points. The overall incidence for non-Hispanic white-favored treatment on housing availability declined by almost 7 percentage points. However, the overall indicators for Hispanic-favored treatment dropped as well, so changes in the net measures of discrimination were not statistically significant. In other words, while the upper-bound estimates of discrimination against Hispanic renters on housing availability declined between 1989 and 2000, the lower-bound estimates remained essentially unchanged.

Housing Inspections. Hispanics also experienced significant levels of adverse treatment with respect to housing inspections in 2000. In 11.4 percent of tests, only the non-Hispanic white partner was able to inspect the advertised unit, compared to 7.5 percent of tests where only the Hispanic had this opportunity. And non-Hispanic whites inspected more units than their Hispanic partners in 20.7 percent of tests, while Hispanics were favored on this indicator in only 14.3 percent of tests. Overall, non-Hispanic whites were favored on 24.4 percent of tests, compared to 17.2 percent that favored Hispanics. The lower-bound estimates of discrimination against Hispanic renters were statistically significant for inspection of the advertised unit (3.9 percent), number of units inspected (6.3 percent), and the overall inspections indicator (7.2 percent).

**Exhibit 3-7: Differential Treatment for Housing Inspections,
Hispanic/Non-Hispanic White Rental Tests**

HOUSING INSPECTION	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit inspected?	11.4%	7.5%	3.9% **	-6.9% **	-5.6% **	-1.3%
Similar units inspected?	7.9%	7.3%	0.6%	-2.0%	-3.4% **	1.3%
Number units inspected	20.7%	14.3%	6.3% **	-6.5% **	-2.9%	-3.6%
Overall inspection	24.4%	17.2%	7.2% **	-9.9% **	-6.8% **	-3.1%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the incidence of adverse treatment against Hispanic renters declined for this group of indicators. The share of tests in which only the non-Hispanic white was able to inspect the advertised unit dropped about 7 percent points. And the overall level of non-Hispanic white-favored treatment on housing inspections declined 10 points. However, the incidence of Hispanic-favored treatment also declined significantly over this period. As a result, changes in the net measures were not statistically significant. Again, therefore, while our upper-bound estimates of discrimination against Hispanic renters on housing inspections declined between 1989 and 2000, the lower-bound estimates remained essentially unchanged.

Housing Costs. The pattern of differential treatment on housing costs for Hispanic renters was mixed in 2000. Non-Hispanic whites were significantly more likely than their Hispanic partners to receive a favorable rent quote for the advertised unit (12.2 percent non-Hispanic white-favored, 6.5 percent Hispanic-favored). But non-Hispanic whites were more likely to be told that an application fee was required (8.6 percent non-Hispanic white-favored, 12.2 percent Hispanic-favored). Differences in treatment on rental incentives and the amount of the security deposit were no more likely to favor non-Hispanic whites than Hispanics. Thus, the lower-bound estimate of discrimination was statistically significant for the rent of the advertised unit (5.7 percent), while this indicator suggests significant discrimination in favor of Hispanics (3.6 percent) for application fee. The overall net measure of discrimination in housing costs is not statistically significant.

**Exhibit 3-8: Differential Treatment for Housing Costs,
Hispanic/Non-Hispanic White Rental Tests**

HOUSING COST	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Rent for advertised unit	12.2%	6.5%	5.7% **	0.7%	-10.4% **	11.1% **
Rental incentives offered?	8.5%	6.7%	1.8%	-2.3%	-0.1%	-2.3%
Amount of security deposit	8.5%	8.0%	0.5%	1.2%	0.8%	0.5%
Application fee required?	8.6%	12.2%	-3.6% **	0.2%	-0.5%	0.7%
Overall cost	21.7%	20.0%	1.7%	-0.9%	-2.4%	1.6%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

This mixed pattern of treatment appears to have remained essentially unchanged over the last decade. Neither the incidence of adverse treatment nor the net estimates of discrimination changed significantly between 1989 and 2000. The only statistically significant changes that occurred for this group of indicators were the 10 percentage point drop in the incidence of Hispanic-favored treatment on the rent quote for the advertised unit and the subsequent 11 point increase in the net measure on this indicator.

Agent Encouragement. Although high levels of differential treatment occurred on this group of indicators in 2000, Hispanics were generally just as likely to be favored as were non-Hispanic whites. The incidence of differential treatment was very low for two indicators of agent encouragement—follow-up contacts and statements by the agent that the tester was qualified to rent a unit. In contrast, differential treatment occurred much more frequently with respect to invitations to complete an application and arrangements for future contact. Only arrangements for the future exhibited a statistically significant pattern of adverse treatment, with non-Hispanic whites favored in 20.7 percent of tests and Hispanics favored in only 14.5 percent. The overall indicator of differential treatment on agent encouragement was high (32.8 percent non-Hispanic white-favored and 29.7 percent Hispanic-favored), but the lower-bound estimate of discrimination was not statistically significant.

Exhibit 3-9: Differential Treatment for Agent Encouragement, Hispanic/Non-Hispanic White Rental Tests

AGENT ENCOURAGEMENT	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Follow-up contact from agent?	2.5%	2.7%	-0.2%	-1.3%	1.6% **	-2.9% **
Asked to complete application?	17.3%	17.1%	0.2%	-4.3% **	2.6%	-6.9% **
Arrangements for future?	20.7%	14.5%	6.2% **	-1.8%	-4.5% **	2.7%
Told qualified to rent?	4.4%	5.0%	-0.6%	-3.9% **	0.7%	-4.6% **
Overall encouragement	32.8%	29.7%	3.1%	-7.3% **	1.7%	-9.0% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In 1989, Hispanics were more likely to experience adverse treatment with respect to agent encouragement. The share of cases in which only the non-Hispanic white tester was asked to complete an application or told he or she was qualified to rent dropped about 4 percentage points. The overall incidence of non-Hispanic white-favored encouragement fell about 7 points. The lower-bound estimates of discrimination on these measures fell significantly for follow-up contact (3 points), invitations to complete an application (7 points) and statements about being qualified to rent (almost 5 points). These declines contributed to a significant drop in the overall net measure from 1989 to 2000 by 9 points.

Summary Indicators. Overall, non-Hispanic whites were favored in more than half the rental tests in 2000 (52.7 percent), while Hispanics were favored in only 37.6 percent. Thus, the

lower-bound estimate of discrimination against Hispanic renters (the net measure) was 15.1 percent. The consistency measure, which reflects the extent to which non-Hispanic whites were consistently favored across all treatment indicators, was lower, but reflects the same finding of significant adverse treatment. Specifically, non-Hispanic whites were consistently favored in 25.7 percent of rental tests, while Hispanics were consistently favored in 19.5 percent. The net measure for this indicator was 6.1 percent.

Exhibit 3-10: Summary Measures of Differential Treatment, Hispanic/Non-Hispanic White Rental Tests

SUMMARY MEASURES	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Hierarchical	52.7%	37.6%	15.1% **	-0.5%	-3.7%	3.2%
Consistency	25.7%	19.5%	6.1% **	1.5%	5.0% **	-3.5%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the overall incidence of adverse treatment against Hispanic renters remained essentially unchanged, while the overall incidence of Hispanic-favored treatment dropped by almost 4 percentage points. Although these changes led to a small increase in the overall net measure, the change was not statistically significant. The incidence of consistent non-Hispanic white-favored treatment actually increased significantly (by almost 2 points), but the incidence of consistent Hispanic-favored treatment also increased (about 5 points). As a result, the net consistency measure did not change significantly. These results indicate that significant discrimination against Hispanics continues in metropolitan rental markets. Although upper-bound estimates of its incidence have dropped significantly for some categories of treatment, the overall indicators show no significant pattern of change.[3]

Black/White Sales Testing Results

During the summer and fall of 2000, 1,112 black/white sales tests were conducted in a nationally representative sample of 16 large urban areas with significant African American populations. This section presents results of these tests, including national estimates of the incidence of both white-favored and black-favored outcomes for each category of treatment indicators, composite estimates of the overall incidence of discrimination against black homebuyers, and measures of change in these incidence measures between 1989 and 2000.

Housing Availability. In 2000, white and black homebuyers frequently received different information about housing availability. Differences in treatment for the availability of

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[3] For more detailed information on the contribution of individual treatment indicators to the two summary indicators, both in 1989 and 2000, see Annex 7.

similar units and the total number of units recommended were significantly more likely to favor whites than blacks. Specifically, in 18.7 percent of tests, only the white was told that homes similar to the advertised unit were available, compared to 15.6 percent of tests in which only the black tester received this information. Whites were also recommended more homes in 44.6 percent of tests (compared to 38.6 percent of tests in which blacks were recommended more homes). The lower-bound (net) estimates of discrimination for these two indicators were 3.1 percent and 6.0 percent respectively. However, differences in treatment on the availability of the advertised home were no more likely to favor whites than to favor blacks. As a result of this mixed pattern, although the overall indicator for housing availability reflects very high levels of differential treatment (46.2 percent white-favored and 42.8 percent black-favored), the net measure of discrimination was not significantly different from zero.

Exhibit 3-11: Differential Treatment for Housing Availability, Black/White Sales Tests

HOUSING AVAILABILITY	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	15.8%	15.1%	0.8%	6.2% **	9.7% **	-3.5% *
Similar units available?	18.7%	15.6%	3.1% *	-0.2%	5.5% **	-5.7% **
Number units recommended	44.6%	38.6%	6.0% **	6.8% **	15.5% **	-8.8% **
Overall availability	46.2%	42.8%	3.4%	2.3%	15.6% **	-13.3% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In 1989, the gross incidence of white-favored treatment for these availability indicators was the same or lower, but the incidence of black-favored treatment was dramatically lower. Between 1989 and 2000, the share of tests in which the advertised unit was available only to the white partner actually rose 6 percentage points. But the share of black-favored tests rose almost 10 points. Similarly, the incidence of white-favored treatment on number of units recommended climbed 7 points, while the incidence of black-favored treatment jumped almost 16 points. The composite indicators of white-favored treatment on housing availability stayed about the same over the decade, but the incidence of black-favored treatment increased by almost 16 points. Thus, although high levels of differential treatment persist, the lower-bound estimates of discrimination dropped significantly for all the availability indicators—by 4 points for availability of the advertised unit, 6 points for availability of similar units, 9 points for number of units recommended, and 13 points for overall availability.

Housing Inspection. Levels of differential treatment were almost as high for housing inspections as for housing availability in 2000, but they generally favored white homebuyers over comparable blacks. Whites were significantly more likely to inspect both the advertised unit (19.1 percent white-favored, 15.7 percent black-favored), and similar units (22.9 percent white favored, 16.0 percent black-favored). Moreover, whites were able to inspect more units

than their black partners in 43.2 percent of tests, compared to only 30.9 percent in which blacks inspected more units. Overall, whites were favored on housing inspections in 42.9 percent of tests, while blacks were favored in only 34.2 percent of tests. For all of these indicators, the lower-bound estimates of discrimination were statistically significant, at 3.4 percent for inspection of the advertised unit, 6.9 percent for similar units, 12.4 percent for total number of units inspected, and 8.8 percent for the overall inspections indicators.

Exhibit 3-12: Differential Treatment for Housing Inspections, Black/White Sales Tests

HOUSING INSPECTION	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit inspected?	19.1%	15.7%	3.4% *	7.7% **	8.8% **	-1.1%
Similar units inspected	22.9%	16.0%	6.9% **	12.8% **	9.8% **	3.0%
Number units inspected	43.2%	30.9%	12.4% **	18.9% **	18.5% **	0.4%
Overall inspection	42.9%	34.2%	8.8% **	16.1% **	18.3% **	-2.2%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

The incidence of both white-favored and black-favored treatment for these inspection indicators rose between 1989 and 2000, but the net measures of systematic discrimination stayed about the same. For inspection of the advertised unit, the gross incidence of white-favored treatment increased by 8 points, while the incidence of black-favored treatment increased by 9 points. As a result, the lower-bound estimates of discrimination remained essentially unchanged. The same pattern applied across all treatment variables in this category. Overall, therefore, the gross incidence of white-favored treatment increased by 16 points and the incidence of black-favored treatment increased by 18 points, causing the net measure of systematic discrimination to remain essentially unchanged.

Geographic Steering. White homebuyers were significantly more likely than comparable blacks to be recommended and shown homes in more predominantly white neighborhoods. Specifically, in 15.8 percent of tests the average percent white for census tracts surrounding recommended homes was higher for white testers than for their black partners (while blacks were recommended homes in more predominantly white neighborhoods in only 12.1 percent of tests). The net measure of discrimination for this indicator was statistically significant, at 3.7 percent. The same pattern of differences occurs in the racial composition of neighborhoods surrounding homes that were actually inspected, with a net measure of 3.5 percent.

**Exhibit 3-13: Differential Treatment for Geographic Steering,
Black/White Sales Tests**

GEOGRAPHIC STEERING	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Steering - homes recommended	15.8%	12.1%	3.7% **	9.8% **	0.4%	9.5% **
Steering - homes inspected	11.0%	7.5%	3.5% **	7.5% **	1.6%	5.9% **

Note: For net estimates and change estimates, * indicates statsstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Geographic steering on the basis of neighborhood racial composition appears to have increased significantly between 1989 and 2000. The gross incidence of steering on neighborhood racial composition rose by 10 percentage points for recommended homes and almost 8 percentage points for inspected homes. Correspondingly, the net measures of discrimination rose almost 10 points for recommended homes and 6 points for inspected homes.[4] Thus, black homebuyers may be more likely to receive favorable treatment on housing availability and housing inspections than they were a decade ago, but they are apparently also more likely to be steered to neighborhoods that are more predominantly black than those recommended to comparable white homebuyers.

Financing Assistance. In 2000, white and black testers frequently received different levels of information and assistance with mortgage financing from the real estate agents they visited. In 18.6 percent of tests, only the white tester was offered help with financing, and in 18.9 percent of tests, only the white received recommendations of specific lenders. However, for both of these treatment indicators, the incidence of black-favored treatment was equally high (17.2 percent and 17.5 percent respectively), so the net measures of systematic discrimination were not statistically significant. In contrast, agents were significantly more likely to discuss downpayment requirements with white testers than with blacks. Specifically, whites were favored on this indicator in 21.7 percent of tests, compared to only 16.1 percent of tests in which blacks were favored, yielding a net measure of 5.6 percent. The overall indicator for financing assistance shows that whites were favored 36.6 percent of the time, while blacks were favored 31.7 percent of the time, with a statistically significant net measure of 4.9 percent.

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[4] The results presented here for the 1989 HDS differ substantially from those reported for black/white sales tests in 1989. Several factors contribute to this difference, the most important of which is that the results presented here use 1990 Census data on neighborhood racial composition, while the 1989 report relied upon estimated data based on the 1980 Census. See Annex 5 for a complete discussion of differences between the 1989 measures reported here and those reported in 1989.

Exhibit 3-14: Differential Treatment for Assistance with Financing, Black/White Sales Tests

FINANCING ASSISTANCE	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Help with financing offered?	18.6%	17.2%	1.4%	-2.0%	2.1%	-4.0%
Lenders recommended?	18.9%	17.5%	1.3%	8.6% **	13.2% **	-4.6% **
Downpayment reqs discussed?	21.7%	16.1%	5.6% **	-3.7% *	-1.5%	-2.2%
Overall financing	36.6%	31.7%	4.9% **	0.0%	5.3% **	-5.3%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

The overall incidence of white-favored treatment on these indicators did not change significantly between 1989 and 2000. However, for lender recommendations, the incidence of both white-favored and black-favored treatment increased (by 9 points and 13 points respectively), and the net measure declined significantly (by about 5 points). The gross incidence of black-favored treatment also increased on the overall measure of financing assistance (by 5 points), but the change in the net measure was not statistically significant.

Agent Encouragement. In general, whites were more likely than their black partners to receive encouragement from real estate agents, although the pattern of differential treatment is not consistent across all indicators. Whites were significantly more likely than their black counterparts to be told that they were qualified as homebuyers (20.4 percent white-favored, 12.3 percent black-favored), but less likely to be offered arrangements for future contact (4.9 percent white-favored, 7.6 percent black-favored). The lower-bound estimate of discrimination was 8.1 percent for qualification, but –2.8 percent for future arrangements, indicating that systematic discrimination favored blacks rather than whites on this indicator. Overall, differential treatment favored whites in 31.3 percent and blacks in 26.1 percent, with the net measure of discrimination statistically significant at 5.2 percent.

Exhibit 3-15: Differential Treatment for Agent Encouragement, Black/White Sales Tests

AGENT ENCOURAGEMENT	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Follow-up contact from agent?	17.1%	14.7%	2.4%	1.1%	5.1% **	-4.0% *
Told qualified?	20.4%	12.3%	8.1% **	4.1% **	-1.7%	5.8% **
Arrangements for future?	4.9%	7.6%	-2.8% **	-8.0% **	0.1%	-8.0% **
Overall encouragement	31.3%	26.1%	5.2% **	-4.1% *	2.0%	-6.1% *

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, discrimination appears to have declined for this group of indicators. The overall level of white-favored encouragement was slightly higher in 1989 than in

2000, and the incidence of black-favored treatment was about the same. The share of tests in which agents told only the white testers that they were qualified to buy rose by 4 points, while the incidence of black-favored treatment on this indicator did not change significantly. As a result, the net measure of discrimination on this indicator rose about 6 points. However, for all the other treatment measures in this category, the net measure of discrimination dropped significantly, either because minority-favored treatment rose or because white-favored treatment declined. Overall, white-favored treatment fell about 4 points, and the net measure of discrimination dropped by 6 points.

Summary Indicators. In 2000, white-favored treatment occurred in over half the sales tests (53.1 percent), while the incidence of black-favored treatment was 44.8 percent. Thus, the lower-bound (net) measure of discrimination against black homebuyers was statistically significant at 8.3 percent. The measures of treatment consistency were considerably lower—17.0 percent white-favored and 12.4 percent black-favored. Again, however, the net measure was statistically significant at 4.6 percent.

Exhibit 3-16: Summary Indicators of Differential Treatment, Black/White Sales Tests

SUMMARY MEASURES	Differential Treatment in 2000			Change Since 1989		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Hierarchical	53.1%	44.8%	8.3% **	-3.0%	5.8% **	-8.8% **
Consistency	17.0%	12.4%	4.6% **	-12.0% **	-3.8% **	-8.2% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Both of these summary measures indicate that discrimination against black homebuyers declined between 1989 and 2000. The overall incidence of white-favored treatment was statistically unchanged, but the gross incidence of black-favored treatment climbed almost 6 points. As a result, the lower-bound estimate of overall discrimination fell almost 9 points. The consistency measure declined significantly between 1989 and 2000, both for whites (a drop of 12 points) and for blacks (a drop of almost 4 points). Taken together, these results suggest that while white-favored treatment still occurs at very high levels, the incidence of black-favored treatment has climbed significantly. Whites are no longer as likely to be consistently favored across all forms of treatment. More transactions involve a mixture of white-favored and black-favored treatment, and the incidence of systematic discrimination has declined substantially.[5] Nonetheless, the lower-bound (net) measures indicate that systematic discrimination against black homebuyers still persists.

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[5] For more detailed information on the contribution of individual treatment indicators to the two summary indicators, both in 1989 and 2000, see Annex 7.

Hispanic/Non-Hispanic White Sales Testing Results

During the summer and fall of 2000, 759 Hispanic/non-Hispanic white sales tests were conducted in a nationally representative sample of 10 large urban areas with significant Hispanic populations. This section presents results of these tests, including national estimates of the incidence of both non-Hispanic white-favored and Hispanic-favored outcomes for each category of treatment indicators, composite estimates of the overall incidence of discrimination against Hispanic homebuyers, and measures of change in these incidence measures between 1989 and 2000.

Housing Availability. In 2000, Hispanic and non-Hispanic white testers were often given different information about housing availability, but these differences were generally just as likely to favor Hispanic homebuyers as non-Hispanic whites. The gross incidence of non-Hispanic white-favored treatment ranged from a low of 12.0 percent (for availability of the advertised unit) to a high of 44.4 percent (for the number of units recommended). But the gross incidence of Hispanic-favored treatment was comparable, ranging from 12.9 percent (availability of similar units) to 40.7 percent (number of units recommended). The net measure of systematic discrimination was statistically significant for only one indicator—availability of similar homes, at 3.8 percent. As a result, the overall indicator for housing availability reflects a very high level of differential treatment (46.3 percent non-Hispanic white-favored and 44.4 percent Hispanic-favored), but the net measure is not statistically significant.

Exhibit 3-17: Differential Treatment for Housing Availability, Hispanic/Non-Hispanic White Sales Tests

HOUSING AVAILABILITY	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	12.0%	15.0%	-3.0%	2.7% *	9.1% **	-6.5% **
Similar units available?	16.7%	12.9%	3.8% *	-2.3%	-0.5%	-1.8%
Number units recommended	44.4%	40.7%	3.7%	5.2% **	18.3% **	-13.1% **
Overall availability	46.3%	44.4%	1.9%	5.0% **	15.4% **	-10.5% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the incidence of non-Hispanic white-favored treatment for these availability indicators rose, but the incidence of Hispanic-favored treatment increased even more. For example, between 1989 and 2000, the share of tests in which the advertised unit was available only to the non-Hispanic white partner rose almost 3 percentage points, while the share of Hispanic-favored tests rose 9 points. Similarly, the incidence of non-Hispanic white-favored treatment on number of units recommended increased by 5 points, while the incidence of Hispanic-favored treatment jumped over 18 percentage points. Correspondingly, the overall indicator of non-Hispanic white-favored treatment on housing availability increased 5 points between 1989 and 2000, while the incidence of Hispanic-favored treatment increased by

more than 15 points. Thus, the lower-bound (net) estimates of systematic discrimination dropped significantly for these indicators—by almost 7 points for availability of the advertised unit, 13 points for number of units recommended, and almost 11 points overall.

Housing Inspection. In 2000, the incidence of differential treatment between non-Hispanic white and Hispanic testers was almost as high for housing inspections as for housing availability, but again, these differences did not significantly favor either non-Hispanic whites or Hispanics. The gross incidence of non-Hispanic white-favored treatment ranged from 17.1 percent (for advertised unit inspected) to 35.7 percent (for number of units inspected), and the incidence of Hispanic-favored treatment was generally about the same. The net measure of systematic discrimination was not significantly different from zero for any of these indicators. The overall incidence of adverse treatment for housing inspections was 38.3 percent non-Hispanic white-favored, and 40.9 percent Hispanic-favored, producing a net measure that was not statistically significant.

Exhibit 3-18: Differential Treatment for Housing Inspections, Hispanic/Non-Hispanic White Sales Tests

HOUSING INSPECTION	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit inspected?	17.1%	19.3%	-2.2%	3.3% *	11.1% **	-7.9% **
Similar units inspected	18.3%	15.4%	2.9%	10.8% **	8.6% **	2.1%
Number units inspected	35.7%	38.1%	-2.4%	8.5% **	24.2% **	-15.7% **
Overall inspection	38.3%	40.9%	-2.6%	8.0% **	22.7% **	-14.7% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

The incidence of treatment favoring non-Hispanic whites for these inspection indicators generally rose between 1989 and 2000, while the incidence of Hispanic-favored treatment rose even more, eliminating the differential between non-Hispanic white-favored and Hispanic-favored outcomes. For every treatment indicator in this category, the incidence of non-Hispanic white-favored treatment increased significantly, but Hispanic-favored treatment climbed much more dramatically (with the exception of similar units inspected). For advertised unit inspected, non-Hispanic white-favored treatment rose 3 points while Hispanic-favored treatment rose 11 points, resulting in an 8 point drop in the net measure of systematic discrimination. For number of units inspected, non-Hispanic white-favored treatment climbed almost 9 points while Hispanic-favored treatment jumped 24 points, resulting in a 16 point drop in the net measure. Overall, non-Hispanic white-favored treatment in this category rose 8 points while Hispanic-favored treatment rose 23 points, and the net measure of systematic discrimination dropped almost 15 points.

Geographic Steering. In 2000, the ethnic composition of neighborhoods surrounding homes recommended to non-Hispanic white and Hispanic buyers did not differ systematically,

but non-Hispanic whites were shown homes in less predominantly Hispanic neighborhoods in 14.7 percent of tests, compared to 9.7 percent of tests in which homes shown to Hispanics were in less predominantly Hispanic neighborhoods. The lower-bound estimate of discrimination for homes inspected was statistically significant at 5.0 percent.

