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

Final Report

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Despite the generous contributions from these individuals and organizations, any errors and omissions that may remain in this report are, of course, our own.

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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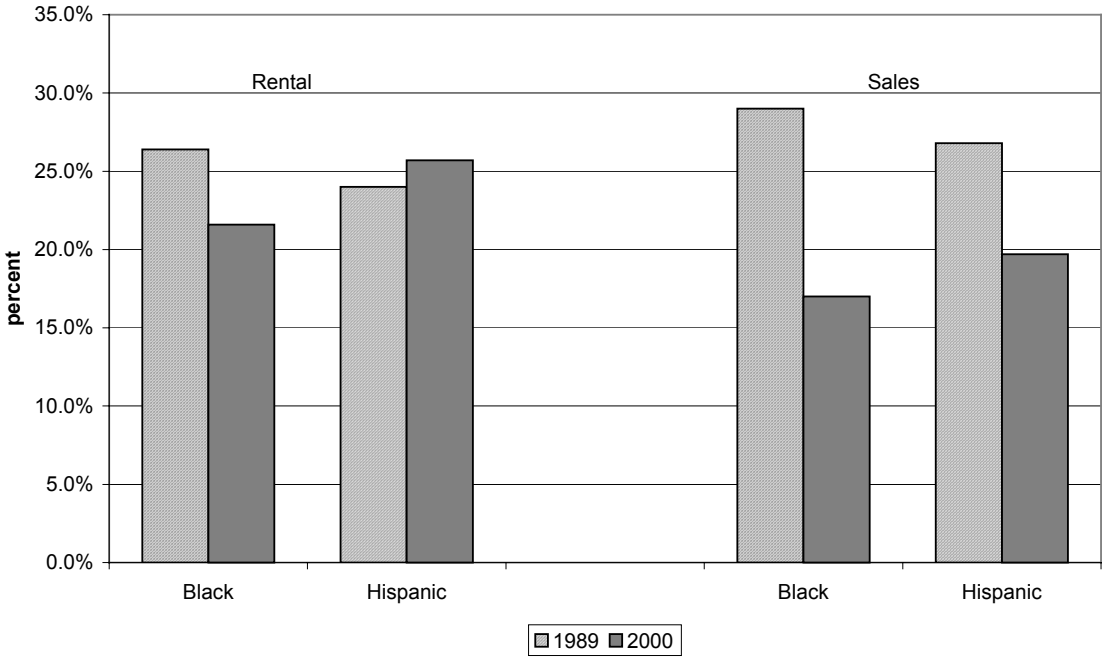
[1] HDS2000 is designed to measure the extent to which minority homeseekers experience adverse treatment when they look for housing in urban areas nationwide. The tests conducted for this study were not designed to assemble evidence of discrimination in individual cases. The question of when differential 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

[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]

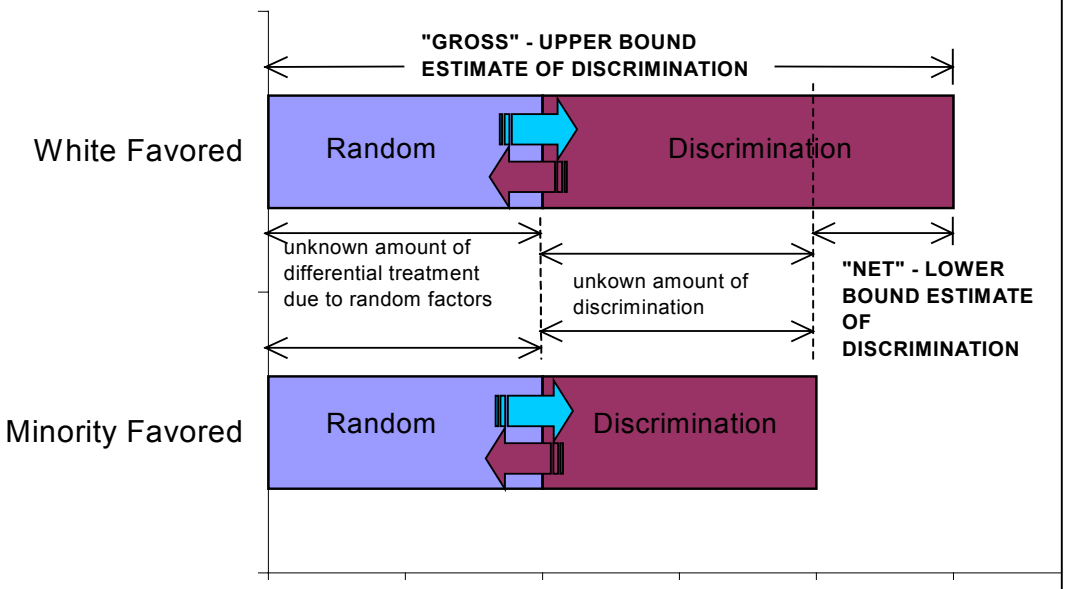
One strategy for estimating systematic discrimination, that is, to remove the cases where non-discriminatory random events are responsible for differences in treatment, is to subtract the incidence of minority-favored treatment from the incidence of white-favored treatment to

[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]

[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

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.

[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.

[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
- Atlanta
- Philadelphia
- Detroit
- Washington, DC
- New Orleans
- Pittsburgh
- Dayton-Springfield
- Orlando
- Macon/Warner/Robins
- Birmingham

Hispanic ONLY
- San Antonio
- Pueblo
- San Diego
- Tucson

Black/Hispanic
- Los Angeles
- New York
- Chicago
- 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.

[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

[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

[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:

$$AWT = SWT \times POP_ADJ \qquad (1)$$

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:

$$SWT(i) = 1/P(i) \qquad (2)$$

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,

$$ADJ(j) = C_TOT(j)/S_TOT(j). \qquad (3)$$

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:

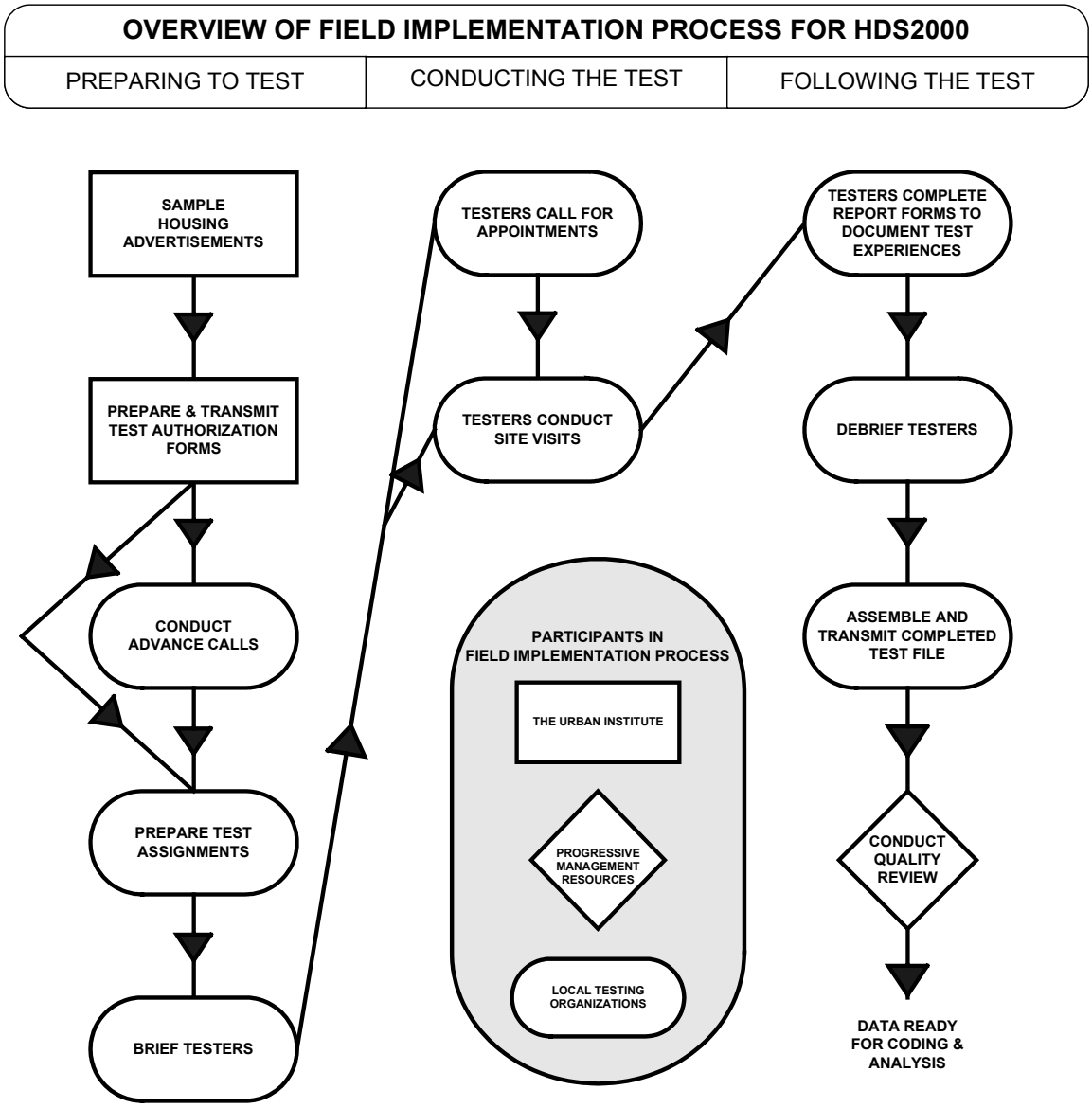
- Transaction Type – the test tenure, whether rental or sales;
- Testing Type – the racial/ethnic group identified for the particular test;
- Required Sequence – the randomly assigned order (minority/non-minority) in which the testers should make their test visits;
- Sales and Rental Information – the 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]

[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



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.

[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

[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

[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:

[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;

[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

[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

Rental

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

Sales

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).

[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).

[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

[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 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.

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.

[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.

[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]

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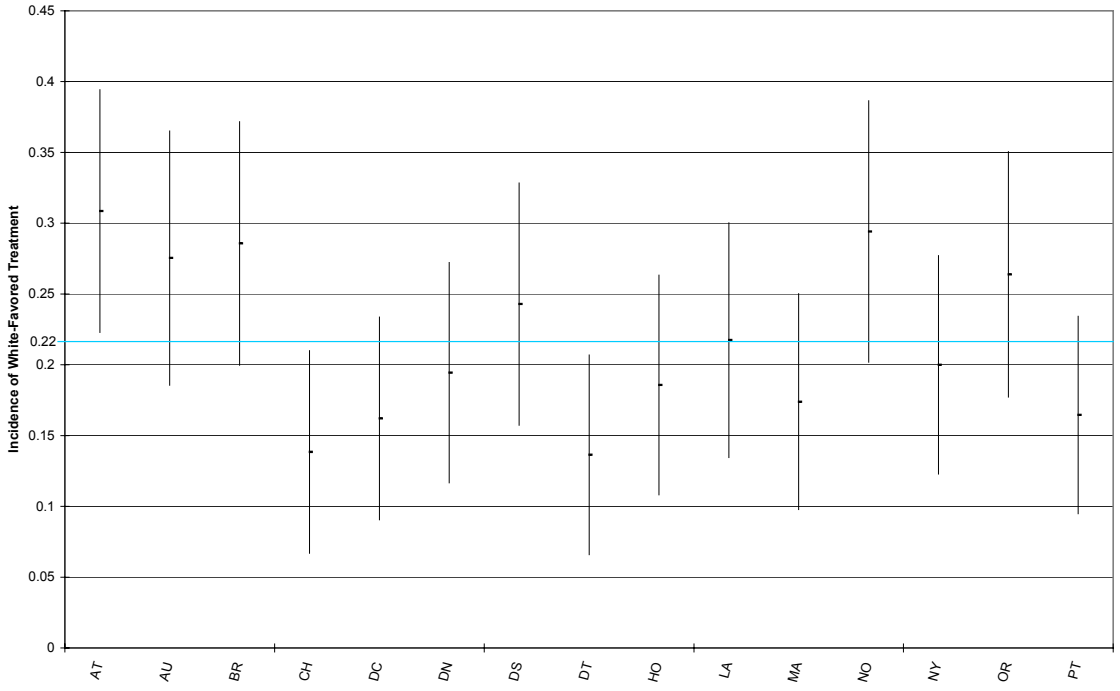
[1] In the 1989 Housing Discrimination Study, samples large enough to produce metro-level estimates were produced in only five sites—Atlanta, Chicago, Los Angeles, New York, and San Antonio.

[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 4-2: Differential Treatment for Black Renters, Atlanta, Georgia

TREATMENT MEASURES	Atlanta			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	6.2%	3.7%	2.5%	12.3%	8.3%	4.1% **
Similar units available?	14.8%	11.1%	3.7%	14.3%	15.4%	-1.0%
Number units recommended	21.0%	9.9%	11.1%	28.3%	23.3%	5.1% **
Overall availability	21.0%	13.6%	7.4%	31.5%	27.6%	3.9% *
Advertised unit inspected?	11.1%	3.7%	7.4%	15.6%	9.2%	6.4% **
Similar units inspected	8.6%	8.6%	0.0%	8.1%	7.2%	0.9%
Number units inspected	17.3%	11.1%	6.2%	23.3%	16.2%	7.0% **
Overall inspection	22.2%	13.6%	8.6%	27.5%	19.2%	8.3% **
Rent for advertised unit	27.7%	6.4%	21.3% **	9.3%	12.0%	-2.7%
Rental incentives offered?	16.0%	4.9%	11.1% **	9.2%	6.5%	2.7% **
Amount of security deposit	5.3%	5.3%	0.0%	5.3%	5.3%	0.0%
Application fee required?	16.0%	7.4%	8.6%	10.7%	14.5%	-3.8% **
Overall cost	37.0%	14.8%	22.2% **	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.5%	1.2%	1.2%	2.5%	2.1%	0.4%
Asked to complete application?	8.6%	25.9%	-17.3% **	18.1%	15.8%	2.3%
Arrangements for future?	19.8%	18.5%	1.2%	14.7%	16.3%	-1.6%
Told qualified to rent?	2.5%	2.5%	0.0%	3.6%	3.4%	0.2%
Overall encouragement	23.5%	34.6%	-11.1%	31.3%	28.6%	2.6%
Overall hierarchical	60.5%	27.2%	33.3% **	49.0%	41.1%	7.9% **
Overall consistency	30.9%	13.6%	17.3% **	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.

Chicago, Illinois generally exhibits low levels of white-favored treatment. White were consistently favored in only 13.8 percent of tests (7.8 points below the national average) and the overall incidence of white-favored treatment was 38.5 percent (10.5 points below the national average). The incidence of black-favored treatment actually exceeds the incidence of white-favored treatment for both these summary indicators. However, the net measures are not statistically significant. White-favored treatment in the Chicago rental market was particularly low for housing availability and inspections, but not for costs and agent encouragement.

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

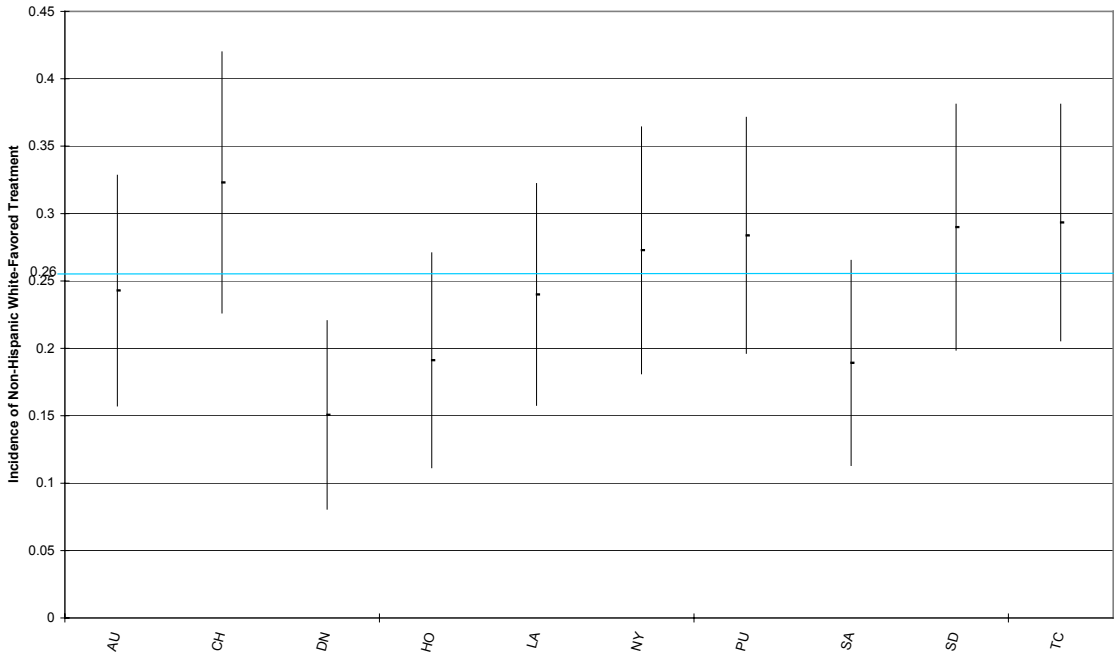
TREATMENT MEASURES	Detroit			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	27.3%	7.6%	19.7% **	12.3%	8.3%	4.1% **
Similar units available?	15.2%	16.7%	-1.5%	14.3%	15.4%	-1.0%
Number units recommended	42.4%	21.2%	21.2% **	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% **

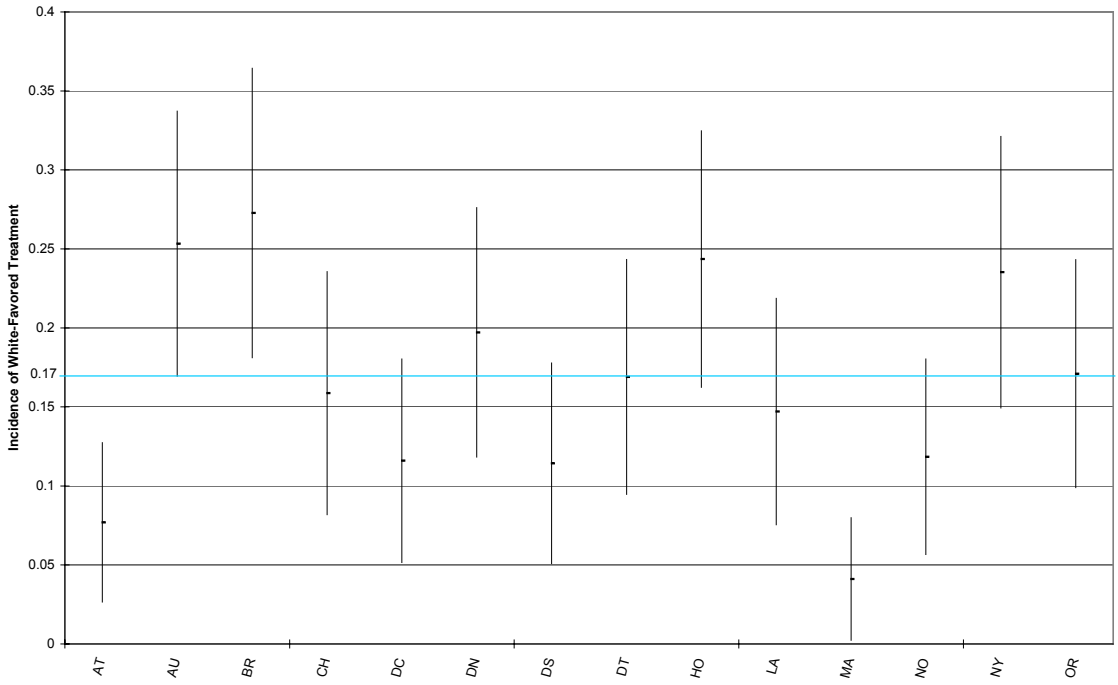
Note: For net estimates, * indicates statstical significance at the 90 % level, and ** indicates significance at the 95% level (using a two-tailed test). Gross estimates are by definition statistically significant.

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.

[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

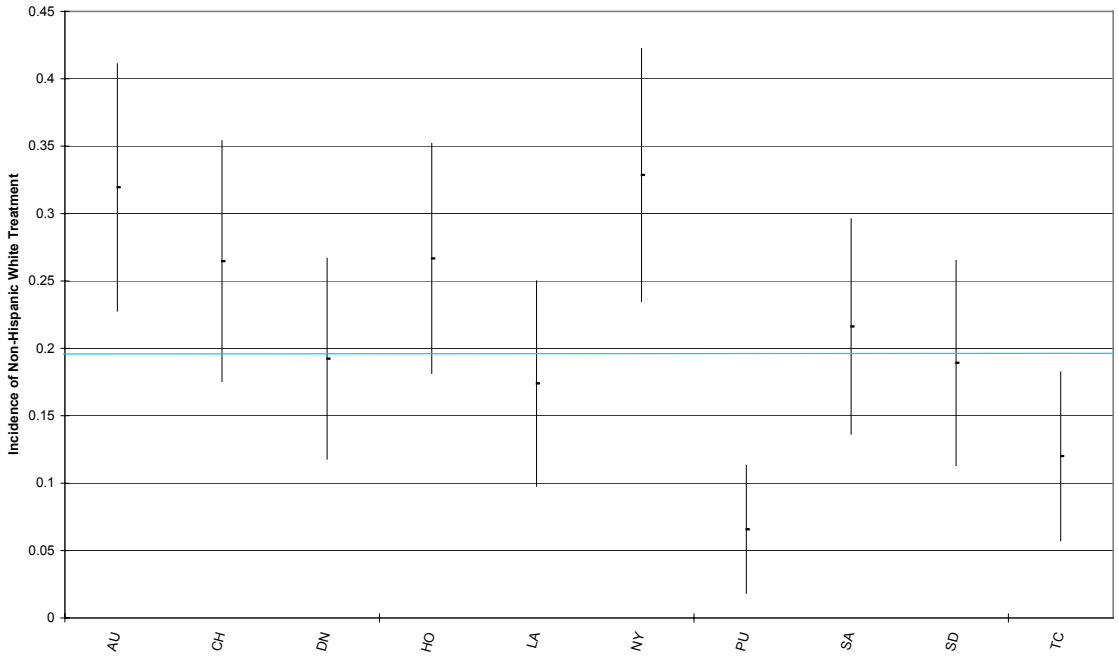
TREATMENT MEASURES	Macon			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	8.2%	16.4%	-8.2%	15.8%	15.1%	0.8%
Similar units available?	6.8%	5.5%	1.4%	18.7%	15.6%	3.1% *
Number units recommended	45.2%	49.3%	-4.1%	44.6%	38.6%	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

TREATMENT MEASURES	Pueblo			National		
	% 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:

[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:

[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

[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.

[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.

[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 difer 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.

[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.

[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

[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

[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

[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

[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.

[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.