Exhibit 3-19: Differential Treatment for Geographic Steering, Hispanic/Non-Hispanic White Sales Tests

GEOGRAPHIC STEERING	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Steering - homes recommended	17.1%	15.6%	1.5%	4.7% **	7.1% **	-2.4%
Steering - homes inspected	14.7%	9.7%	5.0% **	7.4% **	3.9% **	3.5%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the share of tests in which non-Hispanic white homebuyers were either recommended or shown homes in more predominantly non-Hispanic neighborhoods than their Hispanic partners increased significantly. But the share of tests in which Hispanic homebuyers were recommended or shown homes in more predominantly non-Hispanic neighborhoods also increased. As a result, there has been no statistically significant change in the net measures of discrimination for these indicators.

Financing Assistance. In 2000, non-Hispanic whites were significantly more likely to receive favorable treatment than their Hispanic partners for every indicator in this category. Real estate agents were more likely to offer non-Hispanic whites help with financing (22.2 percent non-Hispanic white-favored, 10.5 percent Hispanic-favored), to recommend lenders (19.6 percent non-Hispanic white-favored, 12.8 percent Hispanic-favored), and to discuss downpayment requirements (24.9 percent non-Hispanic white-favored, 15.4 percent Hispanic-favored). The lower-bound estimates of discrimination are statistically significant for all of these indicators—11.7 percent for offers of help with financing, 6.7 percent for lender recommendations, and 9.4 percent for discussion of downpayment requirements. As a consequence, the overall indicator of differential treatment on financing assistance favored non-Hispanic whites in 38.6 percent of tests, compared to only 24.2 percent of tests in which Hispanics were favored, and the net measure of systematic discrimination was 14.4 percent.

Exhibit 3-20: Differential Treatment for Assistance with Financing, Hispanic/Non-Hispanic White Sales Tests

FINANCING ASSISTANCE	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Help with financing offered?	22.2%	10.5%	11.7% **	3.2%	-9.1% **	12.3% **
Lenders recommended?	19.6%	12.8%	6.7% **	10.5% **	3.5% **	7.1% **
Downpayment reqs discussed?	24.9%	15.4%	9.4% **	3.9% *	-6.0% **	9.9% **
Overall financing	38.6%	24.2%	14.4% **	5.3% **	-7.8% **	13.1% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In 1989, non-Hispanic whites were far less likely to be favored on these treatment indicators, and Hispanics were generally more likely to be favored. Non-Hispanic white-favored treatment rose almost 11 percentage points for lender recommendations, and 4 points for discussion of downpayment requirements, while Hispanic-favored treatment dropped for offers of financing assistance (9 points) and discussion of downpayment requirements (6 points), but rose for lender recommendations (3 points). The overall incidence of non-Hispanic white-favored treatment on financing assistance rose from 33.3 percent in 1989 to 38.6 percent, while the incidence of Hispanic-favored treatment dropped from 32.0 percent to 24.2 percent. Net measures of systematic discrimination climbed for all of these indicators—12 points for offers of help with financing, 7 points for lender recommendations, 10 points for discussion of downpayment requirements, and 13 points overall.

Agent Encouragement. In 2000, non-Hispanic white homebuyers did not systematically benefit from differential treatment in agent encouragement. Although differences in treatment occurred quite frequently, these differences were just as likely to favor the Hispanic tester as to favor the non-Hispanic white. None of the net measures were statistically significant. Overall, the incidence of non-Hispanic white-favored encouragement (30.6 percent) was not significantly different from the incidence of Hispanic-favored encouragement (27.5 percent).

Exhibit 3-21: Differential Treatment for Agent Encouragement, Hispanic/Non-Hispanic White Sales Tests

AGENT ENCOURAGEMENT	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Follow-up contact from agent?	15.3%	14.6%	0.7%	-2.8%	8.2% **	-11.0% **
Told qualified?	18.8%	15.6%	3.2%	0.7%	2.3%	-1.6%
Arrangements for future?	5.2%	4.9%	0.3%	-7.0% **	-1.2%	-5.8% **
Overall encouragement	30.6%	27.5%	3.1%	-7.6% **	6.9% **	-14.5% **

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the incidence of non-Hispanic white-favored in this category stayed the same or declined, while the incidence of Hispanic-favored treatment increased. Consequently, lower-bound estimates of discrimination dropped by 11 points for follow-up contact and by 6 points for future arrangements. The overall incidence of non-Hispanic white-favored treatment fell almost 8 points, while the incidence of Hispanic-favored treatment increased by 7 points, and the net measure fell almost 15 points.

Summary Indicators. In 2000, non-Hispanic whites were favored in roughly half the sales tests (51.6 percent), and the incidence of Hispanic-favored treatment was 46.8 percent. Thus, despite high levels of differential treatment, the net measure of discrimination against Hispanic homebuyers was not statistically significant. The measures of treatment consistency were considerably lower—19.7 percent non-Hispanic white-favored and 12.3 percent Hispanic-favored, but the difference between the two –7.4 percent—was statistically significant, suggesting that non-Hispanic whites were significantly more likely than Hispanics to be consistently favored across all forms of treatment in a test.

Exhibit 3-22: Summary Indicators of Differential Treatment, Hispanic/Non-Hispanic White Sales Tests

SUMMARY MEASURES	Differential Treatment in 2000			Change Since 1989		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Hierarchical	51.6%	46.8%	4.9%	-3.4%	6.4% **	-9.8% **
Consistency	19.7%	12.3%	7.4% **	-7.1% **	-4.1% **	-3.0%

Note: For net estimates and change estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Between 1989 and 2000, the overall incidence treatment favoring non-Hispanic whites did not change significantly, but Hispanic-favored treatment rose by over 6 percentage points, and the net measure of systematic discrimination dropped 10 points. Over the same period, the measure of treatment consistency dropped significantly—both non-Hispanic white-favored (by 7 points) and Hispanic-favored (4 points). These results suggest that while treatment favoring non-Hispanic whites still occurs at very high levels, the incidence of Hispanic-favored treatment has climbed significantly. Moreover, non-Hispanic white homebuyers are no longer as likely to be consistently favored across all forms of treatment. More transactions involve a mixture of non-Hispanic white-favored and Hispanic-favored treatment, and the incidence of systematic discrimination has declined.[6]

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[6] For more detailed information on the contribution of individual treatment indicators to the two summary indicators, both in 1989 and 2000, see Annex 7.

4.   ESTIMATES OF DIFFERENTIAL TREATMENT AT THE METROPOLITAN LEVEL

HDS2000 expands upon previous national paired testing studies by conducting sufficient numbers of tests in each of its sample sites to produce estimates of differential treatment for individual metropolitan areas.[1] Specifically, approximately 70 paired tests were conducted per tenure category (rental and sales) and per racial or ethnic minority in each of the sites that make up the national sample of metropolitan areas. In addition, Phase I of HDS2000 was designed to explore the feasibility of testing for adverse treatment against three Asian Americans sub-groups (Koreans and Chinese in Los Angeles and Southeast Asians in Minneapolis) and against American Indians (in Phoenix). Therefore, metropolitan-level estimates are available for these four groups as well as for African Americans and Hispanics. Annex 8 provides a complete set of results for each metropolitan area, including all the basic indicators of differential treatment introduced in Chapter 3.

This chapter summarizes the metropolitan-level estimates of adverse treatment for blacks and Hispanics across all sites, focusing on metropolitan areas where the overall incidence of consistent white-favored treatment diverged significantly from the national average. We then discuss the results of the pilot testing for Chinese, Koreans, Southeast Asians, and American Indians. Due to the size of the metropolitan area samples, the confidence intervals around estimated incidence measures are relatively large, and net measures are generally not statistically significant.

Black/White Rental Testing Results

Measures of differential treatment for African American and white renters are available for 15 metropolitan areas with large African American populations.[2] Although estimates of the gross incidence of consistent white-favored treatment vary considerably across these metropolitan areas, they are generally not significantly different from the national average of 22 percent (see Exhibit 4-1). The overall incidence of consistent white-favored treatment is significantly higher than the national average only in Atlanta, and significantly lower than the national average in Chicago and Detroit.

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[1] In the 1989 Housing Discrimination Study, samples large enough to produce metro-level estimates were produced in only five sites—Atlanta, Chicago, Los Angeles, New York, and San Antonio.

[2] Although black/white rental testing was conducted in a nationally representative sample of 16 metropolitan areas, the target number of tests was not achieved in Philadelphia, Pennsylvania. Therefore, although Philadelphia is part of the national sample, metro-level results cannot yet be reported. Additional tests were conducted in Phase II of HDS2000 in order to produce metro-level estimates for Philadelphia.

Exhibit 4-1: Overall Incidence of White-Favored Treatment, Black/White Rental Tests
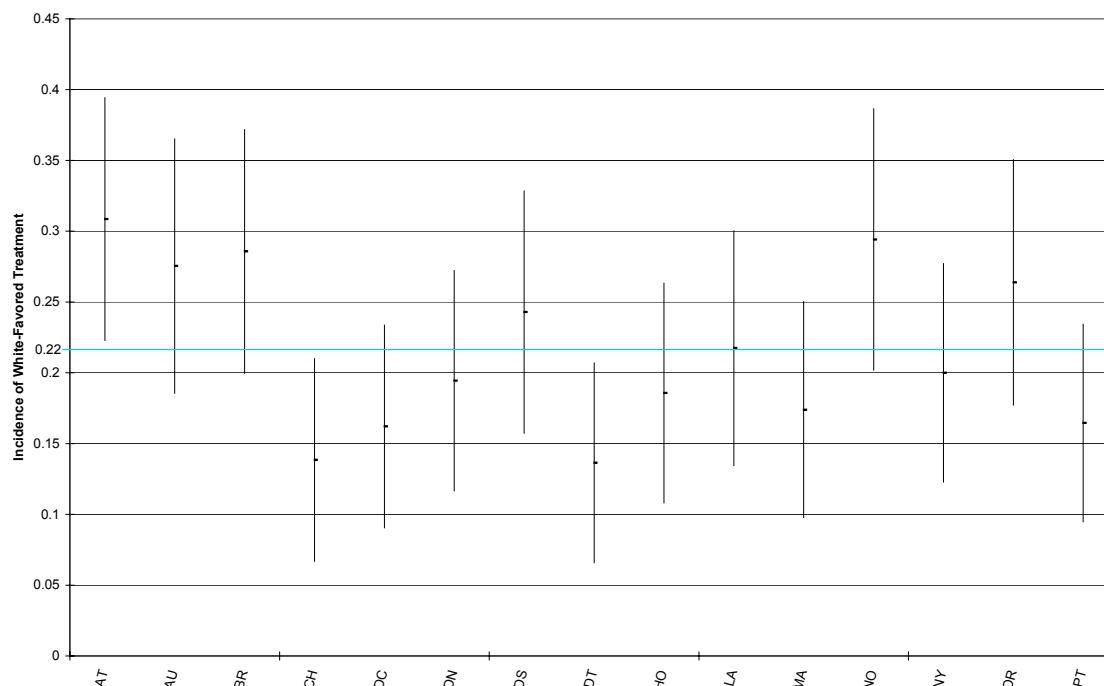
      Atlanta, Georgia exhibits the highest overall level of consistent adverse treatment against black renters. Whites were consistently favored in 30.9 percent of tests (9.3 points above the national average) while blacks were consistently favored in only 13.6 percent of tests (see Exhibit 4-2). The overall gross incidence of white-favored treatment is 60.5 percent, 11.5 points above the national average, and more than twice as high as the overall incidence of black-favored treatment (27.2 percent). Thus, the overall net measure of systematic discrimination against black renters in Atlanta is statistically significant at 33.3 percent. The primary source of Atlanta's high rates of adverse treatment is the housing costs category. Whites were favored on housing costs in 37.0 percent of tests (15.6 points above the national average), while blacks were favored in only 14.8 percent of tests.

Exhibit 4-3: Differential Treatment for Black Renters, Chicago, Illinois

TREATMENT MEASURES	Chicago			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	6.2%	3.1%	3.1%	12.3%	8.3%	4.1% **
Similar units available?	9.2%	13.8%	-4.6%	14.3%	15.4%	-1.0%
Number units recommended	21.5%	18.5%	3.1%	28.3%	23.3%	5.1% **
Overall availability	24.6%	21.5%	3.1%	31.5%	27.6%	3.9% *
Advertised unit inspected?	6.2%	4.6%	1.5%	15.6%	9.2%	6.4% **
Similar units inspected	1.5%	3.1%	-1.5%	8.1%	7.2%	0.9%
Number units inspected	12.3%	13.8%	-1.5%	23.3%	16.2%	7.0% **
Overall inspection	15.4%	13.8%	1.5%	27.5%	19.2%	8.3% **
Rent for advertised unit	4.8%	11.9%	-7.1%	9.3%	12.0%	-2.7%
Rental incentives offered?	9.2%	3.1%	6.2%	9.2%	6.5%	2.7% **
Amount of security deposit	6.9%	0.0%	6.9%	5.3%	5.3%	0.0%
Application fee required?	12.3%	20.0%	-7.7%	10.7%	14.5%	-3.8% **
Overall cost	23.1%	26.2%	-3.1%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	3.1%	6.2%	-3.1%	2.5%	2.1%	0.4%
Asked to complete application?	16.9%	21.5%	-4.6%	18.1%	15.8%	2.3%
Arrangements for future?	18.5%	7.7%	10.8%	14.7%	16.3%	-1.6%
Told qualified to rent?	4.6%	0.0%	4.6%	3.6%	3.4%	0.2%
Overall encouragement	33.8%	27.7%	6.2%	31.3%	28.6%	2.6%
Overall hierarchical	38.5%	44.6%	-6.2%	49.0%	41.1%	7.9% **
Overall consistency	13.8%	21.5%	-7.7%	21.6%	19.2%	2.3%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

The incidence of consistent white-favored treatment was also relatively low in **Detroit, Michigan,** where whites were consistently favored in 13.6 percent of tests (8.0 points below the national average. Interestingly, however, the overall incidence of white-favored treatment (51.5 percent) was comparable to the national estimate. Black renters in Detroit appear to face relatively high levels of adverse treatment on housing availability (47.0 percent white-favored), but low levels on housing costs (13.6 percent white-favored). Net measures of systematic discrimination are only statistically significant for availability of the advertised unit (19.7 percent), number of units recommended (21.2 percent), and inspection of the advertised unit (13.6 percent).

Exhibit 4-4: Differential Treatment for Black Renters, Detroit, Michigan

TREATMENT MEASURES	Detroit			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	27.3%	7.6%	19.7% **	12.3%	8.3%	4.1% **
Similar units available?	15.2%	16.7%	-1.5%	14.3%	15.4%	-1.0%
Number units recommended	42.4%	21.2%	21.2% **	28.3%	23.3%	5.1% **
Overall availability	47.0%	31.8%	15.2%	31.5%	27.6%	3.9% *
Advertised unit inspected?	21.2%	7.6%	13.6% *	15.6%	9.2%	6.4% **
Similar units inspected	7.6%	9.1%	-1.5%	8.1%	7.2%	0.9%
Number units inspected	18.2%	18.2%	0.0%	23.3%	16.2%	7.0% **
Overall inspection	24.2%	22.7%	1.5%	27.5%	19.2%	8.3% **
Rent for advertised unit	7.7%	7.7%	0.0%	9.3%	12.0%	-2.7%
Rental incentives offered?	3.0%	9.1%	-6.1%	9.2%	6.5%	2.7% **
Amount of security deposit	0.0%	0.0%	0.0%	5.3%	5.3%	0.0%
Application fee required?	10.6%	13.6%	-3.0%	10.7%	14.5%	-3.8% **
Overall cost	13.6%	21.2%	-7.6%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	3.0%	0.0%	3.0%	2.5%	2.1%	0.4%
Asked to complete application?	12.1%	25.8%	-13.6%	18.1%	15.8%	2.3%
Arrangements for future?	19.7%	27.3%	-7.6%	14.7%	16.3%	-1.6%
Told qualified to rent?	0.0%	3.0%	-3.0%	3.6%	3.4%	0.2%
Overall encouragement	30.3%	31.8%	-1.5%	31.3%	28.6%	2.6%
Overall hierarchical	51.5%	40.9%	10.6%	49.0%	41.1%	7.9% **
Overall consistency	13.6%	19.7%	-6.1%	21.6%	19.2%	2.3%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Hispanic/Non-Hispanic White Rental Testing Results

Measures of differential treatment for Hispanic and non-Hispanic white renters are available for 10 metropolitan areas with large Hispanic populations. For all of these metro areas, overall estimates of consistent non-Hispanic white-favored treatment fall within 7 percentage points of the national average of 26 percent except for Denver (see Exhibit 4-5). In Denver, the overall incidence of consistent non-Hispanic white-favored treatment is significantly lower than the national average.

Exhibit 4-5: Overall Incidence of Non-Hispanic White-Favored Treatment,
Hispanic/Non-Hispanic White Rental Tests
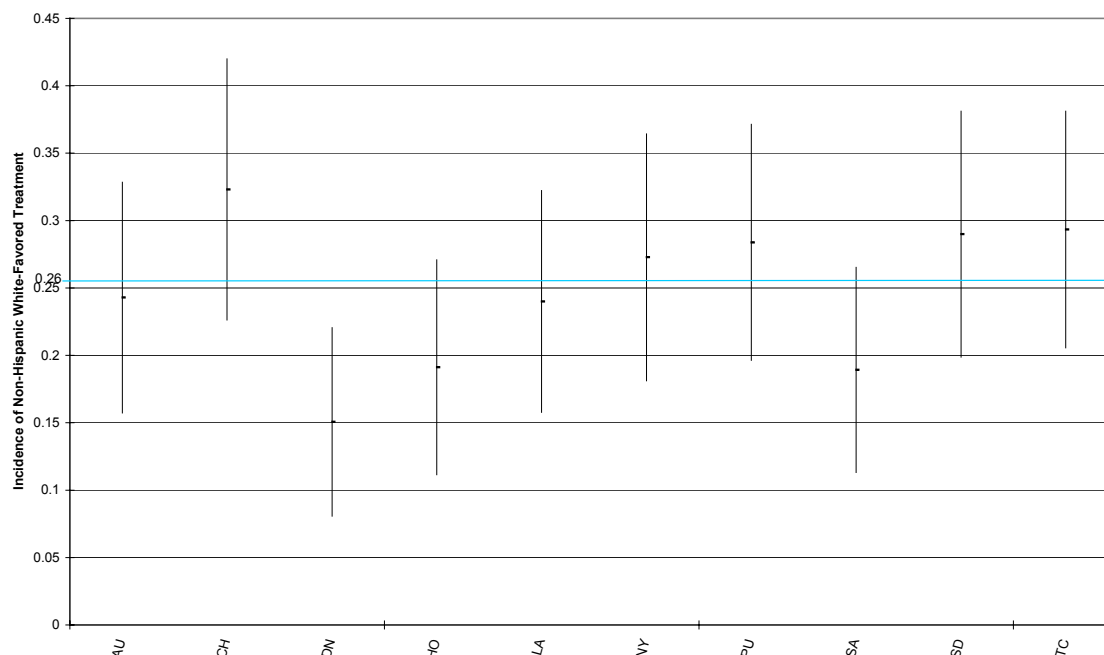
In **Denver, Colorado**, consistent adverse treatment against Hispanic renters occurred in only 15.1 percent of tests (10.6 points below the national average). In general, estimates of non-Hispanic white-favored treatment in Denver were comparable to national averages, but the incidence of Hispanic-favored treatment was high, especially for housing availability, costs, and agent encouragement. As a result, the overall incidence of Hispanic-favored treatment was 7.6 points above the national average, and Hispanics were consistently favored in 28.8 percent of tests (9.3 points above the national average). However, the net measure of systematic discrimination is statistically significant for only one treatment variable – application fee required – where the incidence of Hispanic-favored treatment exceeded the incidence of non-Hispanic white-favored treatment by 15.1 points.

Exhibit 4-6: Differential Treatment for Hispanic Renters, Denver, Colorado

TREATMENT MEASURES	Denver			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	16.4%	8.2%	8.2%	12.0%	5.4%	6.6% **
Similar units available?	15.1%	13.7%	1.4%	12.7%	11.7%	0.9%
Number units recommended	31.5%	28.8%	2.7%	29.4%	20.8%	8.6% **
Overall availability	35.6%	28.8%	6.8%	34.0%	22.1%	11.9% **
Advertised unit inspected?	20.5%	12.3%	8.2%	11.4%	7.5%	3.9% **
Similar units inspected	5.5%	8.2%	-2.7%	7.9%	7.3%	0.6%
Number units inspected	19.2%	12.3%	6.8%	20.7%	14.3%	6.3% **
Overall inspection	26.0%	16.4%	9.6%	24.4%	17.2%	7.2% **
Rent for advertised unit	8.1%	10.8%	-2.7%	12.2%	6.5%	5.7% **
Rental incentives offered?	11.0%	2.7%	8.2%	8.5%	6.7%	1.8%
Amount of security deposit	3.0%	9.1%	-6.1%	8.5%	8.0%	0.5%
Application fee required?	9.6%	24.7%	-15.1% **	8.6%	12.2%	-3.6% **
Overall cost	21.9%	30.1%	-8.2%	21.7%	20.0%	1.7%
Follow-up contact from agent?	4.1%	5.5%	-1.4%	2.5%	2.7%	-0.2%
Asked to complete application?	15.1%	26.0%	-11.0%	17.3%	17.1%	0.2%
Arrangements for future?	9.6%	16.4%	-6.8%	20.7%	14.5%	6.2% **
Told qualified to rent?	4.1%	1.4%	2.7%	4.4%	5.0%	-0.6%
Overall encouragement	26.0%	38.4%	-12.3%	32.8%	29.7%	3.1%
Overall hierarchical	49.3%	45.2%	4.1%	52.7%	37.6%	15.1% **
Overall consistency	15.1%	28.8%	-13.7%	25.7%	19.5%	6.1% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Black/White Sales Testing Results

Measures of differential treatment for African American and white homebuyers are available for 14 metropolitan areas with large African American populations.[3] Again, despite considerable variation across sites, estimates of consistent white-favored treatment are generally not significantly different from the national average of 17 percent (see Exhibit 4-7). The overall incidence of consistent white-favored treatment is significantly higher than the national average in Austin and Birmingham, and significantly lower than the national average in Atlanta and Macon.

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[3] Although black/white rental testing was conducted in a nationally representative sample of 16 metropolitan areas, the target number of tests was not achieved in Philadelphia or Pittsburgh. The local testing organizations in these sites were not able to complete sufficient numbers of tests weekly, and had difficulty meeting the Urban Institute's quality standards. Therefore, although these two metro areas are included in the national estimates, metro-level results cannot yet be reported. Additional tests were conducted in Phase II of HDS2000 in order to produce metro-level estimates for Philadelphia and Pittsburgh.