[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

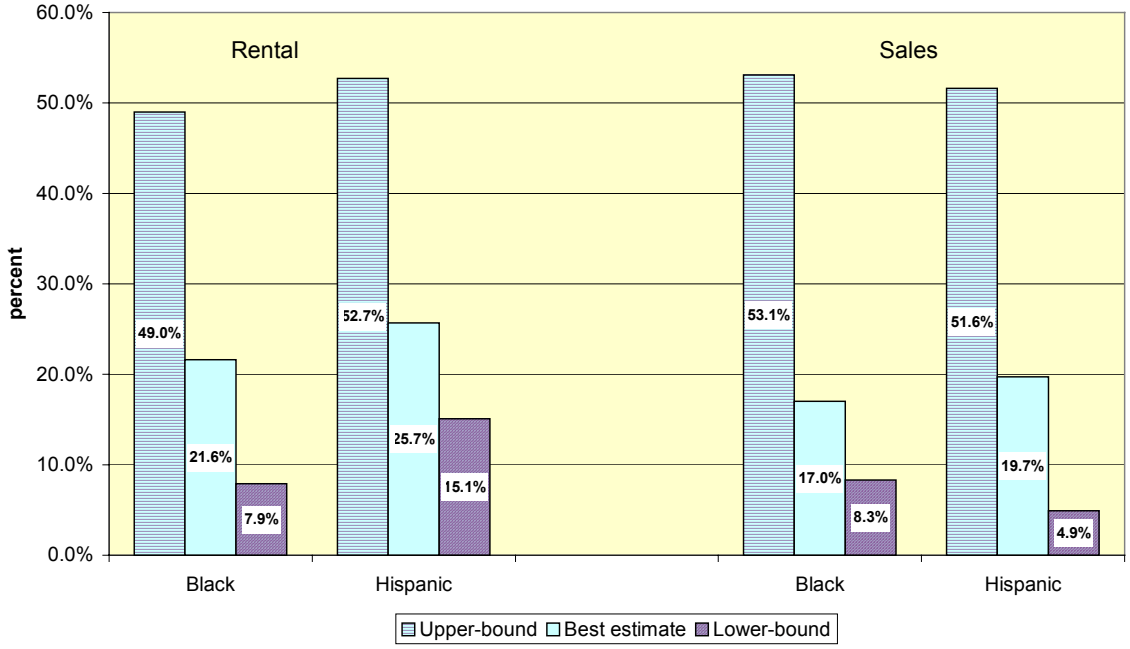

Exhibit 8-2: Forms of Adverse Treatment in Rental and Sales Markets

Rental Tests	Black		Hispanic	
	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%	--
Sales Tests	**Black**		**Hispanic**	
	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.

[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	
Information Steering	Gross Upper-bound	Net Lower-bound	Gross Upper-bound	Net Lower-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

	Chinese - Los Angeles		Koreans - Los Angeles		SE Asians - Minneapolis		Native Americans - Phoenix	
Rental Tests	**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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Discrimination in Metropolitan Housing Markets: National Results from Phase I HDS 2000
Annexes

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ANNEX 1: TEST ASSIGNMENT GUIDES, FORMS AND INSTRUCTIONS

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- **INSTRUCTIONS FOR SITE VISITS – SALES TESTS**

HDS GUIDE TO OCCUPANCY FOR ADDITIONAL HOUSING SUGGESTED

Rental Testing: For additional housing suggested or recommended by a rental agent, an HDS tester may consider housing that 1) is within the tester's assigned price range; 2) is available when the tester needs it; and 3) has or exceeds a minimum number of bedrooms to meet the needs of the tester based on household composition (see chart below).

Sales Testing: For additional housing suggested or recommended by a real estate agent, an HDS tester may consider any housing that 1) is near the price of the advertised housing or within a price range that the tester is informed he/she can afford; 2) has the features/amenities requested by the tester; and 3) has or exceeds a minimum number of bedrooms to meet the needs of the tester based on household composition (see chart below).

ADVERTISED UNIT: / HOUSEHOLD COMPOSITION:	STUDIO	1 BEDROOM	2 BEDROOMS	3 BEDROOMS	4 BEDROOMS	5 BEDROOM
1 ADULT						
1 SINGLE FEMALE, 1 CHILD	WILL NOT CONSIDER	WILL NOT CONSIDER				
1 SINGLE FEMALE, 2 CHILDREN	WILL NOT CONSIDER	WILL NOT CONSIDER				
MARRIED COUPLE						
MARRIED COUPLE, 1 CHILD	WILL NOT CONSIDER	WILL NOT CONSIDER				
MARRIED COUPLE, 2 CHILDREN (SAME GENDER)	WILL NOT CONSIDER	WILL NOT CONSIDER				
MARRIED COUPLE, 2 CHILDREN (BOY & GIRL)	WILL NOT CONSIDER	WILL NOT CONSIDER	WILL NOT CONSIDER			
MARRIED COUPLE, 3 CHILDREN	WILL NOT CONSIDER	WILL NOT CONSIDER	WILL NOT CONSIDER			

HDS Guide to Assigning Tester Characteristics on Rental Tests

ADVERTISED UNIT RENT RANGE	MONTHLY HOUSEHOLD INCOME	ANNUAL HOUSEHOLD INCOME	RENTAL PRICE RANGE		
$150-175	$700	$8,400	$125-200	or	up to $200
$176-200	$800	$9,600	$150-225	or	up to $225
$201-225	$900	$10,800	$175-250	or	up to $250
$226-250	$1,000	$12,000	$200-275	or	up to $275
$251-275	$1,100	$13,200	$225-300	or	up to $300
$276-300	$1,200	$14,400	$250-325	or	up to $325
$301-325	$1,300	$15,600	$275-350	or	up to $350
$326-350	$1,400	$16,800	$300-375	or	up to $375
$351-375	$1,500	$18,000	$325-400	or	up to $400
$376-400	$1,600	$19,200	$350-425	or	up to $425
$401-425	$1,700	$20,400	$375-450	or	up to $450
$426-450	$1,800	$21,600	$400-475	or	up to $475
$451-475	$1,900	$22,800	$425-500	or	up to $500
$476-500	$2,000	$24,000	$450-525	or	up to $525
$501-525	$2,100	$25,200	$475-550	or	up to $550
$526-550	$2,200	$26,400	$500-575	or	up to $575
$551-575	$2,300	$27,600	$525-600	or	up to $600
$576-600	$2,400	$28,800	$550-625	or	up to $625
$601-625	$2,500	$30,000	$575-650	or	up to $650
$626-650	$2,600	$31,200	$600-675	or	up to $675
$651-675	$2,700	$32,400	$625-700	or	up to $700
$676-700	$2,800	$33,600	$650-725	or	up to $725
$701-725	$2,900	$34,800	$675-750	or	up to $750
$726-750	$3,000	$36,000	$700-775	or	up to $775
$751-775	$3,100	$37,200	$725-800	or	up to $800

ADVERTISED UNIT RENT RANGE	MONTHLY HOUSEHOLD INCOME	ANNUAL HOUSEHOLD INCOME	RENTAL PRICE RANGE		
$776-800	$3,200	$38,400	$750-825	or	up to $825
$801-825	$3,300	$39,600	$775-850	or	up to $850
$826-850	$3,400	$40,800	$800-875	or	up to $875
$851-875	$3,500	$42,000	$825-900	or	up to $900
$876-900	$3,600	$43,200	$850-925	or	up to $925
$901-925	$3,700	$44,400	$875-950	or	up to $950
$926-950	$3,800	$45,600	$900-975	or	up to $975
$951-975	$3,900	$46,800	$925-1,000	or	up to $1,000
$976 -1,000	$4,000	$48,000	$950-1,100	or	up to $1,100
$1,001-1,100	$4,400	$52,800	$900-1,200	or	up to $1,200
$1,101-1,200	$4,800	$57,600	$1,000-1,300	or	up to $1,300
$1,201-1,300	$5,200	$62,400	$1,100-1,400	or	up to $1,400
$1,301-1,400	$5,600	$67,200	$1,200-1,500	or	up to $1,500
$1,401-1,500	$6,000	$72,000	$1,300-1,600	or	up to $1,600
$1,501-1,600	$6,400	$76,800	$1,400-1,700	or	up to $1,700
$1,601-1,700	$6,800	$81,600	$1,500-1,800	or	up to $1,800
$1,701-1,800	$7,200	$86,400	$1,600-1,900	or	up to $ 1,900
$1,801-1,900	$7,600	$91,200	$1,700-2,000	or	up to $2,000
$1,901-2,000	$8,000	$96,000	$1,800-2,100	or	up to $2,100
$2,001-2,100	$8,400	$100,800	$1,900-2,200	or	up to $2,200
$2,101-2,200	$8,800	$105,600	$2,000-2,300	or	up to $2,300
$2,201-2,300	$9,200	$110,400	$2,100-2,400	or	up to $2,400
$2,301-2,400	$9,600	$115,200	$2,200-2,500	or	up to $2,500
$2,401-2,500	$10,000	$120,000	$2,300-2,600	or	up to $2,600
$2,501-2,600	$10,400	$124,800	$2,400-2,700	or	up to $2,700
$2,601-2,700	$10,800	$129,600	$2,500-2,800	or	up to $2,800
$2,701-2,800	$11,200	$134,400	$2,600-2,900	or	up to $2,900
$2,801-2,900	$11,600	$139,200	$2,700-3,000	or	up to $3,000

ADVERTISED UNIT RENT RANGE	MONTHLY HOUSEHOLD INCOME	ANNUAL HOUSEHOLD INCOME	RENTAL PRICE RANGE		
$2,901-3,000	$12,000	$144,000	$2,800-3,100	or	up to $3,100
$3,001-3,100	$12,400	$148,800	$2,900-3,200	or	up to $3,200
$3,101-3,200	$12,800	$153,600	$3,000-3,300	or	up to $3,300
$3,201-3,300	$13,200	$158,400	$3,100-3,400	or	up to $3,400
$3,301-3,400	$13,600	$163,200	$3,200-3,500	or	up to $3,500
$3,401-3,500	$14,000	$168,000	$3,300-3,600	or	up to $3,600
$3,501-3,600	$14,400	$172,800	$3,400-3,700	or	up to $3,700
$3,601-3,700	$14,800	$177,600	$3,500-3,800	or	up to $3,800
$3,701-3,800	$15,200	$182,400	$3,600-3,900	or	up to $3,900
$3,801-3,900	$15,600	$187,200	$3,700-4,000	or	up to $4,000
$3,901-4,000	$16,000	$192,000	$3,800-4,100	or	up to $4,100
$4,001-4,100	$16,400	$196,800	$3,900-4,200	or	up to $4,200
$4,101-4,200	$16,800	$201,600	$4,000-4,300	or	up to $4,300
$4,201-4,300	$17,200	$206,400	$4,100-4,400	or	up to $4,400
$4,301-4,400	$17,600	$211,200	$4,200-4,500	or	up to $4,500
$4,401-4,500	$18,000	$216,000	$4,300-4,600	or	up to $4,600
$4,501-4,600	$18,400	$220,800	$4,400-4,700	or	up to $4,700
$4,601-4,700	$18,800	$225,600	$4,500-4,800	or	up to $4,800
$4,701-4,800	$19,200	$230,400	$4,600-4,900	or	up to $4,900
$4,801-4,900	$19,600	$235,200	$4,700-5,000	or	up to $5,000
$4,901-5,000	$20,000	$240,000	$4,800-5,100	or	up to $5,100

Reference Guide to Common Occupations and Incomes
Sample City

OCCUPATION TITLE*	MEDIAN ANNUAL INCOME
Waiter / Waitress	$12,890
Child Care Worker	$13,770
Teller	$17,580
Bus Driver	$17,660
Messenger	$18,230
Hairdresser	$19,140
Stock Clerk	$19,160
File Clerk	$19,270
Receptionist	$19,400
Photographer	$22,330
Dispatcher	$22,880
Salesperson	$22,890
Receiving Clerk	$23,490
Secretary	$23,630
Travel Agent	$24,320
Carpenter	$27,000
Reservation Agent	$28,020
Automotive Mechanic	$30,700
Electrician	$32,600
Postal Mail Carrier	$33,920
Electrical Technician	$36,450
Nurse	$38,100
Teacher-Elementary School	$38,920
Accountant	$39,920
Purchasing Manager	$45,300
Personnel Manager	$49,460
Architect	$49,930
Pharmacist	$52,690
Computer Engineer	$55,650
Education Administrator	$58,000

**See Bureau of Labor Statistics Report, attached, for detailed job descriptions.*

HDS TESTER ASSIGNMENT FORM

CONTROL #:	**TYPE OF TEST:** ☐ **SALES** ☐ **RENTAL**
TESTER:	**TESTER ID NUMBER:**

TYPE OF APPROACH:
☐ **CALL FOR APPOINTMENT (See Attached Instructions)**
☐ **DROP IN VISIT - DATE OF VISIT: ____/____/____ TIME OF VISIT: _____ A.M./P.M.**

TEST SITE

1. Name of Test Site:
2. Address of Test Site:
3. Telephone Number(s) of Test Site: ( ) - ( ) -

SOURCE OF INFORMATION ON TEST SITE

4. Advertisement - Name of Publication:
5. Advertisement - Date of Publication:
6. Advertisement:

TYPE OF HOUSING TO BE REQUESTED

7. Number of Bedrooms to be requested: _____ 7a. Minimum number of bedrooms for household: _____	8. Type of home: (SALES) ☐ Condo ☐ Single Family Home 9. Type of unit : (RENTAL) ☐ Furnished ☐ Unfurnished

10. Date Housing is Needed (For RENTAL Only):
11. Price Range (For RENTAL Only):
12. Area Preference (Important : Do not cite a neighborhood preference; if you are pressed by the agent, you may state that you are:)
    - Looking in area called: _____
    - Looking in area roughly bounded by: _____
      _____
    - You are always open to considering other areas if recommended by agent.
13. Reason for Moving:
14. Other Places Visited: Just Started Looking

■ Shaded Sections Completed for Sales Tests Only

ASSIGNED CHARACTERISTICS

15. Tester Name:

16. Tester Address:

17. Tester Phone Number(s): ( ) -

18. Information on Persons in Household:

Person in Household	Race/Nat. Origin	Gender	Age	Relationship	Total Gross Monthly Income	Total Gross Annual Income
		M F		(Tester)	$	$
		M F			$	$
		M F				
		M F				
		M F				
		M F				
Total Gross Household Income:					$	$

19. Employment Information:

TESTER	Occupation	Current Employer	Employer Location	Phone #	Length of Employ
				No Calls at Work	
	Occupation	Previous Employer	Employer Location	Phone #	Length of Employ
				Will Provide Later	
SPOUSE (If Any)	Occupation	Current Employer	Employer Location	Phone #	Length of Employ
				No Calls at Work	
	Occupation	Previous Employer	Employer Location	Phone #	Length of Employ
				Will Provide Later	

Shaded Sections Completed for Sales Tests Only

20. Household Assets:

Type of Asset	Name of Financial Institution	Amount
Savings Account		$
Checking Account		$
Other:		$
Total Assets:		$

21. Household Debts:

Name of Creditor	Type of Account	Monthly Payment	Balance Owed
		$	$
		$	$
		$	$
		$	$
		$	$
		$	$
		$	$
Total Debt:		$	$

22. Credit Standing: Excellent, No Late Payments or Credit Problems

CURRENT/PAST HOUSING SITUATION

23. Type of Current Housing: Rent

24. Amount of Current Rent: $

25. Length of Time at Current Residence: _____ Years

26. Type of Rental Agreement at Current Residence:

27. History of Rent Payment at Current Residence: Always on time

OTHER CHARACTERISTICS

- Non-Smoking
- No Pets

28. Directions to the Test Site:

Shaded Sections Completed for Sales Tests Only

INSTRUCTIONS FOR APPOINTMENT CALLS - RENTAL TESTS:

Please call the real estate company listed in the ad and request an appointment to meet with someone to discuss the rental housing that was advertised for rent in the newspaper. In making this call, use the Caller ID Block function (*67) on your telephone. You should try to obtain an appointment for:

_____

In making your telephone call, please follow these instructions:

- **If you initially have some difficulty getting in contact with the person who needs to make the appointment with you (e.g. the person is not available when you call, an answering machine or voice mail answers, etc.), you are asked to try several times to reach the person without leaving your telephone number. You can always say that you are "not at a number where you can be reached" or that you are "at work where you cannot receive personal calls." If you have made three (3) unsuccessful attempts to reach the person by telephone, you may leave the telephone number provided on your test assignment form. If you leave your phone number, you should also ask the person to leave a message and to let you know the best time that they can be reached. (At this point, you will need to work closely with the test coordinator who can retrieve any messages left on your telephone number).**

- **Avoid having a protracted or lengthy conversation about the advertised rental housing or your qualifications over the phone. If necessary, you can always say that you are pressed for time and that you would prefer to discuss these details when you arrive for your appointment.**

- **If you are able to obtain an appointment, please remember to find out the name of the person who will be meeting with you.**

- **Always thank the person you speak with for their assistance and ask for their name if it has not been provided by the end of your call.**

- **Following your call, fill out the Log of Appointment Calls and contact the test coordinator.**

INSTRUCTIONS FOR APPOINTMENT CALLS (APPROACH A) - SALES TESTS:

Please call the real estate company listed in the ad and request an appointment to meet with someone at the office to discuss the advertised home and similar homes that are for sale. In making this call, use the Caller ID Block function (*67) on your telephone. You should try to obtain an appointment for:

_____

In making your telephone call, please follow these instructions:

- **If you initially have some difficulty getting in contact with the person who needs to make the appointment with you (e.g. the person is not available when you call, an answering machine or voice mail answers, etc.), you are asked to try several times to reach the person without leaving your telephone number. You can always say that you are "not at a number where you can be reached" or that you are "at work where you cannot receive personal calls". If you have made three (3) unsuccessful attempts to reach the person by telephone, you may leave the telephone number provided on your test assignment form. If you leave your phone number, you should also ask the person to leave a message and to let you know the best time that they can be reached. (At this point, you will need to work closely with the test coordinator who can retrieve any messages left on your telephone number).**

- **Avoid having a protracted or lengthy conversation about the advertised home, other homes for sale or your qualifications over the phone. If necessary, you can always say that you are pressed for time and that you would prefer to discuss these details when you visit the office.**

- **If you are able to obtain an appointment, please remember to find out the name of the person who will be meeting with you.**

- **Always thank the person you speak with for their assistance and ask for their name if it has not been provided by the end of your call.**

- **Following your call, fill out the Log of Appointment Calls and contact the test coordinator.**

INSTRUCTIONS FOR APPOINTMENT CALLS (APPROACH B) - SALES TESTS:

Please call the real estate company listed in the ad and request an appointment to meet with someone at the office to discuss homes that are for sale. If you are asked why you called this company, you should say that you noticed that they had homes listed in the newspaper. In making this call, use the Caller ID Block function (*67) on your telephone. You should try to obtain an appointment for:

_____

In making your telephone call, please follow these instructions:

- **If you initially have some difficulty getting in contact with the person who needs to make the appointment with you (e.g. the person is not available when you call, an answering machine or voice mail answers, etc.), you are asked to try several times to reach the person without leaving your telephone number. You can always say that you are "not at a number where you can be reached" or that you are "at work where you cannot receive personal calls". If you have made three (3) unsuccessful attempts to reach the person by telephone, you may leave the telephone number provided on your test assignment form. If you leave your phone number, you should also ask the person to leave a message and to let you know the best time that they can be reached. (At this point, you will need to work closely with the test coordinator who can retrieve any messages left on your telephone number).**

- **Avoid having a protracted or lengthy conversation about the advertised home, other homes for sale or your qualifications over the phone. If necessary, you can always say that you are pressed for time and that you would prefer to discuss these details when you visit the office.**

- **If you are able to obtain an appointment, please remember to find out the name of the person who will be meeting with you.**

- **Always thank the person you speak with for their assistance and ask for their name if it has not been provided by the end of your call.**

- **Following your call, fill out the Log of Appointment Calls and contact the test coordinator.**

INSTRUCTIONS FOR SITE VISITS - RENTAL TESTS:

- **Please locate a rental agent and inquire about the housing that was advertised for rent in the newspaper. If you made an appointment prior to this visit, please ask to speak with the person with whom you made an appointment.**

- **After the agent has told you whether or not the advertised housing is available, please ask about the availability of similar housing for which you would qualify and that would meet your needs (i.e., housing that is 1) within your price range; 2) available by or before the time requested; and 3) has a suitable number of bedrooms for your household). Be careful not to request any housing styles, features or amenities that are not listed on your test assignment form and do not indicate a geographic or neighborhood preference beyond what is indicated on your test assignment form.**

- **Please ask if it is possible to view the advertised housing (if available) and any homes or apartments that are suggested by the agent for which you would qualify and that would meet your needs.**

- **Please remember to obtain information about the <u>exact</u> address (including apartment #), # of bedrooms, rent, security deposit, other fees, lease length, and dates of availability for any homes or apartments suggested by the agent if this information is not provided by the end of your visit.**

- **If you are told about any homes or apartments for which you might qualify and that meet your needs, please ask about the application process and find out what amount of money, if any, would need to accompany a completed application, whether a credit check is conducted and, generally, how long it takes to obtain approval on a rental application once it is submitted.**

- **Do not ask for or complete a rental application. If the agent offers you an application, you should agree to take it with you and tell the agent that you will return if and when you decide that you want to apply. Please make it clear that you have just started your search for a home or apartment and that you do plan to look at other places.**

- **If you are informed that no homes or apartments are available in the type, price range and time requested, please ask when the agent expects to have the type of home or apartment available that you requested.**

- **If you are informed that there is a waiting list for available homes or apartments, please ask how many people are on the waiting list. If the agent invites you to add your name to the waiting list, you should politely decline to add your name.**

- **Take notes to record the information that an ordinary renter might record and ask questions if you do not understand what the agent is telling you during your visit.**

- **Lastly, if by the end of your visit the agent has not volunteered his or her name, please ask for it.**

INSTRUCTIONS FOR SITE VISITS - SALES TESTS:

- **Please locate or ask to speak to a real estate agent and inquire about the housing that was advertised for sale in the newspaper. If you made an appointment prior to this visit, please ask to speak with the person with whom you made an appointment.**

- **After the agent has told you whether or not the advertised housing is available, please ask about the availability of similar housing for which you would qualify and that would meet your needs (i.e., housing that is 1) within your price range; and 2) has a suitable number of bedrooms for your household; and 3) has the other features or amenities that are listed on your test assignment form). Be careful not to request any housing styles, features, or amenities that are not listed on your test assignment form and do not indicate a geographic or neighborhood preference beyond what is indicated on your test assignment form.**

- **Please ask if it is possible to view the advertised home and any other homes that are recommended or suggested by the agent. Allow the agent to recommend homes that are in your price range and that meet your needs. If the agent is unable to show you the advertised home and/or other homes that day, you may make an appointment to view additional homes (within the time frame specified on your test assignment form). If the agent does not recommend any homes from the list of available properties, please ask the agent to select homes to show you so that you can begin to get an idea of what is available in your price range. If the agent is unwilling to make any recommendations or selections from the list of available homes provided to you and insists that you make the selections, please ask the agent to suggest how you might narrow the list of homes to view. Resist any temptation to say that you will call the agent after looking over the list (Remember, you are not to suggest any type of follow-up).**

- **Please remember to obtain information about the address of the property, # of bedrooms, current asking price, # of bathrooms, and other features and amenities for any homes suggested by the agent if this information is not provided by the end of your visit.**

- **If you are told about any homes for which you might qualify and that meet your needs, please ask what financing might be available. For any financing suggested, please remember to note any information that the agent provides such as the name of the lender, the type of loan or the name of the loan program, the length of the loan, the down payment requirements, interest rates, and other costs associated with the purchase of a home.**

- **If the agent asks you for detailed personal and financial information about your income, debts, assets, etc. in order to "pre-qualify" you to purchase a home, please provide the information as it appears on your test assignment form. Do not, UNDER ANY CIRCUMSTANCES, provide your date of birth, driver's license or social security number or authorize anyone to conduct a credit check. If the agent is interested in your credit standing, you may characterize your credit as it appears on your test assignment form. If you are told that you would not qualify for a mortgage, please ask what you would have to do to put yourself in a better position to qualify.**

- **Take notes and ask questions if you do not understand what the agent is telling you during your visit.**

- **Lastly, if by the end of your visit the agent has not volunteered his or her name, please ask for it.**

ANNEX 2: TEST REPORT FORMS

- **ADVANCE CALL FORM**
- **LOG OF APPOINTMENT CALLS**
- **TEST REPORT FORM – RENTAL TESTS**
- **TEST REPORT FORM – SALES TESTS**
- **RECORD OF RECOMMENDED HOMES**
- **LOG OF FOLLOW-UP CONTACT**

ADVANCE CALL FORM

(COMPLETE ONE FORM FOR EACH CALL ATTEMPTED)

Control # _____ **Person Making Call:** _____

Contact # _____

Date ___ ___ / ___ ___ / ___ ___ **Time** _____ : _____ ☐ **AM** ☐ **PM**

Disposition Code: _____ *(see back of this page)*

1. Unit Availability Information:

Address	# of Bedrooms	Price	Date Available	Advertised Unit?
1.				☐ Yes ☐ No
2.				☐ Yes ☐ No
3.				☐ Yes ☐ No
4.				☐ Yes ☐ No
5.				☐ Yes ☐ No

2. What are the test site's office hours? _____
3. Is it possible to stop in and speak with an agent about the available housing?
   ☐ Yes ☐ No
4. Were you informed that an appointment with an agent is necessary to discuss the available housing? ☐ Yes ☐ No
5. Was the advertised housing deemed ineligible? ☐ Yes ☐ No
6. Verify the Test Site Address: _____
   _____
7. With whom did you speak? _____

COMMENTS:

_____

_____

_____

_____

LOG OF APPOINTMENT CALLS

Control # _____ **Tester ID #** _____

Test Site: _____

Site Address, if known: _____

Phone Number (s) (_____) _____ **; (_____)** _____

Contact # _____

Date ___ ___ / ___ ___ / ___ ___ **Time** _____ **:** _____ ☐ **AM** ☐ **PM**

Disposition Code: _____

1. Were you able to make an appointment? ☐ Yes ☐ No

2. If **Yes**, when is the appointment?
   Day _____
   Date ___ ___ / ___ ___ / ___ ___
   Time _____ : _____ ☐ AM ☐ PM

3. Name of person you have appointment with: _____
4. Name of person you spoke with during this contact: _____
5. Location to meet: _____
6. Comments made: _____

_____

_____

_____

Contact # _____

Date ___ ___ / ___ ___ / ___ ___ **Time** _____ **:** _____ ☐ **AM** ☐ **PM**

Disposition Code: _____

1. Were you able to make an appointment? ☐ Yes ☐ No

2. If **Yes**, when is the appointment?
   Day _____
   Date ___ ___ / ___ ___ / ___ ___
   Time _____ : _____ ☐ AM ☐ PM

3. Name of person you have appointment with: _____
4. Name of person you spoke with during this contact: _____
5. Location to meet: _____
6. Comments made: _____

_____

_____

SITE VISIT REPORT FORM - RENTAL
HOUSING DISCRIMINATION STUDY

1. CONTROL #:

2. TESTER ID #:

3. Tester Name:

4. Location of Test Site:
Name of Test Site *(if applicable)*:_____
Address: _____
(number) (street)
_____
(city) (state) (zip)

5. Date and Time of Site Visit:
Date (month/day/year): ___/___/___ Time began (arrival): _____:_____ ☐ AM ☐ PM
Appointment Time: _____:_____ ☐ AM ☐ PM Time ended (departure): _____:_____ ☐ AM ☐ PM

6. Information on persons with whom you had contact during your visit [check responses where appropriate]:

Name/Position	Race/Ethnicity (check one entry)							Gender		Age Group			
	W=White **B**= Black **H**= Hispanic **A**= Asian				**I**=American Indian **O**= Other **DK**=Don't Know								
	W	**B**	**H**	**A**	**I**	**O**	**DK**	**M**	**F**	**18-30**	**31-45**	**46-65**	**65+**
1. Name:_____ Position: _____													
2. Name:_____ Position: _____													
3. Name:_____ Position: _____													
4. Name:_____ Position: _____													
5. Name:_____ Position: _____													

7. Were you able to meet with an agent to discuss housing options? ☐ Yes ☐ No

8. Did the agent decline to meet with you today? ☐ Yes ☐ No

8a. If yes, why? _____
_____

9. Using the numbers from Question 6, enter the number of the person you met with to discuss housing options: ☐ [enter line #]

10. How many minutes did you wait to meet with someone (i.e. between the time you were greeted by someone when you entered and the time you met with the agent)?
_____ minutes

11. When you asked about the availability of the advertised housing, what were you told?
☐ Housing is available when I need it
☐ Housing is not available when I need it
☐ The status of the housing was not known
☐ Something else *(specify)*: _____

12. Were you told about other housing with the same # of bedrooms, within your price range, and available for rent when you need it?
☐ Yes
☐ No
☐ Agent did not know

13. Were you told about any other housing options that would meet your needs (at least the minimum # of bedrooms, within your price range, and be available when you need it)?
☐ Yes
☐ No
☐ Agent did not know

14. How many rental units did the agent indicate were available to you? *(Add available units from Q11-13)*

☐ Rental Units

15. Did one agent refer you to another agent who provided service to you? ☐ Yes ☐ No
15a. If yes, were you referred to an agent within the same agency? ☐ Yes ☐ No
15b. If you were referred, using the numbers from Question 6, enter the number of the person to whom you were referred: ☐ [enter line #]

16. At any time during your visit, did an agent comment on or make reference to Fair Housing Laws?
☐ Yes
☐ No

17. Please fill out the following information on any rental units that were recommended to you for up to five units, beginning with those you inspected :

Unit #1 Address: _____ _____
(number) (street) (unit #)

_____
(city) (state) (zip)

Did you inspect this unit? ☐ Yes ☐ No

Is this the advertised unit? ☐ Yes ☐ No

Rent: $_____ /month

Date Available: ___/___/___

# of Bedrooms: _____

# of Bathrooms: _____

How many floors in building? _____

Unit is on what floor? _____

How much of a security deposit is required?

☐ One month's rent
☐ Two month's rent
☐ Three month's rent
☐ Other *(specify)*:_____
☐ Agent did not know
☐ Security deposit not required

Length of lease available?

☐ Month-to-month
☐ Three month
☐ Six month
☐ One year
☐ Other *(specify)*:_____

Which utilities or amenities are included in rent? [check one per line]

	Included	Not Included	Agent did not say	Not Applicable
a. Electric	☐	☐	☐	☐
b. Gas	☐	☐	☐	☐
c. Water/sewage	☐	☐	☐	☐
d. Heat	☐	☐	☐	☐
e. Cooling	☐	☐	☐	☐
f. Parking	☐	☐	☐	☐
g. Cable TV	☐	☐	☐	☐
h. Laundry	☐	☐	☐	☐
I. Pool/Health Club	☐	☐	☐	☐

How do you rate the physical condition of the unit's INTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

How do you rate the physical condition of the building's EXTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

Unit # 1 cont.

Did the agent make any of the following comments about the surrounding neighborhood?

a. Noise

- ☐ Quiet
- ☐ Noisy
- ☐ No comment

b. Safety

- ☐ Safe/low crime
- ☐ Dangerous/high crime
- ☐ No comment

c. Schools

- ☐ Good
- ☐ Poor
- ☐ No comment

d. Maintenance/ Services

- ☐ Good Services/Amenities
- ☐ Poor Services/Amenities
- ☐ No comment

e. Race or Ethnicity? ☐ Yes ☐ No

If **Yes**, please describe: _____

_____

_____

_____

Unit #2 Address: _____ _____
(number) (street) (unit #)

_____
(city) (state) (zip)

Did you inspect this unit? ☐ Yes ☐ No

Is this the advertised unit? ☐ Yes ☐ No

Rent: $_____ /month

Date Available: ___/___/___

# of Bedrooms: _____

# of Bathrooms: _____

How many floors in building? _____

Unit is on what floor? _____

How much of a security deposit is required?

☐ One month's rent
☐ Two month's rent
☐ Three month's rent
☐ Other *(specify)*:_____
☐ Agent did not know
☐ Security deposit not required

Length of lease available?

☐ Month-to-month
☐ Three month
☐ Six month
☐ One year
☐ Other *(specify)*:_____

Which utilities or amenities are included in rent? [check one per line]

	Included	Not Included	Agent did not say	Not Applicable
a. Electric	☐	☐	☐	☐
b. Gas	☐	☐	☐	☐
c. Water/sewage	☐	☐	☐	☐
d. Heat	☐	☐	☐	☐
e. Cooling	☐	☐	☐	☐
f. Parking	☐	☐	☐	☐
g. Cable TV	☐	☐	☐	☐
h. Laundry	☐	☐	☐	☐
I. Pool/Health Club	☐	☐	☐	☐

How do you rate the physical condition of the unit's INTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

How do you rate the physical condition of the building's EXTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

Unit # 2 cont.

Did the agent make any of the following comments about the surrounding neighborhood?

a. Noise
- ☐ Quiet
- ☐ Noisy
- ☐ No comment

b. Safety
- ☐ Safe/low crime
- ☐ Dangerous/high crime
- ☐ No comment

c. Schools
- ☐ Good
- ☐ Poor
- ☐ No comment

d. Maintenance/ Services
- ☐ Good Services/Amenities
- ☐ Poor Services/Amenities
- ☐ No comment

e. Race or Ethnicity? ☐ Yes ☐ No

If **Yes**, please describe: _____

_____

_____

_____

Unit #3 Address: _____ _____
(number) (street) (unit #)

_____
(city) (state) (zip)

Did you inspect this unit? ☐ Yes ☐ No

Is this the advertised unit? ☐ Yes ☐ No

Rent: $_____ /month

Date Available: ___/___/___

# of Bedrooms: _____

# of Bathrooms: _____

How many floors in building? _____

Unit is on what floor? _____

How much of a security deposit is required?

☐ One month's rent
☐ Two month's rent
☐ Three month's rent
☐ Other *(specify)*:_____
☐ Agent did not know
☐ Security deposit not required

Length of lease available?

☐ Month-to-month
☐ Three month
☐ Six month
☐ One year
☐ Other *(specify)*:_____

Which utilities or amenities are included in rent? [check one per line]

	Included	Not Included	Agent did not say	Not Applicable
a. Electric	☐	☐	☐	☐
b. Gas	☐	☐	☐	☐
c. Water/sewage	☐	☐	☐	☐
d. Heat	☐	☐	☐	☐
e. Cooling	☐	☐	☐	☐
f. Parking	☐	☐	☐	☐
g. Cable TV	☐	☐	☐	☐
h. Laundry	☐	☐	☐	☐
I. Pool/Health Club	☐	☐	☐	☐

How do you rate the physical condition of the unit's INTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

How do you rate the physical condition of the building's EXTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

Unit # 3 cont.

Did the agent make any of the following comments about the surrounding neighborhood?

a. Noise

- ☐ Quiet
- ☐ Noisy
- ☐ No comment

b. Safety

- ☐ Safe/low crime
- ☐ Dangerous/high crime
- ☐ No comment

c. Schools

- ☐ Good
- ☐ Poor
- ☐ No comment

d. Maintenance/ Services

- ☐ Good Services/Amenities
- ☐ Poor Services/Amenities
- ☐ No comment

e. Race or Ethnicity? ☐ Yes ☐ No

If **Yes**, please describe: _____

_____

_____

_____

Unit #4 Address: _____ _____
(number) (street) (unit #)

_____
(city) (state) (zip)

Did you inspect this unit? ☐ Yes ☐ No

Is this the advertised unit? ☐ Yes ☐ No

Rent: $_____ /month

Date Available: ___/___/___

# of Bedrooms: _____

# of Bathrooms: _____

How many floors in building? _____

Unit is on what floor? _____

How much of a security deposit is required?

☐ One month's rent
☐ Two month's rent
☐ Three month's rent
☐ Other *(specify)*:_____
☐ Agent did not know
☐ Security deposit not required

Length of lease available?

☐ Month-to-month
☐ Three month
☐ Six month
☐ One year
☐ Other *(specify)*:_____

Which utilities or amenities are included in rent? [check one per line]

	Included	Not Included	Agent did not say	Not Applicable
a. Electric	☐	☐	☐	☐
b. Gas	☐	☐	☐	☐
c. Water/sewage	☐	☐	☐	☐
d. Heat	☐	☐	☐	☐
e. Cooling	☐	☐	☐	☐
f. Parking	☐	☐	☐	☐
g. Cable TV	☐	☐	☐	☐
h. Laundry	☐	☐	☐	☐
I. Pool/Health Club	☐	☐	☐	☐

How do you rate the physical condition of the unit's INTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

How do you rate the physical condition of the building's EXTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

Unit # 4 cont.

Did the agent make any of the following comments about the surrounding neighborhood?

a. Noise

- ☐ Quiet
- ☐ Noisy
- ☐ No comment

b. Safety

- ☐ Safe/low crime
- ☐ Dangerous/high crime
- ☐ No comment

c. Schools

- ☐ Good
- ☐ Poor
- ☐ No comment

d. Maintenance/ Services

- ☐ Good Services/Amenities
- ☐ Poor Services/Amenities
- ☐ No comment

e. Race or Ethnicity? ☐ Yes ☐ No

If **Yes**, please describe: _____

_____

_____

_____

Unit #5 Address: _____ _____
(number) (street) (unit #)

_____
(city) (state) (zip)

Did you inspect this unit? ☐ Yes ☐ No

Is this the advertised unit? ☐ Yes ☐ No

Rent: $_____ /month

Date Available: ___/___/___

# of Bedrooms: _____

# of Bathrooms: _____

How many floors in building? _____

Unit is on what floor? _____

How much of a security deposit is required?

☐ One month's rent
☐ Two month's rent
☐ Three month's rent
☐ Other *(specify)*:_____
☐ Agent did not know
☐ Security deposit not required

Length of lease available?

☐ Month-to-month
☐ Three month
☐ Six month
☐ One year
☐ Other *(specify)*:_____

Which utilities or amenities are included in rent? [check one per line]

	Included	Not Included	Agent did not say	Not Applicable
a. Electric	☐	☐	☐	☐
b. Gas	☐	☐	☐	☐
c. Water/sewage	☐	☐	☐	☐
d. Heat	☐	☐	☐	☐
e. Cooling	☐	☐	☐	☐
f. Parking	☐	☐	☐	☐
g. Cable TV	☐	☐	☐	☐
h. Laundry	☐	☐	☐	☐
I. Pool/Health Club	☐	☐	☐	☐

How do you rate the physical condition of the unit's INTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

How do you rate the physical condition of the building's EXTERIOR?

☐ Clean and in excellent repair, move-in condition
☐ Some cleaning and minor maintenance needed, adequate
☐ Very dirty and in need of substantial maintenance, serious problems

Unit # 5cont.

Did the agent make any of the following comments about the surrounding neighborhood?

a. Noise

- ☐ Quiet
- ☐ Noisy
- ☐ No comment

b. Safety

- ☐ Safe/low crime
- ☐ Dangerous/high crime
- ☐ No comment

c. Schools

- ☐ Good
- ☐ Poor
- ☐ No comment

d. Maintenance/ Services

- ☐ Good Services/Amenities
- ☐ Poor Services/Amenities
- ☐ No comment

e. Race or Ethnicity? ☐ Yes ☐ No

If **Yes**, please describe: _____

_____

_____

_____

18. Did the agent tell you that there was a waiting list for the advertised unit or similar units?

☐ Yes ☐ No

18a. Did the agent offer to place your name on the waiting list? ☐ Yes ☐ No

18b. How many people did the agent say are currently on the waiting list (if applicable)? _____

19. Check if the agent indicated that any of the following were required to obtain a rental unit:

	Required	Not Required	Agent did not Indicate	Agent Didn't Know
a. Application	☐	☐	☐	☐
b. Credit Check	☐	☐	☐	☐

20. Specify the name and amount of any fee that the agent indicated was required:

Fees that must accompany application (e.g. Application Processing, Credit Check, Cleaning Fee, etc.)	Amount of Fee
1.	$
2.	$
3.	$
4.	$
TOTAL FEES	$

21. Were you told of any rent specials or other incentives that you would receive if you were to rent a particular property? ☐ Yes ☐ No

21a. If yes, describe the incentive to renters: _____

_____

22. Were you invited to complete an application? ☐ Yes ☐ No

23. Complete the grid below regarding any of your qualifications to rent that were requested by the agent. *(check only one per line)*

Qualification:	Agent Requested	Agent Did Not Request
a. Your marital status		
b. Your family size		
c. Your income		
d. Your spouse's income		
e. Your occupation		
f. Your spouse's occupation		
g. Your length of employment		
h. Your spouse's length of employment		
I. Your debts		
j. Your credit standing		
k. Personal references		
l. Co-signer		
m. other:		

24. Did the agent make any of the following comments regarding your qualifications to rent?
☐ You are qualified
☐ You are NOT qualified
☐ Qualifications not discussed

25. Did the agent suggest that you consider a different rental complex or building than the one in the ad? ☐ Yes ☐ No

25a. If yes, was the other property also managed by the same agency?
☐ Yes
☐ No
☐ Don't know

26. Were any remarks made by the agent about race or ethnicity (other than neighborhoods surrounding recommended units)? ☐ Yes ☐ No
If Yes, please describe: _____
_____
_____
_____

27. Were any remarks made by the agent about religion, persons with disabilities, or families with children? ☐ Yes ☐ No
If Yes, please describe: _____
_____
_____
_____

28. What arrangements were made regarding future contact between you and the agent?
- ☐ The agent said that he/she would contact you
- ☐ The agent invited you to call him/her
- ☐ Future arrangements were not made
- ☐ Other *(specify)*: _____

29. Date/Time of Site Visit Report completion: ☐ AM
Date (month/day/year): ____/____/____ Time ____:____ ☐ PM

Statement of Tester

I prepared this test report form and attest by my signature below that it is, to the best of my recollection, a true and accurate account of the events that took place during a test in which I participated:

_____
Signature

SITE VISIT REPORT FORM - SALES
HOUSING DISCRIMINATION STUDY

1. CONTROL #:

2. TESTER ID #:

3. Tester Name:

4. Location of Office:
Firm Name *(if applicable)*: _____
Office/Room Number: _____
Address: _____
(number) (street)
_____
(city) (state) (zip)

5. Date and Time of Site Visit:
Date (month/day/year): ___/___/___ Time began (office arrival): ____:____ ☐ AM ☐ PM
Appointment Time: ____:____ ☐ AM ☐ PM Time ended (departure): ____:____ ☐ AM ☐ PM

5a. Is this your second site visit? ☐ Yes ☐ No

6. Information on persons with whom you had contact during your visit [check responses where appropriate]:

Name/Position	Race/Ethnicity (check one entry)							Gender		Age Group			
	W=White **B**= Black **H**= Hispanic **A**= Asian				**I**=American Indian **O**= Other **DK**=Don't Know								
	W	**B**	**H**	**A**	**I**	**O**	**DK**	**M**	**F**	**18-30**	**31-45**	**46-65**	**65+**
1. Name:_____ Position: _____													
2. Name:_____ Position: _____													
3. Name:_____ Position: _____													
4. Name:_____ Position: _____													
5. Name:_____ Position: _____													

7. Were you able to meet with an agent to discuss housing options? ☐ Yes ☐ No

7a. If yes, where did you meet?
☐ Agent's office
☐ Somewhere else (specify): _____

8. Did the agent decline to meet with you today? ☐ Yes ☐ No

8a. If yes, why? _____

_____

(NOTE: if you are able to make an appointment for a later time, then stop here and fill out the Site Visit Report Form after your appointment)

9. Using the numbers from Question 6, enter the number of the person or persons you met with to discuss housing options: ☐ [enter line # for person 1]
☐ [enter line # for person 2 if applicable]

10. How many minutes did you wait to meet with someone (i.e. between the time you were greeted by someone at the firm when you entered and the time you met with the agent)?
_____ minutes

11. When you asked about the availability of the home in the Ad, what were you told?
☐ Home is available
☐ Home is not available
☐ The status of the home was not known
☐ Something else *(specify)*: _____

12. Were there any other homes recommended to you that had the same # of bedrooms as the advertised home?
☐ Yes
☐ No
☐ Agent did not know

13. Were there any other homes recommended to you that had a <u>different</u> # of bedrooms than the advertised home, but would still meet your needs?
☐ Yes
☐ No
☐ Agent did not know

14. Not including the requested advertised home, how many available homes did the agent offer for your review? *(This # includes homes inspected as well as any homes offered to you in a list or other format)*
_____ Homes

15. At any time during your visit, did an agent comment on or make reference to Fair Housing Laws?
☐ Yes
☐ No

16. Based on your observations and the remarks of the agent, indicate below the sources used to select properties for your review:
   - ☐ Multiple listings book(s)
   - ☐ Home seeker guides/magazines
   - ☐ Computer
   - ☐ Internet website - *(specify)*: _____
   - ☐ Other printed sheet
   - ☐ File cards
   - ☐ Scraps of paper
   - ☐ Other *(specify)*: _____
   - ☐ None

17. Did one agent refer you to another agent who provided service to you? ☐ Yes ☐ No

17a. If yes, were you referred to an agent within the same agency? ☐ Yes ☐ No

17b. If you were referred, using the numbers from Question 6, enter the number of the person to whom you were referred: ☐ [enter line #]

18. Was the agent's role described to you as being one of the following:
   - ☐ Buyer's agent
   - ☐ Seller's agent
   - ☐ Dual agent
   - ☐ Did not disclose

19. Were you *asked* to sign any agreements or documents?
   ☐ Yes ☐ No

19a. If yes, please specify each below:

	Document Name	Purpose	Did you sign?
1.			☐ Yes ☐ No
2.			☐ Yes ☐ No
3.			☐ Yes ☐ No
4.			☐ Yes ☐ No

20. Did the agent ask if you had already visited a lender or been pre-qualified for financing?
   ☐ Yes ☐ No

21. Did the agent tell you that you must go to a lender or be pre-qualified for financing before looking at homes?

   ☐ Yes ☐ No

22. Complete the grid below regarding any of your qualifications to purchase a house that were requested by the agent at any point. *(check only one per line)*

Qualification:	Agent Requested	Agent Did Not Request
a. Your marital status		
b. Your family size		
c. Your income		
d. Your spouse's income		
e. Your occupation		
f. Your spouse's occupation		
g. Your length of employment		
h. Your spouse's length of employment		
I. Your savings/assets		
j. Your debts		
k. Credit standing		
l. Amount available for downpayment		
m. Reason for moving		
n. other:		

23. Did the agent make any of the following comments regarding your qualifications to buy a home?
☐ You are qualified
☐ You are NOT qualified
☐ Qualifications not discussed

24. Did the agent volunteer to help you find financing?
☐ Yes ☐ No

25. Did the agent suggest one or more mortgage companies, lenders, or brokers?
☐ Yes ☐ No

25a. If yes, please list them below:

	Mortgage Company/Firm	Lender/Broker Name	City	Telephone
1.				
2.				
3.				
4.				