Exhibit 4-7: Overall Incidence of White-Favored Treatment, Black/White Sales Tests
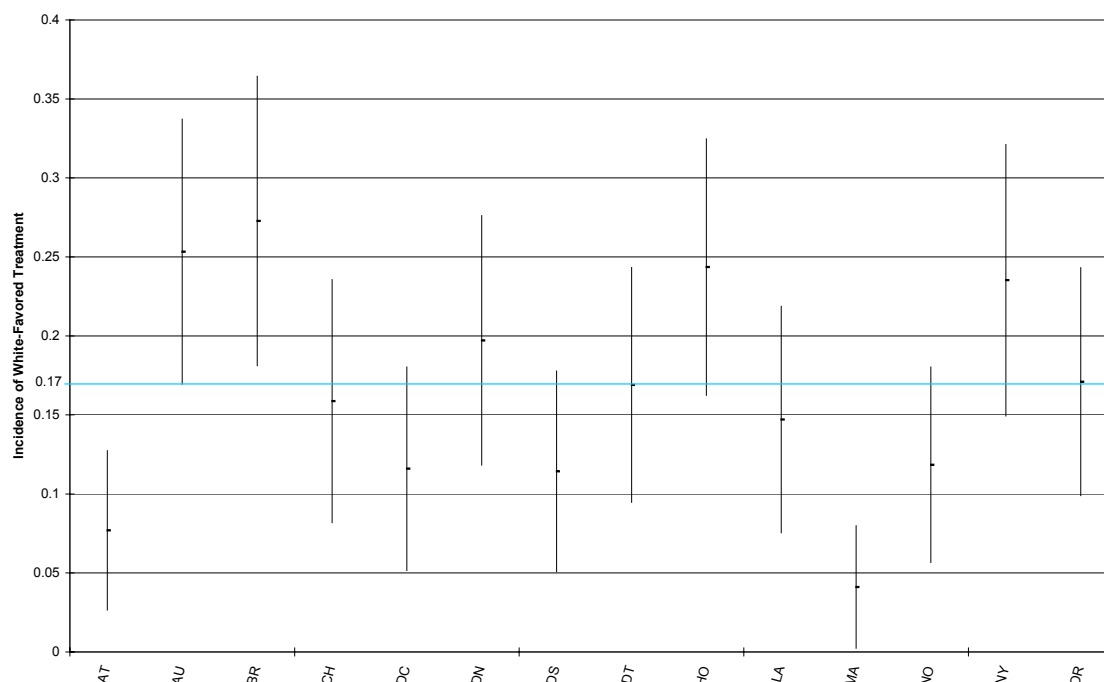
In **Austin, Texas** the incidence of consistent adverse treatment against black homebuyers was 25.3 percent, 8.3 points above the national average (see Exhibit 4-8). The overall incidence of white-favored treatment was also relatively high at 60.0 percent (compared to 53.1 percent nationally). Moreover, the overall incidence of black-favored treatment was low –7.7 percent below the national average, resulting in a statistically significant net estimate of systematic discrimination (22.7 percent). Adverse treatment of black homebuyers in Austin was most pronounced for housing availability and inspections. Net estimates of systematic discrimination were statistically significant for several treatment variables in these categories.

Exhibit 4-8: Differential Treatment for Black Homebuyers, Austin, Texas

| TREATMENT MEASURES	Austin			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	14.7%	13.3%	1.3%	15.8%	15.1%	0.8%
Similar units available?	38.7%	12.0%	26.7% **	18.7%	15.6%	3.1% *
Number units recommended	50.7%	26.7%	24.0% **	44.6%	38.6%	6.0% **
Overall availability	49.3%	32.0%	17.3%	46.2%	42.8%	3.4%
Advertised unit inspected?	25.3%	17.3%	8.0%	19.1%	15.7%	3.4% *
Similar units inspected	38.7%	9.3%	29.3% **	22.9%	16.0%	6.9% **
Number units inspected	53.3%	17.3%	36.0% **	43.2%	30.9%	12.4% **
Overall inspection	53.3%	24.0%	29.3% **	42.9%	34.2%	8.8% **
Steering - homes recommended	8.0%	14.7%	-6.7%	15.8%	12.1%	3.7% **
Steering - homes inspected	6.7%	9.3%	-2.7%	11.0%	7.5%	3.5% **
Help with financing offered?	17.3%	34.7%	-17.3% *	18.6%	17.2%	1.4%
Lenders recommended?	24.0%	29.3%	-5.3%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	10.7%	21.3%	-10.7%	21.7%	16.1%	5.6% **
Overall financing	33.3%	44.0%	-10.7%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	2.7%	4.0%	-1.3%	17.1%	14.7%	2.4%
Told qualified?	16.0%	8.0%	8.0%	20.4%	12.3%	8.1% **
Arrangements for future?	8.0%	5.3%	2.7%	4.9%	7.6%	-2.8% **
Overall encouragement	22.7%	17.3%	5.3%	31.3%	26.1%	5.2% **
Overall hierarchical	60.0%	37.3%	22.7% *	53.1%	44.8%	8.3% **
Overall consistency	25.3%	12.0%	13.3% *	17.0%	12.4%	4.6% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Birmingham, Alabama exhibits the highest overall levels of adverse treatment against black homebuyers of all metro areas in our sample. Whites were consistently favored in 27.3 percent of tests—12.1 points above the level of consistent black-favored treatment and 10.3 points above the national average (see Exhibit 4-9). The overall incidence of white-favored treatment was also high (62.1 percent), while the incidence of black-favored treatment was relatively low (31.8 percent). As a result, the overall net measure of systematic discrimination against black homebuyers in Birmingham was high and statistically significant at 30.3 percent. Adverse treatment on housing availability and inspections appear to be primarily responsible for these results. Net measures of discrimination against black homebuyers were statistically significant for every treatment variable in these two categories. In contrast, differential treatment in agent encouragement appears significantly more likely to favor white homebuyers than blacks in the Birmingham market.

Exhibit 4-9: Differential Treatment for Black Homebuyers, Birmingham, Alabama

TREATMENT MEASURES	Birmingham			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	21.2%	7.6%	13.6% *	15.8%	15.1%	0.8%
Similar units available?	24.2%	4.5%	19.7% **	18.7%	15.6%	3.1% *
Number units recommended	53.0%	27.3%	25.8% **	44.6%	38.6%	6.0% **
Overall availability	54.5%	28.8%	25.8% **	46.2%	42.8%	3.4%
Advertised unit inspected?	30.3%	7.6%	22.7% **	19.1%	15.7%	3.4% *
Similar units inspected	33.3%	10.6%	22.7% **	22.9%	16.0%	6.9% **
Number units inspected	62.1%	18.2%	43.9% **	43.2%	30.9%	12.4% **
Overall inspection	60.6%	19.7%	40.9% **	42.9%	34.2%	8.8% **
Steering - homes recommended	12.1%	12.1%	0.0%	15.8%	12.1%	3.7% **
Steering - homes inspected	7.6%	6.1%	1.5%	11.0%	7.5%	3.5% **
Help with financing offered?	13.6%	19.7%	-6.1%	18.6%	17.2%	1.4%
Lenders recommended?	15.2%	10.6%	4.5%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	19.7%	7.6%	12.1% *	21.7%	16.1%	5.6% **
Overall financing	33.3%	25.8%	7.6%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	4.5%	15.2%	-10.6% *	17.1%	14.7%	2.4%
Told qualified?	12.1%	9.1%	3.0%	20.4%	12.3%	8.1% **
Arrangements for future?	1.5%	21.2%	-19.7% **	4.9%	7.6%	-2.8% **
Overall encouragement	13.6%	36.4%	-22.7% **	31.3%	26.1%	5.2% **
Overall hierarchical	62.1%	31.8%	30.3% **	53.1%	44.8%	8.3% **
Overall consistency	27.3%	15.2%	12.1%	17.0%	12.4%	4.6% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In **Atlanta, Georgia**, black homeowners (unlike renters) face relatively low levels of adverse treatment. Whites were consistently favored in only 7.7 percent of tests, 9.3 points below the national average (see Exhibit 4-10). The overall incidence of white-favored treatment is more typical (at 50.0 percent), but black-favored treatment is just as prevalent, so that the net estimate of systematic discrimination is not statistically significant. White-favored treatment is lower than average for the availability and inspection of similar units, lender recommendations, and statements about qualifications to buy. At the same time, black homebuyers appear especially likely to experience favorable treatment on number of units recommended, lender recommendations, downpayment discussions, and statements about qualifications. Net estimates indicate that discrimination systematically favors whites for number of units inspected, but blacks for lender recommendations and overall encouragement.

Exhibit 4-10: Differential Treatment for Black Homebuyers, Atlanta, Georgia

TREATMENT MEASURES	Atlanta			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	12.8%	17.9%	-5.1%	15.8%	15.1%	0.8%
Similar units available?	10.3%	7.7%	2.6%	18.7%	15.6%	3.1% *
Number units recommended	47.4%	46.2%	1.3%	44.6%	38.6%	6.0% **
Overall availability	48.7%	48.7%	0.0%	46.2%	42.8%	3.4%
Advertised unit inspected?	12.8%	20.5%	-7.7%	19.1%	15.7%	3.4% *
Similar units inspected	15.4%	11.5%	3.8%	22.9%	16.0%	6.9% **
Number units inspected	60.3%	30.8%	29.5% **	43.2%	30.9%	12.4% **
Overall inspection	56.4%	38.5%	17.9%	42.9%	34.2%	8.8% **
Steering - homes recommended	32.1%	19.2%	12.8%	15.8%	12.1%	3.7% **
Steering - homes inspected	24.4%	21.8%	2.6%	11.0%	7.5%	3.5% **
Help with financing offered?	17.9%	15.4%	2.6%	18.6%	17.2%	1.4%
Lenders recommended?	6.4%	21.8%	-15.4% **	18.9%	17.5%	1.3%
Downpayment reqs discussed?	23.1%	26.9%	-3.8%	21.7%	16.1%	5.6% **
Overall financing	34.6%	38.5%	-3.8%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	16.7%	28.2%	-11.5%	17.1%	14.7%	2.4%
Told qualified?	14.1%	32.1%	-17.9% **	20.4%	12.3%	8.1% **
Arrangements for future?	6.4%	6.4%	0.0%	4.9%	7.6%	-2.8% **
Overall encouragement	26.9%	48.7%	-21.8% **	31.3%	26.1%	5.2% **
Overall hierarchical	50.0%	50.0%	0.0%	53.1%	44.8%	8.3% **
Overall consistency	7.7%	11.5%	-3.8%	17.0%	12.4%	4.6% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Macon, Georgia exhibits a similar pattern of relatively low levels of white-favored treatment and high levels of black-favored treatment. White homebuyers receive consistently favorable treatment in only 4.1 percent of tests, 12.9 percent below the national average (see Exhibit 4-11). Black homebuyers, on the other hand, were consistently favored in 13.7 percent of tests, yielding a statistically significant net measure for treatment consistency (9.6 percent in favor of blacks). The overall incidence of white-favored treatment is more typical of other metro areas (49.3 percent), but because the incidence of black-favored treatment is also high, the overall net measure is not statistically significant. Levels of white-favored treatment are particularly low for availability and inspection of the advertised unit and similar units, and arrangements for the future. At the same time, levels of black-favored treatment are high for number of units recommended and inspected and lender recommendations.

Exhibit 4-11: Differential Treatment for Black Homebuyers, Macon, Georgia

TREATMENT MEASURES	Macon			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	8.2%	16.4%	-8.2%	15.8%	15.1%	0.8%
Similar units available?	6.8%	5.5%	1.4%	18.7%	15.6%	3.1% *
Number units recommended	45.2%	49.3%	-4.1%	44.6%	38.6%	6.0% **
Overall availability	46.6%	50.7%	-4.1%	46.2%	42.8%	3.4%
Advertised unit inspected?	9.6%	19.2%	-9.6%	19.1%	15.7%	3.4% *
Similar units inspected	15.1%	9.6%	5.5%	22.9%	16.0%	6.9% **
Number units inspected	35.6%	54.8%	-19.2%	43.2%	30.9%	12.4% **
Overall inspection	35.6%	58.9%	-23.3% *	42.9%	34.2%	8.8% **
Steering - homes recommended	20.5%	13.7%	6.8%	15.8%	12.1%	3.7% **
Steering - homes inspected	17.8%	11.0%	6.8%	11.0%	7.5%	3.5% **
Help with financing offered?	19.2%	21.9%	-2.7%	18.6%	17.2%	1.4%
Lenders recommended?	13.7%	26.0%	-12.3%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	20.5%	12.3%	8.2%	21.7%	16.1%	5.6% **
Overall financing	34.2%	35.6%	-1.4%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	19.2%	16.4%	2.7%	17.1%	14.7%	2.4%
Told qualified?	26.0%	15.1%	11.0%	20.4%	12.3%	8.1% **
Arrangements for future?	0.0%	8.2%	-8.2% **	4.9%	7.6%	-2.8% **
Overall encouragement	35.6%	28.8%	6.8%	31.3%	26.1%	5.2% **
Overall hierarchical	49.3%	50.7%	-1.4%	53.1%	44.8%	8.3% **
Overall consistency	4.1%	13.7%	-9.6% *	17.0%	12.4%	4.6% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Hispanic/Non-Hispanic White Sales Testing Results

Measures of differential treatment for Hispanic and non-Hispanic white homebuyers are available for 10 metropolitan areas with large Hispanic populations. In six of these metro areas, the gross incidence of consistent non-Hispanic white-favored treatment falls very close to the national average of 20 percent (see Exhibit 4-12). The gross incidence of consistent non-Hispanic white-favored treatment is significantly higher than the national average in Austin and New York, and significantly lower than the national average in Pueblo and Tucson.

**Exhibit 4-12: Overall Incidence of Non-Hispanic White-Favored Treatment,
Hispanic/Non-Hispanic White Sales Tests**
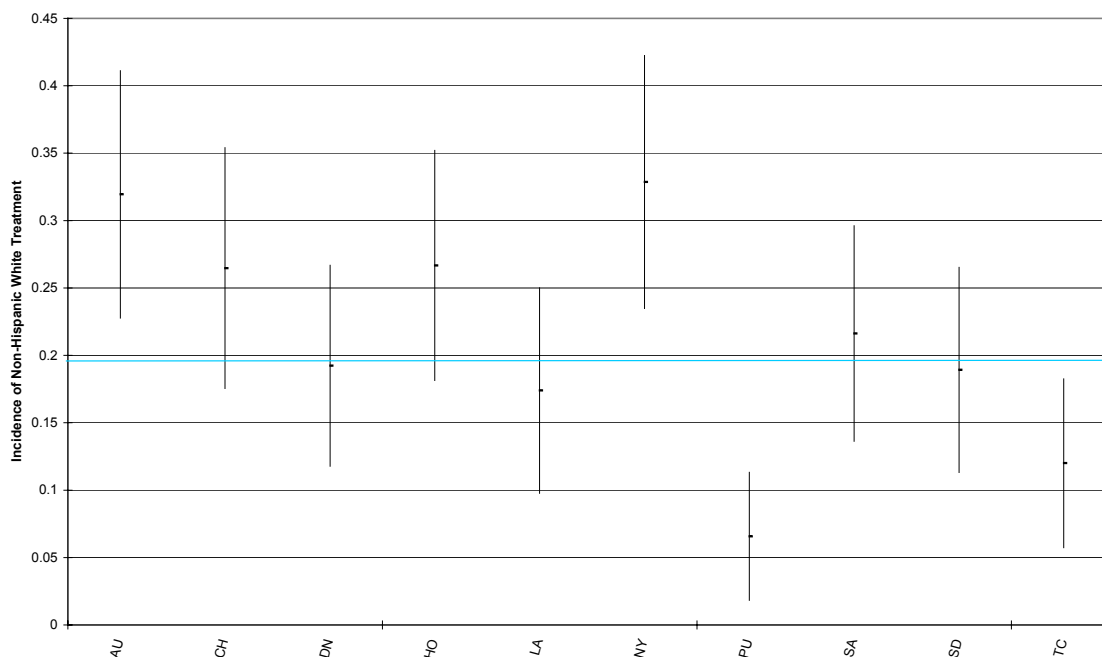
In **Austin, Texas** Hispanic testers experienced consistently adverse treatment in 31.9 percent of tests—12.2 percent higher than the national level (see Exhibit 4-13). The overall incidence of adverse treatment against Hispanic homebuyers was also unusually high at 66.7 percent, compared to 51.6 percent for the nation as a whole. The incidence of Hispanic-favored treatment, on the other hand, was generally low. As a result, net measures for both the overall composite and the consistency measure were high and statistically significant (33.3 percent and 23.6 percent respectively). Non-Hispanic whites were particularly likely to be favored on the availability and inspection of similar units, number of units inspected, offers of help with financing, and lender recommendations. Net estimates of systematic discrimination were statistically significant for both inspections and financing assistance.

Exhibit 4-13: Differential Treatment for Hispanic Homebuyers, Austin, Texas

TREATMENT MEASURES	Austin			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	9.7%	11.1%	-1.4%	12.0%	15.0%	-3.0%
Similar units available?	23.6%	8.3%	15.3% **	16.7%	12.9%	3.8% *
Number units recommended	50.0%	41.7%	8.3%	44.4%	40.7%	3.7%
Overall availability	54.2%	41.7%	12.5%	46.3%	44.4%	1.9%
Advertised unit inspected?	20.8%	16.7%	4.2%	17.1%	19.3%	-2.2%
Similar units inspected	29.2%	6.9%	22.2% **	18.3%	15.4%	2.9%
Number units inspected	59.7%	18.1%	41.7% **	35.7%	38.1%	-2.4%
Overall inspection	62.5%	25.0%	37.5% **	38.3%	40.9%	-2.6%
Steering - homes recommended	13.9%	12.5%	1.4%	17.1%	15.6%	1.5%
Steering - homes inspected	8.3%	8.3%	0.0%	14.7%	9.7%	5.0% **
Help with financing offered?	30.6%	2.8%	27.8% **	22.2%	10.5%	11.7% **
Lenders recommended?	33.3%	5.6%	27.8% **	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	25.0%	12.5%	12.5%	24.9%	15.4%	9.4% **
Overall financing	47.2%	16.7%	30.6% **	38.6%	24.2%	14.4% **
Follow-up contact from agent?	5.6%	5.6%	0.0%	15.3%	14.6%	0.7%
Told qualified?	18.1%	12.5%	5.6%	18.8%	15.6%	3.2%
Arrangements for future?	2.8%	5.6%	-2.8%	5.2%	4.9%	0.3%
Overall encouragement	23.6%	23.6%	0.0%	30.6%	27.5%	3.1%
Overall hierarchical	66.7%	33.3%	33.3% **	51.6%	46.8%	4.9%
Overall consistency	31.9%	8.3%	23.6% **	19.7%	12.3%	7.4% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In **New York, New York,** Hispanic homebuyers appear to face fairly average levels of adverse treatment, but because the incidence of Hispanic-favored treatment is relatively low. As a result, non-Hispanic whites were consistently favored in 32.9 percent of tests, 13.2 points above the national average (Exhibit 4-14). Overall, non-Hispanic whites were favored in 5.14 percent of tests (compared to a national average of 51.6 percent) while Hispanics were favored in only 37.1 percent (compared 46.8 percent nationally). However, due to the sample size, the net measure of systematic discrimination is not statistically significant. Hispanic-favored treatment was particularly low for number of units recommended and inspected, and for all the agent encouragement indicators. The net estimate of systematic discrimination was statistically significant only in the agent encouragement category.

Exhibit 4-14: Differential Treatment for Hispanic Homebuyers, New York, New York

TREATMENT MEASURES	New York			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	12.9%	12.9%	0.0%	12.0%	15.0%	-3.0%
Similar units available?	18.6%	14.3%	4.3%	16.7%	12.9%	3.8% *
Number units recommended	32.9%	24.3%	8.6%	44.4%	40.7%	3.7%
Overall availability	37.1%	28.6%	8.6%	46.3%	44.4%	1.9%
Advertised unit inspected?	11.4%	14.3%	-2.9%	17.1%	19.3%	-2.2%
Similar units inspected	7.1%	11.4%	-4.3%	18.3%	15.4%	2.9%
Number units inspected	20.0%	22.9%	-2.9%	35.7%	38.1%	-2.4%
Overall inspection	20.0%	25.7%	-5.7%	38.3%	40.9%	-2.6%
Steering - homes recommended	5.7%	7.1%	-1.4%	17.1%	15.6%	1.5%
Steering - homes inspected	5.7%	7.1%	-1.4%	14.7%	9.7%	5.0% **
Help with financing offered?	15.7%	8.6%	7.1%	22.2%	10.5%	11.7% **
Lenders recommended?	11.4%	10.0%	1.4%	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	21.4%	15.7%	5.7%	24.9%	15.4%	9.4% **
Overall financing	30.0%	24.3%	5.7%	38.6%	24.2%	14.4% **
Follow-up contact from agent?	4.3%	0.0%	4.3%	15.3%	14.6%	0.7%
Told qualified?	2.9%	1.4%	1.4%	18.8%	15.6%	3.2%
Arrangements for future?	14.3%	2.9%	11.4% **	5.2%	4.9%	0.3%
Overall encouragement	21.4%	2.9%	18.6% **	30.6%	27.5%	3.1%
Overall hierarchical	51.4%	37.1%	14.3%	51.6%	46.8%	4.9%
Overall consistency	32.9%	20.0%	12.9%	19.7%	12.3%	7.4% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In **Pueblo, Colorado**, non-Hispanic white testers received consistently favorable treatment in only 6.6 percent of tests, 13.1 points below the national average (Exhibit 4-15). The incidence of treatment favoring non-Hispanic whites was fairly typical (50.0 percent overall), but the incidence of Hispanic-favored treatment was also high (50.0 percent), and net estimates of systematic discrimination were not statistically significant. Hispanic-favored treatment was particularly prevalent for number of units recommended and inspected and for lender recommendations. However, we also see strong evidence of geographic steering in Pueblo, with non-Hispanic white homebuyers significantly more likely to be shown homes in neighborhoods with few Hispanic residents.

Exhibit 4-15: Differential Treatment for Hispanic Homebuyers, Pueblo, Colorado

	Pueblo			National		
TREATMENT MEASURES	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	9.2%	13.2%	-3.9%	12.0%	15.0%	-3.0%
Similar units available?	11.8%	11.8%	0.0%	16.7%	12.9%	3.8% *
Number units recommended	40.8%	52.6%	-11.8%	44.4%	40.7%	3.7%
Overall availability	43.4%	51.3%	-7.9%	46.3%	44.4%	1.9%
Advertised unit inspected?	14.5%	23.7%	-9.2%	17.1%	19.3%	-2.2%
Similar units inspected	25.0%	17.1%	7.9%	18.3%	15.4%	2.9%
Number units inspected	36.8%	46.1%	-9.2%	35.7%	38.1%	-2.4%
Overall inspection	42.1%	43.4%	-1.3%	38.3%	40.9%	-2.6%
Steering - homes recommended	17.1%	9.2%	7.9%	17.1%	15.6%	1.5%
Steering - homes inspected	15.8%	5.3%	10.5% *	14.7%	9.7%	5.0% **
Help with financing offered?	26.3%	17.1%	9.2%	22.2%	10.5%	11.7% **
Lenders recommended?	13.2%	26.3%	-13.2% *	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	22.4%	22.4%	0.0%	24.9%	15.4%	9.4% **
Overall financing	39.5%	38.2%	1.3%	38.6%	24.2%	14.4% **
Follow-up contact from agent?	19.7%	22.4%	-2.6%	15.3%	14.6%	0.7%
Told qualified?	17.1%	23.7%	-6.6%	18.8%	15.6%	3.2%
Arrangements for future?	1.3%	6.6%	-5.3%	5.2%	4.9%	0.3%
Overall encouragement	34.2%	44.7%	-10.5%	30.6%	27.5%	3.1%
Overall hierarchical	50.0%	50.0%	0.0%	51.6%	46.8%	4.9%
Overall consistency	6.6%	7.9%	-1.3%	19.7%	12.3%	7.4% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In **Tucson, Arizona,** Hispanic homebuyers are less likely to receive adverse treatment on many treatment measures than their national counterparts. Although the overall incidence of adverse treatment of Hispanic homebuyers is comparable to the national average at 52 percent, the overall incidence of consistent discrimination against Hispanics falls below the national average by 7.7 points and below the overall level of consistent adverse treatment of non-Hispanic whites by 9.3 points. Specifically, agents showed more number of units to non-Hispanic white homebuyers only in 26.7 percent of tests—9 percent less than the national average—compared to 50.7 percent shown to Hispanics. The statistically significant net measure of the negative 24 percent indicates that non-Hispanic white homebuyers are more likely to face systematic discrimination on this category. non-Hispanic white homebuyers were systematically favored over Hispanics at a statistically significant level only in terms of arrangements made for future contacts.