26. Did the agent discuss the type of financing that might be available to you?
☐ Yes ☐ No

26a. If yes, please indicate which types of financing the agent discussed or mentioned by filling out the grid below: [check one per line]

	Agent Discussed	Agent did not mention
a. Conventional Fixed Rate Financing (non FHA)		
b. Conventional Adjustable Rate Financing (ARM)		
c. FHA or VA Financing		
d. Other government financing (state or local) *(specify)*: _____		
e. Other *(specify)*: _____		

27. During the visit, did anyone pre-qualify you or calculate for you the amount of financing that you could afford using your specific financial information (income, debts, and assets)?
☐ Yes ☐ No

27a. If yes, using the numbers from Question 6, enter the number of the person who provided you with the information on the amount of financing you could afford: ☐ [enter line #] 27b. If yes, was this person?
☐ The agent who was providing housing information to you
☐ An in-house mortgage specialist
☐ A lender by telephone
☐ Someone else

28. Home Price:
Did the agent suggest a house price or price range that you should consider?
☐ Yes ☐ No
28a. If yes, what was the total home price?
$ _____ (lowest) $ _____ (highest)

29. Loan/Mortgage Amount:
Did the agent suggest a mortgage amount ($ borrowed) or range that you should consider?
☐ Yes ☐ No

29a. If yes, what was the total loan amount?
$ _____ (lowest) $ _____ (highest)

30. Interest Rates:
Did the agent mention interest rates for mortgage loans?
☐ Yes ☐ No

30a. If yes, what were the interest rates mentioned?
_____% (lowest) _____% (highest)

31. Monthly Payments:
Did the agent mention monthly payments for a mortgage loan?
☐ Yes ☐ No

31a. If yes, what were the monthly payments?
$ _____ (lowest) $ _____ (highest)

32. Downpayment:
Did the agent mention the likely downpayment on a house?
☐ Yes ☐ No

32a. If yes, what was the downpayment amount or percentage?
Downpayment Amount: $ _____ (lowest) $ _____ (highest)
Downpayment Percent: _____% (lowest) _____% (highest)

33. Did the agent discuss any of the following with you?
[check all that apply]
☐ Paying down debts
☐ Debt consolidation
☐ Downpayment assistance (gift, special program)
☐ Co-signer
☐ Seller assistance
☐ Pre-qualification letter
☐ None of the above were discussed

33a. For any items discussed, please describe what you were told: _____

NEIGHBORHOOD INFORMATION

34. Did the agent discuss or make comments about neighborhoods or areas (other than those surrounding recommended/inspected homes)?
☐ Yes - Complete Question 35 for up to 5 areas discussed
☐ No - Skip to Question 36

35. INFORMATION ABOUT NEIGHBORHOODS/AREAS DISCUSSED

Neighborhood/Area **#1** Name of Area: _____

This area is a: ☐ County ☐ Town or City ☐ School District ☐ Neighborhood ☐ Don't know

Did the agent make any of the following comments about this area?

a. Noise
☐ quiet
☐ noisy
☐ no comment

b. Safety
☐ safe/low crime
☐ dangerous/high crime
☐ no comment

c. Schools
☐ good
☐ poor
☐ no comment

d. Investment
☐ rising values/good investment
☐ flat values/not much appreciation
☐ declining values/depreciation
☐ no comment

e. Public Services
☐ good services/amenities
☐ poor/unreliable services
☐ no comment

f. Race or ethnicity? ☐ Yes ☐ No
If yes, please describe: _____

Neighborhood/Area **#2** Name of Area: _____

This area is a: ☐ County ☐ Town or City ☐ School District ☐ Neighborhood ☐ Don't know

Did the agent make any of the following comments about this area?

a. Noise
☐ quiet
☐ noisy
☐ no comment

b. Safety
☐ safe/low crime
☐ dangerous/high crime
☐ no comment

c. Schools
☐ good
☐ poor
☐ no comment

d. Investment
☐ rising values/good investment
☐ flat values/not much appreciation
☐ declining values/depreciation
☐ no comment

e. Public Services
☐ good services/amenities
☐ poor/unreliable services
☐ no comment

f. Race or ethnicity? ☐ Yes ☐ No
If yes, please describe: _____

Neighborhood/Area **#3** Name of Area: _____

This area is a: ☐ County ☐ Town or City ☐ School District ☐ Neighborhood ☐ Don't know

Did the agent make any of the following comments about this area?

a. Noise
- ☐ quiet
- ☐ noisy
- ☐ no comment

b. Safety
- ☐ safe/low crime
- ☐ dangerous/high crime
- ☐ no comment

c. Schools
- ☐ good
- ☐ poor
- ☐ no comment

d. Investment
- ☐ rising values/good investment
- ☐ flat values/not much appreciation
- ☐ declining values/depreciation
- ☐ no comment

e. Public Services
- ☐ good services/amenities
- ☐ poor/unreliable services
- ☐ no comment

f. Race or ethnicity? ☐ Yes ☐ No

If yes, please describe: _____

_____

_____

_____

Neighborhood/Area **#4** Name of Area: _____

This area is a: ☐ County ☐ Town or City ☐ School District ☐ Neighborhood ☐ Don't know

Did the agent make any of the following comments about this area?

a. Noise
- ☐ quiet
- ☐ noisy
- ☐ no comment

b. Safety
- ☐ safe/low crime
- ☐ dangerous/high crime
- ☐ no comment

c. Schools
- ☐ good
- ☐ poor
- ☐ no comment

d. Investment
- ☐ rising values/good investment
- ☐ flat values/not much appreciation
- ☐ declining values/depreciation
- ☐ no comment

e. Public Services
- ☐ good services/amenities
- ☐ poor/unreliable services
- ☐ no comment

f. Race or ethnicity? ☐ Yes ☐ No

If yes, please describe: _____

_____

_____

_____

Neighborhood/Area **#5** Name of Area: _____

This area is a: ☐ County ☐ Town or City ☐ School District ☐ Neighborhood ☐ Don't know

Did the agent make any of the following comments about this area?

a. Noise
- ☐ quiet
- ☐ noisy
- ☐ no comment

b. Safety
- ☐ safe/low crime
- ☐ dangerous/high crime
- ☐ no comment

c. Schools
- ☐ good
- ☐ poor
- ☐ no comment

d. Investment
- ☐ rising values/good investment
- ☐ flat values/not much appreciation
- ☐ declining values/depreciation
- ☐ no comment

e. Public Services
- ☐ good services/amenities
- ☐ poor/unreliable services
- ☐ no comment

f. Race or ethnicity? ☐ Yes ☐ No

If yes, please describe: _____

_____

_____

_____

36. Were any remarks made by the agent about race or ethnicity (other than those regarding specific neighborhoods)? ☐ Yes ☐ No
If Yes, please describe: _____

_____

_____

_____

37. Were any remarks made by the agent about religion, persons with disabilities, or families with children? ☐ Yes ☐ No
If Yes, please describe: _____

_____

_____

_____

38. What arrangements were made regarding future contact between you and the agent?
☐ The agent said that he/she would contact you
☐ The agent invited you to call him/her
☐ Future arrangements were not made
☐ Other *(specify)*: _____

39. Date/Time of Site Visit Report completion:
Date (month/day/year): ____/____/____
Time ____:____ ☐ AM ☐ PM

PLEASE REMEMBER TO COMPLETE A RECORD OF RECOMMENDED HOMES FOR EACH HOME RECOMMENDED.

STATEMENT OF TESTER

I prepared this test report form and attest by my signature below that it is, to the best of my recollection, a true and accurate account of the events that took place during a test in which I participated:

_____
Signature

RECORD OF RECOMMENDED HOMES

(Complete one form for each address recommended or inspected)

1. Full Address of Home

(number) (street) (unit)

(city or town) (state) (zip code)

2. Basic Information	**First Site Visit**	**Second Site Visit**
a. Is this the advertised home?	☐ Yes ☐ No	☐ Yes ☐ No
b. Did you inspect the home?	☐ Yes ☐ No	☐ Yes ☐ No
c. How many bedrooms were in the home?		
d. What was the current asking price?		

IF HOME WAS INSPECTED ON EITHER VISIT:

3. What type of building is it?
- ☐ Single-family detached
- ☐ Duplex
- ☐ Rowhouse or Townhouse
- ☐ Multi-family structure

4. Is this a newly built home that has never been occupied?
- ☐ Yes
- ☐ No

5. How do you rate the physical condition of the home's INTERIOR?
- ☐ Clean and in excellent repair, move-in condition
- ☐ Some cleaning and minor maintenance needed, adequate
- ☐ Very dirty and in need of substantial maintenance, serious problems

6. How do you rate the physical condition of the home's EXTERIOR?
- ☐ Clean and in excellent repair, move-in condition
- ☐ Some cleaning and minor maintenance needed, adequate
- ☐ Very dirty and in need of substantial maintenance, serious problems

7. Did the agent make any of the following comments about the surrounding neighborhood?

a. Noise
- ☐ Quiet
- ☐ Noisy
- ☐ No comment

b. Safety
- ☐ Safe/low crime
- ☐ Dangerous/high crime
- ☐ No comment

c. Schools
- ☐ Good
- ☐ Poor
- ☐ No comment

d. Investment
- ☐ Rising values/good investment
- ☐ Flat values/not much appreciation
- ☐ Declining values/depreciation
- ☐ No comment

e. Public Services
- ☐ Good Services/Amenities
- ☐ Poor Services/Amenities
- ☐ No comment

f. Race or ethnicity? ☐ Yes ☐ No

If Yes, please describe:

_____

ANNEX 3: TESTS OF STATISTICAL SIGNIFICANCE

ANNEX 3: TESTS OF STATISTICAL SIGNIFICANCE

The gross measure of adverse treatment is simply an estimate of the probability that the white tester is favored over his or her minority partner, or the empirical mean of a variable (Z_{10}) that takes on the value of one if the white tester is favored and zero otherwise. In simple random samples, the standard error of the gross measure estimate is square root of the element variance of this discrete outcome divided by the sample size; the element variance of the variable is simply

$$\sigma_g^2 = E[Z_{10}^2] - E[Z_{10}]^2 = Pr[W_{ik}=1, M_{ik}=0] \; (1.0 - Pr[W_{ik}=1, M_{ik}=0]) \qquad (4)$$

where W_{ik} is a Bernoulli variable denoting a favorable outcome for the white tester (1=favorable; 0=unfavorable) and M_{ik} denotes the Bernoulli analogue for the Minority treatment outcome. Doubling the standard error yields a 95 percent confidence interval for the gross measure of adverse treatment. However, this apparently straightforward hypothesis test that the gross measure is greater than zero is not meaningful; the fact that any instances of white- or minority-favored treatment occurred in the sample of tests means (by definition) that the null hypothesis must be rejected (the probability of differential treatment in the total population cannot be equal to zero). In other words, a null hypothesis that a probability is zero is automatically rejected whenever at least one such event is observed.

The (effective) sample size for these tests is quite large, and based on the central limit theorem the 95 percent confidence interval for the gross measure is simply the estimated measure plus or minus 1.96 times the estimated standard error. This assumes that the estimated proportion is neither close to zero or one. If percentages are extreme (say, greater than 0.95 or less than 0.05), nonsymmetrical confidence intervals are calculated using formulae in Fleiss (1981) with adjustments to variance which incorporate the design effect. Also, note that the standard error cannot be used to provide a statistical test that the gross measure is greater than or equal to zero. The gross measure is the estimate of an event probability. The null hypothesis that a probability equals zero is rejected upon even a single observation of the event because if the null is true the event cannot occur.

The net measure of adverse treatment is the difference between the proportion of tests where the white is favored and the proportion where the minority is favored. For the net measure, the standard error of the estimate is based on a simple difference of means, and the variance of the net measure may be written as

$$\sigma_n^2 = Var[W_{ik}] + Var[M_{ik}] - 2\, Cov[W_{ik}, M_{ik}] \qquad (5)$$

W_{ik} and M_{ik} are both binary variables, and calculations of their variance are straightforward. The element covariance can be calculated as follows:

$$\sigma_{WM} = Pr[W_{ik}=1, M_{ik}=1] * Pr[W_{ik}=0, M_{ik}=0] - Pr[W_{ik}=1, M_{ik}=0] * Pr[W_{ik}=0, M_{ik}=1] \qquad (6)$$

The null hypothesis that the net measure is positive and differs from zero (a one-sided test) is rejected with a 5 percent chance of a type I error or less if the net exceeds 1.65 times the estimated standard error.

Changes in the national incidence of adverse treatment are calculated for a core set of incidence measures that can be constructed comparably for both 1989 and 2000. These changes are based on a common sampling frame so that the change in patterns of adverse treatment can be attributed to a change in underlying real estate agent behavior rather than a change in the distribution of advertised units across sites. Specifically, gross and net adverse treatment are recalculated for the 1989 HDS using only the sites that are common between 1989 and 2000, and the statistical procedures control for differences across time in the effective number of tests in each site.

Let G_{jk1} and G_{jk2} denote average gross measures of adverse treatment in Site j, averaged over all tests for that site and measured with survey analytic weights at time 1 (i.e., 1989) and time 2 (i.e., 2000), respectively. Then the change over time is estimated by

$$D_{jk} = G_{jk1} - G_{jk2} \quad \text{for each site j,} \qquad (7)$$

and an overall measure for change can be obtained by taking a weighted average of the D_{jk} across sites using weights discussed earlier. The difference between the revised 1989 and 2000 HDS measures of adverse treatment represents the change in adverse treatment holding the sampling frame fixed over the time period.

The standard errors for the estimates of change may be calculated using the standard difference of means described earlier in equations (4) and (5). We chose to ignore the two-stage nature of the design and the fact that our analysis contains only a sample of relevant MSA's within the United States. Rather, we exploit the fact that HDS2000 sampled the subset of MSA's from the 1989 HDS sample and test whether the incidence of discrimination has changed in this set of MSA's between 1989 and 2000. This shift substantially increases our statistical precision, but implies some sacrifice in terms of the generalizability of the findings.

The statistical tests based on individual metropolitan areas are based on small sample sizes of approximately 72 tests per site, tenure, and ethnic group. The statistical tests described earlier could be replaced by a t-test with N-1 degrees of freedom in which N is the sample size. This test, however, requires either an assumption that the errors are distributed normally or a large enough sample size to invoke the central limit theorem, which insures normality of the mean even when errors are non-Normal. We apply the central limit theorem for the confidence intervals on the gross measure of adverse treatment. Gross adverse treatment

is simply a binary or Bernoulli variable. In practice, the frequencies arising from a Bernoulli variable are approximately distributed normally when each cell contains at least five entries.

Neither the normality assumption nor the use of the central limit theorem is appropriate for the net measure of adverse treatment. For example, Heckman and Siegelman (1993) examines data from the Urban Institute employment tests and finds that the t-test for a difference of means is less likely to detect net adverse treatment against minority testers compared to more appropriate statistical tests.

Heckman and Siegelman (1993) suggest that the one-sided test for whether net adverse treatment is greater than zero can be written as simply

$$H_0: \quad E[Y_{10} \mid Y_{11}=0, Y_{00}=0] <= 0.5 \qquad (8)$$

where Y_{11} is one if $W_{ik}=1$ and $M_{ik}=1$ and Y_{00} is one if $W_{ik}=0$ and $M_{ik}=0$. This test conditions on the occurrence of either relatively favorable white or minority treatment, and tests whether the conditional likelihood of white-favored treatment is 50 percent. This test, often called the sign test, is the uniformly most powerful statistical test for this null hypothesis.

Under H_0, the probability of observing N_2 or more tests in which the white tester receives favorable treatment and the minority tester does not is the number of permutations under this restriction divided by the total number of permutations for which N_d tests can be assigned to two outcomes.

$$Pr[N_2 = k \mid N_d = N_2 + N_3] = N_d! \,/\, (2^{Nd}\,(N_d - k)!\; k!) \qquad (9)$$

where N_3 is the number of tests in which outcome 3 is observed. The critical value (N_C) is chosen so that

$$\sum_{j=N_C}^{N_d} Prob\ [\ N_2 = j \mid N_d\ ] \leq 0.05 \qquad (10)$$

Due to the nature of permutation tests, the sum of the probabilities will not equal 5 percent exactly. In principle, a randomization test may be conducted so that the null will be rejected with some probability if N_2 equals N_C minus one.[1] In practice, however, the probability

[1] Heckman shows that a randomized test can be used to obtain significant tests with exactly a 5% probability of a type I error. The randomized test rejects the null hypothesis if the value of N_2 exceeds N_C, and also rejects the null hypothesis with probability a if the net measure equals the N_C minus one where the following equation holds: a $p_2 + p_1 = 0.05$, p_1 the probability of a type I error implied by the cut-off of N_C, and p2 is the increase in the probability of a type I error implied by lowering the cut-off to N_C minus 1.

of a type one error given the observed values is simply calculated by setting N_C equal to N_2 in equation (10).

ANNEX 4: PRELIMINARY RESULTS FROM TRIAD TESTING

ANNEX 4: PRELIMINARY RESULTS FROM TRIAD TESTING

This annex describes the methodology for and presents preliminary results from triad tests that were conducted in two metropolitan areas in Phase II of HDS2000. Triad tests involve visits by three testers to inquire about each randomly selected advertisement. Two of the visits in each test involve testers of the same race. A comparison of the experiences of the two same-race testers provides a direct measure of random differences in treatment during the testing process. This methodological innovation was strongly recommended by members of the National Academy of Sciences workshop on the measurement of discrimination, held in September of 2000. The full report for Phase II of HDS2000 will include a comprehensive analysis of the triad testing results.

Methodology

The triad tests conducted in Phase II of HDS2000 were structured both to maximize the opportunity for obtaining traditional incidence measures from paired comparisons and to minimize any bias caused by time lags between the visits of the two same-race testers. In each of two major metro areas (Baltimore and Miami), a total of 70 tests were conducted, in which 35 involved a minority tester visiting first followed by two white testers, and 35 involved a white tester visiting first followed by two minority testers. This protocol assured that all tests resulted in one completed minority-white pair whether or not the full triad test was completed. In addition, it minimized the time lag between the two same-race testers, so as not to exaggerate random differences in treatment.

A triad test can result in any one of eight possible outcomes. In the explanation that follows, we refer to triad tests in which a white tester (W) is followed by two minority testers (M1 and M2), but the same methodology applies to tests in which a minority tester visits first (M), followed by two whites (W1 and W2).

Y1 = 1 If W is favored, M1 is favored, and M2 is favored

Y2 = 1 If W is favored, M1 is favored, and M2 is not favored

Y3 = 1 If W is favored, M1 is not favored, and M2 is favored

Y4 = 1 If W is not favored, M1 is favored, and M2 is favored

Y5 = 1 If W is favored, M1 is not favored, and M2 is not favored

Y6 = 1 If W is not favored, M1 is favored, and M2 is not favored

Y7 = 1 If W is not favored, M1 is not favored, and M2 is favored

Y8 = 1 If W is not favored, M1 is not favored, and M2 is not favored

The incidence of differential treatment between the same-race testers can be expressed as:

Same-Race Differential Treatment = Pr[Y2=1] + Pr[Y3=1] + Pr[Y6=1] + Pr[Y7=1]

The incidence of white-favored treatment can be calculated in either of two ways. The first approach only considers the first tester pair, and counts treatment favoring the white tester (W) over the first minority tester (M1):

Paired White-Favored = Pr[Y3=1] + Pr[Y5=1].

The second approach uses all of the information from the three-part test, counting treatment favoring the white tester over either of the minority testers, and is the sum of probabilities weighted by the number of favorable treatments:

Triad White-Favored = Pr[Y2=1] + Pr[Y3=1] + 2*Pr[Y5=1]

Correspondingly, there are two approaches for calculating the incidence of minority-favored treatment:

Paired Minority-Favored = Pr[Y4=1] + Pr[Y6=1], and

Triad Minority-Favored = 2*Pr[Y4=1] + Pr[Y6=1] + Pr[Y7=1].

These calculations can be used to estimate the incidence of systematic adverse treatment of minority testers, by subtracting the incidence of same-race differential treatment from the gross incidence of white-favored treatment:

Systematic White-Favored = 2*Pr[Y5=1] – (Pr[Y6=1] + Pr[Y7=1])

Note that probabilities associated with events Y2 and Y3 drop out and the resulting comparison depends upon whether the likelihood of the white tester being unambiguously favored over both minority testers exceeds the likelihood of one or the other minority tester being favored above the other while neither is disfavored relative to the white tester.

In addition, we can compare the incidence of same-race differential treatment to the incidence of minority-favored treatment to assess the validity of the traditional net measure of differential treatment as an estimate of systematic discrimination. For this comparison, we focus on the paired white-favored and minority-favored calculations presented above, rather than the triad calculations.

Due to the small sample sizes for the triad tests, we must use exact, non-parametric tests to determine the statistical significance of the net adverse treatment measures. A simple sign test can be constructed by creating a sample in which the events Y6 and Y7 each create one observation in which differential treatment occurs between testers of the same race (Y5=0) and the event Y5 creates two observations in which white favored treatment occurs (Y5=1). The resulting sign test is

$$\text{Prob}[Y5=1 \mid Y1 + Y2 + Y3 + Y4 + Y8 = 0] <= 0.5$$

where the observations with Y5=1 enter the sample twice.[1]

Results

Preliminary results from triad testing 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 difference in treatment, and the traditional net measure (which subtracts minority-favored treatment from white-favored treatment) 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 for at least some treatment variables. Moreover, because sample sizes are small and not all treatment variables and composites have been considered, these results should be interpreted cautiously.

[1] Strictly speaking this test is no longer a permutation test because the event Y5 cannot truly occur twice and the two across group comparisons in the triad test are mutually exclusive. Nonetheless, the sign test does provide a convenient non-parametric test for whether two probabilities differ from each other.

For black/white tests, we find some evidence that the incidence of minority-favored treatment may differ from the incidence of random differential treatment and is therefore a poor proxy for the level of randomness in a test (Annex 4-1). In the rental market, same-race differential treatment for availability of the advertised unit exceeds the incidence of minority-favored treatment, while for invitations to fill out an application, same-race differential treatment is significantly lower than the incidence of minority-favored treatment. For sales tests, same-race differences for follow-up phone calls significantly exceed minority-favored treatment. The results for invitations to fill out an application are consistent with the hypothesis that minorities are sometimes favored for systematic reasons, but the results for availability of the advertised unit and follow-up phone calls are more puzzling and suggest that sometimes the incidence of random differential treatment may exceed the incidence of minority-favored treatment. One possible explanation is that fair housing enforcement causes real estate agents to be much more careful about treating people the same when they are visited in close succession by two customers of different racial/ethnic groups. This behavior would reduce the incidence of both white- and minority-favored treatment without affecting the incidence of differential treatment between testers of the same race.

For Hispanic/non-Hispanic white tests there is no statistically significant evidence that the traditional measure of net adverse treatment differs from the revised net adverse treatment based on the triad methodology (Annex 4-2). However, the samples sizes are small, making it difficult to interpret the implications of these findings with confidence.

While Annex 4-1 and 4-2 compare same-race differences in treatment to *paired* white-favored and minority-favored treatment, Annex 4-3 takes advantage of all the information from the triad tests to produce estimates of white-favored and minority-favored treatment as well as alternative estimates of systematic discrimination. These calculations lead to the same conclusions – that in general, same race differences in treatment are as high or higher than minority-favored treatment.

Annex 4-1: Preliminary Results from Black/White Triad Tests

Rental Treatment Variables	Paired Test Results			Effect of Triad Tests		
	White Favored	Black Favored	Net	Black Favored	Same Race Diff	Difference in Net
Advertised Unit Available	9.9	5.6	4.3	5.6	15.5	-9.9
Advertised Unit Inspected	9.9	8.4	1.5	8.4	9.9	-1.5
Rental Incentives Offered	11.3	11.3	0.0	11.3	8.5	2.8
Asked to Fill Out Application	9.8	29.6	-19.8**	29.6	9.9	19.7**
Sales Treatment Variables	Paired Test Results			Effect of Triad Tests		
	White Favored	Black Favored	Net	Black Favored	Same Race Diff	Difference in Net
Advertised Unit Available	14.3	20.0	-6.7	20.0	20.0	0.0
Advertised Unit Inspected	11.4	15.7	-3.3	15.7	14.3	1.4
Financial Assistance Offered	32.9	17.1	15.8*	17.1	27.1	-10.0
Follow-up Phone Call	24.3	15.7	8.6	15.7	32.9	-17.2*

Note: For differences, * represents statistical significance at the 90% level, and ** represents statistical significance at the 95% level.

Annex 4-2: Preliminary Results from Hispanic/Non-Hispanic White Triad Tests

Rental Treatment Variables	Paired Test Results			Effect of Triad Tests		
	N-H White Favored	Hispanic Favored	Net	Hispanic Favored	Same Race Diff	Difference in Net
Advertised Unit Available	11.0	8.2	2.8	8.2	9.6	-1.4
Advertised Unit Inspected	2.8	8.2	-5.4	8.2	4.1	4.1
Rental Incentives Offered	9.6	9.6	0.0	9.6	8.2	1.4
Asked to Fill Out Application	13.7	11.0	2.7	11.0	11.0	0.0
Sales Treatment Variables	Paired Test Results			Effect of Triad Tests		
	N-H White Favored	Hispanic Favored	Net	Hispanic Favored	Same Race Diff	Difference in Net
Advertised Unit Available	11.4	14.3	-2.9	14.3	11.4	2.9
Advertised Unit Inspected	12.9	14.3	-1.4	14.3	14.3	0.0
Financial Assistance Offered	28.6	18.6	10.0	18.6	18.6	0.0
Follow-up Phone Call	20.0	11.4	8.6	11.4	22.9	-11.5

Note: For differences, * represents statistical significance at the 90% level, and ** represents statistical significance at the 95% level.

Annex 4-3: Preliminary Results from Triad Tests Using All Possible Comparisons

Black/White Rental						
Treatment Variables	White Favored	Black Favored	Traditional Net	Same Race Diff	Triad Net	Difference in Net
Advertised Unit Available	8.5	7.0	1.5	12.7	-4.2	-5.7**
Advertised Unit Inspected	8.5	10.6	-2.1	6.3	2.2	4.3
Rental Incentives Offered	12.0	12.0	0.0	8.5	3.5	3.5
Asked to Fill Out Application	10.6	24.6	-14.0**	15.5	-4.9	9.1**
Hispanic/Non-Hispanic White Rental						
Treatment Variables	N-H White Favored	Hispanic Favored	Traditional Net	Same Race Diff	Triad Net	Difference in Net
Advertised Unit Available	11.0	7.5	3.5	10.3	0.7	2.8
Advertised Unit Inspected	5.5	7.5	2.0	7.5	2.0	0.0
Rental Incentives Offered	10.3	10.3	0.0	8.2	2.1	2.1
Asked to Fill Out Application	11.6	8.2	3.4	11.6	0.0	-3.4
Black/White Sales						
Treatment Variables	White Favored	Black Favored	Traditional Net	Same Race Diff	Triad Net	Difference in Net
Advertised Unit Available	12.9	23.6	-10.7	20.0	-7.1	3.6
Advertised Unit Inspected	13.6	17.9	-4.3	14.3	-0.7	3.6
Financial Assistance Offered	30.0	20.7	9.3	20.7	9.3**	0.0
Follow-up Phone Call	22.9	22.1	0.8	25.0	-2.1	-2.9

Hispanic/Non-Hispanic White Sales						
Treatment Variables	N-H White Favored	Hispanic Favored	Traditional Net	Same Race Diff	Triad Net	Difference in Net
Advertised Unit Available	10.7	12.9	-2.2	12.1	-1.4	0.8
Advertised Unit Inspected	10.0	12.9	-2.9	12.9	-2.9	0.0
Financial Assistance Offered	29.3	20.0	9.3	17.9	11.4**	2.1
Follow-up Phone Call	17.1	15.0	1.9	16.4	0.7	-1.2

Note: For differences, * represents statistical significance at the 90% level, and ** represents statistical significance at the 95% level.

ANNEX 5: COMPARABILITY OF 1989 TREATMENT MEASURES

ANNEX 5: COMPARABILITY OF 1989 TREATMENT MEASURES

Phase I of HDS2000 is intended to measure changes in the level of discrimination between 1989 and 2000. The testing procedures and data collection process were designed to assure comparability between the 1989 and 2000 studies. At the same time, the real estate market changed dramatically during the intervening decade and 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. In addition, our understanding of the real estate market has evolved since 1989 leading to different decisions concerning the inclusion and/or construction of specific treatment variables. 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 and reported in the replication section of this report. In addition, the 1989 weights that are used for the 2000 report were adjusted to ensure that sites entered with the same weight in 1989 and in 2000 in order to ensure comparability between the estimated 1989 and 2000 incidences of adverse treatment.

In the 1989 report, the treatment variables were divided into three groups: housing availability, sales effort, and either terms and conditions for rental or financing assistance for sales tests. These three groups are comparable to the four categories in HDS2000 where the availability and inspection variables from the 1989 availability category were split into two separate categories on housing availability and inspection, the sales effort category was renamed agent encouragement, and the terms and conditions category from the rental tests was renamed housing costs. In both 1989 and 2000, a consistency composite measure was created for each category as well as an overall consistency composite measure based on all treatment variables in all categories, where favorable treatment was defined as favorable treatment on at least one measure and not treated disfavorably on any measure. In HDS2000, hierarchical composite measures were developed as well, in which treatment variables were ordered based on subjective importance and favorable treatment is defined as favorable treatment on one variable and no disfavorable treatment on any variable that is rated equal to or above that variable.

The 1989 availability category contained five variables representing: whether no appointment was made or no units available, whether the advertised unit was available, whether the advertised unit or a unit similar to the advertised unit was inspected, number of units inspected, and finally, number of total units recommended to the tester. The no appointment variable is not comparable between 1989 and 2000 and is dropped from the list of treatment variables because the protocols for initial contact by the tester were changed between 1989 and 2000. The 1989 study combined information on whether the advertised unit or similar units

were inspected, which is labeled similar unit available in the 1989 report, but in 2000 we decided to divide this information into two variables as well as add an additional treatment variable for whether at least one similar unit was available. As a result, we created two categories: housing availability and housing inspection. These modifications were made because research on the 1989 data suggested that the agent decision to show a house might vary dramatically between the advertised and other available units.

The 1989 terms and conditions category also contained five variables: application fee required, special rental incentives offered, rent of the advertised unit, amenities in rent, and amount of security deposit. Amenities in rent were dropped from the list because the list of potential amenities was incredibly broad and it was uncertain whether amenities were sometimes not mentioned even though they were available. The application fee required was redefined to include the cost of a credit check, which was reported with the application fee for HDS2000, as well as to broaden the sample base to include all tests where the fee required is only set to one if it is mentioned to the tester. Rent of advertised unit and amount of security deposit were changed in order to deal with the fact that in many tests multiple units are described as the advertised unit. The comparison of rent and security deposit is only made when each tester only reports one advertised unit; or, if multiple advertised units are reported, then only if each tester only reports one advertised unit that meets the tester's needs in terms of number of bedrooms, price range, and availability.

The 1989 financing assistance category contained four variables: percentage of units for which the tester discussed conventional fixed-rate financing, percentage of units for which the tester discussed conventional adjustable rate financing, whether agent said tester was not qualified, and whether agent offered assistance with financing. In today's market, agents do not discuss the details of financing with regard to specific units, but rather have a general discussion with the homeseeker about the mortgage process, which may include a mortgage pre-qualification for a maximum loan amount. Therefore, in HDS2000, information on financing assistance is collected at the test level. The new variables for the financing assistance category are: agent offered assistance with financing, agent recommended specific lenders, and agent discussed downpayment requirements. These new variables are much more relevant in today's market.

A specific discussion of adjustable rate mortgages is simply less important today, since most homebuyers are aware of this option. Many real estate agents have close relationships with mortgage lenders today and often provide names of lenders to homebuyers. In addition, many active homeseekers face substantial downpayment constraints in today's market, and there are many more options available for such buyers than there were in 1989. Not that the discussed downpayment requirements is a different variable from what was reported in the 1989 report as asked about downpayment, which recorded whether the agent asked the tester about the resources that they had available for downpayment.

The 1989 sales effort category contained five variables: questions about income, questions about reason for move, invitation to call back, follow-up phone call, and length of interview. The agent question variables were dropped because existing research raised serious questions about the interpretation of these variables. It is not possible to determine whether questions were being asked in order to provide more service or in order to filter out certain types of homeseekers. In addition, length of interview was dropped because the data on interview time was quite noisy and there were differences between how interview timing was recorded in 1989 and 2000. The new variables, called agent encouragement variables, include: follow-up contact from agent, arrangements made for future contact, agent stated that tester was qualified, and for rental tests, whether tester was asked to fill out an application. Arrangements made for future contact simply broadens the invitation to call back by including any other arrangements that might have been made for the tester to keep in touch with the agent. Statements about being qualified were used to replace statements about not being qualified because the testers were almost never told that they were not qualified.

The 1989 report contains results for steering by percent black or Hispanic, per capita income, and median house value. In 2000, however, the replication report only presents changes in the level of steering for percent white, which yields results that are very similar to those for percent black or percent Hispanic, because there was no evidence of steering on any other variable in 2000. In 1989, the steering results were presented for inspected units only. HDS2000 presents steering results on both units that were recommended and units that were inspected. In addition, no composite is presented for the steering results in HDS2000. The 1989 steering results in this report differ from the results in the 1989 report because they are based on a 1990 census tract definitions and actual 1990 census data while the results in the 1989 report were based on Claritas estimates for 1989 using 1980 census tract definitions. These changes had very little effect on the ethnic steering of Hispanics, but had a large effect on the racial steering of blacks. In fact, there is little evidence of racial steering against blacks in 1989 based on updated census data.

The reader should keep in mind that these changes lead to substantial reductions in the gross level of adverse treatment (incidence of white favored tests) for the overall consistency measures, as compared to the results presented in the 1989 report. The overall consistency score for white favored tests was between 42 and 51 percentage points for the four sets of tests as reported in the 1989 report, but fell to between 24 and 29 percentage points for the 1989 HDS as reported in the HDS2000 report. These differences are primarily driven by the changes in the variables included in the analysis, but also reflect some substantial changes in the weights used for the replication analysis. A final difference between the overall consistency composite measures for the 1989 and the 2000 reports involves the steering variables for the sales tests. Both HDS 1989 and 2000 presented steering results for sales tests at the national

level, but unlike the 1989 measure the overall composite measure for the HDS2000 report included the racial steering variables into the overall composite measures.

ANNEX 6: ANALYSIS OF OVER-SAMPLE AND SUPPLEMENTAL TESTS

ANNEX 6: ANALYSIS OF OVER-SAMPLE AND SUPPLEMENTAL TESTS

For comparability, Phase I of HDS2000 implemented the same weekly ad-sampling methodology that was used in 1989. However, the 1989 HDS found that some geographic areas within many metropolitan housing markets were under-represented in the major metropolitan newspaper. In order to learn more about this issue, two additional 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. In this annex, we stratify tests based on whether the advertised unit was located in a well-represented community or an under-represented community to determine whether patterns of treatment vary.

Methodology

During the ad-sampling process in four of the HDS2000 sites, the distribution of advertisements across geographic communities was compared to the distribution of all housing units in order to identify the communities that were under-represented in the classified ads of the major metropolitan newspaper. Estimates of total rental and homeowner housing units by census tract in 2000 were obtained from Claritas, Inc. A geographic community was considered to be under-represented if the ratio of advertisements to owner-occupied or rental units fell below one-half. For these communities, ads were “over-sampled” to yield additional tests in under-represented communities. In addition, for the communities with the fewest newspaper advertisements, additional available units were identified from alternative information sources.

In the analysis that follows, the expanded sample of tests for these four metropolitan areas is stratified into two categories: 1) tests where the advertised units were located in a well-represented geographic community, and 2) tests where the advertised units were located in an under-represented community. The second category includes some tests from the basic replication sample (if the advertised unit was located in an under-represented community), as well as all the over-sampled and supplemental tests.[1] We then compare the incidence of white-favored and minority-favored treatment for these two categories to determine whether tests conducted in communities that are well-represented in the classified advertising sections of major metropolitan newspapers may over- or under-state the incidence of discrimination. These

[1] Note that any replication tests for which the location of the advertised unit could not be identified are assumed to be drawn from well-represented communities.

comparisons are based upon the measures of treatment consistency discussed in chapter 2.[2] To test for the statistical significance of differences between the two categories of tests, we used a Fisher's exact test.[3] Note that this test does not explicitly determine whether the level of adverse treatment varies between the two groups of tests. For example, the null hypothesis (that outcomes are the same for the two categories of tests) might be rejected because the incidence of equal treatment differs significantly between the two categories, even though net adverse treatment is the same.

Results

When tests are pooled across sites, no statistically significant differences between tests in well-represented communities and under-represented communities were found. However, when the two categories of tests are compared on a site-by-site basis, some statistically significant differences occur. In general, when statistically significant differences are found, adverse treatment against black testers tends to be higher in tests from under-represented communities, while adverse treatment against Hispanic testers tends to be higher in well-represented communities. These findings reinforce the importance of drawing samples of available housing units from a wider range of sources than major metropolitan newspapers, a change that has been implemented in Phase II of HDS2000.

Annex 6-1 presents results for black/white rental tests in Atlanta, Chicago, and New York, and for Hispanic/non-Hispanic white rental tests in Chicago, New York, and San Antonio. For Atlanta, statistically significant differences between well-represented communities and under-represented communities occur for housing availability and encouragement, and the incidence of white-favored treatment is higher in under-represented communities for both variables. For black/white tests in Chicago and New York, no treatment differences are statistically significant.

For Hispanic/non-Hispanic white rental tests in Chicago, no treatment differences are statistically significant. In New York, however, significant differences are found for housing availability, inspections, and housing costs. The incidence of non-Hispanic white-favored treatment is higher in well-represented communities for housing availability and inspections, but

[2] For sales tests, a composite steering indicator was created by examining the treatment outcomes on racial steering for housing recommendations and housing inspections.

[3] The Fisher's exact test is a permutation test in which the permutations associated with the observed outcome is compared to total number of permutations possible. The specific test used here is a test for homogeneity across the rows of the table, and the distribution of permutations is described by the multiple hypergeometric distribution.

the incidence of Hispanic-favored is higher in well-represented communities for housing cost.[4] Finally, in San Antonio, significant differences occur for the inspections, encouragement, and overall treatment, and in all cases white-favored treatment is higher in well-represented tracts.

Annex 6-2 presents results for black/white sales tests in Atlanta, Chicago, and New York, and for Hispanic/non-Hispanic white sales tests in Chicago, New York, and San Antonio. For black/white sales tests in Atlanta, statistically significant differences are found for financing assistance, encouragement, and overall treatment. In general, the net measure (the difference between white- and minority-favored treatment) is higher in under-represented communities. For overall treatment, the incidence of white-favored treatment is 18 percentage points higher in under-represented tracts. In Chicago, significant differences occur only for housing availability, and again, white-favored treatment is much higher in under-represented communities. Finally, in New York, significant differences are found for financing assistance and steering. The incidence of white-favored treatment is again higher in under-represented communities for steering, but the incidence of black-favored treatment is higher in under-represented communities for financing assistance.

For Hispanic/non-Hispanic white sales tests in Chicago, statistically significant differences occur for inspections and encouragement. In both cases, net adverse treatment is higher in well-represented communities. In New York, only the differences in encouragement are significant, and as in Chicago, net adverse treatment is higher in well-represented communities.[5] In San Antonio, however, the incidence of non-Hispanic white-favored treatment is higher in under-represented tracts for financing assistance and encouragement.

[4] The different patterns for access and cost may reflect differences in the actual advertised units that were made available to white and minority testers rather than the differences in price for the same unit.

[5] Steering is significant at the 90% level, but this appears to arise from a lower probability of equal treatment as opposed to differences in white- or minority-favored treatment.

Annex 6-1: Comparison of Rental Testing Results for Well-Represented and Under-Represented Geographic Communities

Black/White Rental Tests in Atlanta					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	White Favored	Black Favored	White Favored	Black Favored	
Availability	19.2%	11.5%	32.4%	26.5%	95%
Inspection	19.2%	10.3%	14.7%	17.7%	Not Sig.
Cost	38.5%	11.5%	26.5%	26.5%	Not Sig.
Encouragement	20.5%	29.5%	38.2%	8.8%	95%
Overall	30.8%	12.8%	14.7%	14.7%	Not Sig.
Sample Size	78		34		

Black/White Rental Tests in Chicago					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	White Favored	Black Favored	White Favored	Black Favored	
Availability	22.6%	22.6%	18.8%	12.5%	Not Sig.
Inspection	14.5%	14.5%	18.8%	21.9%	Not Sig.
Cost	19.4%	24.2%	15.6%	15.6%	Not Sig.
Encouragement	30.7%	24.2%	25.0%	12.5%	Not Sig.
Overall	14.5%	22.6%	12.5%	15.6%	Not Sig.
Sample Size	62		32		

Black/White Rental Tests in New York					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	White Favored	Black Favored	White Favored	Black Favored	
Availability	32.8%	26.9%	20.0%	23.3%	Not Sig.
Inspection	29.9%	13.4%	26.7%	13.3%	Not Sig.
Cost	16.4%	19.4%	10.0%	10.0%	Not Sig.
Encouragement	28.4%	20.9%	16.7%	20.0%	Not Sig.
Overall	19.4%	14.9%	30.0%	20.0%	Not Sig.
Sample Size	67		30		

Hispanic/Non-Hispanic White Rental Tests in Chicago					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	N-H White Favored	Hispanic Favored	N-H White Favored	Hispanic Favored	
Availability	32.2%	17.0%	23.5%	11.8%	Not Sig.
Inspection	22.0%	20.3%	17.7%	14.7%	Not Sig.
Cost	33.9%	10.2%	29.4%	20.6%	Not Sig.
Encouragement	18.6%	27.1%	38.2%	20.6%	Not Sig.
Overall	32.2%	22.0%	38.2%	14.7%	Not Sig.
Sample Size	59		34		

Hispanic/Non-Hispanic White Rental Tests in New York					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	N-H White Favored	Hispanic Favored	N-H White Favored	Hispanic Favored	
Availability	37.3%	28.8%	20.6%	20.6%	90%
Inspection	30.5%	15.3%	11.8%	11.8%	90%
Cost	20.3%	20.3%	14.7%	3.0%	95%
Encouragement	20.3%	17.0%	14.7%	23.5%	Not Sig.
Overall	27.1%	11.9%	29.4%	20.6%	Not Sig.
Sample Size	59		34		

Hispanic/Non-Hispanic White Rental Tests in San Antonio					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	N-H White Favored	Hispanic Favored	N-H White Favored	Hispanic Favored	
Availability	48.1%	23.1%	30.2%	32.1%	Not Sig.
Inspection	36.6%	17.3%	15.1%	24.5%	95%
Cost	26.9%	15.4%	17.0%	15.1%	Not Sig.
Encouragement	30.8%	17.3%	28.3%	35.9%	90%
Overall	21.2%	7.7%	22.6%	28.3%	95%
Sample Size	52		53		

Annex 6-2: Comparison of Sales Testing Results for Well-Represented and Under-Represented Geographic Communities

Black/White Sales Tests in Atlanta					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	White Favored	Black Favored	White Favored	Black Favored	
Availability	43.1%	40.3%	52.3%	33.3%	Not Sig.
Inspections	52.8%	29.2%	59.5%	28.6%	Not Sig.
Financing	29.2%	40.3%	31.0%	16.7%	95%
Encouragement	25.0%	44.4%	23.8%	26.2%	90%
Steering	31.9%	22.2%	35.7%	21.4%	Not Sig.
Overall	8.3%	11.1%	26.2%	11.9%	95%
Sample Size	72		42		

Black/White Sales Tests in Chicago					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	White Favored	Black Favored	White Favored	Black Favored	
Availability	32.7%	43.6%	61.8%	17.7%	95%
Inspection	36.4%	36.4%	41.2%	17.7%	Not Sig.
Financing	41.8%	29.1%	35.3%	32.3%	Not Sig.
Encouragement	27.3%	18.2%	38.3%	17.7%	Not Sig.
Steering	16.4%	21.8%	20.6%	5.9%	Not Sig.
Overall	12.7%	9.1%	20.6%	5.9%	Not Sig.
Sample Size	55		34		

Black/White Sales Tests in New York					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	White Favored	Black Favored	White Favored	Black Favored	
Availability	35.7%	19.1%	32.7%	21.2%	Not Sig.
Inspection	31.0%	14.3%	17.3%	23.2%	Not Sig.
Financing	23.8%	19.1%	25.0%	44.3%	95%
Encouragement	11.9%	14.3%	7.7%	21.2%	Not Sig.
Steering	4.8%	7.1%	23.1%	7.7%	95%
Overall	28.6%	23.8%	21.2%	17.3%	Not Sig.
Sample Size	42		52		

Hispanic/Non-Hispanic White Sales Tests in Chicago					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	N-H White Favored	Hispanic Favored	N-H White Favored	Hispanic Favored	
Availability	52.4%	19.1%	44.4%	22.2%	Not Sig.
Inspection	42.9%	27.0%	19.4%	33.3%	95%
Financing	55.6%	11.1%	47.2%	11.1%	Not Sig.
Encouragement	34.9%	7.9%	22.2%	33.3%	99%
Steering	17.5%	22.2%	16.7%	13.9%	Not Sig.
Overall	27.0%	6.4%	19.4%	19.4%	Not Sig.
Sample Size	63		36		

Hispanic/Non-Hispanic White Sales Tests in New York					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	N-H White Favored	Hispanic Favored	N-H White Favored	Hispanic Favored	
Availability	33.3%	25.0%	29.6%	27.3%	Not Sig.
Inspection	14.6%	25.0%	20.5%	20.5%	Not Sig.
Financing	27.1%	20.8%	29.6%	22.7%	Not Sig.
Encouragement	27.1%	2.1%	9.1%	2.2%	95%
Steering	2.1%	6.3%	13.6%	11.4%	90%
Overall	35.4%	16.7%	22.7%	20.5%	Not Sig.
Sample Size	48		44		

Hispanic/Non-Hispanic White Sales Tests in San Antonio					
Consistency Treatment Measures	Well-Represented		Under-Represented		Statistical Signif
	N-H White Favored	Hispanic Favored	N-H White Favored	Hispanic Favored	
Availability	45.5%	32.7%	35.1%	42.1%	Not Sig.
Inspection	21.8%	38.2%	15.8%	42.1%	Not Sig.
Financing	47.3%	14.6%	63.2%	19.3%	95%
Encouragement	32.7%	18.2%	54.4%	17.0%	95%
Steering	18.2%	7.1%	19.3%	7.1%	Not Sig.
Overall	23.6%	7.3%	12.3%	5.3%	Not Sig.
Sample Size	55		57		

ANNEX 7: COMPOSITION OF SUMMARY TREATMENT INDICATORS

- **BLACK/WHITE RENTAL TESTS — OVERALL COMPOSITES — 2000 AND 1989**
- **HISPANIC/NON-HISPANIC WHITE RENTAL TESTS – OVERALL COMPOSITES – 2000 AND 1989**
- **BLACK/WHITE SALES TESTS — OVERALL COMPOSITES — 2000 AND 1989**
- **HISPANIC/NON-HISPANIC WHITE SALES TESTS – OVERALL COMPOSITES – 2000 AND 1989**

BLACK/WHITE RENTAL TESTS -- OVERALL COMPOSITES -- 2000 AND 1989

2000	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	12.3%	8.3%	4.1%	12.3%	8.3%	4.1%	12.3%	8.3%	4.1%
Advertised unit inspected?	15.6%	9.2%	6.4%	21.1%	13.9%	7.2%	21.1%	13.7%	7.4%
Rent for advertised unit	9.3%	12.0%	-2.7%	24.5%	18.1%	6.4%	23.6%	17.2%	6.5%
Similar units available?	14.3%	15.4%	-1.0%	31.8%	25.5%	6.3%	26.9%	21.7%	5.2%
Similar units inspected?	8.1%	7.2%	0.9%	34.2%	27.4%	6.8%	27.3%	21.9%	5.4%
Number units recommended	28.3%	23.3%	5.1%	38.9%	31.3%	7.6%	29.9%	24.1%	5.8%
Number units inspected	23.3%	16.2%	7.0%	39.7%	31.9%	7.8%	29.7%	23.9%	5.8%
Rental incentives offered?	9.2%	6.5%	2.7%	41.3%	32.9%	8.4%	29.9%	22.8%	7.1%
Amount of security deposit	5.3%	5.3%	0.0%	41.6%	33.5%	8.0%	29.9%	22.9%	7.0%
Application fee required?	10.7%	14.5%	-3.8%	43.7%	36.6%	7.1%	25.4%	21.8%	3.6%
Follow-up contact from agent?	2.5%	2.1%	0.4%	44.3%	36.9%	7.4%	25.4%	21.6%	3.8%
Asked to complete application?	18.1%	15.8%	2.3%	46.8%	39.2%	7.6%	24.6%	21.1%	3.5%
Arrangements for future?	14.7%	16.3%	-1.6%	48.9%	41.1%	7.8%	22.0%	19.6%	2.4%
Told qualified to rent?	3.6%	3.4%	0.2%	49.0%	41.1%	7.9%	21.6%	19.2%	2.3%
Overall Hierarchical				49.0%	41.1%	7.9%			
Overall Consistency							21.6%	19.2%	2.3%