Exhibit 4-16: Differential Treatment for Hispanic Homebuyers, Tucson, Arizona

TREATMENT MEASURES	Tucson			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	20.0%	9.3%	10.7%	12.0%	15.0%	-3.0%
Similar units available?	16.0%	18.7%	-2.7%	16.7%	12.9%	3.8% *
Number units recommended	44.0%	50.7%	-6.7%	44.4%	40.7%	3.7%
Overall availability	50.7%	46.7%	4.0%	46.3%	44.4%	1.9%
Advertised unit inspected?	24.0%	18.7%	5.3%	17.1%	19.3%	-2.2%
Similar units inspected	17.3%	25.3%	-8.0%	18.3%	15.4%	2.9%
Number units inspected	26.7%	50.7%	-24.0% **	35.7%	38.1%	-2.4%
Overall inspection	34.7%	46.7%	-12.0%	38.3%	40.9%	-2.6%
Steering - homes recommended	12.0%	17.3%	-5.3%	17.1%	15.6%	1.5%
Steering - homes inspected	6.7%	8.0%	-1.3%	14.7%	9.7%	5.0% **
Help with financing offered?	14.7%	10.7%	4.0%	22.2%	10.5%	11.7% **
Lenders recommended?	16.0%	13.3%	2.7%	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	18.7%	21.3%	-2.7%	24.9%	15.4%	9.4% **
Overall financing	33.3%	28.0%	5.3%	38.6%	24.2%	14.4% **
Follow-up contact from agent?	9.3%	18.7%	-9.3%	15.3%	14.6%	0.7%
Told qualified?	16.0%	26.7%	-10.7%	18.8%	15.6%	3.2%
Arrangements for future?	12.0%	2.7%	9.3% *	5.2%	4.9%	0.3%
Overall encouragement	25.3%	38.7%	-13.3%	30.6%	27.5%	3.1%
Overall hierarchical	52.0%	48.0%	4.0%	51.6%	46.8%	4.9%
Overall consistency	12.0%	21.3%	-9.3%	19.7%	12.3%	7.4% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Pilot Testing Results

HDS2000 provides the first rigorous estimates of differential treatment in metropolitan housing markets for three groups of Asian Americans and for American Indians, based upon pilot testing conducted in Los Angeles (Chinese and Koreans), Minneapolis (Southeast Asians), and Phoenix (American Indians). Although this pilot testing experience established the feasibility of measuring adverse treatment for Asians and American Indians, sales tests proved to be very challenging for Southeast Asian testers in the Minneapolis area and for American Indian testers in Phoenix. Therefore, in these two sites, results are available only for renters.

Los Angeles, California – Chinese and Koreans. In the rental market, both Chinese and Koreans appear face relatively low overall levels of adverse treatment compared to African Americans and Hispanics. The overall incidence of adverse treatment is 40.5 percent for Chinese renters and 44.0 percent for Korean renters, and the net measures of systematic discrimination are not statistically significant (see Exhibit 4-17). The incidence of white-favored treatment on housing availability and housing inspections is particularly low compared to the corresponding values for black/white and Hispanic/non-Hispanic white tests in Los Angeles, while the incidence of minority-favored treatment is relatively high. For agent service, on the other hand, the incidence of adverse treatment against Chinese and Koreans is relatively high.

This suggests that Asians may face different patterns of adverse treatment than African American and Hispanic renters. Lower-bound estimates of discrimination against Chinese and Korean renters are statistically significant only for the agent encouragement.

Exhibit 4-17: Differential Treatment of Chinese and Korean Renters, Los Angeles, California

TREATMENT MEASURES	Los Angeles - Chinese/White			Los Angeles - Korean/White		
	% white favored	% Chinese favored	net measure	% white favored	% Korean favored	net measure
Advertised unit available?	4.1%	9.5%	-5.4%	10.7%	8.0%	2.7%
Similar units available?	8.1%	17.6%	-9.5%	8.0%	6.7%	1.3%
Number units recommended	18.9%	24.3%	-5.4%	18.7%	25.3%	-6.7%
Overall availability	17.6%	29.7%	-12.2%	20.0%	25.3%	-5.3%
Advertised unit inspected?	10.8%	23.0%	-12.2%	13.3%	9.3%	4.0%
Similar units inspected	12.2%	8.1%	4.1%	4.0%	8.0%	-4.0%
Number units inspected	18.9%	14.9%	4.1%	17.3%	16.0%	1.3%
Overall inspection	17.6%	28.4%	-10.8%	18.7%	16.0%	2.7%
Rent for advertised unit	7.7%	5.1%	2.6%	10.9%	15.2%	-4.3%
Rental incentives offered?	4.1%	6.8%	-2.7%	8.0%	5.3%	2.7%
Amount of security deposit	3.8%	7.7%	-3.8%	2.6%	7.7%	-5.1%
Application fee required?	10.8%	13.5%	-2.7%	10.7%	8.0%	2.7%
Overall cost	16.2%	20.3%	-4.1%	20.0%	24.0%	-4.0%
Follow-up contact from agent?	1.4%	1.4%	0.0%	4.0%	2.7%	1.3%
Asked to complete application?	29.7%	8.1%	21.6% **	24.0%	13.3%	10.7%
Arrangements for future?	20.3%	12.2%	8.1%	33.3%	5.3%	28.0% **
Told qualified to rent?	1.4%	4.1%	-2.7%	0.0%	4.0%	-4.0%
Overall encouragement	37.8%	20.3%	17.6% *	42.7%	21.3%	21.3% **
Overall hierarchical	40.5%	47.3%	-6.8%	44.0%	42.7%	1.3%
Overall consistency	21.6%	17.6%	4.1%	30.7%	20.0%	10.7%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

In the Los Angeles sales market, Chinese and Korean homebuyers appear to face levels of adverse treatment comparable to blacks and Hispanics on most treatment measures, and the incidence of minority-favored treatment is relatively low (see Exhibit 4-18). The overall incidence of white-favored treatment is 52.9 percent for Chinese homebuyers and 61.1 percent for Koreans, and the overall incidence of consistent white-favored treatment is 17.1 percent and 18.1 percent respectively. Adverse treatment against Chinese homebuyers appears to be particularly likely for financing assistance and overall agent assistance, with the lower-bound estimate statistically significant only for the latter. Koreans, on the other hand, experience relatively high levels of adverse treatment on housing availability and housing inspections as well as financing assistance. Lower-bound estimates of discrimination against Koreans are statistically significant for inspections and financing. And the overall net estimate of discrimination against Korean homebuyers is statistically significant at 22.2 percent, the highest level for any of the minority groups studied in Los Angeles.

**Exhibit 4-18: Differential Treatment of Chinese and Korean Homebuyers,
Los Angeles, California**

HOUSING AVAILABILITY	Los Angeles - Chinese/White			Los Angeles - Korean/White		
	% white favored	% Chinese favored	net measure	% white favored	% Korean favored	net measure
Advertised unit available?	14.3%	18.6%	-4.3%	16.7%	9.7%	6.9%
Similar units available?	12.9%	8.6%	4.3%	18.1%	12.5%	5.6%
Number units recommended	45.7%	42.9%	2.9%	40.3%	44.4%	-4.2%
Overall availability	47.1%	42.9%	4.3%	56.9%	37.5%	19.4%
Advertised unit inspected?	15.7%	20.0%	-4.3%	22.2%	6.9%	15.3% **
Similar units inspected	31.4%	20.0%	11.4%	22.2%	15.3%	6.9%
Number units inspected	42.9%	41.4%	1.4%	37.5%	41.7%	-4.2%
Overall inspection	44.3%	44.3%	0.0%	59.7%	27.8%	31.9% **
Help with financing offered?	22.9%	15.7%	7.1%	43.1%	9.7%	33.3% **
Lenders recommended?	25.7%	25.7%	0.0%	20.8%	11.1%	9.7%
Downpayment reqs discussed?	41.4%	10.0%	31.4% **	23.6%	16.7%	6.9%
Overall financing	47.1%	31.4%	15.7%	56.9%	23.6%	33.3% **
Follow-up contact from agent?	17.1%	12.9%	4.3%	15.3%	13.9%	1.4%
Told qualified?	47.1%	2.9%	44.3% **	31.9%	12.5%	19.4% **
Arrangements for future?	11.4%	10.0%	1.4%	4.2%	1.4%	2.8%
Overall encouragement	57.1%	22.9%	34.3% **	38.9%	26.4%	12.5%
Overall hierarchical	52.9%	47.1%	5.7%	61.1%	38.9%	22.2% *
Overall consistency	17.1%	7.1%	10.0%	18.1%	9.7%	8.3%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Minneapolis, Minnesota – Southeast Asians. Southeast Asian renters in the Minneapolis area appear to face a higher incidence of adverse treatment than either Chinese or Koreans in Los Angeles (see Exhibit 4-19). Both the overall incidences of white-favored treatment (50.6 percent) and the incidence of consistent white-favored treatment (24.7 percent) are more comparable to the national results for black and Hispanic renters.   In particular, for housing availability and housing inspections, the estimates of white-favored treatment (32.5 percent and 31.2 percent respectively) are comparable to the average treatment against African Americans and Hispanics observed nationally. Lower-bound estimates of systematic discrimination against Southeast Asian renters are statistically significant for similar units inspected (10.4 percent), number of units inspected (16.9 percent), the overall inspection indicator (20.8 percent), and invitations to complete an application (16.9 percent).

Exhibit 4-19: Differential Treatment of Southeast Asian Renters, Minneapolis, Minnesota

TREATMENT MEASURES	Minneapolis		
	% white favored	% SE Asian favored	net measure
Advertised unit available?	3.9%	3.9%	0.0%
Similar units available?	13.0%	11.7%	1.3%
Number units recommended	31.2%	18.2%	13.0%
Overall availability	32.5%	22.1%	10.4%
Advertised unit inspected?	10.4%	2.6%	7.8%
Similar units inspected	14.3%	3.9%	10.4% *
Number units inspected	24.7%	7.8%	16.9% **
Overall inspection	31.2%	10.4%	20.8% **
Rent for advertised unit	20.8%	10.4%	10.4%
Rental incentives offered?	6.5%	9.1%	-2.6%
Amount of security deposit	7.0%	2.3%	4.7%
Application fee required?	9.1%	5.2%	3.9%
Overall cost	20.8%	22.1%	-1.3%
Follow-up contact from agent?	2.6%	6.5%	-3.9%
Asked to complete application?	28.6%	11.7%	16.9% **
Arrangements for future?	18.2%	14.3%	3.9%
Told qualified to rent?	6.5%	15.6%	-9.1%
Overall encouragement	39.0%	35.1%	3.9%
Overall hierarchical	50.6%	40.3%	10.4%
Overall consistency	24.7%	13.0%	11.7%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Phoenix, Arizona – American Indians. Estimates of adverse treatment against American Indian renters in Phoenix are generally comparable to national estimates of adverse treatment against both African Americans and Hispanics (see Exhibit 4-20). The overall incidence of adverse treatment against American Indians is 51.3 percent, compared to a national estimate of 49.0 percent for African Americans and 52.7 percent for Hispanics. American Indians face consistent adverse treatment in 22.5 percent of tests, compared to 21.6 percent for African Americans and 25.7 percent for Hispanics, nationwide. The incidence of minority-favored treatment in Phoenix generally also falls within the range of national estimates, although American Indians in Phoenix appear relatively highly likely to receive favorable treatment on housing availability (33.8 percent). Net measures of discrimination against American Indians are not statistically significant.

Exhibit 4-20: Differential Treatment of American Indian Renters, Phoenix, Arizona

TREATMENT MEASURES	Phoenix		
	% white favored	% AI favored	net measure
Advertised unit available?	8.8%	7.5%	1.3%
Similar units available?	21.3%	15.0%	6.3%
Number units recommended	23.8%	26.3%	-2.5%
Overall availability	30.0%	33.8%	-3.8%
Advertised unit inspected?	8.8%	10.0%	-1.3%
Similar units inspected	11.3%	3.8%	7.5%
Number units inspected	20.0%	15.0%	5.0%
Overall inspection	23.8%	16.3%	7.5%
Rent for advertised unit	12.5%	6.3%	6.3%
Rental incentives offered?	12.5%	7.5%	5.0%
Amount of security deposit	10.5%	21.1%	-10.5%
Application fee required?	10.0%	10.0%	0.0%
Overall cost	27.5%	23.8%	3.8%
Follow-up contact from agent?	1.3%	2.5%	-1.3%
Asked to complete application?	20.0%	20.0%	0.0%
Arrangements for future?	18.8%	22.5%	-3.8%
Told qualified to rent?	6.3%	5.0%	1.3%
Overall encouragement	36.3%	33.8%	2.5%
Overall hierarchical	51.3%	47.5%	3.8%
Overall consistency	22.5%	22.5%	0.0%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

5. MULTIVARIATE ANALYSIS OF ADVERSE TREATMENT

This chapter presents the results from multivariate analysis designed to assess the validity of the basic incidence measures presented in chapter 3. As discussed earlier, differences in treatment that are observed in a paired test can reflect the impacts of random factors as well as the effects of racial or ethnic discrimination. Although not all random factors are observable, it is possible to observe and control for some important factors other than testers' race/ethnicity that might result in differences in treatment. Therefore, we used multivariate statistical procedures to examine the sensitivity of testing results to non-racial factors that may create differences in the treatment, such as the timing and order of the testers' visits, the real-life attributes of the testers, the price of the advertised unit, and the characteristics of the neighborhood in which the advertised unit is located.

Background

As discussed in chapter 2, the differential treatment observed in any paired test can result from a variety of factors, some of which may have nothing to do with race or ethnicity. The careful matching of testers and implementation of consistent testing protocols seek to minimize these differences, but it is still possible that differences in the circumstances encountered by the testers during their visit, as well as differences between the testers themselves, could affect testing outcomes. These "random" factors can result in estimated gross incidences of white- and minority-favored treatment that exceed the actual level of systematic discrimination in the market place.

The net incidence measure attempts to address this problem by subtracting the gross incidence of minority-favored treatment from the gross incidence of white-favored treatment. Under the assumption that whites never experience systematic adverse treatment, any instances in which minority testers appear to be favored must be the result of non-systematic factors, and the frequency of minority-favored treatment can be used as a proxy for the extent of randomness in the testing process. In some circumstances, however, minority-favored treatment may reflect systematic, race-based factors rather than random factors. For example, a minority landlord may prefer to rent to families of his or her own race or a real estate agent might think that minority customers need extra assistance. Other instances of minority-favored treatment may reflect a form of race-based steering, in which white customers are discouraged from considering units in minority neighborhoods or developments. Because minority-favored outcomes are sometimes systematic, subtracting the incidence of minority-favored treatment from the incidence of white-favored treatment may understate the incidence of systematic, race-based discrimination.

Some critics of paired testing have argued that even the net measure may overstate race-based discrimination, due to imperfect matching of tester pairs. Although testers are assigned comparable identities and trained to standardize their behavior during a test, it is possible that they may differ in their behavior, mannerisms, and appearance during a test. If these differences are correlated with race or ethnicity the results of the test may be biased. For example, testers who are homeowners (in real life) may have a better understanding of the housing search process, and may appear to real estate agents to be more serious customers. If minority testers are less likely to be homeowners, the net differences in treatment may arise in part from the influence of actual homeownership on test outcomes.

This chapter uses two multivariate procedures to examine these issues. The first approach uses estimates from a multivariate analysis to predict the likelihood of white- and minority-favored treatment, after controlling for observed factors other than race or ethnicity that may create differences in treatment between testers. This approach enables us to determine what portion of the gross incidence of adverse treatment is explained by observable factors, such as whether both testers saw the same agent or in the timing of their visits to the real estate agency.[1] It also allows us to determine whether minority-favored treatment is higher in high-minority or high-poverty neighborhoods, which would suggest that minority-favored treatment is the result of systematic rather than random factors. The second methodology tests for whether net differences in tester treatment remain statistically significant after controlling for differences between the testers and their visits to the real estate agency.[2] Thus, the first methodology focuses on the sensitivity of observed levels of differential treatment to factors other than testers' race or ethnicity, while the second focuses on the statistical significance of traditional net measures of discrimination.

Estimating the Impact of Non-Systematic Factors on Measures of Differential Treatment

Up to this point, our analysis has focused on three possible outcomes for every treatment variable:

1. White tester is favored over the minority tester,

2. Minority tester is favored over the white tester, or

3. Both testers receive the same treatment.

For discrete treatment variables (such as whether or not the advertised unit was available), the third treatment category can be split into two:

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[1] See Ondrich et. al. (2000) for an earlier attempt at examining the validity of net and gross incidences as measures of discrimination.

3. Both testers receive favorable treatment, or

4. Neither tester receives favorable treatment.

The first methodology considers each of these four outcomes as a separate event and models the likelihood of each event using a four-choice multinomial logit.[3] The logit model estimates whether and how much the probability of each outcome is influenced by assigned tester characteristics, attributes of the advertised unit and its neighborhood, visit-specific characteristics (such as the order of the testers' visits and whether they saw the same agent), and actual characteristics of each tester (based on his or her employment application). The advertised unit and neighborhood variables were constructed to describe each unit relative to sample of advertised units drawn for each site. And the tester characteristics variables were constructed to control for both individual tester characteristics and for differences between test partners.

Control variables were chosen to address four key questions that have been raised about paired testing in the housing market. Specifically, differences in treatment may be influenced by:

1. Whether the two test partners met with different real estate agents,

2. Which tester visiting the real estate agency first, and how much time elapsed between partners' visits, or

3. Differences in testers' real-life characteristics.

In addition, one possible explanation for minority-favored treatment might be that real estate agents discourage white customers from considering homes in high-minority or high-poverty neighborhoods. Therefore, we control for

4. Characteristics of the advertised unit and its neighborhood.

We develop a multinomial logit model for one important treatment variable in each of the four major categories discussed earlier in this report:

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[2] Ondrich et. al. (1998) applies this technique to look at data from the 1989 Housing Discrimination Study.

[3] Although it would be possible to conduct the multivariate analysis presented here for all treatment variables, we focus on binary variables, where four outcomes arise, because the additional information allows for a more complete specification of real estate agent behavior and therefore increases the likelihood of identifying patterns of behavior that may explain differential treatment.

Rental	**Sales**
Advertised unit available	Advertised unit available
Advertised unit inspected	Advertised unit inspected
Rental incentives offered	Financing assistance offered
Invited to complete application	Follow-up phone call

For each of these treatment variables, multinomial logit regressions are conducted using the national samples of the black/white and Hispanic/non-Hispanic white rental and sales tests.[4] The regression provides estimated coefficients for the effect a number of observable factors (see Annex 9) have on the variation in white- and minority-favored treatment. These estimated coefficients are then applied to predict the probability of white- and minority-favored treatment and to calculate net incidence measures for a set of hypothetical scenarios:

1. *Same agent*: Both testers in each pair encounter the same agent.

2. *Order and timing*: Both testers encounter the same agent, the effect of tester order is eliminated, and visits occur within close proximity (four hours for rental tests and same day for sales tests).

3. *Tester attributes*: Both testers encounter the same agent, the effect of tester order and timing is eliminated, and both testers in each pair have the same "real-life" attributes (average of the white and minority testers' values).

4. *Modal location*: Both testers encounter the same agent, the effect of tester order and timing is eliminated, both testers have the same "real-life" attributes, and the advertised unit has characteristics typical of the modal unit selected for the site (unit rent or price, neighborhood poverty rate, neighborhood racial composition, neighborhood homeownership rate).

5. *High-end location*: Both testers encounter the same agent, the effect of tester order and timing is eliminated, both testers have the same "real-life" attributes, and the advertised unit has neighborhood characteristics typical of the most "desirable" units selected for the site.

Note that these simulations are cumulative in the sense that each one incorporates the adjustments implemented in those that preceded it. Simulation results are presented in Exhibit

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[4] Geographic steering was not included in this analysis because we chose to focus on test outcomes that can be classified into four mutually exclusive categories (white favored, minority favored, both favored, and neither favored).

5-1 for rental tests and Exhibit 5-2 for sales tests. A detailed description of the multinomial logit methodology is provided in Annex 9.

Exhibit 5-1: Simulating The Effects Of Test And Tester Characteristics On Rental Testing Results

Simulations	Black/White			Hispanic/Non-Hispanic White		
	White Favored	Black Favored	Net	N-H White Favored	Hispanic Favored	Net
ADVERTISED UNIT AVAILABLE						
Baseline	12.3	8.3	3.0	12.0	5.4	6.6
Same Agent	9.0	5.4	3.6	7.7	2.7	5.0
Order and Timing	8.9	5.3	3.6	6.4	2.2	4.2
Tester Attributes	8.6	5.0	3.6	7.4	2.7	4.7
Mode Location	7.7	5.9	1.8	9.9	2.7	7.2
High-End Location	6.1	3.7	4.4	5.8	3.0	2.8
ADVERTISED UNIT INSPECTED						
Baseline	15.6	9.2	6.4	11.4	7.5	3.9
Same Agent	12.6	7.0	5.6	10.6	5.6	5.0
Order and Timing	12.7	7.1	5.6	8.5	6.1	2.4
Tester Attributes	14.8	7.6	7.2	9.2	5.5	3.7
Mode Location	10.6	8.6	2.0	9.6	5.9	3.7
High-End Location	11.3	7.7	3.6	8.7	7.4	1.3
RENTAL INCENTIVES OFFERED						
Baseline	9.2	6.5	2.7	8.5	6.7	1.8
Same Agent	6.3	4.7	1.6	8.0	3.8	4.2
Order and Timing	6.7	4.8	1.9	7.9	3.8	4.1
Tester Attributes	7.8	2.6	5.2	9.3	4.0	5.3
Mode Location	11.7	4.4	7.3	17.2	2.2	15.0
High-End Location	6.6	2.2	4.4	12.9	3.6	9.3
ASKED TO FILL OUT APPLICATION						
Baseline	18.1	15.8	2.3	17.3	17.1	0.2
Same Agent	16.6	14.9	1.7	13.6	15.8	-2.2
Order and Timing	15.8	15.1	0.7	12.5	15.6	-3.1
Tester Attributes	21.5	16.0	5.5	15.2	15.1	0.1
Mode Location	23.1	16.8	6.3	18.3	11.3	7.0
High-End Location	22.4	22.5	-0.1	13.3	14.2	-0.9

Exhibit 5-2: Simulating The Effects Of Test And Tester Characteristics On Sales Testing Results

Simulations	Black/White			Hispanic/Non-Hispanic White		
	White Favored	Black Favored	Net	N-H White Favored	Hispanic Favored	Net
ADVERTISED UNIT AVAILABLE						
Baseline	15.8	15.1	0.7	12.0	15.0	-3.0
Same Agent	12.0	8.2	3.8	9.7	10.0	-0.3
Order and Timing	11.6	7.8	3.8	9.9	10.1	-0.2
Tester Attributes	11.9	8.9	3.0	7.1	11.4	-4.3
Mode Location	11.2	6.4	5.8	7.1	14.1	-7.0
High-End Location	8.5	5.8	2.7	7.7	5.1	2.6
ADVERTISED UNIT INSPECTED						
Baseline	19.1	15.7	3.4	17.1	19.3	-2.2
Same Agent	15.1	11.9	3.2	14.7	15.8	-1.1
Order and Timing	15.4	11.8	3.6	14.9	14.5	0.4
Tester Attributes	12.6	11.3	1.3	11.6	16.8	-5.2
Mode Location	8.9	8.1	0.8	7.0	18.3	-11.3
High-End Location	15.2	10.0	5.2	18.5	15.2	3.3
ASSISTANCE WITH FINANCING						
Baseline	18.6	17.2	1.4	22.2	10.5	11.7
Same Agent	18.3	13.7	4.6	20.0	8.4	11.6
Order and Timing	18.2	13.8	4.4	19.2	7.0	12.2
Tester Attributes	20.4	13.2	7.2	25.9	8.1	17.8
Mode Location	20.2	9.9	10.3	24.9	6.9	18.0
High-End Location	20.9	10.7	10.2	20.6	11.2	9.4
RECEIVED FOLLOW-UP PHONE CALL						
Baseline	17.1	14.7	2.4	15.3	14.7	0.6
Same Agent	16.2	8.6	7.6	15.8	10.1	5.7
Order and Timing	16.2	8.7	7.5	16.2	9.6	6.6
Tester Attributes	16.6	10.4	6.2	19.9	7.9	12.0
Mode Location	17.7	9.2	8.5	27.3	7.2	20.1
High-End Location	18.7	9.2	9.5	13.2	7.3	5.9

Same agent. The simulations in which both testers in each pair encounter the same agent typically produce lower levels of both white-favored and minority-favored treatment. These simulations usually result in gross measures of adverse treatment that are between 2 and 4 percentage points lower and a net measure of adverse treatment that is unchanged. For a few treatment variables, however, the same agent simulation leads to a larger reduction in the likelihood of minority-favored treatment and consequently to a substantial increase in net adverse treatment. These variables include rental incentives offered for Hispanic/non-Hispanic white rental tests, advertised unit available for black/white sales tests, and follow-up phone call for both black/white and Hispanic/non-Hispanic white sales tests. The effect of same agent provides strong evidence that the gross measure of adverse treatment overstates discrimination, but the size of the effect is fairly small relative to the typical differences between gross and net adverse treatment. The finding that the net measure sometimes increases when testers are assumed to encounter the same agent suggests that race may influence assignment to agents in some agencies, but this assignment process appears to work to the minority tester's advantage for the specific treatment variables considered here.