1989	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	18.5%	11.9%	6.6%	18.5%	11.9%	6.6%	18.5%	11.9%	6.6%
Advertised unit inspected?	22.6%	11.6%	11.0%	28.8%	17.8%	11.0%	28.6%	17.5%	11.0%
Rent for advertised unit	13.9%	16.4%	-2.4%	32.8%	23.1%	9.7%	31.9%	21.9%	10.0%
Similar units available?	22.1%	14.3%	7.9%	40.5%	29.6%	11.0%	37.0%	24.1%	13.0%
Similar units inspected?	10.3%	10.1%	0.2%	41.8%	32.2%	9.6%	34.5%	23.4%	11.1%
Number units recommended	39.3%	23.7%	15.6%	48.6%	36.5%	12.1%	38.4%	23.1%	15.3%
Number units inspected	33.8%	14.8%	19.0%	50.1%	36.7%	13.4%	38.7%	21.7%	17.0%
Rental incentives offered?	12.0%	5.5%	6.4%	51.0%	37.5%	13.5%	38.1%	19.3%	18.8%
Amount of security deposit	6.3%	6.0%	0.3%	51.2%	37.8%	13.4%	37.5%	19.4%	18.1%
Application fee required?	14.1%	11.1%	3.1%	53.2%	38.5%	14.8%	34.9%	18.2%	16.7%
Follow-up contact from agent?	2.2%	2.8%	-0.6%	53.2%	38.5%	14.7%	34.1%	17.8%	16.2%
Asked to complete application?	19.7%	17.2%	2.5%	53.6%	39.9%	13.7%	31.0%	17.4%	13.6%
Arrangements for future?	23.3%	16.2%	7.1%	54.6%	41.0%	13.6%	27.3%	15.3%	12.1%
Told qualified to rent?	5.1%	4.8%	0.3%	54.6%	41.2%	13.4%	26.4%	15.3%	11.1%
Overall Hierarchical				54.6%	41.2%	13.4%			
Overall Consistency							26.4%	15.3%	11.1%

HISPANIC/NON-HISPANIC WHITE RENTAL TESTS -- OVERALL COMPOSITES -- 2000 AND 1989

2000	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% n-H white favored	% Hispanic favored	net measure	% 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%	12.0%	5.4%	6.6%	12.0%	5.4%	6.6%
Advertised unit inspected?	11.4%	7.5%	3.9%	17.5%	11.1%	6.4%	17.4%	11.1%	6.3%
Rent for advertised unit	12.2%	6.5%	5.7%	21.5%	13.3%	8.2%	21.4%	12.4%	9.0%
Similar units available?	12.7%	11.7%	0.9%	29.1%	20.6%	8.5%	26.7%	18.3%	8.4%
Similar units inspected?	7.9%	7.3%	0.6%	31.7%	21.8%	9.9%	27.1%	18.2%	8.8%
Number units recommended	29.4%	20.8%	8.6%	39.9%	25.9%	14.0%	33.0%	20.2%	12.8%
Number units inspected	20.7%	14.3%	6.3%	41.0%	26.6%	14.4%	33.5%	20.2%	13.2%
Rental incentives offered?	8.5%	6.7%	1.8%	43.4%	27.8%	15.6%	34.0%	20.7%	13.3%
Amount of security deposit	8.5%	8.0%	0.5%	44.4%	29.3%	15.1%	34.8%	22.1%	12.7%
Application fee required?	8.6%	12.2%	-3.6%	46.2%	31.3%	15.0%	29.6%	21.0%	8.6%
Follow-up contact from agent?	2.5%	2.7%	-0.2%	46.5%	31.7%	14.8%	28.9%	21.0%	8.0%
Asked to complete application?	17.3%	17.1%	0.2%	49.1%	35.3%	13.8%	27.1%	22.1%	5.0%
Arrangements for future?	20.7%	14.5%	6.2%	52.6%	36.9%	15.7%	27.2%	19.3%	7.9%
Told qualified to rent?	4.4%	5.0%	-0.6%	52.7%	37.6%	15.1%	25.7%	19.5%	6.1%
Overall Hierarchical				52.7%	37.6%	15.1%			
Overall Consistency							25.7%	19.5%	6.1%

1989	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	16.5%	7.7%	8.7%	16.5%	7.7%	8.7%	16.5%	7.7%	8.7%
Advertised unit inspected?	18.3%	13.1%	5.2%	24.5%	15.8%	8.7%	24.2%	15.4%	8.8%
Rent for advertised unit	11.5%	16.9%	-5.3%	29.1%	22.7%	6.4%	28.5%	22.1%	6.4%
Similar units available?	15.9%	13.1%	2.8%	34.8%	28.1%	6.7%	30.5%	23.5%	7.0%
Similar units inspected?	9.9%	10.7%	-0.7%	37.1%	30.9%	6.3%	30.2%	23.7%	6.5%
Number units recommended	35.4%	24.2%	11.2%	44.8%	35.7%	9.1%	34.4%	24.5%	9.8%
Number units inspected	27.2%	17.2%	10.0%	46.3%	36.2%	10.1%	34.9%	24.2%	10.7%
Rental incentives offered?	10.8%	6.8%	4.1%	48.0%	36.8%	11.3%	34.0%	22.5%	11.5%
Amount of security deposit	7.2%	7.2%	0.0%	49.3%	36.9%	12.3%	34.2%	21.8%	12.4%
Application fee required?	8.4%	12.7%	-4.3%	49.9%	38.2%	11.7%	30.9%	21.0%	9.9%
Follow-up contact from agent?	3.7%	1.1%	2.6%	50.4%	38.2%	12.1%	30.8%	20.0%	10.7%
Asked to complete application?	21.6%	14.5%	7.1%	52.4%	39.1%	13.3%	29.9%	18.1%	11.8%
Arrangements for future?	22.5%	19.0%	3.5%	53.2%	41.0%	12.2%	24.2%	15.3%	8.9%
Told qualified to rent?	8.3%	4.4%	4.0%	53.2%	41.3%	11.9%	24.2%	14.6%	9.6%
Overall Hierarchical				53.2%	41.3%	11.9%			
Overall Consistency							21.8%	13.7%	8.1%

BLACK/WHITE SALES TESTS -- OVERALL COMPOSITES -- 2000 AND 1989

2000	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	15.8%	15.1%	0.8%	15.8%	15.1%	0.8%	15.8%	15.1%	0.8%
Advertised unit inspected?	19.1%	15.7%	3.4%	25.0%	21.1%	3.8%	24.5%	20.9%	3.6%
Similar units available?	18.7%	15.6%	3.1%	33.2%	28.4%	4.8%	29.0%	24.9%	4.1%
Similar units inspected?	22.9%	16.0%	6.9%	38.6%	32.2%	6.4%	33.0%	26.5%	6.5%
Steering for rec units	15.8%	12.1%	3.7%	43.6%	34.6%	9.0%	34.0%	24.8%	9.2%
Number units recommended	44.6%	38.6%	6.0%	50.9%	41.9%	8.9%	31.7%	24.9%	6.8%
Steering for inspected units	11.0%	7.5%	3.5%	50.9%	41.9%	8.9%	31.5%	24.1%	7.4%
Number units inspected	43.2%	30.9%	12.4%	51.2%	42.0%	9.1%	28.2%	21.2%	7.0%
Help with financing offered?	18.6%	17.2%	1.4%	51.7%	43.0%	8.7%	23.8%	18.9%	4.9%
Lenders recommended?	18.9%	17.5%	1.3%	52.0%	43.5%	8.6%	22.3%	17.8%	4.5%
Downpayment reqs discussed?	21.7%	16.1%	5.6%	52.5%	44.3%	8.2%	20.7%	16.1%	4.6%
Follow-up contact from agent?	17.1%	14.7%	2.4%	52.7%	44.4%	8.4%	18.5%	13.4%	5.1%
Told qualified?	20.4%	12.3%	8.1%	53.0%	44.4%	8.6%	18.0%	12.5%	5.5%
Arrangements for future?	4.9%	7.6%	-2.8%	53.1%	44.8%	8.3%	17.0%	12.4%	4.6%
Overall Hierarchical				53.1%	44.8%	8.3%			
Overall Consistency							17.0%	12.4%	4.6%

1989	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	9.6%	5.4%	4.2%	9.6%	5.4%	4.2%	9.6%	5.4%	4.2%
Advertised unit inspected?	11.4%	6.9%	4.5%	15.7%	8.7%	7.0%	15.7%	8.6%	7.0%
Similar units available?	18.9%	10.2%	8.7%	28.9%	15.9%	13.0%	27.1%	14.2%	12.9%
Similar units inspected?	10.1%	6.3%	3.8%	33.3%	19.1%	14.2%	30.1%	16.5%	13.6%
Steering for rec units	5.9%	11.7%	-5.7%	35.7%	24.0%	11.7%	29.1%	20.2%	8.9%
Number units recommended	37.8%	23.0%	14.8%	44.6%	30.6%	14.0%	34.7%	22.2%	12.5%
Steering for inspected units	3.5%	5.9%	-2.4%	44.6%	30.6%	14.0%	34.1%	21.6%	12.5%
Number units inspected	24.3%	12.4%	11.9%	44.6%	30.6%	14.1%	32.8%	20.1%	12.7%
Help with financing offered?	20.5%	15.1%	5.4%	49.2%	33.4%	15.8%	33.6%	19.5%	14.1%
Lenders recommended?	10.3%	4.4%	5.9%	49.5%	33.4%	16.1%	33.5%	18.8%	14.7%
Downpayment reqs discussed?	25.4%	17.6%	7.8%	52.3%	36.3%	16.0%	32.7%	18.7%	14.1%
Follow-up contact from agent?	16.0%	9.5%	6.4%	53.2%	37.4%	15.8%	31.4%	17.6%	13.8%
Told qualified?	16.3%	14.1%	2.2%	54.2%	38.0%	16.2%	29.0%	16.9%	12.1%
Arrangements for future?	12.8%	7.6%	5.2%	56.1%	39.0%	17.1%	29.0%	16.2%	12.8%
Overall Hierarchical				56.1%	39.0%	17.1%			
Overall Consistency							29.0%	16.2%	12.8%

HISPANIC/NON-HISPANIC WHITE SALES TESTS -- OVERALL COMPOSITES -- 2000 AND 1989

2000	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% n-H white favored	% Hispanic favored	net measure	% 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%	12.0%	15.0%	-3.0%	12.0%	15.0%	-3.0%
Advertised unit inspected?	17.1%	19.3%	-2.2%	22.3%	24.6%	-2.3%	22.3%	24.6%	-2.3%
Similar units available?	16.7%	12.9%	3.8%	31.0%	31.6%	-0.6%	28.9%	29.4%	-0.5%
Similar units inspected?	18.3%	15.4%	2.9%	35.9%	34.2%	1.7%	30.9%	29.9%	1.0%
Steering for rec units	17.1%	15.6%	1.5%	41.7%	37.5%	4.2%	33.6%	28.2%	5.4%
Number units recommended	44.4%	40.7%	3.7%	49.0%	44.7%	4.3%	29.7%	26.0%	3.7%
Steering for inspected units	14.7%	9.7%	5.0%	49.0%	44.7%	4.3%	29.6%	25.4%	4.2%
Number units inspected	35.7%	38.1%	-2.4%	49.6%	45.0%	4.5%	27.4%	23.4%	4.0%
Help with financing offered?	22.2%	10.5%	11.7%	50.4%	45.4%	5.1%	26.4%	18.8%	7.6%
Lenders recommended?	19.6%	12.8%	6.7%	50.5%	45.9%	4.6%	25.0%	18.3%	6.7%
Downpayment reqs discussed?	24.9%	15.4%	9.4%	50.8%	46.6%	4.2%	22.9%	15.0%	7.9%
Follow-up contact from agent?	15.3%	14.6%	0.7%	50.8%	46.7%	4.1%	20.8%	14.2%	6.6%
Told qualified?	18.8%	15.6%	3.2%	50.9%	46.7%	4.2%	19.5%	12.8%	6.7%
Arrangements for future?	5.2%	4.9%	0.3%	51.6%	46.8%	4.9%	19.7%	12.3%	7.4%
Overall Hierarchical				51.6%	46.8%	4.9%			
Overall Consistency							19.7%	12.3%	7.4%

1989	Individual Indicators			Contribution to Hierarchical Composite			Contribution to Consistency Composite		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	9.4%	5.9%	3.5%	9.4%	5.9%	3.5%	9.4%	5.9%	3.5%
Advertised unit inspected?	13.8%	8.1%	5.7%	15.1%	10.6%	4.5%	15.1%	10.5%	4.5%
Similar units available?	19.0%	13.4%	5.5%	27.9%	20.2%	7.7%	25.0%	17.2%	7.7%
Similar units inspected?	7.5%	6.8%	0.7%	30.6%	22.9%	7.8%	26.4%	18.4%	8.0%
Steering for rec units	12.5%	8.5%	3.9%	36.1%	25.7%	10.4%	28.3%	19.1%	9.3%
Number units recommended	39.2%	22.3%	16.8%	45.2%	31.0%	14.2%	34.3%	20.1%	14.1%
Steering for inspected units	7.3%	5.8%	1.5%	45.2%	31.0%	14.2%	33.9%	19.7%	14.2%
Number units inspected	27.2%	13.9%	13.3%	45.8%	31.4%	14.5%	33.3%	19.0%	14.3%
Help with financing offered?	19.1%	19.6%	-0.5%	48.6%	35.9%	12.7%	30.3%	21.4%	8.8%
Lenders recommended?	9.0%	9.4%	-0.4%	49.0%	36.0%	13.0%	29.9%	20.8%	9.1%
Downpayment reqs discussed?	21.0%	21.5%	-0.5%	50.7%	39.4%	11.3%	28.7%	22.2%	6.5%
Follow-up contact from agent?	18.1%	6.4%	11.7%	51.4%	39.7%	11.6%	27.3%	19.2%	8.1%
Told qualified?	18.1%	13.3%	4.8%	52.8%	40.1%	12.7%	26.5%	17.8%	8.7%
Arrangements for future?	12.2%	6.1%	6.1%	55.0%	40.4%	14.6%	26.8%	16.4%	10.5%
Overall Hierarchical				55.0%	40.4%	14.6%			
Overall Consistency							26.8%	16.4%	10.5%

ANNEX 8: METROPOLITAN ESTIMATES OF ADVERSE TREATMENT

- **ATLANTA, GEORGIA**
- **AUSTIN, TEXAS**
- **BIRMINGHAM, ALABAMA**
- **CHICAGO, ILLINOIS**
- **DENVER, COLORADO**
- **DAYTON-SPRINGFIELD, OHIO**
- **DETROIT, MICHIGAN**
- **HOUSTON, TEXAS**
- **LOS ANGELES, CALIFORNIA**
- **MACON, GEORGIA**
- **MINNEAPOLIS, MINNESOTA**
- **NEW ORLEANS, LOUSIANA**
- **NEW YORK, NEW YORK**
- **ORLANDO, FLORIDA**
- **PHOENIX, ARIZONA**
- **PITTSBURGH, PENNSYLVANIA**
- **PUEBLO, COLORADO**
- **SAN ANTONIO, TEXAS**
- **SAN DIEGO, CALIFORNIA**
- **TUCSON, ARIZONA**
- **WASHINGTON, DC**

ATLANTA — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Atlanta			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	6.2%	3.7%	2.5%	12.3%	8.3%	4.1% **
Similar units available?	14.8%	11.1%	3.7%	14.3%	15.4%	-1.0%
Number units recommended	21.0%	9.9%	11.1%	28.3%	23.3%	5.1% **
Overall availability	21.0%	13.6%	7.4%	31.5%	27.6%	3.9% *
Advertised unit inspected?	11.1%	3.7%	7.4%	15.6%	9.2%	6.4% **
Similar units inspected	8.6%	8.6%	0.0%	8.1%	7.2%	0.9%
Number units inspected	17.3%	11.1%	6.2%	23.3%	16.2%	7.0% **
Overall inspection	22.2%	13.6%	8.6%	27.5%	19.2%	8.3% **
Rent for advertised unit	27.7%	6.4%	21.3% **	9.3%	12.0%	-2.7%
Rental incentives offered?	16.0%	4.9%	11.1% **	9.2%	6.5%	2.7% **
Amount of security deposit	5.3%	5.3%	0.0%	5.3%	5.3%	0.0%
Application fee required?	16.0%	7.4%	8.6%	10.7%	14.5%	-3.8% **
Overall cost	37.0%	14.8%	22.2% **	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.5%	1.2%	1.2%	2.5%	2.1%	0.4%
Asked to complete application?	8.6%	25.9%	-17.3% **	18.1%	15.8%	2.3%
Arrangements for future?	19.8%	18.5%	1.2%	14.7%	16.3%	-1.6%
Told qualified to rent?	2.5%	2.5%	0.0%	3.6%	3.4%	0.2%
Overall encouragement	23.5%	34.6%	-11.1%	31.3%	28.6%	2.6%
Overall hierarchical	60.5%	27.2%	33.3% **	49.0%	41.1%	7.9% **
Overall consistency	30.9%	13.6%	17.3% **	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.

ATLANTA — BLACK/WHITE SALES TESTS

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.

AUSTIN — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Austin			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	13.0%	4.3%	8.7%	12.3%	8.3%	4.1% **
Similar units available?	27.5%	10.1%	17.4% **	14.3%	15.4%	-1.0%
Number units recommended	39.1%	14.5%	24.6% **	28.3%	23.3%	5.1% **
Overall availability	47.8%	15.9%	31.9% **	31.5%	27.6%	3.9% *
Advertised unit inspected?	13.0%	4.3%	8.7%	15.6%	9.2%	6.4% **
Similar units inspected	11.6%	7.2%	4.3%	8.1%	7.2%	0.9%
Number units inspected	30.4%	10.1%	20.3% **	23.3%	16.2%	7.0% **
Overall inspection	30.4%	11.6%	18.8% **	27.5%	19.2%	8.3% **
Rent for advertised unit	0.0%	14.3%	-14.3%	9.3%	12.0%	-2.7%
Rental incentives offered?	8.7%	5.8%	2.9%	9.2%	6.5%	2.7% **
Amount of security deposit	25.0%	0.0%	25.0%	5.3%	5.3%	0.0%
Application fee required?	10.1%	17.4%	-7.2%	10.7%	14.5%	-3.8% **
Overall cost	17.4%	23.2%	-5.8%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.9%	0.0%	2.9%	2.5%	2.1%	0.4%
Asked to complete application?	34.8%	8.7%	26.1% **	18.1%	15.8%	2.3%
Arrangements for future?	13.0%	21.7%	-8.7%	14.7%	16.3%	-1.6%
Told qualified to rent?	24.6%	14.5%	10.1%	3.6%	3.4%	0.2%
Overall encouragement	47.8%	30.4%	17.4%	31.3%	28.6%	2.6%
Overall hierarchical	55.1%	36.2%	18.8%	49.0%	41.1%	7.9% **
Overall consistency	27.5%	14.5%	13.0%	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.

AUSTIN — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	Austin			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	17.1%	8.6%	8.6%	12.0%	5.4%	6.6% **
Similar units available?	22.9%	15.7%	7.1%	12.7%	11.7%	0.9%
Number units recommended	42.9%	21.4%	21.4% **	29.4%	20.8%	8.6% **
Overall availability	47.1%	22.9%	24.3% **	34.0%	22.1%	11.9% **
Advertised unit inspected?	7.1%	5.7%	1.4%	11.4%	7.5%	3.9% **
Similar units inspected	15.7%	2.9%	12.9% **	7.9%	7.3%	0.6%
Number units inspected	28.6%	10.0%	18.6% **	20.7%	14.3%	6.3% **
Overall inspection	28.6%	12.9%	15.7% *	24.4%	17.2%	7.2% **
Rent for advertised unit	0.0%	0.0%	0.0%	12.2%	6.5%	5.7% **
Rental incentives offered?	10.0%	5.7%	4.3%	8.5%	6.7%	1.8%
Amount of security deposit	14.3%	14.3%	0.0%	8.5%	8.0%	0.5%
Application fee required?	5.7%	8.6%	-2.9%	8.6%	12.2%	-3.6% **
Overall cost	15.7%	14.3%	1.4%	21.7%	20.0%	1.7%
Follow-up contact from agent?	0.0%	0.0%	0.0%	2.5%	2.7%	-0.2%
Asked to complete application?	34.3%	11.4%	22.9% **	17.3%	17.1%	0.2%
Arrangements for future?	8.6%	7.1%	1.4%	20.7%	14.5%	6.2% **
Told qualified to rent?	10.0%	27.1%	-17.1% **	4.4%	5.0%	-0.6%
Overall encouragement	44.3%	24.3%	20.0% *	32.8%	29.7%	3.1%
Overall hierarchical	57.1%	34.3%	22.9%	52.7%	37.6%	15.1% **
Overall consistency	24.3%	17.1%	7.1%	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.

AUSTIN — BLACK/WHITE SALES TESTS

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.

AUSTIN — HISPANIC/NON-HISPANIC WHITE SALES TESTS

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.

BIRMINGHAM — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Birmingham			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	13.0%	6.5%	6.5%	12.3%	8.3%	4.1% **
Similar units available?	18.2%	14.3%	3.9%	14.3%	15.4%	-1.0%
Number units recommended	27.3%	18.2%	9.1%	28.3%	23.3%	5.1% **
Overall availability	32.5%	20.8%	11.7%	31.5%	27.6%	3.9% *
Advertised unit inspected?	26.0%	7.8%	18.2% **	15.6%	9.2%	6.4% **
Similar units inspected	11.7%	2.6%	9.1% *	8.1%	7.2%	0.9%
Number units inspected	36.4%	9.1%	27.3% **	23.3%	16.2%	7.0% **
Overall inspection	37.7%	9.1%	28.6% **	27.5%	19.2%	8.3% **
Rent for advertised unit	4.7%	7.0%	-2.3%	9.3%	12.0%	-2.7%
Rental incentives offered?	9.1%	5.2%	3.9%	9.2%	6.5%	2.7% **
Amount of security deposit	9.1%	13.6%	-4.5%	5.3%	5.3%	0.0%
Application fee required?	9.1%	18.2%	-9.1%	10.7%	14.5%	-3.8% **
Overall cost	18.2%	23.4%	-5.2%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	1.3%	1.3%	0.0%	2.5%	2.1%	0.4%
Asked to complete application?	32.5%	7.8%	24.7% **	18.1%	15.8%	2.3%
Arrangements for future?	23.4%	23.4%	0.0%	14.7%	16.3%	-1.6%
Told qualified to rent?	0.0%	1.3%	-1.3%	3.6%	3.4%	0.2%
Overall encouragement	50.6%	22.1%	28.6% **	31.3%	28.6%	2.6%
Overall hierarchical	63.6%	28.6%	35.1% **	49.0%	41.1%	7.9% **
Overall consistency	28.6%	11.7%	16.9% **	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.

BIRMINGHAM — BLACK/WHITE SALES TESTS

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.

CHICAGO — BLACK/WHITE RENTAL TESTS

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.

CHICAGO — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	Chicago			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	10.8%	7.7%	3.1%	12.0%	5.4%	6.6% **
Similar units available?	9.2%	6.2%	3.1%	12.7%	11.7%	0.9%
Number units recommended	26.2%	13.8%	12.3%	29.4%	20.8%	8.6% **
Overall availability	29.2%	18.5%	10.8%	34.0%	22.1%	11.9% **
Advertised unit inspected?	7.7%	10.8%	-3.1%	11.4%	7.5%	3.9% **
Similar units inspected	10.8%	6.2%	4.6%	7.9%	7.3%	0.6%
Number units inspected	16.9%	16.9%	0.0%	20.7%	14.3%	6.3% **
Overall inspection	20.0%	21.5%	-1.5%	24.4%	17.2%	7.2% **
Rent for advertised unit	12.1%	3.0%	9.1%	12.2%	6.5%	5.7% **
Rental incentives offered?	16.9%	1.5%	15.4% **	8.5%	6.7%	1.8%
Amount of security deposit	7.7%	7.7%	0.0%	8.5%	8.0%	0.5%
Application fee required?	13.8%	10.8%	3.1%	8.6%	12.2%	-3.6% **
Overall cost	35.4%	12.3%	23.1% **	21.7%	20.0%	1.7%
Follow-up contact from agent?	1.5%	3.1%	-1.5%	2.5%	2.7%	-0.2%
Asked to complete application?	18.5%	16.9%	1.5%	17.3%	17.1%	0.2%
Arrangements for future?	4.6%	12.3%	-7.7%	20.7%	14.5%	6.2% **
Told qualified to rent?	7.7%	6.2%	1.5%	4.4%	5.0%	-0.6%
Overall encouragement	20.0%	32.3%	-12.3%	32.8%	29.7%	3.1%
Overall hierarchical	52.3%	40.0%	12.3%	52.7%	37.6%	15.1% **
Overall consistency	32.3%	23.1%	9.2%	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.