Order and timing. Eliminating differences due to the order and timing of tester visits has no substantial effect on predicted levels of white-favored or minority-favored treatment. Although this issue has been discussed frequently in the context of paired testing, there is little evidence that visit timing contributes substantially to the level of adverse treatment observed in paired testing studies of the housing market.

Tester attributes. Controlling for differences in testers' real-life attributes does have some effect on the predicted levels of white-favored and minority-favored treatment. However, when these controls have an effect, they often lead to *higher* levels of white-favored treatment, as well as higher net measures of discrimination. For example, for black/white rental tests the net measure rose from 1.9 percent (in the order and timing row) to 5.2 percent (in the tester attributes row) for rental incentives, and from 0.7 percent to 5.5 percent for invited to fill out an application. Similarly, net measures increased by between 3 and 5 percentage points for financing assistance offered on black/white sales tests and for both financing assistance offered and follow-up phone call for Hispanic/non-Hispanic white sales tests. The exceptions to this finding were advertised unit available and advertised unit inspected for Hispanic/non-Hispanic white sales tests, where net measures fell by 4 and 5 percentage points, respectively. However, it should be noted that the initial levels of net adverse treatment were near zero for both of these cases. Overall, these simulations show that differences between white and minority testers do not explain observed patterns of differential treatment. If anything, the evidence suggests that tester differences bias the net measure away from finding discrimination.

Unit and neighborhood characteristics. Simulations which adjust the characteristics of advertised units often have a large effect on predicted levels of adverse treatment, but

generally do not explain the high-levels of minority-favored treatment we observe. For both black/white and Hispanic/non-Hispanic white rental tests, net measures for rental incentives offered and invitations to fill out an application are substantially larger when predicted for the modal location. On the sales side, we also see substantial increases in predicted net measures under both the modal and high-end simulations. However, most of these differences arise entirely from an increase in the likelihood of white-favored treatment rather than a drop in minority-favored treatment. The key exception is financing assistance offered for black/white and Hispanic/non-Hispanic white sales tests. Although these results suggest that levels of adverse treatment depend upon the characteristics of the neighborhood in which the advertised unit is located, they cannot be used to conclude that the net measure is biased downwards as a measure of discrimination. This bias only exists if some factors, such as geography, increase the likelihood of minority-favored treatment, indicating that minorities are sometimes favored for systematic reasons.

Estimating the Impact of Non-Systematic Factors on Statistical Significance

As noted in the background section of this chapter, the multinomial logit approach above allows us to model the net estimates of systematic discrimination after controlling for some observed factors that are hypothesized to contribute some of the random differential treatment. It does not, however, tell us whether controlling for these observable factors in a test would change the statistical significance of the basic net estimates of systematic discrimination reported in Chapter 3.

Since it is obviously important to know whether or not our basic results remain robust after we control for these factors, we implement a second multivariate methodology. This approach assumes that the visits of two paired testers are independent events from the perspective of the real estate agency and that similar tester treatment is only observed because the testers approach the same agency and follow the exact same protocols. Based on this assumption, two variables are constructed for each test, one of which reflects the white tester's treatment (favorable or unfavorable) for a particular form of treatment, while the other reflects the minority tester's treatment (favorable or unfavorable).

The statistical analysis compares differences between the white and minority treatment variables to differences between the white and minority testers themselves and to differences in the timing of their visits to the real estate agency. This approach, called the fixed-effects logit, is ideal for conducting hypothesis tests because it "differences away" both the observed and unobserved characteristics of each test, which might bias the estimated coefficients. Since the test characteristics have been differenced out, the model only controls for differences between the testers or between the circumstances of their visit. This approach is relatively easy to implement and is applied to a fairly complete array of treatment variables for which outcomes

can be defined as favorable or unfavorable in absolute terms. The fixed-effects logit results are presented in Exhibits 5-3 through 5-6, for black/white rental, Hispanic/non-Hispanic white rental, black/white sales, and Hispanic/non-Hispanic white sales, respectively. In each panel of these exhibits, the first three rows contain the number of white-favored tests, the number of minority-favored tests, and the unweighted net incidence of differential treatment for each treatment variable.[5] The last two rows contain statistical significance tests resulting first from a simple comparison of the incidence of white- and minority-favored treatment, and then from the fixed-effects logit analysis. A more detailed description of the fixed-effects logit methodology is provided in Annex 10.

Rental Tests. For black/white rental tests, the fixed-effects logit approach confirms the findings reported in chapter 3 that systematic discrimination against blacks is significant with 95 percent confidence or greater for the following treatment variables: advertised unit available, number of units available, advertised unit inspected, number of units inspected, and rental incentives offered (see Exhibit 5-3). Statistically significant discrimination against whites on application fee required is also confirmed. However, there is the logit approach raises questions about findings for two variables: the logit approach finds statistically significant discrimination against blacks on invitation to complete an application, but does not find statistically significant discrimination against blacks on arrangements for future contact.

The results for Hispanic/non-Hispanic white rental tests are nearly identical to those for black/white rental tests on housing availability and inspection (see Exhibit 5-4). The key differences between the logit and chapter 3 significance levels arise for rental incentives offered (significant only for the simple comparison) and arrangement for future contact (significant only for the fixed-effects logit). However, for all the treatment variables where the two methodologies yield conflicting results, the net measure is very low—below 3.2 percent.

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[5] The net incidence presented here may differ somewhat from the numbers presented in chapter 3 because the results in chapter 3 use weights to obtain national estimates while these results are unweighted for comparison to the unweighted multivariate results.

Exhibit 5-3: Testing The Statistical Significance Of Net Measures, Black/White Rental Tests

HOUSING AVAILABILITY			
Treatment Variables	Advertised Unit Available	Similar Unit Available	Number of Units Available
White Favored Tests	140	169	318
Minority favored Tests	91	168	252
Unweighted Net Incidence	4.3	0.0	5.7
Significance Level			
Difference of Means Tests	0.99	0.00	0.99
Fixed-Effects Logit Tests	0.97	0.61	0.98

HOUSING INSPECTION			
Treatment Variables	Advertised Unit Inspected	Similar Unit Inspected	Number of Units Inspected
White Favored Tests	177	105	265
Minority favored Tests	104	97	181
Unweighted Net Incidence	6.5	0.8	7.4
Significance Level			
Difference of Means Tests	0.99	0.50	0.99
Fixed-Effects Logit Tests	0.99	0.03	0.99

HOUSING COSTS				
Treatment Variables	Rent for Advertised Unit	Rental Incentives Offered	Amount of Security Deposit	Application Fee Required
White Favored Tests	56	110	23	118
Minority favored Tests	58	70	23	165
Unweighted Net Incidence	-0.6	3.5	0.0	-4.2
Significance Level				
Difference of Means Tests	0.22	0.99	0.00	0.99
Fixed-Effects Logit Tests	0.61	0.95	a	0.98

AGENT ENCOURAGEMENT				
Treatment Variables	Follow-up Contact	Asked to Complete Application	Arrangements for Future Contact	Tester told Qualified
White Favored Tests	29	209	162	44
Minority favored Tests	21	181	196	37
Unweighted Net Incidence	0.7	2.5	-3.1	0.6
Significance Level				
Difference of Means Tests	0.74	0.84	0.94	0.56
Fixed-Effects Logit Tests	a	0.98	0.32	0.08

Note: a = Not enough observations to estimate the fixed-effects logit regression

Exhibit 5-4: Testing The Statistical Significance Of Net Measures, Hispanic/Non-Hispanic White Rental Tests

HOUSING AVAILABILITY			
Treatment Variables	Advertised Unit Available	Similar Unit Available	Number of Units Available
White Favored Tests	92	97	221
Minority favored Tests	48	82	159
Unweighted Net Incidence	6.5	2.1	8.9
Significance Level			
Difference of Means Tests	0.99	0.74	0.99
Fixed-Effects Logit Tests	0.99	0.49	0.98

HOUSING INSPECTION			
Treatment Variables	Advertised Unit Inspected	Similar Unit Inspected	Number of Units Inspected
White Favored Tests	81	76	155
Minority favored Tests	59	57	103
Unweighted Net Incidence	3.1	2.1	7.3
Significance Level			
Difference of Means Tests	0.94	0.83	0.99
Fixed-Effects Logit Tests	0.99	0.05	0.90

HOUSING COST				
Treatment Variables	Rent for Advertised Unit	Rental Incentives Offered	Amount of Security Deposit	Application Fee Required
White Favored Tests	37	76	19	70
Minority favored Tests	20	53	17	90
Unweighted Net Incidence	5.3	3.2	0.8	-2.8
Significance Level				
Difference of Means Tests	0.98	0.96	0.26	0.89
Fixed-Effects Logit Tests	0.90	0.76	a	0.80

AGENT ENCOURAGEMENT				
Treatment Variables	Follow-up Contact	Asked to Complete Application	Arrangements for Future Contact	Tester told Qualified
White Favored Tests	24	127	120	34
Minority favored Tests	22	123	102	38
Unweighted Net Incidence	0.3	0.5	2.5	-0.6
Significance Level				
Difference of Means Tests	0.23	0.20	0.78	0.36
Fixed-Effects Logit Tests	0.87	0.27	0.98	0.00

Note: a = Not enough observations to estimate the fixed-effects logit regression

Sales Tests. For black/white sales tests, consistent statistically significant results arise from both methodologies for similar unit available, similar unit inspected, number of units inspected, downpayment requirements discussed, and tester told qualified (see Exhibit 5-5). However, several of the net measures are no longer statistically significant after controlling for differences in the testers' visits and their real-life attributes. These treatment variables include number of units available, advertised unit inspected, and arrangements for future contact. Similarly, for Hispanic/non-Hispanic white sales tests, the fixed-effects logit suggests that several net measures are not statistically significant (see Exhibit 5-6). Specifically, the results for similar unit available, similar unit inspected, and lenders recommended drop below the 95 percent level of significance. It must be noted, however, that for two of these variables adverse treatment is still significant at the 90 percent level. Moreover, the major finding for Hispanic/non-Hispanic white sales tests is severe adverse treatment in the provision of financing assistance. The results for help with financing and downpayment requirements discussed are still highly significant after controlling for characteristics of the testers and the test visits.

Exhibit 5-5: Testing The Statistical Significance Of Net Measures, Black/White Sales Tests

HOUSING AVAILABILITY			
Treatment Variables	Advertised Unit Available	Similar Unit Available	Number of Units Available
White Favored Test	176	221	485
Minority favored Tests	168	163	435
Unweighted Net Incidence	0.1	5.4	7.6
Significance Level			
Difference of Means Tests	0.34	0.99	0.99
Fixed-Effects Logit Tests	0.46	0.98	0.73
HOUSING INSPECTION			
Treatment Variables	Advertised Unit Inspected	Similar Unit Inspected	Number of Units Inspected
White Favored Tests	213	263	484
Minority favored Tests	174	165	328
Unweighted Net Incidence	3.6	9.1	14.5
Significance Level			
Difference of Means Tests	0.95	0.99	0.99
Fixed-Effects Logit Tests	0.72	0.99	0.99
FINANCING ASSISTANCE			
Treatment Variables	Help with Financing Offered	Lenders Recommended	Downpayment Requirements Discussed
White Favored Tests	206	207	229
Minority favored Tests	187	188	179
Unweighted Net Incidence	1.8	1.8	4.6
Significance Level			
Difference of Means Tests	0.66	0.66	0.98
Fixed-Effects Logit Tests	0.94	0.07	0.99
AGENT ENCOURAGEMENT			
Treatment Variables	Follow-up Contact	Tester told Qualified	Arrangements for Future Contact
White Favored Tests	187	227	53
Minority favored Tests	156	137	83
Unweighted Net Incidence	2.8	8.3	-2.7
Significance Level			
Difference of Means Tests	0.90	0.99	0.98
Fixed-Effects Logit Tests	0.19	0.99	0.41

Exhibit 5-6: Testing The Statistical Significance Of Net Measures, Hispanic/Non-Hispanic White Sales Tests

HOUSING AVAILABILITY			
Treatment Variables	Advertised Unit Available	Similar Unit Available	Number of Units Available
White Favored Tests	97	136	330
Minority favored Tests	102	98	297
Unweighted Net Incidence	-0.7	5.2	5.7
Significance Level			
Difference of Means Tests	0.28	0.98	0.91
Fixed-Effects Logit Tests	0.87	0.92	0.77
HOUSING INSPECTION			
Treatment Variables	Advertised Unit Inspected	Similar Unit Inspected	Number of Units Inspected
White Favored Tests	131	148	268
Minority favored Tests	133	112	255
Unweighted Net Incidence	-0.3	4.9	1.8
Significance Level			
Difference of Means Tests	0.10	0.97	0.43
Fixed-Effects Logit Tests	0.80	0.84	0.85
FINANCING ASSISTANCE			
Treatment Variables	Help with Financing Offered	Lenders Recommended	Downpayment Requirements Discussed
White Favored Tests	161	143	184
Minority favored Tests	77	97	105
Unweighted Net Incidence	11.5	6.2	10.8
Significance Level			
Difference of Means Tests	0.99	0.99	0.99
Fixed-Effects Logit Tests	0.99	0.91	0.99
AGENT ENCOURAGEMENT			
Treatment Variables	Follow-up Contact	Tester told Qualified	Arrangements for Future Contact
White Favored Tests	108	141	37
Minority favored Tests	98	112	36
Unweighted Net Incidence	1.3	4.0	0.1
Significance Level			
Difference of Means Tests	0.51	0.93	0.09
Fixed-Effects Logit Tests	0.69	0.84	0.18

Conclusions

There are four important lessons to take away from this analysis. First, the evidence suggests that the actual level of systematic discrimination lies somewhere between the gross and the net measures. Controlling for differences between testers and the circumstances of their visits sometimes leads to lower predicted levels of adverse treatment against both white and minority testers, which implies that the gross measure overstates systematic discrimination. However, these differences are small relative to the difference between gross and net measures. In other words, observed levels of (gross) adverse treatment cannot be explained away by difference between the testers or their visits that are unrelated to race or ethnicity.

The second important finding from this analysis, is that observed levels of minority-favored treatment are not attributable to circumstances in which real estate agents discourage white customers from considering units in high-minority or high-poverty neighborhoods. Simulations that place all units in "desirable" often yield to higher predicted net measures. But this almost always results from an increase in the incidence of white-favored treatment rather than a drop in the incidence of minority-favored treatment. In other words, minorities may be discouraged from buying or renting housing in predominantly white neighborhoods, but we find no evidence that *whites* are discouraged from considering units in minority or high-poverty neighborhoods. Some minority-favored treatment may be systematic, but it does not appear to be attributable to neighborhood characteristics.

Although this analysis does not definitely answer the question of whether the gross or net measure is a better reflection of systematic discrimination, it does provide increased confidence in the observed measures of differential treatment presented earlier. The analysis is able to control for the major observable factors that have been identified in the past as potential problems with the gross measure of adverse treatment. In a few instances, these controls lowered the gross measure by 30 to 40 percent, but in most cases the overall effect was minimal and in some cases the gross measure actually increased. HDS2000 was designed to substantially increase our ability to control for important factors that may generate spurious instances of differential treatment, and even after controlling for these factors, the predicted levels of adverse treatment against minority homeseekers remain quite high.

Finally, this chapter sheds considerable light on the question of whether real-life differences between white and minority testers systematically bias paired testing studies towards finding discrimination. The multinomial logit methodology provides no support for the hypothesis that minority testers have attributes other than their race and ethnicity that lead to unfavorable treatment. In fact, whenever differences in tester attributes appear to matter, these differences tend to decrease the likelihood that white testers experience favorable treatment in the observed data and therefore suggest that paired testing studies may be biased away from finding discrimination. On the other hand, the results from the fixed-effects logit are somewhat

mixed. For rental tests, the net measures of discrimination remain statistically significant, even after controlling for differences between the testers and their visits. In sales tests, however, several net measures no longer appear statistically significant after controlling for these differences, suggesting that sales testing may be somewhat sensitive to bias from omitted tester attributes. Nevertheless, even the fixed-effects logit finds statistically significant evidence of discrimination for most treatment variables in both the black/white and the Hispanic/non-Hispanic white sales tests. Overall, therefore, we conclude that the results presented in chapters 3 and 4 are not biased by differences in tester characteristics or test visits.

6. NATIONAL FINDINGS -- GEOGRAPHIC STEERING

One potentially important form of discrimination against minority homeseekers is geographic steering, in which minorities and whites are provided information about houses for sale in different types of areas. Most past studies of geographic steering have focused primarily on one basic question: are minority homeseekers steered to neighborhoods with greater minority populations? These studies have defined steering as a pattern of recommending or showing homes in neighborhoods where the predominant race or ethnicity matches the race or ethnicity of the homeseeker (Galster, 1990a). The continued prevalence of this form of geographic steering was discussed in chapter 3.

But steering minority homebuyers to predominantly minority neighborhoods is only one of many possible ways that location choices might be constrained by discrimination. For example, minority customers might not be shown homes in as many different neighborhoods as comparable whites, or equally qualified buyers might be shown homes in neighborhoods with differing socioeconomic characteristics. Moreover, steering might occur at different geographic scales. Most research to date has focused on neighborhood characteristics, but customers might also be steered to cities or school districts with differing racial or socioeconomic composition. Regardless of the form that steering takes, it can limit the location choices of both minority and white homebuyers, potentially perpetuating racial and ethnic separation and inequality. Therefore, this chapter explores geographic steering more extensively, focusing on several possible mechanisms and scales.

Methodology

Geographic steering is defined broadly here as behaviors by home sales agents in which minority and white homeseekers are provided information about available homes that differ systematically in terms of the number of areas represented, the areas' racial/ethnic composition, or the areas' socio-economic composition. This definition encompasses different types of geographic steering, different spatial scales at which steering might occur, and different mechanisms for achieving steering.

Three distinct types of steering can be distinguished:

- *Information steering* occurs when the number of areas shown to minority homeseekers differs from the number shown to white homeseekers.

- *Segregation steering* occurs when, on average, the areas shown to minorities have larger minority populations than the areas shown to whites.

- *Class steering* occurs when the areas shown to minority homeseekers are, on average, of a lower socioeconomic status (indicated by lower incomes,

homeownership rates, property values, or free/reduced price lunch enrollment) than areas shown to white homeseekers.

All three types of steering are potentially important. Although not historically analyzed, information steering (number of areas shown) limits the number of locational options minority homeseekers can consider. Segregation steering (average percent minority population) has the potential to seriously limit the housing choices for both minority and white homeseekers, it can also undermine stable, racially diverse neighborhoods and perpetuate segregation. Class steering can limit minority access to communities with good schools, quality services, and rising property values.

In addition to considering different types of geographic steering, this analysis measures steering at three different spatial scales:

- *Neighborhoods*, defined as census tracts;

- *Places*, defined as census municipalities; and

- *School districts.*[1]

Although most researchers have measured steering only at the neighborhood (census tract) scale, this might overlook steering that occurs at different scales. For example, agents may show white and minority homeseekers similar neighborhoods, but these neighborhoods might be located in school districts or municipalities with distinctly different racial or class profiles. In addition, agents may make comments about the municipality or the school district when showing customers homes (Galster, 1990b).

Agents can use different mechanisms to engage in steering. They can:

- *Inspect* homes in person with clients;

- *Recommend* homes to clients for consideration; and/or

- *Editorialize* (provide positive or negative comments) about areas the client should or should not consider.

All of these mechanisms can potentially produce information steering, segregation steering, and class steering, by encouraging or discouraging minorities and whites from considering homes in different types of neighborhoods, places, or school districts.

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[1] We recognize that some municipalities and school districts are homogeneous in many socioeconomic and racial/ethnic characteristics; in these cases, steering actions can be interpreted unambiguously. On the other hand, other (especially larger) municipalities and school districts in some MSAs may have diverse aggregate profiles yet have homogeneous areas within them (such as neighborhoods or "attendance zones"). In the latter case, our municipal and school district levels will produce less clear results.

In order to measure steering, we first determined the racial/ethnic and socioeconomic status of the neighborhoods, places and school districts shown or recommended to testers in HDS2000 sales tests. Addresses of all homes shown or recommended to testers were geocoded to latitude and longitude[2] and then linked to current characteristics of the census tract, municipality and school district into which they fell.[3] If an agent's negative or positive comments could be associated with a neighborhood, place, or school district, they were also geocoded. Finally, we constructed a set of variables for each tester that reflected the average characteristics of the geographic areas where homes were inspected and recommended, and the average characteristics of areas about which positive and negative comments were made. These variables were used to determine whether and how often minority and white partners were treated differently. Incidence measures were created for all three types of steering: information, segregation and class and for all three mechanisms of steering (recommending, inspecting, and editorializing) at all three geographic levels (census tracts, places, and school districts).

Measures of information steering indicate whether an agent showed or recommended homes in a larger number of geographic areas to one tester than the other or made comments about a larger number of geographic areas:

- How many different geographic areas (tracts, places, school districts) were recommended?

- How many different geographic areas (tracts, places, school districts) were shown?

- How many different geographic areas (tracts, places, school districts) were commented on?

Measures of segregation steering indicate whether an agent showed or recommended homes to the minority tester in areas with a higher percentage of black or Hispanic population, or made comments encouraging the minority tester to consider areas with a higher percentage of black or Hispanic population:[4]

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[2] The vendor used for this process, GDT, was able to match 87 percent of the addresses obtained from the tests to a latitude and longitude.

[3] Only 2000 census tract data on racial composition were available in time for this analysis. Thus, we used estimates of 2000 tract housing and economic characteristics provided by Claritas, a commercial vendor.   From public records we obtained racial/ethnic and eligibility for free or reduced-price lunches data about public school students in the latest available (typically 1998-99) academic year for each school district in the MSA for which this spatial scale was being investigated. The National Center for Education Statistics (Common Core Data) maintains the on-line database where the majority of such data were downloaded. This web site is: http://nces.ed.gov/ccd/.

[4] The average racial composition of geographic areas for white and minority partners had to differ by at least 5 percentage points to be classified as a meaningful difference.

- Average percent black or Hispanic for geographic areas (tracts, places, school districts) where units were recommended.

- Average percent black or Hispanic for geographic areas (tracts, places, school districts) where units were shown.

- Average percent black or Hispanic for geographic areas (tracts, places, school districts) where positive or negative comments were made. [5]

Measures of class steering incorporate several different indicators of a geographic area's socio-economic status: homeownership rate, median owner-occupied house value, per capita income, percentage of households with incomes above the poverty line, and (for school districts) percentage of students with family incomes too high to qualify for free or reduced-price lunches. We used these indicators to determine whether an agent showed or recommended homes to one tester in higher class areas or made comments encouraging one tester to consider areas of higher class: [6]

- Average homeownership rate for geographic areas (tracts, places) where units were recommended.

- Average homeownership rate for geographic areas (tracts, places) where units were shown.

- Average homeownership rate for geographic areas (tracts, places) where positive or negative comments were made.

- Average house value for geographic areas (tracts, places) where units were recommended.

- Average house value for geographic areas (tracts, places) where units were shown.

- Average house value for geographic areas (tracts, places) where positive or negative comments were made.

- Average income for geographic areas (tracts, places) where units were recommended.

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[5] More precisely, a test was classified as "segregation steering" if the white tester received positive comments about more predominantly white areas and/or the minority tester received negative comments about more predominantly white areas.

[6] The average homeownership rate and poverty rate in geographic areas for white and minority partners had to differ by at least 5 percentage points to be classified as a meaningful difference; the median house value had to differ by at least $5,000; and per capita income had to differ by at least $2,500. For editorial comments. a "white-favored" instance of class steering by editorializing was indicated if the comments *uniformly* served to give: 1) the white tester a positive impression of higher class areas, 2) the white tester a negative impression of lower-class areas, 3) the minority tester a positive impression of lower-class areas, or 4) the minority tester a negative impression of higher-class areas.

- Average income for geographic areas (tracts, places) where units were shown.

- Average income for geographic areas (tracts, places) where positive or negative comments were made.

- Average percent non-poverty for geographic areas (tracts, places) where units were recommended.

- Average percent non-poverty for geographic areas (tracts, places) where units were shown.

- Average percent non-poverty for geographic areas (tracts, places) where positive or negative comments were made.

- Average percent ineligible for school lunch for school districts where units were recommended.

- Average percent ineligible for school lunch for school districts where units were shown.

- Average percent ineligible for school lunch for school districts where positive or negative comments were made.

Black/White Steering Results

During the summer and fall of 2000, more than 1,000 black/white sales tests were conducted in a nationally representative sample of 16 large areas with significant African American populations. The addresses of homes they were shown or recommended were geocoded and characteristics of the surrounding areas were compiled. This section presents the results of our expanded steering analysis for these tests, including national estimates of the incidence of each type and mechanism of steering, at all three geographic scales.

Information Steering. In 2000, there were no statistically significant differences in the incidence of information steering either for homes recommended or inspected (see Exhibit 6-1). In about 75 percent of the cases, black and white testers were recommended or shown homes in the same number of areas, whether area was defined as a census tract, place, or school district. Percentages of gross white-favored and minority-favored tests were highest at the census tract level of geography, and lowest at the school district level. Still, there were no significant differences in the lower-bound (net) estimate of discrimination at any geography for this type of steering.

Information steering was consistently observed, however, when we examined editorializing by real estate agents. At all three levels of geography, white testers were given comments about more areas than were their black partners. At the census tract level, white testers were favored in 38.5 percent of the cases, while black testers were favored in 23.5 percent of cases. Likewise, at the place level, white testers received comments about more

areas 28.8 percent of the time, compared with only 16.9 percent for blacks. Finally, at the school district level, white testers were favored in 30.2 percent of the cases, and black testers were favored in only 17.7 percent. The lower-bound (net) estimates of discrimination on this form of information steering are 15.0 percent (at the tract level), 11.9 percent (at the place level) and 12.5 percent (at the school district level), and all are statistically significant. Clearly, agents provided comments about more areas to white homebuyers than to blacks.

Exhibit 6-1: National Incidence Of Information Steering:
Black / White Tests

Recommended Homes	Differential Treatment in 2000		
	% white favored	% black favored	net measure
# Different Census Tracts	14.1%	13.5%	0.6%
# Different Places	6.0%	5.3%	0.7%
# Different School Districts	3.7%	4.5%	-0.8%
Inspected Homes	**Differential Treatment in 2000**		
	% white favored	% black favored	net measure
# Different Census Tracts	10.0%	7.8%	2.2%
# Different Places	3.3%	2.6%	0.7%
# Different School Districts	1.6%	2.0%	-0.4%
Editorial Comments	**Differential Treatment in 2000**		
	% white favored	% black favored	net measure
# Different Census Tracts	38.5%	23.5%	15.0% **
# Different Places	28.8%	16.9%	11.9% **
# Different School Districts	30.2%	17.7%	12.5% **
# Total Comments (positive and negative)	48.6%	35.0%	13.6% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Segregation Steering. White and black homebuyers were consistently steered to neighborhoods (census tracts) that promoted or perpetuated segregation (see Exhibit 6-2). However, at the place and school district level, no statistically significant pattern of segregation steering occurred. For homes *recommended*, pro-segregation steering occurred in 16.5 percent of tests, while pro-integration steering—where black testers were recommended homes in higher percent white neighborhoods than their white partners—occurred in only 12.7 percent of the tests. The lower-bound (net) estimate for segregation steering is statistically significant at almost 4 percent. The same pattern occurred for homes *inspected;* pro-segregation steering

occurred in 12.1 percent of the cases, compared to 8.3 percent where there was pro-integration steering. Again, the net measure is statistically significant at almost 4 percent.[7]

Editorializing also proved to be a commonly used mechanism for segregation steering at all geographic levels. Whites were significantly more likely than blacks to receive positive comments about more predominantly white areas, with net measures ranging from 11.0 percent at the place level to 13.7 percent at the census tract level.

Exhibit 6-2: National Incidence Of Segregation Steering:
Black / White Tests

Recommended Homes	Differential Treatment in 2000		
	% pro-segregation	% pro-integration	net measure
% White in Census Tract	16.5%	12.7%	3.8% *
% White in Place	6.9%	5.3%	1.6%
% White in School District	6.5%	5.3%	1.2%
Inspected Homes	**Differential Treatment in 2000**		
	% pro-segregation	% pro-integration	net measure
% White in Census Tract	12.1%	8.3%	3.8% *
% White in Place	4.8%	3.2%	1.6%
% White in School District	4.1%	3.3%	0.8%
Editorial Comments	**Differential Treatment in 2000**		
	% pro-segregation	% pro-integration	net measure
% White in Census Tract	37.1%	23.4%	13.7% **
% White in Place	29.7%	17.8%	11.9% **
% White in School District	31.2%	17.9%	13.3% **

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

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[7] The incidence measures reported for segregation steering in this chapter differ slightly from the results presented in chapter 3, because the universe of tests for this chapter's analysis does not include any tests where either tester was not recommended or shown homes. In chapter 3, these tests were included, and coded as "no difference," in order to allow for composite measures of discrimination across categories of treatment.

Class Steering. Evidence of class steering for white and black testers is less consistent than for segregation steering (see Exhibit 6-3). In general, the socio-economic characteristics of areas where homes were *recommended* and *inspected* did not differ significantly for whites and blacks. The only statistically significant difference was the average percent non-poor of the *place* recommended to testers. In 4.3 percent of the cases, the white tester was recommended homes in places with a higher percent non-poor, while black testers were recommended homes in places with a higher percent non-poor only 2.5 percent of the time. The net measure of discrimination for this indicator (1.8 percent) is statistically significant.

Class steering through *editorializing* occurred much more frequently. Real estate agents consistently gave comments that encouraged white testers to choose homes in lower-poverty neighborhoods, places, and school districts. At the *census tract level*, white testers were given encouraging comments in lower poverty areas 34.9 percent of the time, while blacks received encouraging comments for lower poverty areas only 23.4 percent of the time. Likewise, whites were encouraged to consider lower poverty *places* in 29.7 percent of the cases and lower poverty *school districts* in 32.4 percent of the cases. In contrast, black testers were encouraged to consider low-poverty *places* in only 17.8 percent of the cases and low-poverty *school districts* in only 18.0 percent of the cases. The net differences for all of these measures range between 11 and 14 percent and are statistically significant.

Steering in Tests with the Same Agent. To assess the robustness of the black/white steering results, we conducted the same analysis for the subset of tests where both partners saw the same real estate agent. In tests where partners met with different agents, one might expect more random differences in treatment with respect to areas recommended and inspected, as well as editorializing. Steering results for tests involving the same agent were consistent with results for the full samples of sales tests, with two exceptions. First, at the census tract level, the net measure of segregation steering for inspected homes *rose* from 4 percent to 7 percent. This suggests that segregation steering is even more likely to occur when black and white homeseekers meet with the same real estate agent. Second, the net measures for editorializing of information, segregation, and class steering *dropped* by five to seven percentage points, some of these differences were no longer statistically significant, especially at the place level. This finding suggests that some differences in editorializing may be attributable to different agents. Nevertheless, even for tests involving the same agent, editorializing is a significant mechanism for steering that occurs in today's marketplace.

Exhibit 6-3: National Incidence Of Class Steering: Black / White Tests

Recommended Homes	Differential Treatment in 2000		
	% white favored	% black favored	net measure
% Owner Occupied in Census Tract	17.8%	18.5%	-0.7%
% Owner Occupied in Place	7.5%	6.0%	1.5%
Median Home Price in Census Tract	24.1%	22.2%	1.9%
Median Home Price in Place	9.8%	8.3%	1.5%
Per Capita Income in Cenus Tract	20.1%	19.4%	0.7%
Per Capita Income in Place	7.4%	5.2%	2.2%
% Non-Poor in Census Tract	6.9%	5.1%	1.8%
% Non-Poor in Place	4.3%	2.5%	1.8% *
% Non-Poor in School District	5.3%	5.3%	0.0%

Inspected Homes	Differential Treatment in 2000		
	% white favored	% black favored	net measure
% Owner Occupied in Census Tract	12.6%	12.4%	0.2%
% Owner Occupied in Place	5.1%	3.1%	2.0%
Median Home Price in Census Tract	16.6%	15.9%	0.7%
Median Home Price in Place	5.5%	5.0%	0.5%
Per Capita Income in Cenus Tract	13.5%	13.3%	0.2%
Per Capita Income in Place	4.2%	3.2%	1.0%
% Non-Poor in Census Tract	5.2%	3.3%	1.9%
% Non-Poor in Place	2.9%	1.7%	1.2%
% Non-Poor in School District	2.8%	3.5%	-0.7%

Editorial Comments	Differential Treatment in 2000		
	% white favored	% black favored	net measure
% Non-Poor in Census Tract	34.9%	23.4%	11.5% **
% Non-Poor in Place	29.7%	17.8%	11.9% **
% Non-Poor in School District	32.4%	18.0%	14.4% **

Note: For net estimates, * indicates statistical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Hispanic/Non-Hispanic White Steering Results

During the summer and fall of 2000, over 700 Hispanic/non-Hispanic white sales tests were conducted in a nationally representative sample of 10 large urban areas with significant Hispanic populations. The addresses of homes they were shown or recommended were geocoded, and characteristics of the surrounding areas were compiled. This section presents the results of our expanded steering analysis for these tests, including national estimates of the incidence of each type and mechanism of steering, at all three geographic scales.

Information Steering. In 2000, Hispanic and non-Hispanic white testers were often given different amounts of information about neighborhoods, places, and school districts, but these differences were generally just as likely to favor Hispanic homeseekers as to favor non-Hispanic whites (see Exhibit 6-4). The gross incidence of non-Hispanic white-favored treatment ranged from a low of 3.4 percent (for number of different school districts inspected) to a high of 15.4 percent (for number of different census tracts recommended). The gross incidence for Hispanic-favored treatment was comparable, ranging from a low of 2.5 percent (for number of different school districts inspected) to a high of 13.5 percent (for number of different census tracts recommended). The net measure of systematic discrimination was not statistically significant for any indicator.

Segregation Steering. In 2000, Hispanic and non-Hispanic white homebuyers experienced segregation steering at the census tract level for homes inspected (see Exhibit 6-5). Specifically, non-Hispanic whites inspected homes in more predominantly non-Hispanic white tracts in 15.0 percent of tests, while Hispanics inspected homes in more predominantly non-Hispanic white tracts in only 10.0 percent of tests. The net measure of discrimination on this indicator, 5.0 percent, is statistically significant. We did not find evidence of segregation steering at other geographic scales or for homes recommended.[8]

This pattern is consistent with findings for segregation steering via editorializing, where a significant segregation effect was found only at the census tract level. In 35.1 percent of tests, segregation was promoted by agent comments, compared to only 28.9 percent of tests where agent comments encouraged integration. The net measure (or lower-bound incidence) of systematic segregation steering, is statistically significant at 6.2 percent.

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[8] The incidence measures reported for segregation steering in this chapter differ slightly from the results presented in chapter 3, because the universe of tests for this chapter's analysis does not include any tests where either tester was not recommended or shown homes. In chapter 3, these tests were included, and coded as "no difference," in order to allow for composite measures of discrimination across categories of treatment.

Exhibit 6-4: National Incidence Of Information Steering:
Hispanic / Non-Hispanic White Tests

Recommended Homes	Differential Treatment in 2000		
	% n-H white favored	% Hispanic favored	net measure
# Different Census Tracts	15.4%	13.5%	1.9%
# Different Places	6.3%	5.6%	0.7%
# Different School Districts	5.0%	4.5%	0.5%
Inspected Homes	**Differential Treatment in 2000**		
	% n-H white favored	% Hispanic favored	net measure
# Different Census Tracts	9.9%	8.4%	1.5%
# Different Places	3.6%	3.6%	0.0%
# Different School Districts	3.4%	2.5%	0.9%
Editorial Comments	**Differential Treatment in 2000**		
	% n-H white favored	% Hispanic favored	net measure
# Different Census Tracts	35.0%	32.2%	2.8%
# Different Places	26.1%	24.6%	1.5%
# Different School Districts	24.8%	21.4%	3.4%
# Total Comments (positive and negative)	46.8%	40.2%	6.6% *

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

**Exhibit 6-5: National Incidence Of Segregation Steering:
Hispanic / Non-Hispanic White Tests**

Recommended Homes	Differential Treatment in 2000		
	% pro-segregation	% pro-integration	net measure
% White in Census Tract	17.1%	15.7%	1.4%
% White in Place	7.0%	6.5%	0.5%
% White in School District	8.6%	7.4%	1.2%
Inspected Homes	**Differential Treatment in 2000**		
	% pro-segregation	% pro-integration	net measure
% White in Census Tract	15.0%	10.0%	5.0% **
% White in Place	4.8%	4.1%	0.7%
% White in School District	6.6%	5.1%	1.5%
Editorial Comments	**Differential Treatment in 2000**		
	% pro-segregation	% pro-integration	net measure
% White in Census Tract	35.1%	28.9%	6.2% *
% White in Place	28.3%	24.7%	3.6%
% White in School District	27.2%	24.3%	2.9%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Class Steering. Hispanic and non-Hispanic white testers were often shown or recommended homes in areas with different class statuses, however, these differences were just as likely to favor Hispanic homeseekers as they were to favor non-Hispanic white ones (see Exhibit 6-6). The smallest incidence of non-Hispanic white-favored class steering was 1.9 percent (for percent non-poor in inspected places) and the highest incidence of class steering favoring non-Hispanic whites was 30.7 percent (for percent non-poor in census tract via editorializing). The incidence of Hispanic favored treatment was comparable, ranging from a low of 1.4 percent (for percent non-poor in inspected places) to a high of 29.9 percent (for percent non-poor in editorialized census tracts). Because the gross incidences of Hispanic and non-Hispanic white-favored class steering were so similar, none of the net measures were statistically significant.

Exhibit 6-6: National Incidence Of Class Steering:

Hispanic / Non-Hispanic White Tests

Recommended Homes	Differential Treatment in 2000		
	% n-H white higher	% Hispanic higher	net measure
% Owner Occupied in Census Tract	19.9%	18.3%	1.6%
% Owner Occupied in Place	7.0%	5.0%	2.0%
Median Home Price in Census Tract	24.3%	26.7%	-2.4%
Median Home Price in Place	10.4%	9.4%	1.0%
Per Capita Income in Cenus Tract	18.1%	20.5%	-2.4%
Per Capita Income in Place	6.1%	6.6%	-0.5%
% Non-Poor in Census Tract	7.0%	6.0%	1.0%
% Non-Poor in Place	2.6%	2.3%	0.3%
% Non-Poor in School District	8.5%	6.9%	1.6%
Inspected Homes	Differential Treatment in 2000		
	% n-H white higher	% Hispanic higher	net measure
% Owner Occupied in Census Tract	14.7%	14.7%	0.0%
% Owner Occupied in Place	5.2%	3.7%	1.5%
Median Home Price in Census Tract	19.4%	21.5%	-2.1%
Median Home Price in Place	6.7%	7.5%	-0.8%
Per Capita Income in Cenus Tract	15.6%	14.9%	0.7%
Per Capita Income in Place	4.6%	5.5%	-0.9%
% Non-Poor in Census Tract	5.1%	4.1%	1.0%
% Non-Poor in Place	1.9%	1.4%	0.5%
% Non-Poor in School District	5.9%	4.5%	1.4%
Editorial Comments	Differential Treatment in 2000		
	% n-H white higher	% Hispanic higher	net measure
% Non-Poor in Census Tract	30.7%	29.9%	0.8%
% Non-Poor in Place	26.9%	25.2%	1.7%
% Non-Poor in School District	26.8%	24.4%	2.4%

Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

Steering in Tests with the Same Agent. Analyses of Hispanic/non-Hispanic white tests where both testers met with the same agent reinforced most of the findings presented above, but there were a few differences. When we analyzed only the subset of tests where testers saw the same agent, segregation steering at the census tract level for inspected homes

was even more statistically significant; the net measure (lower-bound estimate) of systematic discrimination was 12 percent, up 7 points from the results for all tests. Likewise, the net measure for percent non-poor of places inspected was also considerably higher (and significant statistically) in the same-agent sample. Finally, the net measure for percent owner-occupied of tracts recommended also registered a statistically significant 5 percent in the same-agent sample. The only result that was statistically significant in the sample as whole but not in the same-agent sample was the finding of segregation steering through editorializing (agent comments). Thus, as in the case of black/white tests, confining the analysis to tests where the same agent saw both partners generally preserved—and sometimes increased—the lower-bound estimates of systematic steering through home recommendations and inspections, but reduced the net measures of steering associated with editorializing.

Variations in Steering Within Metropolitan Areas

The incidence of steering may not be constant across different census tracts, places, or school districts within the same metropolitan area. Previous work suggests that the racial/ethnic and socioeconomic composition of the neighborhood where the tested agent's office is located and where the advertised home is located are important. Agents may be more likely to practice steering when their offices and/or the advertised home are located in all-white or high-class neighborhoods, because they seek to protect their reputation among their primarily white clientele or preserve the existing makeup of the area surrounding the advertised home.

To explore variations in patterns of steering, we stratified our national sample of tests based on the geographic characteristics of the tracts in which agents' offices and the advertised homes were located. More specifically, tests were grouped into terciles for each of the locational characteristics discussed above, and all steering measures were generated for each group of tests. The overall result is that steering, especially for black/white tests, does differ substantially according to the racial and class composition of both the agent's office and the advertised home. Due to the vast number of cross tabulations produced for this analysis, we will not report these finding in detail, but briefly summarize the findings below.

Black/White Tests. For black and white homebuyers, segregation steering tends to occur more often in areas that are higher percent white. Focusing first on the location of the advertised home, segregation steering was most prevalent when the advertised home was located in tracts with the highest share of white population. In fact, in areas with a high percent white population, the net measure of segregation steering was several times greater than for the sample as a whole. This pattern also emerged at the school district level.

When we stratified by the location of the real estate agent's office, segregation steering appeared most prevalent in census tracts with roughly median percentages of white residents, although it also occurred in locations with the highest white percentages. This finding raises the

provocative implication that segregation steering may be more likely when real estate offices are operating in more racially mixed neighborhoods. However, segregation steering is clearly least likely when the advertised home or the agent's office is located in areas with low percentages of white residents.

Variations in patterns of class steering for black and white homebuyers were less clear. The only class steering measure that was statistically significant in the sample as a whole (percent non-poor in place) remained significant for advertised homes in places with roughly the median percent non-poor. In addition, a class steering measure that was not significant in the sample as a whole—steering to neighborhoods with higher homeownership—was significant when advertised homes were located in predominantly white tracts. Class steering was also significant when the agents' offices were in higher class tracts, mid-class school districts, and lower class places, and when agent's offices were in census tracts with a high percent white population. Thus, with one exception, it appears that black/white class steering is least likely when advertised homes or agent offices are located in relatively less affluent and higher minority areas.

Hispanic/Non-Hispanic White Tests. For Hispanic and non-Hispanic white homebuyers, steering also varied with characteristics of the agent's office and the advertised home. Consider first spatial variations in segregation steering. In the sample as a whole, we found a statistically significant incidence of segregation steering at the tract level. When we stratified the sample by the characteristics of the advertised home, we found significant segregation steering at the tract level only when advertised home were located in tracts with high percent white population or in tracts in the middle range for poverty. In these two strata, the net measure of systematic segregation steering was at least twice as high as for the sample as a whole. Hispanic/non-Hispanic white segregation steering was also high when agents' offices were located in tracts or school districts in the middle range for poverty, and places in the high-poverty category. Thus, we see a similar pattern of segregation steering for Hispanics as for blacks, with steering least likely to occur when the agent's office or the advertised home is in higher minority and higher poverty areas.

Hispanic/non-Hispanic white class steering appears to be most prevalent when the advertised home is located in the highest percent non-Hispanic white areas. However, class steering was also statistically significant when agents' offices were located in census tracts in the middle range for poverty and tracts with a low percent non-Hispanic white population. Thus, patterns of class steering vary depending on whether we stratify by the characteristics of the advertised home or the characteristics of the agent's office. Greater class steering occurred when advertised homes were in high percent white areas; however, when agent's office locations were considered, more class steering was seen when the office was in poorer and more minority areas.

Conclusions

Most studies of geographic steering have focused primarily on segregation steering at the census tract level. While this represents one important dimension of the steering phenomenon, looking only at the racial/ethnic composition of neighborhoods recommended or shown to homeseekers only reflects part of the story. In HDS2000, we have conducted a more comprehensive analysis of steering, exploring three possible types of steering (information, segregation, and class), conducted at three spatial levels (census tract, place, and school district), that can be achieved through three mechanisms (recommending, inspecting and editorializing). Net measures indicate that all three types of steering are occurring, although results are strongest at the census tract level, and for black and white homeseekers.

Editorializing is by far the most prevalent mechanism of black/white steering, and it occurred consistently across all three types of steering and at all geographic levels. In at least 12 to 15 percent of tests, agents systematically provided gratuitous geographic commentary that gave more information to white homeseekers and encouraged them to choose areas with more whites and fewer poor households. In addition, black/white segregation steering and class steering were most prevalent when the advertised home and/or the agent's office were located in neighborhoods with a high percent white population, and were least likely to occur when advertised homes or agents' offices were located in less well-off areas.

Steering is less often observed in Hispanic/non-Hispanic white tests, but there is still some evidence to suggest that this form of discrimination occurs. The statistically significant net measures of discrimination (five to six percent) occur in the case of segregation steering at the census tract level, both through home inspections and editorializing. Hispanic/non-Hispanic white segregation and class steering are manifested more strongly when the advertised home is located in predominantly non-Hispanic white neighborhoods.

7. VARIATION IN DISCRIMINATORY BEHAVIOR

This chapter explores factors that may influence or explain discriminatory behavior of real estate and rental agents by analyzing variations in levels of discrimination. More specifically, it addresses four hypotheses about possible causes of discrimination (see Yinger, 1986, 1995; Ondrich et al., 1998, 1999):

1) Prejudice – Discrimination may result occur because agents are prejudiced against racial or ethnic minorities, and prefer to avoid interacting with them or providing them with service.

2) Stereotypes – Agents may make assumptions based on a customer's race or ethnicity about how much he or she can afford or about the type of housing or neighborhoods he or she would prefer.

3) Future business – Agents may avoid selling or renting to minorities because they believe that doing so would alienate future white customers.

4) Agency size – Larger firms may have more experience with diverse customers and may try to tailor their services to what they perceive to be different needs or preferences.

In addition to testing these four hypotheses, this chapter examines the extent to which the real-life characteristics of testers may influence the discriminatory behavior of agents. Findings from this analysis can provide insights for targeting fair housing education and enforcement activities.

General Approach

This chapter uses the fixed-effect logit technique (Chamberlain, 1980). As discussed in Chapter 5, this method makes it possible to control for the factors, such as housing market conditions or real estate agency policies, that are shared by test teammates but not observed by the researcher. A formal statement of the fixed-effect method is presented in Annex 10. In order to make use of this estimation technique, the analysis in this chapter is limited to discrimination in types of housing agent behavior that can be characterized as a discrete choice, such as whether to show the advertised unit.[1]

Conducting a fixed-effect logit analysis with the data from HDS2000 is challenging, because we have information on multiple forms of agent behavior and on many potential explanatory variables. In order to take advantage of this vast array of information and to draw meaningful conclusions from it, we proceeded in four steps. First, we focused on a limited set of

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[1] In addition, the analysis does not include tests that were part of the "oversample" in some neighborhoods or tests that came from the non-ad-based samples in a few sites. These exclusions are designed to make the results as comparable as possible to those from the 1989 HDS study.

dependent variables, that reflect important forms of treatment for housing availability and inspections, housing costs (in the rental tests) or financing assistance (in the sales tests), and agent encouragement. Next, we defined a set of basic control variables to include in every regression (see Exhibit 7-1).[2] These control variables can be interpreted as statistical refinements to the basic paired test design in the sense that they account for any observable difference in the characteristics of test teammates that might help to explain why teammates are treated differently. The list includes variables that describe the testing process, such as the order of testers' visits, but it also includes testers' actual characteristics, including employment, homeownership, testing experience, education, and income. Including these variables ensures that estimated treatment differences between teammates do not reflect differences in teammates' observable characteristics that are not part of the test design. For example, they can help determine whether what appears to be favorable treatment of white customers might in part reflect favorable treatment of more highly educated customers.