CHICAGO — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Chicago			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	15.9%	11.1%	4.8%	15.8%	15.1%	0.8%
Similar units available?	19.0%	15.9%	3.2%	18.7%	15.6%	3.1% *
Number units recommended	39.7%	50.8%	-11.1%	44.6%	38.6%	6.0% **
Overall availability	46.0%	49.2%	-3.2%	46.2%	42.8%	3.4%
Advertised unit inspected?	23.8%	15.9%	7.9%	19.1%	15.7%	3.4% *
Similar units inspected	19.0%	17.5%	1.6%	22.9%	16.0%	6.9% **
Number units inspected	41.3%	31.7%	9.5%	43.2%	30.9%	12.4% **
Overall inspection	42.9%	36.5%	6.3%	42.9%	34.2%	8.8% **
Steering - homes recommended	17.5%	17.5%	0.0%	15.8%	12.1%	3.7% **
Steering - homes inspected	15.9%	12.7%	3.2%	11.0%	7.5%	3.5% **
Help with financing offered?	20.6%	17.5%	3.2%	18.6%	17.2%	1.4%
Lenders recommended?	28.6%	23.8%	4.8%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	23.8%	19.0%	4.8%	21.7%	16.1%	5.6% **
Overall financing	44.4%	33.3%	11.1%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	25.4%	20.6%	4.8%	17.1%	14.7%	2.4%
Told qualified?	20.6%	4.8%	15.9% **	20.4%	12.3%	8.1% **
Arrangements for future?	11.1%	9.5%	1.6%	4.9%	7.6%	-2.8% **
Overall encouragement	38.1%	23.8%	14.3%	31.3%	26.1%	5.2% **
Overall hierarchical	55.6%	44.4%	11.1%	53.1%	44.8%	8.3% **
Overall consistency	15.9%	7.9%	7.9%	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.

CHICAGO — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	Chicago			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	23.5%	10.3%	13.2% *	12.0%	15.0%	-3.0%
Similar units available?	25.0%	11.8%	13.2%	16.7%	12.9%	3.8% *
Number units recommended	52.9%	27.9%	25.0% **	44.4%	40.7%	3.7%
Overall availability	58.8%	27.9%	30.9% **	46.3%	44.4%	1.9%
Advertised unit inspected?	19.1%	17.6%	1.5%	17.1%	19.3%	-2.2%
Similar units inspected	33.8%	14.7%	19.1% **	18.3%	15.4%	2.9%
Number units inspected	48.5%	27.9%	20.6% *	35.7%	38.1%	-2.4%
Overall inspection	48.5%	32.4%	16.2%	38.3%	40.9%	-2.6%
Steering - homes recommended	14.7%	20.6%	-5.9%	17.1%	15.6%	1.5%
Steering - homes inspected	7.4%	5.9%	1.5%	14.7%	9.7%	5.0% **
Help with financing offered?	30.9%	5.9%	25.0% **	22.2%	10.5%	11.7% **
Lenders recommended?	27.9%	10.3%	17.6% **	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	38.2%	2.9%	35.3% **	24.9%	15.4%	9.4% **
Overall financing	52.9%	13.2%	39.7% **	38.6%	24.2%	14.4% **
Follow-up contact from agent?	16.2%	17.6%	-1.5%	15.3%	14.6%	0.7%
Told qualified?	33.8%	5.9%	27.9% **	18.8%	15.6%	3.2%
Arrangements for future?	5.9%	2.9%	2.9%	5.2%	4.9%	0.3%
Overall encouragement	33.8%	23.5%	10.3%	30.6%	27.5%	3.1%
Overall hierarchical	54.4%	44.1%	10.3%	51.6%	46.8%	4.9%
Overall consistency	26.5%	10.3%	16.2% **	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.

DENVER — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Denver			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	13.9%	8.3%	5.6%	12.3%	8.3%	4.1% **
Similar units available?	12.5%	11.1%	1.4%	14.3%	15.4%	-1.0%
Number units recommended	19.4%	20.8%	-1.4%	28.3%	23.3%	5.1% **
Overall availability	23.6%	27.8%	-4.2%	31.5%	27.6%	3.9% *
Advertised unit inspected?	16.7%	9.7%	6.9%	15.6%	9.2%	6.4% **
Similar units inspected	4.2%	5.6%	-1.4%	8.1%	7.2%	0.9%
Number units inspected	15.3%	13.9%	1.4%	23.3%	16.2%	7.0% **
Overall inspection	23.6%	18.1%	5.6%	27.5%	19.2%	8.3% **
Rent for advertised unit	7.3%	9.8%	-2.4%	9.3%	12.0%	-2.7%
Rental incentives offered?	11.1%	2.8%	8.3%	9.2%	6.5%	2.7% **
Amount of security deposit	2.9%	11.8%	-8.8%	5.3%	5.3%	0.0%
Application fee required?	8.3%	16.7%	-8.3%	10.7%	14.5%	-3.8% **
Overall cost	22.2%	20.8%	1.4%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	4.2%	2.8%	1.4%	2.5%	2.1%	0.4%
Asked to complete application?	13.9%	15.3%	-1.4%	18.1%	15.8%	2.3%
Arrangements for future?	6.9%	20.8%	-13.9% **	14.7%	16.3%	-1.6%
Told qualified to rent?	1.4%	5.6%	-4.2%	3.6%	3.4%	0.2%
Overall encouragement	25.0%	36.1%	-11.1%	31.3%	28.6%	2.6%
Overall hierarchical	43.1%	54.2%	-11.1%	49.0%	41.1%	7.9% **
Overall consistency	19.4%	36.1%	-16.7% *	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.

DENVER — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

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.

DENVER — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Denver			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	22.5%	16.9%	5.6%	15.8%	15.1%	0.8%
Similar units available?	35.2%	9.9%	25.4% **	18.7%	15.6%	3.1% *
Number units recommended	46.5%	28.2%	18.3% *	44.6%	38.6%	6.0% **
Overall availability	54.9%	33.8%	21.1% *	46.2%	42.8%	3.4%
Advertised unit inspected?	28.2%	11.3%	16.9% **	19.1%	15.7%	3.4% *
Similar units inspected	39.4%	4.2%	35.2% **	22.9%	16.0%	6.9% **
Number units inspected	60.6%	12.7%	47.9% **	43.2%	30.9%	12.4% **
Overall inspection	60.6%	15.5%	45.1% **	42.9%	34.2%	8.8% **
Steering - homes recommended	9.9%	7.0%	2.8%	15.8%	12.1%	3.7% **
Steering - homes inspected	0.0%	4.2%	-4.2%	11.0%	7.5%	3.5% **
Help with financing offered?	22.5%	15.5%	7.0%	18.6%	17.2%	1.4%
Lenders recommended?	26.8%	15.5%	11.3%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	25.4%	31.0%	-5.6%	21.7%	16.1%	5.6% **
Overall financing	42.3%	35.2%	7.0%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	36.6%	7.0%	29.6% **	17.1%	14.7%	2.4%
Told qualified?	28.2%	19.7%	8.5%	20.4%	12.3%	8.1% **
Arrangements for future?	0.0%	9.9%	-9.9% **	4.9%	7.6%	-2.8% **
Overall encouragement	50.7%	26.8%	23.9% **	31.3%	26.1%	5.2% **
Overall hierarchical	62.0%	38.0%	23.9% *	53.1%	44.8%	8.3% **
Overall consistency	19.7%	8.5%	11.3%	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.

DENVER — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	Denver			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	9.0%	20.5%	-11.5% *	12.0%	15.0%	-3.0%
Similar units available?	20.5%	15.4%	5.1%	16.7%	12.9%	3.8% *
Number units recommended	37.2%	34.6%	2.6%	44.4%	40.7%	3.7%
Overall availability	42.3%	47.4%	-5.1%	46.3%	44.4%	1.9%
Advertised unit inspected?	16.7%	15.4%	1.3%	17.1%	19.3%	-2.2%
Similar units inspected	25.6%	7.7%	17.9% **	18.3%	15.4%	2.9%
Number units inspected	37.2%	26.9%	10.3%	35.7%	38.1%	-2.4%
Overall inspection	41.0%	26.9%	14.1%	38.3%	40.9%	-2.6%
Steering - homes recommended	10.3%	11.5%	-1.3%	17.1%	15.6%	1.5%
Steering - homes inspected	3.8%	5.1%	-1.3%	14.7%	9.7%	5.0% **
Help with financing offered?	12.8%	7.7%	5.1%	22.2%	10.5%	11.7% **
Lenders recommended?	9.0%	12.8%	-3.8%	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	26.9%	15.4%	11.5%	24.9%	15.4%	9.4% **
Overall financing	35.9%	21.8%	14.1%	38.6%	24.2%	14.4% **
Follow-up contact from agent?	21.8%	17.9%	3.8%	15.3%	14.6%	0.7%
Told qualified?	21.8%	24.4%	-2.6%	18.8%	15.6%	3.2%
Arrangements for future?	0.0%	3.8%	-3.8%	5.2%	4.9%	0.3%
Overall encouragement	34.6%	32.1%	2.6%	30.6%	27.5%	3.1%
Overall hierarchical	48.7%	50.0%	-1.3%	51.6%	46.8%	4.9%
Overall consistency	19.2%	17.9%	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.

DAYTON - SPRINGFIELD — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Dayton - Springfield			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	12.9%	4.3%	8.6%	12.3%	8.3%	4.1% **
Similar units available?	15.7%	12.9%	2.9%	14.3%	15.4%	-1.0%
Number units recommended	34.3%	18.6%	15.7% *	28.3%	23.3%	5.1% **
Overall availability	37.1%	22.9%	14.3%	31.5%	27.6%	3.9% *
Advertised unit inspected?	17.1%	14.3%	2.9%	15.6%	9.2%	6.4% **
Similar units inspected	7.1%	10.0%	-2.9%	8.1%	7.2%	0.9%
Number units inspected	25.7%	21.4%	4.3%	23.3%	16.2%	7.0% **
Overall inspection	27.1%	25.7%	1.4%	27.5%	19.2%	8.3% **
Rent for advertised unit	21.4%	21.4%	0.0%	9.3%	12.0%	-2.7%
Rental incentives offered?	20.0%	8.6%	11.4%	9.2%	6.5%	2.7% **
Amount of security deposit	8.8%	8.8%	0.0%	5.3%	5.3%	0.0%
Application fee required?	8.6%	11.4%	-2.9%	10.7%	14.5%	-3.8% **
Overall cost	35.7%	27.1%	8.6%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	4.3%	8.6%	-4.3%	2.5%	2.1%	0.4%
Asked to complete application?	11.4%	25.7%	-14.3% *	18.1%	15.8%	2.3%
Arrangements for future?	25.7%	18.6%	7.1%	14.7%	16.3%	-1.6%
Told qualified to rent?	1.4%	1.4%	0.0%	3.6%	3.4%	0.2%
Overall encouragement	27.1%	40.0%	-12.9%	31.3%	28.6%	2.6%
Overall hierarchical	54.3%	40.0%	14.3%	49.0%	41.1%	7.9% **
Overall consistency	24.3%	12.9%	11.4%	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.

DAYTON - SPRINGFIELD — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Dayton - Springfield			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	8.6%	20.0%	-11.4%	15.8%	15.1%	0.8%
Similar units available?	14.3%	27.1%	-12.9%	18.7%	15.6%	3.1% *
Number units recommended	37.1%	50.0%	-12.9%	44.6%	38.6%	6.0% **
Overall availability	30.0%	61.4%	-31.4% **	46.2%	42.8%	3.4%
Advertised unit inspected?	2.9%	24.3%	-21.4% **	19.1%	15.7%	3.4% *
Similar units inspected	18.6%	34.3%	-15.7% *	22.9%	16.0%	6.9% **
Number units inspected	25.7%	51.4%	-25.7% **	43.2%	30.9%	12.4% **
Overall inspection	22.9%	54.3%	-31.4% **	42.9%	34.2%	8.8% **
Steering - homes recommended	7.1%	5.7%	1.4%	15.8%	12.1%	3.7% **
Steering - homes inspected	4.3%	2.9%	1.4%	11.0%	7.5%	3.5% **
Help with financing offered?	25.7%	7.1%	18.6% **	18.6%	17.2%	1.4%
Lenders recommended?	30.0%	8.6%	21.4% **	18.9%	17.5%	1.3%
Downpayment reqs discussed?	35.7%	12.9%	22.9% **	21.7%	16.1%	5.6% **
Overall financing	51.4%	17.1%	34.3% **	36.6%	31.7%	4.9% **
Follow-up contact from agent?	20.0%	22.9%	-2.9%	17.1%	14.7%	2.4%
Told qualified?	40.0%	12.9%	27.1% **	20.4%	12.3%	8.1% **
Arrangements for future?	8.6%	7.1%	1.4%	4.9%	7.6%	-2.8% **
Overall encouragement	45.7%	31.4%	14.3%	31.3%	26.1%	5.2% **
Overall hierarchical	35.7%	64.3%	-28.6% **	53.1%	44.8%	8.3% **
Overall consistency	11.4%	10.0%	1.4%	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.

DETROIT — BLACK/WHITE RENTAL TESTS

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.

DETROIT — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Detroit			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	19.7%	12.7%	7.0%	15.8%	15.1%	0.8%
Similar units available?	23.9%	26.8%	-2.8%	18.7%	15.6%	3.1% *
Number units recommended	47.9%	45.1%	2.8%	44.6%	38.6%	6.0% **
Overall availability	49.3%	47.9%	1.4%	46.2%	42.8%	3.4%
Advertised unit inspected?	32.4%	14.1%	18.3% **	19.1%	15.7%	3.4% *
Similar units inspected	26.8%	14.1%	12.7%	22.9%	16.0%	6.9% **
Number units inspected	56.3%	18.3%	38.0% **	43.2%	30.9%	12.4% **
Overall inspection	53.5%	22.5%	31.0% **	42.9%	34.2%	8.8% **
Steering - homes recommended	14.1%	7.0%	7.0%	15.8%	12.1%	3.7% **
Steering - homes inspected	4.2%	4.2%	0.0%	11.0%	7.5%	3.5% **
Help with financing offered?	21.1%	23.9%	-2.8%	18.6%	17.2%	1.4%
Lenders recommended?	14.1%	29.6%	-15.5% *	18.9%	17.5%	1.3%
Downpayment reqs discussed?	12.7%	18.3%	-5.6%	21.7%	16.1%	5.6% **
Overall financing	28.2%	45.1%	-16.9%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	14.1%	22.5%	-8.5%	17.1%	14.7%	2.4%
Told qualified?	18.3%	15.5%	2.8%	20.4%	12.3%	8.1% **
Arrangements for future?	7.0%	7.0%	0.0%	4.9%	7.6%	-2.8% **
Overall encouragement	26.8%	35.2%	-8.5%	31.3%	26.1%	5.2% **
Overall hierarchical	57.7%	42.3%	15.5%	53.1%	44.8%	8.3% **
Overall consistency	16.9%	16.9%	0.0%	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.

HOUSTON — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Houston			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	20.0%	17.1%	2.9%	12.3%	8.3%	4.1% **
Similar units available?	21.4%	17.1%	4.3%	14.3%	15.4%	-1.0%
Number units recommended	32.9%	35.7%	-2.9%	28.3%	23.3%	5.1% **
Overall availability	41.4%	38.6%	2.9%	31.5%	27.6%	3.9% *
Advertised unit inspected?	22.9%	12.9%	10.0%	15.6%	9.2%	6.4% **
Similar units inspected	18.6%	10.0%	8.6%	8.1%	7.2%	0.9%
Number units inspected	38.6%	22.9%	15.7%	23.3%	16.2%	7.0% **
Overall inspection	47.1%	25.7%	21.4% **	27.5%	19.2%	8.3% **
Rent for advertised unit	10.7%	10.7%	0.0%	9.3%	12.0%	-2.7%
Rental incentives offered?	15.7%	4.3%	11.4% *	9.2%	6.5%	2.7% **
Amount of security deposit	5.3%	10.5%	-5.3%	5.3%	5.3%	0.0%
Application fee required?	10.0%	20.0%	-10.0%	10.7%	14.5%	-3.8% **
Overall cost	27.1%	25.7%	1.4%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.9%	0.0%	2.9%	2.5%	2.1%	0.4%
Asked to complete application?	25.7%	15.7%	10.0%	18.1%	15.8%	2.3%
Arrangements for future?	2.9%	22.9%	-20.0% **	14.7%	16.3%	-1.6%
Told qualified to rent?	1.4%	0.0%	1.4%	3.6%	3.4%	0.2%
Overall encouragement	31.4%	27.1%	4.3%	31.3%	28.6%	2.6%
Overall hierarchical	50.0%	42.9%	7.1%	49.0%	41.1%	7.9% **
Overall consistency	18.6%	18.6%	0.0%	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.

HOUSTON — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	Houston			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	13.2%	19.1%	-5.9%	12.0%	5.4%	6.6% **
Similar units available?	17.6%	13.2%	4.4%	12.7%	11.7%	0.9%
Number units recommended	30.9%	38.2%	-7.4%	29.4%	20.8%	8.6% **
Overall availability	39.7%	39.7%	0.0%	34.0%	22.1%	11.9% **
Advertised unit inspected?	8.8%	7.4%	1.5%	11.4%	7.5%	3.9% **
Similar units inspected	16.2%	14.7%	1.5%	7.9%	7.3%	0.6%
Number units inspected	32.4%	19.1%	13.2%	20.7%	14.3%	6.3% **
Overall inspection	35.3%	25.0%	10.3%	24.4%	17.2%	7.2% **
Rent for advertised unit	18.8%	12.5%	6.3%	12.2%	6.5%	5.7% **
Rental incentives offered?	19.1%	22.1%	-2.9%	8.5%	6.7%	1.8%
Amount of security deposit	16.7%	8.3%	8.3%	8.5%	8.0%	0.5%
Application fee required?	17.6%	13.2%	4.4%	8.6%	12.2%	-3.6% **
Overall cost	27.9%	32.4%	-4.4%	21.7%	20.0%	1.7%
Follow-up contact from agent?	4.4%	5.9%	-1.5%	2.5%	2.7%	-0.2%
Asked to complete application?	17.6%	19.1%	-1.5%	17.3%	17.1%	0.2%
Arrangements for future?	10.3%	22.1%	-11.8%	20.7%	14.5%	6.2% **
Told qualified to rent?	1.5%	0.0%	1.5%	4.4%	5.0%	-0.6%
Overall encouragement	27.9%	38.2%	-10.3%	32.8%	29.7%	3.1%
Overall hierarchical	45.6%	50.0%	-4.4%	52.7%	37.6%	15.1% **
Overall consistency	19.1%	17.6%	1.5%	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.

HOUSTON — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Houston			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	21.8%	15.4%	6.4%	15.8%	15.1%	0.8%
Similar units available?	25.6%	20.5%	5.1%	18.7%	15.6%	3.1% *
Number units recommended	55.1%	34.6%	20.5% *	44.6%	38.6%	6.0% **
Overall availability	51.3%	42.3%	9.0%	46.2%	42.8%	3.4%
Advertised unit inspected?	21.8%	17.9%	3.8%	19.1%	15.7%	3.4% *
Similar units inspected	24.4%	17.9%	6.4%	22.9%	16.0%	6.9% **
Number units inspected	33.3%	37.2%	-3.8%	43.2%	30.9%	12.4% **
Overall inspection	37.2%	35.9%	1.3%	42.9%	34.2%	8.8% **
Steering - homes recommended	11.5%	6.4%	5.1%	15.8%	12.1%	3.7% **
Steering - homes inspected	5.1%	2.6%	2.6%	11.0%	7.5%	3.5% **
Help with financing offered?	30.8%	12.8%	17.9% **	18.6%	17.2%	1.4%
Lenders recommended?	23.1%	5.1%	17.9% **	18.9%	17.5%	1.3%
Downpayment reqs discussed?	12.8%	6.4%	6.4%	21.7%	16.1%	5.6% **
Overall financing	37.2%	15.4%	21.8% **	36.6%	31.7%	4.9% **
Follow-up contact from agent?	6.4%	3.8%	2.6%	17.1%	14.7%	2.4%
Told qualified?	7.7%	1.3%	6.4%	20.4%	12.3%	8.1% **
Arrangements for future?	7.7%	12.8%	-5.1%	4.9%	7.6%	-2.8% **
Overall encouragement	17.9%	15.4%	2.6%	31.3%	26.1%	5.2% **
Overall hierarchical	56.4%	42.3%	14.1%	53.1%	44.8%	8.3% **
Overall consistency	24.4%	14.1%	10.3%	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.

HOUSTON — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	Houston			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	10.7%	9.3%	1.3%	12.0%	15.0%	-3.0%
Similar units available?	22.7%	13.3%	9.3%	16.7%	12.9%	3.8% *
Number units recommended	52.0%	34.7%	17.3%	44.4%	40.7%	3.7%
Overall availability	54.7%	36.0%	18.7%	46.3%	44.4%	1.9%
Advertised unit inspected?	18.7%	12.0%	6.7%	17.1%	19.3%	-2.2%
Similar units inspected	18.7%	16.0%	2.7%	18.3%	15.4%	2.9%
Number units inspected	36.0%	28.0%	8.0%	35.7%	38.1%	-2.4%
Overall inspection	40.0%	28.0%	12.0%	38.3%	40.9%	-2.6%
Steering - homes recommended	9.3%	8.0%	1.3%	17.1%	15.6%	1.5%
Steering - homes inspected	5.3%	4.0%	1.3%	14.7%	9.7%	5.0% **
Help with financing offered?	21.3%	20.0%	1.3%	22.2%	10.5%	11.7% **
Lenders recommended?	18.7%	20.0%	-1.3%	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	16.0%	12.0%	4.0%	24.9%	15.4%	9.4% **
Overall financing	25.3%	30.7%	-5.3%	38.6%	24.2%	14.4% **
Follow-up contact from agent?	5.3%	4.0%	1.3%	15.3%	14.6%	0.7%
Told qualified?	8.0%	5.3%	2.7%	18.8%	15.6%	3.2%
Arrangements for future?	5.3%	9.3%	-4.0%	5.2%	4.9%	0.3%
Overall encouragement	13.3%	17.3%	-4.0%	30.6%	27.5%	3.1%
Overall hierarchical	58.7%	38.7%	20.0%	51.6%	46.8%	4.9%
Overall consistency	26.7%	14.7%	12.0%	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.