Exhibit 7-1: Explanatory Variables

Set 1: Basic Controls for Differences Between Teammates (White Minus Minority)

Basic characteristics

AUDAGE	Difference in teammates' ages
NORDER	Difference in order (1 = white first, -1 = minority first)
AFTNOON	Difference in whether test took place in afternoon

Non-test characteristics

CUREMP	Difference in whether tester is currently employed
CURTENR	Difference in whether tester is currently a homeowner
EXPERNC	Difference in whether tester has experience conducting audits
HIGHEDU	Difference in highest level of education completed by tester
HOMEHNT	Difference in whether tester looking for housing at the present time
MALIVE	Difference in whether tester living in the metropolitan area
PEGAI	Difference in tester's actual gross annual income
NBUS	Difference in whether tester was born in the United States

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[2] The list of control variables was determined by identifying all observable tester characteristics that might influence treatment and then identifying the variables in this category for which significant differences between teammates appeared in the data. Differences in assigned tester income were not included, for example, because they always favored the black tester (a design feature in all the national test studies) and did not exhibit much variation across tests. These variables are the ones used for the fixed-effect logit regressions presented in Chapter 5.

Set 2: Basic Controls Plus Site Variables

   Dummy for each site (New York is the omitted site)

Set 3: Basic Controls Plus Timing Variables

   Dummy for each month (July is the omitted month)

Set 4: Basic Controls Plus White Tester Characteristics

   WAGE   Tester's age
   WCHILD   Whether tester's assigned family includes children
   WMARRIED   Whether tester's role is to be married
   WAUDFEM   Whether tester is female
   WINCOME   Assigned total gross monthly income of the tester's household

Set 5: Basic Controls Plus Agent and Agency Characteristics (Based on White Tester's Report)

   WAGBLK   Whether the primary interviewer is black
   WAGHIS   Whether the primary interviewer is Hispanic
   WAGAGE   Age of the primary interviewer
   WAGFEM   Whether the primary interviewer is female
   NUMPEOP   Maximum number of people encountered by either teammate
   SIM   Whether units with the same number of bedrooms as the requested
                     unit were available to either tester

**Set 6: Basic Controls Plus Agent and Agency Characteristics (Based on White Tester's Report)
         Plus Difference in Agent and Agency Characteristics Encountered by Teammates (White
         Minus Minority)**

   AGBLK   Difference in whether the primary interviewer is black
   AGHIS   Difference in whether the primary interviewer is Hispanic
   AGAGE   Difference in age of the primary interviewer
   AGFEM   Difference in whether the primary interviewer is female
   DAGNUM   Difference in number of people encountered
   SAMEAGNT   Whether testers were interviewed by same agent

Set 7: Basic Controls Plus Neighborhood Characteristics for Advertised Unit

   MVAL   Median house value
   PCI   Per capita income
   POV   Poverty rate
   PBLK   Percentage of the population that is black
   PHIS   Percentage of the population that is Hispanic
   POWN   Percentage of housing units that are owner-occupied

Set 8: Basic Controls Plus White Tester's Non-Test Characteristics

WCUREMP	Whether white tester is currently employed
WCURTENR	Whether white tester is currently a homeowner
WEXPERNC	Whether white tester has experience conducting audits
WHIGHEDU	Highest level of education completed by white tester
WHOMEHNT	Whether white tester is looking for housing at the present time
WMALIVE	Whether white tester is living in the metropolitan area
WPEGAI	White tester's actual gross annual income
WNBUS	Whether white tester was born in the United States

The third step in our methodology was to define seven additional categories of explanatory variables (again see Exhibit 7-1), that might influence the incidence of discrimination. These categories include site variables, timing variables, white tester characteristics, characteristics of the agents and agencies encountered by white testers, differences in the agent and agency characteristics encountered by test teammates, neighborhood characteristics, and non-test characteristics of white testers. We then assessed the potential importance of these factors by estimating a fixed-effect logit regression for each set of explanatory variables with each dependent variable.[3]

Finally, based upon the results from these exploratory regressions, we estimated a smaller set of regressions that focused on (a) dependent variables that exhibited substantial variation in discriminatory behavior and (b) explanatory variables that appeared to help explain variation in these dependent variables. These final regressions pooled explanatory variables from the various categories in Exhibit 7-1.

This strategy was designed to balance several different methodological constraints. On the one hand, fixed-effect logit regressions are based on the subset of tests in which teammates are treated differently. As a result, these regressions always have fewer observations than there are tests, and often have quite a limited number of observations indeed. The cases with the largest differences in treatment typically involve 200 to 300 observations, but some cases have far fewer observations than this.[4] In this setting, it is not possible to estimate coefficients for all the explanatory variables in Exhibit 7-1, so we began by looking at one set of explanatory variables at a time. On the other hand, regressions with a single set of explanatory variables

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[3] Regressions that include the fifth set, teammate differences in agent and agency characteristics, also always include the fourth set, agent and agency characteristics.

[4] The number of observations available for a fixed-effect logit for each dependent variable is the sum of the number of white-favored tests and the number of minority-favored tests.

cannot give definitive results, because they might be subject to omitted variable bias. In other words, the estimated coefficients of the variables in one set might reflect the effects of variables in other (excluded) sets. Our analysis dealt with this problem by identifying the variables from all the sets that influence discriminatory behavior and then combining them in a single regression (but dropping variables in each category that proved to be insignificant).[5]

One set of explanatory variables, namely differences across teammates in agent or agency characteristics, requires further comment. These variables raise some difficult issues of interpretation because they might be endogenous. For example, black testers could be assigned to black agents and white testers to white agents. As a result, we interpret significant results for these variables with care and regard them as preliminary.

It is also important to note that two dependent variables, whether units similar to the advertised unit were available and the maximum number of agents encountered, combine information from each tester's report to obtain a feature of the housing agency. First, if either the white or the minority auditor (or both) is told that similar units are available then the first of these variables indicates that similar units were available. Second, a rough measure of the size of the housing agency is obtained by recording either the number of agents encountered by the white tester or the number of agents encountered by the minority tester, whichever is larger. Thus, these variables reveal something about the agency, not something about the treatment of an individual tester.

Finally, we confront a difficult methodological challenge for several explanatory variables, namely missing information. To be specific, quite a few observations are missing information on the race of the agent encountered by a tester, on the characteristics of the neighborhood in which the advertised unit is located, or on a tester's non-test characteristics. Our strategy is to include all observations in the regressions, to assign a zero value to a variable when information on that variable is missing for either visit in the test pair, and then to include a set of dummy variables that flag observations with missing information. This strategy ensures that the coefficient for any explanatory variable is based only on observations that contain complete information on that variable for both teammates and that the average effect of the

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[5] This strategy can identify all significant explanatory variables with coefficients that are not heavily influenced by omitted variable bias or with coefficients that are biased away from zero. It might, however, miss some significant explanatory variables with coefficients that are biased toward zero because of omitted variables. This possibility is minimized by examining explanatory variables in related sets, because a high correlation between variables, a necessary condition for omitted variable bias, is most likely to exist when the variables are related. This strategy may still miss significant explanatory variables with coefficients biased toward zero because of the omission of correlated variables in unrelated sets. For example, it might miss a significant coefficient for a tester characteristic because that coefficient is biased toward zero by the omission of some agency characteristic. We know of no way to avoid this limitation given the constraints facing this study.

missing information is statistically removed from the results.[6] Because the estimated coefficients of these missing-data dummies have no clear interpretation, they are not presented in the appendix tables or discussed in the text.

Complete results from the fixed-effect logit analysis are presented in Annex 11. Because of the limited number of observations in many of the fixed-effect regressions, clear patterns do not emerge for all types of agent behavior. The remainder of this chapter assesses the extent to which these results support different hypotheses about the causes of discrimination or about circumstances in which discrimination is most likely to occur.

Agent Prejudice

The first hypothesis about the causes of discrimination is that real estate and rental agents are prejudiced against minorities, and prefer to avoid interacting with them or providing them with service. Although we cannot directly observe or measure agent prejudice, the fixed-effect logit results indicate that discrimination varies with several factors likely to be associated with agent prejudice, including the age, gender, and ethnicity of the housing agent. Statistically significant results consistent with this hypothesis are summarized in Exhibit 7-2.

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[6] One complicating detail is that the dummy variables indicating missing information are highly correlated across variables. When these variables are perfectly correlated, they obviously can (and indeed must) be combined. When they are highly, but not perfectly, correlated, we also combine them; that is, we define variables to indicate missing information for any of the variables in a related set. This approach throws out a small amount of information (namely the information that a few observations have missing information for only some of the variables in the set) but also avoids a major increase in the complexity of our fixed-effect logit procedures. This complexity arises because dummy variables that are highly, but not perfectly correlated in the entire sample are often perfectly correlated in the subset of observations used for a particular fixed-effect regression. Unless we define a combined dummy variable for highly correlated variables, therefore, we must define a separate set of dummy variables for each dependent variable, which is a highly tedious procedure.

Exhibit 7-2: Fixed-Effect Logit Results Supporting The Agent Prejudice Hypothesis

Rental Tests	Discrimination Against Blacks				Discrimination Against Hispanics			
	Older Agent	Female Agent	Female Tester	Hispanic Agent	Older Agent	Female Agent	Female Tester	Hispanic Agent
Similar units available					+			
Number units recommended	+			+				-
Adv unit inspected	+					+		
Number units inspected	+							
Rental incentives	+							(-)
App fee required				+	-		-	
Sales Tests	Discrimination Against Blacks				Discrimination Against Hispanics			
	Older Agent	Female Agent	Female Tester	Hispanic Agent	Older Agent	Female Agent	Female Tester	Hispanic Agent
Adv unit available					+			
Similar units available	+		(-)					
Similar units inspected			-					
Number units inspected		+						
Downpaymnt discussed					+			
Told qualified	-						-	

Note: + indicates a positive association significant at a 95% confidence level; - indicates a negative association significant at a 95% confidence level; and (+) or (-) indicates that the association is significant at a 90% confidence level.

Older agents are consistently more likely than younger agents to discriminate on housing availability and inspections. This pattern occurs quite consistently in both rental and sales and for both blacks and Hispanics. Older agents are also more likely to discriminate against black and Hispanic homebuyers in providing assistance with financing. These results are consistent with the view that older cohorts have higher levels of prejudice so that prejudice-

based discrimination increases with agent age.[7] Two other results appear to cut the other way.
Specifically, in the Hispanic/non-Hispanic white rental tests, older agents are less likely than
younger agents to discriminate in statements about whether an application fee is required,[8] and
older agents are less likely to indicate that a minority customer is not qualified to buy in sales
tests.

Discrimination also appears to vary with gender. Female agents are more likely to
discriminate on housing inspections in Hispanic/white rental tests and the black/white sales
tests. This could be a reflection of agent prejudice, suggesting that female agents are
particularly uncomfortable showing homes and apartments to minority clients. In addition,
female customers encounter less discrimination on housing availability in the black/white sales
tests and on statements about their qualifications in the Hispanic/white sales tests. This may
suggest that real estate agents are more comfortable working with minority female than minority
male clients. The same does not appear to be true in the rental market, at least not for
Hispanics, as discrimination in providing information about application fees is higher for female
than for male customers.

Finally, the fixed-effect logit analysis suggests that some forms of discrimination vary
with the ethnicity of the real estate or rental agent. In the Hispanic/non-Hispanic white rental
tests, Hispanic agents are less likely than non-Hispanic whites to discriminate in recommending
units and in offering rental incentives.[9] In addition, there is sometimes a significant difference
between the way Hispanic agents and other agents treat black customers. Specifically,
Hispanic agents are more likely than non-Hispanics (black or white) to discriminate against
blacks in the number of units recommended in the rental market, in offers of financial assistance
in the sales market, and in providing information about application fees.

Stereotypes About Customers

A second explanation for discrimination is that real estate and rental agents make
assumptions about the type of housing or neighborhood that minority customers can afford or

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[7] Another, more troubling possibility is that more experienced housing agents are more likely to discriminate.
We cannot rule this possibility out based on the evidence here.

[8] This finding should be interpreted with caution, however, because customers may only be told about an
application fee when they are encouraged to fill out an application. Thus, the lower level of "discrimination" in the
application fee variable may actually imply that older agents are more likely to encourage white but not Hispanic
customers to complete an application.

[9] Conversely, in the black/white rental tests, discrimination in statements that application fees are required is
higher if the agent is black. However, as discussed earlier, this result is somewhat ambiguous, because it may
suggest that black agents are less likely than white agents to discriminate in encouraging an application.

would prefer, based on racial or ethnic stereotypes. For example, they may simply assume that a minority customer cannot afford a high-priced apartment, or would prefer to live in a predominantly African American or Hispanic neighborhood. Based on these assumptions, agents may try satisfying customer preferences and avoid offering homes or neighborhoods that are unlikely to result in a sale. Only a few results of the fixed-effect logit analysis support this hypothesis (see Exhibit 7-3).

Exhibit 7-3: Fixed-Effect Logit Results That Support The Customer Stereotype Hypothesis

Rental Tests	Discrimination Against Blacks		Discrimination Against Hispanics	
	Adv Unit in Pov Neighborhood	Adv Unit in Black Neighborhood	Adv Unit in Pov Neighborhood	Adv Unit in Hisp Neighborhood
Adv unit inspected				**(-)**
Number units inspected	**+**	**(-)**		
Sales Tests	Discrimination Against Blacks		Discrimination Against Hispanics	
	Adv Unit in Pov Neighborhood	Adv Unit in Black Neighborhood	Adv Unit in Pov Neighborhood	Adv Unit in Hisp Neighborhood
Similar units available		**-**		
Number units inspected		**-**		
Financing help offered	**-**			

Note: + indicates a positive association significant at a 95% confidence level; - indicates a negative association significant at a 95% confidence level; and (+) or (-) indicates that the association is significant at a 90% confidence level.

Discrimination against blacks, but not against Hispanics, appears to reflect agent assumptions that black customers are more willing than whites to accept housing in poor neighborhoods and that they prefer to live in neighborhoods with higher shares of black population. This pattern arises mainly for agent actions involving housing availability. In the rental market, location of the advertised unit in a poor neighborhood results in more discrimination in the number of units shown. In the sales market, agents are less likely to discriminate in offering financial assistance if the advertised unit is in a poor neighborhood. In the sales market, discrimination in the number of units recommended and in inspections of the advertised unit is lower if the share of the neighborhood population that is black is higher.

Protecting Business with Whites

Discrimination in rental and sales markets may occur because housing agents are trying to preserve their business with prejudiced white clients. For example, if a landlord thinks that whites will not move into a building with minority tenants, he may be unwilling to rent his vacant apartment to a minority. Or a real estate agent may fear that white homebuyers will no longer list their properties with her if she sells a house in their neighborhood to a minority family. One way to test this hypothesis is to determine whether discrimination is higher in neighborhoods at risk of "tipping," where agents eager to maintain their white client base may be most concerned about selling or renting to minorities. Agents are concerned about tipping, of course, because tipping implies a change in customer base, and thereby undermines the value of the contacts that they have built up in a particular community.[10]

One set of findings from the fixed-effect logit analysis may support this hypothesis (see Exhibit 7-4), but only for sales tests. Specifically, we find that black homebuyers encounter less discrimination in information about similar units when the advertised unit is in a neighborhood with a high median property value instead of a neighborhood with low property values. This suggests that agents may be less concerned about introducing black households into high-value neighborhoods, which are unlikely to tip from all-white to all-black, than into low-value neighborhoods, where tipping is more likely. Tipping is unlikely in high-value neighborhoods because they tend to be located far from largely black areas and because the relatively low incomes of black households means that few blacks can afford housing in such neighborhoods. In short, these results are consistent with the view that agents sometimes discriminate to protect their established business with prejudiced white customers.

Exhibit 7-4: Fixed-Effect Logit Results That Support The Protecting White Customers Hypothesis

Sales Tests	Discrimination Against Blacks	Discrimination Against Hispanics
	Adv Unit in Pov Neighborhood	Adv Unit in Pov Neighborhood
Similar units available	-	
Similar units inspected	-	

Note: + indicates a positive association significant at a 95% confidence level; - indicates a negative association significant at a 95% confidence level; and (+) or (-) indicates that the association is significant at a 90% confidence level.

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[10] For more on this argument, see Yinger (1995) or Ondrich, Ross and Yinger (2002).

Agency Size

Previous research (Yinger, 1995) has suggested that discrimination may depend on the characteristics of a housing agency, particularly its size. One possibility is that larger firms have more experience serving customers in a range of different groups and are more likely to tailor their practices to fit their perceptions of each group's preferences or each group's impact on the firm's overall profitability. The fixed-effect logit analysis finds some evidence to support this possibility (see Exhibit 7-5). Specifically, discrimination increases with the number of staff encountered by the testers in their visits, a rough measure of agency size, for several treatment measures: number of units inspected and offers of rental incentives for black renters, discussion of downpayment requirements for black homebuyers, and statements about customer qualifications to buy for Hispanic homebuyers. Although these results provide a clear link between agency size and discrimination, the incentives behind this link cannot be observed directly and more research is needed to provide stronger evidence on the nature of these incentives.

A related finding indicates that discrimination in financing assistance and encouragement in the sales market clearly is higher when the white tester encounters more staff at the real estate agency than his or her minority partner. One explanation for this result is that white customers, but not minority customers, are referred to agents who specialize in housing finance. This interpretation cannot be tested directly, however, and deserves further investigation.

Exhibit 7-5: Fixed-Effect Logit Results That Reflect Agency Size

Rental Tests	Discrimination Against Blacks		Discrimination Against Hispanics	
	More Agents in Firm	White Saw More Agents	More Agents in Firm	White Saw More Agents
Adv unit inspected	(+)			
Number units inspected	+			
Rental incentives	+			
Sales Tests	Discrimination Against Blacks		Discrimination Against Hispanics	
	More Agents in Firm	White Saw More Agents	More Agents in Firm	White Saw More Agents
Financing help offered		+		+
Lenders recommended				+
Downpayment discussed	+	+	(+)	
Told qualified		+	+	+

Note: + indicates a positive association significant at a 95% confidence level; - indicates a negative association significant at a 95% confidence level; and (+) or (-) indicates that the association is significant at a 90% confidence level.

Tester Characteristics

The last set of issues we explored with the fixed-effect logit methodology involve the real-life characteristics of the testers. As discussed in chapter 5, there is little evidence to suggest that observed levels of adverse treatment against minorities are attributable to differences in their real-life characteristics other than race or ethnicity. However, we do find evidence that estimated levels of discrimination vary with testers' actual characteristics (Exhibit 7-6), suggesting that future testing efforts should continue to give careful attention to the characteristics of testers and differences between them.

First, we find some evidence that discrimination varies with tester experience, but the nature of this link is unclear. In most cases, testing experience on the part of one tester but not the other has roughly the same effect on discrimination (in both sign and magnitude) regardless of whether the tester with experience is the white or the minority. Moreover, the effect on

discrimination of both testers having experience is roughly twice as large as the effect of one experienced tester. However, the direction of the effect is not always the same; tester experience leads to more discrimination for some types of agent behavior and to less discrimination for others. The most interesting results are in the sales market. In the black/white sales test, tester experience reduces discrimination in the number of units inspected but raises it in offers of financial help. In the Hispanic/non-Hispanic white sales tests, tester experience increases discrimination in the availability and inspection of the advertised unit, but reduces discrimination in the number of recommendations, offers of financial assistance (the opposite of the black/white result), lender recommendations, and discussions of downpayment requirements. This mix of results obviously leads to no clear interpretation, but suggests that tester experience should be carefully monitored and that tester training must focus on ensuring that both experienced and inexperienced testers follow the same protocols.

Results are also mixed and ambiguous for other tester characteristics. For many forms of treatment, the incidence of discrimination appears to be sensitive either to the real-life characteristics of *both* testers, or to differences between the two. Whether testers were born in the U.S., whether they live in the metro area, whether they were homeowners or were actually looking for a house or apartment at the time testing was conducted, their education and income levels all have a significant effect on at least one form of discrimination. However, the direction of these effects yields no clear pattern. In some cases, for example, differences between test partners increases the incidence of discrimination, while in other cases, they reduce the incidence.

Conclusion

Overall, these results confirm the conclusions of previous studies that the likelihood of discrimination is not the same under all circumstances and that discrimination can have several different causes. These causes include agents' own prejudice, agents' incentives to preserve their established business with prejudiced white clients, and agent's perceptions that some transactions with minority customers are more likely than others. These results also indicate that the experience of minority homeseekers may be influenced by the size of the firm and that real estate employees who specialize in financing may sometimes be reserved for white customers. Finally, the multivariate analysis presented here suggests that discrimination varies with testers' real-life characteristics, most of which have not been recorded in any previous studies. However the nature of this relationship is complex and does not offer a clear interpretation for any of these characteristics.

Exhibit 7-6: Fixed-Effect Logit Results That Reflect Impact Of Testers' Real-Life Characteristics

Rental Tests	Discrimination Against Blacks			Discrimination Against Hispanics		
	Experience with Testing	Real-Life Chars	Difference btwnTesters	Experience with Testing	Real-Life Chars	Difference btwnTesters
Similar units available					Education	
Number units recommended		Foreign born				
Number units inspected		Foreign born				
Rental incentives		House hunting; income	Experience		Foreign born	Employed
App fee required	+	Owner; lives in metro	Income		Education; income	Income
Asked to complete app		House hunting; foreign born	Employed; income; born outside US			
Sales Tests	Discrimination Against Blacks			Discrimination Against Hispanics		
	Experience with Testing	Real-Life Chars	Difference btwnTesters	Experience with Testing	Real-Life Chars	Difference btwnTesters
Adv unit available				+		Experience
Similar units available			Education			
Adv unit Inspected				+		
Number units inspected	-		Experience			
Number units recommended				-	Employed; lives in metro	Employment
Financing help offered	+	Homeowner lives in metro	Education	-	Homeowner; house hunting; income	Employed; homeowner; income
Lenders recom				-	Homeowner	
Downpaymnt discussed		Foreign born	Lives in metro; income; foreign born	-	homeowner; house hunting lives in metro; foreign born	Experience; house hunting; foreign born
Told qualified			Education; foreign born			Income

Note: + indicates a positive association significant at a 95% confidence level; - indicates a negative association significant at a 95% confidence level; and (+) or (-) indicates that the association is significant at a 90% confidence level. Other entries indicate explanatory variables with a positive or negative association significant at a 95% confidence level.

8.   CONCLUSIONS AND IMPLICATIONS

The first phase of HDS2000 has produced a wealth of new information and analysis about discrimination in metropolitan rental and sales markets. Specifically, it provides up-to-date measures of the incidence of adverse treatment faced by African Americans and Hispanics in metropolitan housing markets nationwide, and rigorous estimates of change in adverse treatment over the last decade. In addition, estimates of adverse treatment are now available at the metropolitan-area level, allowing advocates and policymakers to assess local conditions. And in a small number of pilot sites, estimates of adverse treatment are available for Asian Americans and Native Americans. Finally, this report builds on past analyses to advance our understanding of geographic steering, sources of variation in patterns of adverse treatment, and the strengths and limitations of paired testing as a tool for measuring racial and ethnic discrimination. This chapter reviews the report's major findings, and discusses the implications of these findings, both for fair housing enforcement and for future fair housing research.

African Americans and Hispanics Still Face Discrimination

In both rental and sales markets of metropolitan areas nationwide, black and Hispanic homeseekers experience significant levels of adverse treatment, relative to comparable white homeseekers (see Exhibit 8-1). Our "best estimate" of discrimination, which reflects the extent to which whites were consistently favored over their minority partners, ranges from 17.0 percent for African American homebuyers to 25.7 percent for Hispanic renters. Upper-bound estimates indicate that blacks and Hispanics experienced adverse treatment (compared to equally qualified whites) about half the times that they visited real estate or rental offices to inquire about the availability of housing advertised in the major metropolitan newspaper. Lower-bound (net) estimates of systematic discrimination are statistically significant at about 8 percent for African American renters and homebuyers. Hispanic renters appear to face higher levels of systematic discrimination—15 percent, but the lower-bound estimate of discrimination against Hispanic homebuyers is not statistically significant.

Discrimination appears to take different forms for African Americans and Hispanics, and in rental and sales markets (see Exhibit 8-2). For African American renters, the incidence of discrimination is highest for opportunities to inspect housing units, although significant discrimination also occurs for housing availability. Hispanic renters face the highest levels of discrimination for housing availability, with lower (but significant) levels for inspections. For African American homebuyers (like renters), levels of discrimination are highest for housing inspections, but significant discrimination also occurs with respect to geographic steering, assistance with financing, and overall encouragement. In contrast, Hispanic homebuyers only appear to face statistically significant levels of discrimination with respect to steering and financing assistance.

Exhibit 8-1: National Estimates of Discrimination Against Blacks and Hispanics
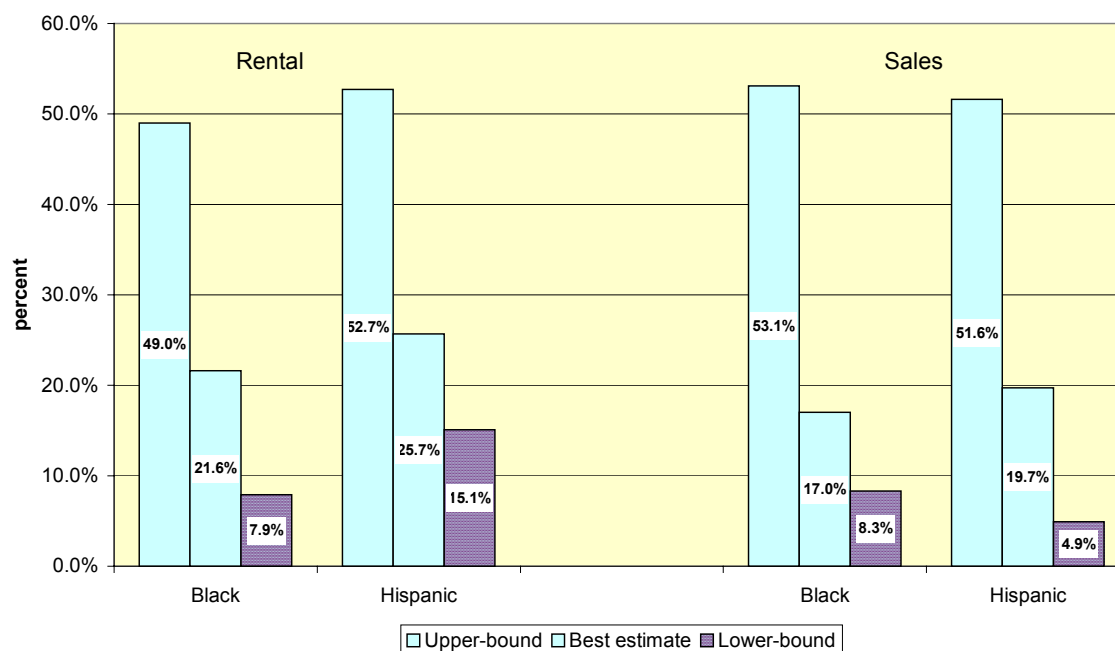
Exhibit 8-2: Forms of Adverse Treatment in Rental and Sales Markets

	Black		Hispanic	
Rental Tests	Gross Upper-bound	Net Lower-bound	Gross Upper-bound	Net Lower-bound
Availability	31.5%	3.9%	34.0%	11.9%
Inspections	27.5%	8.3%	24.4%	7.2%
Costs	21.4%	--	21.7%	--
Encouragement	31.3%	--	32.8%	--
	Black		**Hispanic**	
Sales Tests	Gross Upper-bound	Net Lower-bound	Gross Upper-bound	Net Lower-bound
Availability	46.2%	--	46.3%	--
Inspections	42.9%	8.8%	38.3%	--
Geographic Steering*	11.0%	3.5%	14.7%	5.0%
Financing Assistance	36.6%	4.9%	38.6%	14.4%
Encouragement	31.3%	5.2%	30.6%	--

All reported results are statistically significant at the 95% confidence level.

* The steering figure for homes inspected was used.

These findings show that African Americans and Hispanics still face serious barriers when they search for both rental and sales housing, and suggest a continued need for fair housing education and enforcement. Ongoing fair housing efforts should clearly focus on all aspects of the housing transaction, not just whether housing units are made available to minority customers. The ability to inspect available housing units represents an important source of adverse treatment for both blacks and Hispanic renters and for black homebuyers. In addition, differences in the assistance with financing that real estate agents provide represents the primary source of adverse treatment facing Hispanic homebuyers.

Although the results presented here provide convincing evidence that discrimination persists in metropolitan rental and sales markets, they do not necessarily measure all the forms of discrimination that may be occurring, nor do they represent all segments of the housing market. Like previous national paired testing studies, HDS2000 is limited in its coverage of urban housing markets and the experience of minority homeseekers. The sample of real estate and rental agents to be tested was drawn from newspaper advertisements, and the economic characteristics of tester teams were matched to the characteristics of the advertised units. However, not all housing units for sale or rent are advertised in major metropolitan newspapers, not all real estate and rental agents use newspaper advertising to attract customers, and not all homeseekers rely upon newspaper advertisements in their housing search. Therefore, results presented here do not necessarily reflect the experience of the typical minority homeseeker, but rather of homeseekers qualified to rent or buy the average housing unit advertised in a major metropolitan newspaper.

Moreover, the results presented here do not encompass all phases of the housing market transaction. HDS2000, like most paired testing studies, focuses on the initial encounter between a homeseeker and a rental or sales agent. Additional incidents of adverse treatment may occur later in the housing transaction, when a renter submits an application or negotiates lease terms, or when a homebuyer makes an offer on a particular unit or applies for mortgage financing. Finally, HDS2000 is designed to measure the extent to which minority homeseekers experience adverse treatment when they look for housing in urban areas nationwide, not to assemble evidence of discrimination in individual cases. The question of when differential treatment warrants prosecution and the related question of whether sufficient evidence is available to prevail in court can only be resolved on a case-by-case basis, which might also consider other indicators of treatment than those reported here.

Discrimination Against Blacks and Hispanics Has Generally Declined Since 1989

The first phase of HDS2000 was explicitly designed to rigorously measure changes in levels and patterns of differential treatment since the last national paired testing study sponsored by HUD. The basic testing protocols replicated those implemented in the 1989 HDS. And testing was conducted in a sub-set of the metropolitan areas covered in 1989. Thus, we

are able to produce comparable measures of differential treatment for both 1989 and 2000. These measures indicate that the nation has made progress in combating housing market discrimination, achieving significant reductions for black renters, and for both black and Hispanic homebuyers.[1]

The precise pattern of change in discrimination varies with tenure and race/ethnicity (see Exhibit 8-3). For African American renters, the gross incidence of white-favored treatment declined significantly overall and for most categories of treatment. Lower-bound (net) estimates of systematic discrimination also declined significantly for three of the four categories of treatment, although the change in the overall net incidence was not statistically significant. And

Exhibit 8-3: National Estimates of Change in Discrimination, 1989-2000

	Black		Hispanic	
Rental Tests	Gross Upper-bound	Net Lower-bound	Gross Upper-bound	Net Lower-bound
Availability	-14.0%	-8.8%	-7.0%	--
Inspections	-9.4%	-6.5%	-9.9%	--
Costs	-5.1%	-8.1%	--	--
Encouragement	--	--	-7.3%	-9.0%
Hierarchical	-5.5%	--	--	--
Consistency	-4.8%	-8.7%	--	--
	Black		**Hispanic**	
Sales Tests	Gross Upper-bound	Net Lower-bound	Gross Upper-bound	Net Lower-bound
Availability	--	-13.3%	5.0%	-10.5%
Inspections	16.1%	--	8.0%	-14.7%
Geographic Steering*	7.5%	5.9%	7.4%	--
Financing Assistance	--	--	5.3%	13.1%
Encouragement	-4.1%	-6.1%	-7.6%	-14.5%
Hierarchical	--	-8.8%	--	-9.8%
Consistency	-12.0%	-8.2%	-7.1%	--

All reported results are statistically significant at the 95% confidence level.

* The steering figure for homes inspected was used.

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[1] As discussed earlier, however, it is important to recognize that these measures do not capture all the forms that discrimination may take or segments of the housing market. Discrimination might have increased in other parts of the market or for other steps in a housing transaction, while the measures presented here generally declined.

Finally, the incidence of consistent white-favored treatment declined significantly. Thus, the findings show a consistent pattern of decline across measures of discrimination against African American renters. It appears that changing attitudes, education, and enforcement have combined to reduce (though not eliminate) the barriers that black renters face when they search for housing in metropolitan housing markets.

The picture is less clear-cut for Hispanic renters. Again, the gross incidence of adverse treatment declined significantly for three categories of treatment. But none of the overall indicators changed significantly between 1989 and 2000. Thus, we cannot conclude that discrimination against Hispanic renters has declined. In metropolitan rental markets, discrimination against Hispanics now appears to be more prevalent than discrimination against African Americans (according to both gross and net measures), suggesting that enhanced outreach, education, and enforcement efforts might be needed to address this problem.

For homebuyers—both black and Hispanic—the gross incidence of adverse treatment actually increased between 1989 and 2000 for several categories of treatment. However, the net measures dropped significantly for most forms of treatment, because the incidence of minority-favored treatment increased more than the incidence of white-favored treatment. The consistency measures also declined significantly, indicating that whites are less likely to be consistently favored across all forms of treatment in a test than they were in 1989. Thus, although high levels of differential treatment still occur, they are less likely to systematically favor whites than a decade ago. This change may reflect systematic efforts by some real estate agents to favor minority customers, but it may also reflect—at least in part—an increase in random differential treatment.

Although the evidence from HDS2000 suggests that systematic discrimination against African American and Hispanic homebuyers has declined, the persistently high levels of differential treatment are troubling. They suggest that we need not only to learn more about the causes of minority-favored treatment, but also to continue educational and enforcement efforts aimed at promoting equal treatment of qualified customers. In addition, Hispanic homebuyers appear to face an increasing incidence of discrimination with respect to financing assistance, which may limit their ability to become homeowners. And, as discussed further below, the evidence suggests that geographic steering on the basis of race has increased significantly since 1989. Steering disadvantages both minority and white homeseekers, limiting their neighborhood options and perpetuating residential steering. Ongoing education and enforcement efforts should focus on these growing forms of discrimination.

A Few Metropolitan Areas Exhibit Especially High or Low Levels of Adverse Treatment

One of the innovations of HDS2000 was to conduct sufficient numbers of tests in each sample site to produce estimates of differential treatment for individual metropolitan areas. In

the 1989 Housing Discrimination Study, samples large enough to report metro-level estimates were produced in only five "in-depth" sites. But in HDS2000 approximately 70 paired tests were conducted per tenure category (rental and sales) and per racial or ethnic minority in each of the metropolitan areas in the national sample. Therefore, all of the indicators of differential treatment reported at the national level are also reported for each metropolitan area where testing was conducted. However, the statistical precision of the metro-level estimates is not as high as for the national results, so these results need to be interpreted with some caution.

Although patterns of differential treatment vary across metropolitan areas, overall levels of white- or non-Hispanic white-favored treatment are generally not significantly different from the national average. African American renters appear to face the highest levels of consistent adverse treatment in Atlanta, Georgia and the lowest levels in Chicago, Illinois and Detroit, Michigan. Consistent adverse treatment of African American homebuyers is significantly higher than the national average in Austin, Texas and Birmingham, Alabama, while black homeowners face relatively low levels of consistent adverse treatment in Atlanta and Macon, in Georgia. For Hispanic renters, only Denver, Colorado exhibits levels of consistent adverse treatment significantly different from national results, with below-average levels of adverse treatment for Hispanics. On the sales side, Hispanics in Austin, Texas and New York, New York face relatively high levels of consistent adverse treatment, while Pueblo, Colorado and Tucson, Arizona exhibit relatively low levels. Multivariate analysis, which tested for differences across metro area results while controlling for other factors, also found no evidence of systematic variation in net estimates of discrimination.

These results suggest that discrimination against African American and Hispanic homeseekers remains a problem in large metropolitan areas nationwide—that no region of the country or group of metropolitan areas is exempt. Nonetheless, evidence of local variations in the forms of differential treatment may provide useful information for targeting education and enforcement activities. For example, in some metropolitan areas, minorities are highly likely to be denied information about available housing units, while in other areas, geographic steering or unequal assistance with financing play a bigger role.

Paired Testing is a Powerful Tool for Measuring Differences in Treatment

Paired testing originated as a tool for fair housing enforcement, detecting and documenting individual instances of discrimination. Since 1977, this methodology has also been used to rigorously measure the prevalence of discrimination across the housing market as a whole. HDS2000 is the third national paired-testing study sponsored by HUD to measure patterns of racial and ethnic discrimination in urban housing markets. Its predecessors, the 1977 Housing Market Practices Study (HMPS) and the 1989 Housing Discrimination Study (HDS), found significant levels of racial and ethnic discrimination in both rental and sales

markets of urban areas nationwide. Each of these studies has refined the paired testing methodology and contributed to a better understanding of how testing results can be used to measure systematic discrimination based on a homeseeker's race or ethnicity.

The simplest measure of adverse treatment is the share of all tests in which the white tester is favored over the minority. Because there are also tests in which minority testers receive better treatment than their white partners, we report both the incidence of white-favored treatment and the incidence of minority-favored treatment. These gross measures of white-favored and minority-favored treatment include both random and systematic elements, and therefore provide *upper-bound estimates* of systematic discrimination. Net measures report the share of tests in which the white tester was favored minus the share of tests in which the minority was favored. This clearly understates the frequency of systematic discrimination, because not all minority-favored treatment is the result of random factors. Nevertheless, the net measure reflects the extent to which the differential treatment that occurs (some systematically and some randomly) is more likely to favor whites than minorities, and provides *lower-bound estimates* of systematic discrimination.

One strategy for estimating systematic discrimination is to use multivariate statistical methods to control for non-systematic factors. This report presents the results of multivariate analysis, controlling for the order of tester visits, whether both testers met with the same agent, and differences in the real-life characteristics of testers. But this strategy can only control for random factors that are *observable*, and provides no way of knowing whether or how much other random variation remains. Even after controlling for all the observable sources of random differences, an unknown amount of unobservable randomness remains. Therefore, multivariate estimates can be used to assess the robustness of basic gross and net measures, but it would be a mistake to interpret them as definitive measures of systematic discrimination.

We used multivariate statistical procedures to address four frequently asked questions about paired testing results:

1. *Are differences in treatment attributable to different agents?* Partly. The biggest measurable source of non-systematic differences in treatment was meeting with different rental or sales agents. When both testers meet with the same agent, the gross incidence of differential treatment (both white-favored and minority-favored) drops. The net measure, however, stays about the same. Between 1989 and 2000, the share of sales tests in which both partners met with the same agent dropped from about 50 percent to only 25 percent. This explains some of the increase in both white-favored and minority-favored treatment.

2. *Are differences in treatment attributable to the order or spacing of visits?* Not much. Controlling for which tester visited an agent first and for the amount of time that elapsed between their visits reduces the gross incidence of differential treatment only slightly. The net measures stay the same.

3. *Are differences in treatment attributable to differences in testers' real characteristics?* No. Some critics of the paired testing methodology have suggested that observed differences in treatment are at least partly attributable to real-life differences in tester characteristics. We controlled for differences in testers' actual education, income, homeownership experience, testing experience, and age, and found no evidence to support the argument that either gross or net measures of discrimination would be systematically lower if testers' real-life characteristics were more similar.

4. *Are differences in treatment attributable to neighborhood characteristics?* No. One hypothesis about the increased incidence of minority-favored treatment is that it might occur high-minority or high-poverty neighborhoods, where agents are actually *discouraging* whites from moving, while showing homes and apartments to minorities. However, when we controlled for characteristics of the neighborhoods in which advertised homes and apartments were located, we found little variation in the incidence of minority-favored treatment.

This sensitivity analysis confirms the robustness and reliability of our national estimates.

An alternative strategy for eliminating the effects of non-systematic factors is to empirically observe differences in treatment between paired testers of the same race. If same-race testers are carefully matched and follow the protocols of a conventional paired test, any differences in treatment that are observed between them must reflect random factors (both observable and unobservable). Phase 2 of HDS2000 experimented with three-part tests in two metropolitan areas, including tests involving visits by two whites and a minority as well as tests involving two minorities and a white. Preliminary results from these triad tests suggest that the incidence of same-race differences in treatment is generally not significantly different from the incidence of minority-favored treatment. In other words, minority-favored treatment may be a reasonable proxy for random differences in treatment, and the net measure may provide a good estimate of systematic discrimination. However, because sample sizes are small and not all treatment variables have been analyzed, these preliminary results should be interpreted cautiously.

Geographic Steering Represents an Increasingly Important Form of Discrimination

For homebuyers, geographic steering constitutes an important form of discrimination that limits the housing and neighborhood choices available to both minority and white households, and may help perpetuate patterns of residential segregation. As discussed earlier, HDS2000 found that the incidence of steering for black and white homebuyers increased significantly, even though other measures of systematic discrimination were declining (see Exhibit 8-3). And

as of 2000, white homebuyers were recommended and shown houses in more predominantly white neighborhoods than comparable black or Hispanic homebuyers.

In addition to these basic steering indicators, this report presents an expanded analysis of geographic steering for sales tests. This analysis explored three distinct types of steering—information steering, segregation steering, and class steering—that could occur through three techniques—recommendations, inspections, and editorializing. This analysis was conducted at three potentially important levels of geography—census tract, place, and school district. Tract-level results are summarized in Exhibit 8-4.

Exhibit 8-4: Measures of Geographic Steering

	Black/White		Hispanic/N-H White	
	Gross	Net	Gross	Net
	Upper-	Lower-	Upper-	Lower-
Information Steering	bound	bound	bound	bound
Recommendations	14.1%	—	15.4%	—
Inspections	10.0%	—	9.9%	—
Comments	38.5%	15.0%	35.0%	—
Segregation Steering				
Recommendations	16.5%	3.8%	17.1%	—
Inspections	12.1%	3.8%	15.0%	5.0%
Comments	37.1%	13.7%	35.1%	6.2%
Class Steering				
Recommendations	6.9%	—	7.0%	—
Inspections	5.2%	—	5.1%	—
Comments	34.9%	11.5%	30.7%	—
Note: All figures reported in this table are statistically significant at the 90% level or higher.				

This analysis concludes that steering of all three types is occurring, especially at the tract level, when black and white homeseekers are involved. Black/white segregation and class steering occur more often when the advertised home and/or the agent's office are located in neighborhoods with high percentages of white population. Roughly comparable incidences of segregation steering also are occurring in Hispanic/non-Hispanic white tests, though the other types of steering appear less prevalent. Hispanic/non-Hispanic white segregation and class steering are manifested more strongly when the advertised home is located in predominantly non-Hispanic white neighborhoods, though variations related to agent office location are less clear.

These findings suggest that geographic steering warrants increased attention in education and outreach efforts. Many local testing organizations have focused their efforts

primarily on rental testing, and conducting rigorous tests of discrimination by sales agents is considerably more demanding for both testers and their supervisors. Moreover, to obtain credible evidence of geographic steering, testers need to avoid giving sales agents cues about where they want to live and may need to visit multiple homes and record any comments made about the surrounding neighborhoods.

Analysis of Variations Suggests Possible Causes of Discrimination

In addition to producing national and metropolitan estimates of discrimination, HDS2000 looked for possible patterns of variation in discrimination based on location, timing, tester characteristics, agent or agency characteristics, and neighborhood characteristics. This analysis tests three basic hypotheses about the causes of discrimination, assessing the extent to which it appears to stem from agent prejudice, from efforts by agents to protect their business with prejudiced white customers, and from stereotypes by agents about what minority and white customers want or can afford.

Many forms of discrimination clearly vary on the basis of housing agent characteristics. In every type of test, at least one regression indicates that older agents discriminate more than younger agents. Both prejudice and professional experience tend to increase with age, so this result could reflect either higher prejudice on the part of older agents or else some connection between discrimination and the types of firms where more experienced agents tend to work. In addition, we find some evidence that female agents discriminate more than male agents. In addition, discrimination is higher when white testers encounter more agents than their minority partners. This result suggests that discrimination may be more likely to occur in larger agencies that have more different units to offer customers.

Some results support the view that agent prejudice is a key cause of discrimination. Specifically, Hispanic agents discriminate less against Hispanic renters than do white agents, and black females encounter less discrimination in the sales market than do black males. A few results also support the view that housing agents discriminate on the basis of their perceptions about the preferences of black or Hispanic customers—and their desire to avoid spending time on transactions that are unlikely to be consummated. In particular, discrimination against Hispanics in the rental market is sometimes lower in largely Hispanic neighborhoods, and discrimination against blacks in the sales market is sometimes lower in largely black neighborhoods. Finally, one result supports the view that agents discriminate to avoid racial or ethnic tipping, which would undermine all the personal contacts they have developed in the white community. To be specific, discrimination against blacks in the sales market declines with the average value of housing in the advertised unit's neighborhood.

Paired Testing Can Be Extended to Asians and Native Americans

HDS2000 provides the first rigorous estimates of differential treatment in metropolitan housing markets for three groups of Asian Americans and for Native Americans, based upon pilot testing conducted in Los Angeles (Chinese and Koreans), Minneapolis (Southeast Asians), and Phoenix (Native Americans). Although this pilot testing experience established the feasibility of measuring adverse treatment for Asians and Native Americans, sales tests proved to be very challenging for Southeast Asian testers in the Minneapolis area and for Native American testers in Phoenix. Therefore, in these two sites, results are available only for renters.

The pilot results indicate that Asians and Native Americans experience significant housing discrimination (see Exhibit 8-5). In the Los Angeles rental market, both Chinese and Koreans face relatively low overall levels of adverse treatment. In particular, the incidence of white-favored treatment on housing availability and housing inspections is relatively low (compared to the corresponding values for black/white and Hispanic/non-Hispanic white tests in Los Angeles). For agent service, on the other hand, the incidence of adverse treatment for Chinese and Koreans is relatively high. Chinese and Korean homebuyers appear to face levels of adverse treatment comparable to the corresponding values for blacks and Hispanics in Los Angeles. For Koreans, overall lower-bound estimates of discrimination are statistically significant at 22.2 percent.

Exhibit 8-5: Adverse Treatment of Asians and Native Americans

Rental Tests	Chinese - Los Angeles		Koreans - Los Angeles		SE Asians - Minneapolis		Native Americans - Phoenix	
	gross upper-bound	net lower-bound	gross upper-bound	net lower-bound	gross upper-bound	net lower-bound	gross upper-bound	net lower-bound
Availability	17.6%	--	20.0%	--	32.5%	--	30.0%	--
Inspections	17.6%	--	18.7%	--	31.2%	20.8%	23.8%	--
Cost	16.2%	--	20.0%	--	20.8%	--	27.5%	--
Encouragement	37.8%	17.6%	42.7%	21.3%	39.0%	--	36.3%	--
Hierarchical	40.5%	--	44.0%	--	50.6%	--	51.3%	--
Consistency	21.6%	--	30.7%	--	24.7%	--	22.5%	--
Sales Tests								
Availability	47.1%	--	56.9%	--				
Inspections	44.3%	--	59.7%	31.9%				
Financing Assistance	47.1%	--	56.9%	33.3%				
Encouragement	57.1%	34.3%	38.9%	--				
Hierarchical	52.9%	--	61.1%	22.2%				
Consistency	17.1%	--	18.1%	--				
All reported results are statistically significant at the 90% confidence level.								

Southeast Asian renters in the Minneapolis area appear to face a higher incidence of adverse treatment than either Chinese or Koreans in Los Angeles. For housing availability and housing inspections, the estimates of adverse treatment against Southeast Asians are comparable to the average treatment against African Americans and Hispanics that are observed nationally. Estimates of adverse treatment against Native Americans in Phoenix are also generally comparable to national results for African Americans and Hispanics.

Phase 2 of HDS2000 will report national estimates of discrimination against Asian Americans, based on a representative sample of metropolitan areas with large Asian populations. Although it is not feasible to produce national estimates for individual ethnic sub-groups within the Asian population, the national results will reflect the diversity of American's Asian population. Specifically, in each metro area where testing was conducted, testers were recruited to be representative of the largest Asian sub-groups in that metropolitan area. Phase 3 of HDS2000 will build upon the experience gained in Phoenix to produce estimates of discrimination against Native Americans (searching for housing *off* Indian Lands) in metropolitan areas of selected states.

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