LOS ANGELES — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Los Angeles			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	10.1%	5.8%	4.3%	12.3%	8.3%	4.1% **
Similar units available?	13.0%	7.2%	5.8%	14.3%	15.4%	-1.0%
Number units recommended	34.8%	11.6%	23.2% **	28.3%	23.3%	5.1% **
Overall availability	33.3%	15.9%	17.4% *	31.5%	27.6%	3.9% *
Advertised unit inspected?	14.5%	15.9%	-1.4%	15.6%	9.2%	6.4% **
Similar units inspected	10.1%	7.2%	2.9%	8.1%	7.2%	0.9%
Number units inspected	27.5%	20.3%	7.2%	23.3%	16.2%	7.0% **
Overall inspection	30.4%	27.5%	2.9%	27.5%	19.2%	8.3% **
Rent for advertised unit	19.4%	8.3%	11.1%	9.3%	12.0%	-2.7%
Rental incentives offered?	4.3%	7.2%	-2.9%	9.2%	6.5%	2.7% **
Amount of security deposit	7.4%	0.0%	7.4%	5.3%	5.3%	0.0%
Application fee required?	7.2%	15.9%	-8.7%	10.7%	14.5%	-3.8% **
Overall cost	23.2%	20.3%	2.9%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.9%	2.9%	0.0%	2.5%	2.1%	0.4%
Asked to complete application?	15.9%	17.4%	-1.4%	18.1%	15.8%	2.3%
Arrangements for future?	13.0%	18.8%	-5.8%	14.7%	16.3%	-1.6%
Told qualified to rent?	0.0%	1.4%	-1.4%	3.6%	3.4%	0.2%
Overall encouragement	26.1%	37.7%	-11.6%	31.3%	28.6%	2.6%
Overall hierarchical	53.6%	40.6%	13.0%	49.0%	41.1%	7.9% **
Overall consistency	21.7%	18.8%	2.9%	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.

LOS ANGLES — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	Los Angeles			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	9.3%	2.7%	6.7%	12.0%	5.4%	6.6% **
Similar units available?	8.0%	16.0%	-8.0%	12.7%	11.7%	0.9%
Number units recommended	26.7%	17.3%	9.3%	29.4%	20.8%	8.6% **
Overall availability	26.7%	18.7%	8.0%	34.0%	22.1%	11.9% **
Advertised unit inspected?	13.3%	9.3%	4.0%	11.4%	7.5%	3.9% **
Similar units inspected	5.3%	8.0%	-2.7%	7.9%	7.3%	0.6%
Number units inspected	24.0%	20.0%	4.0%	20.7%	14.3%	6.3% **
Overall inspection	24.0%	21.3%	2.7%	24.4%	17.2%	7.2% **
Rent for advertised unit	14.3%	9.5%	4.8%	12.2%	6.5%	5.7% **
Rental incentives offered?	2.7%	5.3%	-2.7%	8.5%	6.7%	1.8%
Amount of security deposit	10.5%	5.3%	5.3%	8.5%	8.0%	0.5%
Application fee required?	5.3%	13.3%	-8.0%	8.6%	12.2%	-3.6% **
Overall cost	17.3%	22.7%	-5.3%	21.7%	20.0%	1.7%
Follow-up contact from agent?	4.0%	2.7%	1.3%	2.5%	2.7%	-0.2%
Asked to complete application?	16.0%	17.3%	-1.3%	17.3%	17.1%	0.2%
Arrangements for future?	25.3%	17.3%	8.0%	20.7%	14.5%	6.2% **
Told qualified to rent?	2.7%	4.0%	-1.3%	4.4%	5.0%	-0.6%
Overall encouragement	33.3%	28.0%	5.3%	32.8%	29.7%	3.1%
Overall hierarchical	46.7%	41.3%	5.3%	52.7%	37.6%	15.1% **
Overall consistency	24.0%	21.3%	2.7%	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.

LOS ANGELES — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Los Angeles			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	20.6%	20.6%	0.0%	15.8%	15.1%	0.8%
Similar units available?	23.5%	17.6%	5.9%	18.7%	15.6%	3.1% *
Number units recommended	52.9%	39.7%	13.2%	44.6%	38.6%	6.0% **
Overall availability	54.4%	45.6%	8.8%	46.2%	42.8%	3.4%
Advertised unit inspected?	17.6%	17.6%	0.0%	19.1%	15.7%	3.4% *
Similar units inspected	29.4%	22.1%	7.4%	22.9%	16.0%	6.9% **
Number units inspected	48.5%	35.3%	13.2%	43.2%	30.9%	12.4% **
Overall inspection	50.0%	38.2%	11.8%	42.9%	34.2%	8.8% **
Steering - homes recommended	27.9%	14.7%	13.2%	15.8%	12.1%	3.7% **
Steering - homes inspected	20.6%	10.3%	10.3%	11.0%	7.5%	3.5% **
Help with financing offered?	10.3%	4.4%	5.9%	18.6%	17.2%	1.4%
Lenders recommended?	8.8%	10.3%	-1.5%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	29.4%	10.3%	19.1% **	21.7%	16.1%	5.6% **
Overall financing	36.8%	14.7%	22.1% **	36.6%	31.7%	4.9% **
Follow-up contact from agent?	32.4%	23.5%	8.8%	17.1%	14.7%	2.4%
Told qualified?	60.3%	4.4%	55.9% **	20.4%	12.3%	8.1% **
Arrangements for future?	0.0%	4.4%	-4.4%	4.9%	7.6%	-2.8% **
Overall encouragement	61.8%	27.9%	33.8% **	31.3%	26.1%	5.2% **
Overall hierarchical	50.0%	50.0%	0.0%	53.1%	44.8%	8.3% **
Overall consistency	14.7%	5.9%	8.8%	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.

LOS ANGELES — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	Los Angeles			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	7.2%	24.6%	-17.4% **	12.0%	15.0%	-3.0%
Similar units available?	11.6%	11.6%	0.0%	16.7%	12.9%	3.8% *
Number units recommended	46.4%	43.5%	2.9%	44.4%	40.7%	3.7%
Overall availability	37.7%	56.5%	-18.8%	46.3%	44.4%	1.9%
Advertised unit inspected?	10.1%	24.6%	-14.5% *	17.1%	19.3%	-2.2%
Similar units inspected	11.6%	13.0%	-1.4%	18.3%	15.4%	2.9%
Number units inspected	33.3%	52.2%	-18.8%	35.7%	38.1%	-2.4%
Overall inspection	30.4%	62.3%	-31.9% **	38.3%	40.9%	-2.6%
Steering - homes recommended	30.4%	24.6%	5.8%	17.1%	15.6%	1.5%
Steering - homes inspected	31.9%	20.3%	11.6%	14.7%	9.7%	5.0% **
Help with financing offered?	30.4%	8.7%	21.7% **	22.2%	10.5%	11.7% **
Lenders recommended?	29.0%	7.2%	21.7% **	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	30.4%	13.0%	17.4% **	24.9%	15.4%	9.4% **
Overall financing	46.4%	17.4%	29.0% **	38.6%	24.2%	14.4% **
Follow-up contact from agent?	21.7%	18.8%	2.9%	15.3%	14.6%	0.7%
Told qualified?	24.6%	14.5%	10.1%	18.8%	15.6%	3.2%
Arrangements for future?	4.3%	4.3%	0.0%	5.2%	4.9%	0.3%
Overall encouragement	37.7%	26.1%	11.6%	30.6%	27.5%	3.1%
Overall hierarchical	43.5%	56.5%	-13.0%	51.6%	46.8%	4.9%
Overall consistency	17.4%	5.8%	11.6% *	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.

LOS ANGELES — CHINESE/WHITE AND KOREAN/WHITE RENTAL TESTS

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.

LOS ANGELES — CHINESE/WHITE AND KOREAN/WHITE SALES TESTS

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.

MACON — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Macon			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	0.0%	5.8%	-5.8%	12.3%	8.3%	4.1% **
Similar units available?	5.8%	13.0%	-7.2%	14.3%	15.4%	-1.0%
Number units recommended	11.6%	20.3%	-8.7%	28.3%	23.3%	5.1% **
Overall availability	11.6%	23.2%	-11.6%	31.5%	27.6%	3.9% *
Advertised unit inspected?	7.2%	5.8%	1.4%	15.6%	9.2%	6.4% **
Similar units inspected	2.9%	11.6%	-8.7%	8.1%	7.2%	0.9%
Number units inspected	11.6%	17.4%	-5.8%	23.3%	16.2%	7.0% **
Overall inspection	13.0%	21.7%	-8.7%	27.5%	19.2%	8.3% **
Rent for advertised unit	2.0%	11.8%	-9.8%	9.3%	12.0%	-2.7%
Rental incentives offered?	13.0%	13.0%	0.0%	9.2%	6.5%	2.7% **
Amount of security deposit	7.0%	2.3%	4.7%	5.3%	5.3%	0.0%
Application fee required?	8.7%	4.3%	4.3%	10.7%	14.5%	-3.8% **
Overall cost	18.8%	26.1%	-7.2%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	1.4%	0.0%	1.4%	2.5%	2.1%	0.4%
Asked to complete application?	13.0%	20.3%	-7.2%	18.1%	15.8%	2.3%
Arrangements for future?	20.3%	23.2%	-2.9%	14.7%	16.3%	-1.6%
Told qualified to rent?	4.3%	1.4%	2.9%	3.6%	3.4%	0.2%
Overall encouragement	29.0%	36.2%	-7.2%	31.3%	28.6%	2.6%
Overall hierarchical	33.3%	56.5%	-23.2% *	49.0%	41.1%	7.9% **
Overall consistency	17.4%	33.3%	-15.9% *	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.

MACON — BLACK/WHITE SALES TESTS

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.

MINNEAPOLIS — SOUTHEAST ASIAN/WHITE RENTAL TESTS

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.

NEW ORLEANS — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	New Orleans			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	8.8%	8.8%	0.0%	12.3%	8.3%	4.1% **
Similar units available?	14.7%	22.1%	-7.4%	14.3%	15.4%	-1.0%
Number units recommended	35.3%	25.0%	10.3%	28.3%	23.3%	5.1% **
Overall availability	35.3%	36.8%	-1.5%	31.5%	27.6%	3.9% *
Advertised unit inspected?	16.2%	14.7%	1.5%	15.6%	9.2%	6.4% **
Similar units inspected	7.4%	11.8%	-4.4%	8.1%	7.2%	0.9%
Number units inspected	30.9%	22.1%	8.8%	23.3%	16.2%	7.0% **
Overall inspection	32.4%	26.5%	5.9%	27.5%	19.2%	8.3% **
Rent for advertised unit	21.9%	3.1%	18.8% *	9.3%	12.0%	-2.7%
Rental incentives offered?	8.8%	4.4%	4.4%	9.2%	6.5%	2.7% **
Amount of security deposit	8.3%	8.3%	0.0%	5.3%	5.3%	0.0%
Application fee required?	8.8%	7.4%	1.5%	10.7%	14.5%	-3.8% **
Overall cost	25.0%	10.3%	14.7% *	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.9%	0.0%	2.9%	2.5%	2.1%	0.4%
Asked to complete application?	19.1%	14.7%	4.4%	18.1%	15.8%	2.3%
Arrangements for future?	19.1%	7.4%	11.8% *	14.7%	16.3%	-1.6%
Told qualified to rent?	8.8%	2.9%	5.9%	3.6%	3.4%	0.2%
Overall encouragement	39.7%	23.5%	16.2%	31.3%	28.6%	2.6%
Overall hierarchical	52.9%	41.2%	11.8%	49.0%	41.1%	7.9% **
Overall consistency	29.4%	16.2%	13.2%	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.

NEW ORLEANS — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	New Orleans			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	14.5%	17.1%	-2.6%	15.8%	15.1%	0.8%
Similar units available?	13.2%	9.2%	3.9%	18.7%	15.6%	3.1% *
Number units recommended	40.8%	53.9%	-13.2%	44.6%	38.6%	6.0% **
Overall availability	48.7%	50.0%	-1.3%	46.2%	42.8%	3.4%
Advertised unit inspected?	17.1%	21.1%	-3.9%	19.1%	15.7%	3.4% *
Similar units inspected	14.5%	21.1%	-6.6%	22.9%	16.0%	6.9% **
Number units inspected	39.5%	48.7%	-9.2%	43.2%	30.9%	12.4% **
Overall inspection	42.1%	50.0%	-7.9%	42.9%	34.2%	8.8% **
Steering - homes recommended	31.6%	18.4%	13.2%	15.8%	12.1%	3.7% **
Steering - homes inspected	25.0%	18.4%	6.6%	11.0%	7.5%	3.5% **
Help with financing offered?	23.7%	3.9%	19.7% **	18.6%	17.2%	1.4%
Lenders recommended?	26.3%	9.2%	17.1% **	18.9%	17.5%	1.3%
Downpayment reqs discussed?	27.6%	25.0%	2.6%	21.7%	16.1%	5.6% **
Overall financing	48.7%	28.9%	19.7% *	36.6%	31.7%	4.9% **
Follow-up contact from agent?	35.5%	9.2%	26.3% **	17.1%	14.7%	2.4%
Told qualified?	21.1%	22.4%	-1.3%	20.4%	12.3%	8.1% **
Arrangements for future?	3.9%	1.3%	2.6%	4.9%	7.6%	-2.8% **
Overall encouragement	43.4%	22.4%	21.1% **	31.3%	26.1%	5.2% **
Overall hierarchical	56.6%	43.4%	13.2%	53.1%	44.8%	8.3% **
Overall consistency	11.8%	7.9%	3.9%	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.

NEW YORK — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	New York			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	16.0%	16.0%	0.0%	12.3%	8.3%	4.1% **
Similar units available?	18.7%	16.0%	2.7%	14.3%	15.4%	-1.0%
Number units recommended	34.7%	29.3%	5.3%	28.3%	23.3%	5.1% **
Overall availability	36.0%	34.7%	1.3%	31.5%	27.6%	3.9% *
Advertised unit inspected?	13.3%	6.7%	6.7%	15.6%	9.2%	6.4% **
Similar units inspected	18.7%	5.3%	13.3% **	8.1%	7.2%	0.9%
Number units inspected	26.7%	17.3%	9.3%	23.3%	16.2%	7.0% **
Overall inspection	34.7%	16.0%	18.7% **	27.5%	19.2%	8.3% **
Rent for advertised unit	0.0%	13.3%	-13.3%	9.3%	12.0%	-2.7%
Rental incentives offered?	5.3%	6.7%	-1.3%	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?	17.3%	16.0%	1.3%	10.7%	14.5%	-3.8% **
Overall cost	17.3%	22.7%	-5.3%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.7%	5.3%	-2.7%	2.5%	2.1%	0.4%
Asked to complete application?	17.3%	12.0%	5.3%	18.1%	15.8%	2.3%
Arrangements for future?	9.3%	4.0%	5.3%	14.7%	16.3%	-1.6%
Told qualified to rent?	9.3%	14.7%	-5.3%	3.6%	3.4%	0.2%
Overall encouragement	29.3%	25.3%	4.0%	31.3%	28.6%	2.6%
Overall hierarchical	48.0%	41.3%	6.7%	49.0%	41.1%	7.9% **
Overall consistency	20.0%	16.0%	4.0%	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.

NEW YORK — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	New York			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	15.2%	7.6%	7.6%	12.0%	5.4%	6.6% **
Similar units available?	15.2%	16.7%	-1.5%	12.7%	11.7%	0.9%
Number units recommended	36.4%	25.8%	10.6%	29.4%	20.8%	8.6% **
Overall availability	39.4%	30.3%	9.1%	34.0%	22.1%	11.9% **
Advertised unit inspected?	13.6%	4.5%	9.1%	11.4%	7.5%	3.9% **
Similar units inspected	6.1%	7.6%	-1.5%	7.9%	7.3%	0.6%
Number units inspected	30.3%	12.1%	18.2% **	20.7%	14.3%	6.3% **
Overall inspection	33.3%	16.7%	16.7% *	24.4%	17.2%	7.2% **
Rent for advertised unit	17.6%	5.9%	11.8%	12.2%	6.5%	5.7% **
Rental incentives offered?	6.1%	4.5%	1.5%	8.5%	6.7%	1.8%
Amount of security deposit	22.2%	22.2%	0.0%	8.5%	8.0%	0.5%
Application fee required?	13.6%	15.2%	-1.5%	8.6%	12.2%	-3.6% **
Overall cost	25.8%	19.7%	6.1%	21.7%	20.0%	1.7%
Follow-up contact from agent?	0.0%	6.1%	-6.1%	2.5%	2.7%	-0.2%
Asked to complete application?	10.6%	10.6%	0.0%	17.3%	17.1%	0.2%
Arrangements for future?	12.1%	10.6%	1.5%	20.7%	14.5%	6.2% **
Told qualified to rent?	7.6%	4.5%	3.0%	4.4%	5.0%	-0.6%
Overall encouragement	24.2%	21.2%	3.0%	32.8%	29.7%	3.1%
Overall hierarchical	54.5%	33.3%	21.2% *	52.7%	37.6%	15.1% **
Overall consistency	27.3%	12.1%	15.2% *	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.

NEW YORK — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	New York			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	14.7%	7.4%	7.4%	15.8%	15.1%	0.8%
Similar units available?	13.2%	19.1%	-5.9%	18.7%	15.6%	3.1% *
Number units recommended	36.8%	22.1%	14.7%	44.6%	38.6%	6.0% **
Overall availability	39.7%	32.4%	7.4%	46.2%	42.8%	3.4%
Advertised unit inspected?	14.7%	8.8%	5.9%	19.1%	15.7%	3.4% *
Similar units inspected	16.2%	16.2%	0.0%	22.9%	16.0%	6.9% **
Number units inspected	33.8%	17.6%	16.2% *	43.2%	30.9%	12.4% **
Overall inspection	30.9%	23.5%	7.4%	42.9%	34.2%	8.8% **
Steering - homes recommended	13.2%	7.4%	5.9%	15.8%	12.1%	3.7% **
Steering - homes inspected	8.8%	4.4%	4.4%	11.0%	7.5%	3.5% **
Help with financing offered?	16.2%	17.6%	-1.5%	18.6%	17.2%	1.4%
Lenders recommended?	11.8%	16.2%	-4.4%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	19.1%	19.1%	0.0%	21.7%	16.1%	5.6% **
Overall financing	26.5%	32.4%	-5.9%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	7.4%	2.9%	4.4%	17.1%	14.7%	2.4%
Told qualified?	4.4%	7.4%	-2.9%	20.4%	12.3%	8.1% **
Arrangements for future?	2.9%	8.8%	-5.9%	4.9%	7.6%	-2.8% **
Overall encouragement	11.8%	16.2%	-4.4%	31.3%	26.1%	5.2% **
Overall hierarchical	54.4%	38.2%	16.2%	53.1%	44.8%	8.3% **
Overall consistency	23.5%	20.6%	2.9%	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.

NEW YORK — HISPANIC/NON-HISPANIC WHITE SALES TESTS

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.

ORLANDO — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Orland			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	9.7%	8.3%	1.4%	12.3%	8.3%	4.1% **
Similar units available?	12.5%	12.5%	0.0%	14.3%	15.4%	-1.0%
Number units recommended	23.6%	33.3%	-9.7%	28.3%	23.3%	5.1% **
Overall availability	27.8%	31.9%	-4.2%	31.5%	27.6%	3.9% *
Advertised unit inspected?	12.5%	6.9%	5.6%	15.6%	9.2%	6.4% **
Similar units inspected	0.0%	2.8%	-2.8%	8.1%	7.2%	0.9%
Number units inspected	16.7%	9.7%	6.9%	23.3%	16.2%	7.0% **
Overall inspection	18.1%	11.1%	6.9%	27.5%	19.2%	8.3% **
Rent for advertised unit	8.9%	20.0%	-11.1%	9.3%	12.0%	-2.7%
Rental incentives offered?	15.3%	4.2%	11.1% *	9.2%	6.5%	2.7% **
Amount of security deposit	0.0%	11.1%	-11.1%	5.3%	5.3%	0.0%
Application fee required?	9.7%	18.1%	-8.3%	10.7%	14.5%	-3.8% **
Overall cost	25.0%	30.6%	-5.6%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	1.4%	0.0%	1.4%	2.5%	2.1%	0.4%
Asked to complete application?	22.2%	9.7%	12.5% *	18.1%	15.8%	2.3%
Arrangements for future?	12.5%	9.7%	2.8%	14.7%	16.3%	-1.6%
Told qualified to rent?	0.0%	1.4%	-1.4%	3.6%	3.4%	0.2%
Overall encouragement	29.2%	18.1%	11.1%	31.3%	28.6%	2.6%
Overall hierarchical	47.2%	44.4%	2.8%	49.0%	41.1%	7.9% **
Overall consistency	26.4%	23.6%	2.8%	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.

ORLANDO — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Orlando			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	21.1%	14.5%	6.6%	15.8%	15.1%	0.8%
Similar units available?	28.9%	15.8%	13.2%	18.7%	15.6%	3.1% *
Number units recommended	46.1%	39.5%	6.6%	44.6%	38.6%	6.0% **
Overall availability	50.0%	39.5%	10.5%	46.2%	42.8%	3.4%
Advertised unit inspected?	31.6%	7.9%	23.7% **	19.1%	15.7%	3.4% *
Similar units inspected	40.8%	6.6%	34.2% **	22.9%	16.0%	6.9% **
Number units inspected	61.8%	15.8%	46.1% **	43.2%	30.9%	12.4% **
Overall inspection	59.2%	18.4%	40.8% **	42.9%	34.2%	8.8% **
Steering - homes recommended	6.6%	13.2%	-6.6%	15.8%	12.1%	3.7% **
Steering - homes inspected	5.3%	0.0%	5.3%	11.0%	7.5%	3.5% **
Help with financing offered?	18.4%	31.6%	-13.2%	18.6%	17.2%	1.4%
Lenders recommended?	14.5%	23.7%	-9.2%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	10.5%	9.2%	1.3%	21.7%	16.1%	5.6% **
Overall financing	27.6%	44.7%	-17.1%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	18.4%	19.7%	-1.3%	17.1%	14.7%	2.4%
Told qualified?	3.9%	11.8%	-7.9%	20.4%	12.3%	8.1% **
Arrangements for future?	6.6%	2.6%	3.9%	4.9%	7.6%	-2.8% **
Overall encouragement	25.0%	23.7%	1.3%	31.3%	26.1%	5.2% **
Overall hierarchical	65.8%	34.2%	31.6% **	53.1%	44.8%	8.3% **
Overall consistency	17.1%	5.3%	11.8% **	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.

PHOENIX — AMERICAN INDIAN/WHITE RENTAL TESTS

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.

PITTSBURGH — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Pittsburgh			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	6.3%	5.1%	1.3%	12.3%	8.3%	4.1% **
Similar units available?	7.6%	13.9%	-6.3%	14.3%	15.4%	-1.0%
Number units recommended	20.3%	17.7%	2.5%	28.3%	23.3%	5.1% **
Overall availability	20.3%	20.3%	0.0%	31.5%	27.6%	3.9% *
Advertised unit inspected?	16.5%	6.3%	10.1% *	15.6%	9.2%	6.4% **
Similar units inspected	3.8%	7.6%	-3.8%	8.1%	7.2%	0.9%
Number units inspected	21.5%	11.4%	10.1%	23.3%	16.2%	7.0% **
Overall inspection	24.1%	13.9%	10.1%	27.5%	19.2%	8.3% **
Rent for advertised unit	6.0%	10.0%	-4.0%	9.3%	12.0%	-2.7%
Rental incentives offered?	3.8%	0.0%	3.8%	9.2%	6.5%	2.7% **
Amount of security deposit	2.1%	2.1%	0.0%	5.3%	5.3%	0.0%
Application fee required?	5.1%	22.8%	-17.7% **	10.7%	14.5%	-3.8% **
Overall cost	12.7%	25.3%	-12.7% *	21.4%	22.7%	-1.3%
Follow-up contact from agent?	2.5%	0.0%	2.5%	2.5%	2.1%	0.4%
Asked to complete application?	15.2%	10.1%	5.1%	18.1%	15.8%	2.3%
Arrangements for future?	8.9%	8.9%	0.0%	14.7%	16.3%	-1.6%
Told qualified to rent?	0.0%	0.0%	0.0%	3.6%	3.4%	0.2%
Overall encouragement	25.3%	16.5%	8.9%	31.3%	28.6%	2.6%
Overall hierarchical	40.5%	30.4%	10.1%	49.0%	41.1%	7.9% **
Overall consistency	16.5%	19.0%	-2.5%	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.

PUEBLO — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	Pueblo			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	9.5%	1.4%	8.1% *	12.0%	5.4%	6.6% **
Similar units available?	13.5%	5.4%	8.1%	12.7%	11.7%	0.9%
Number units recommended	20.3%	13.5%	6.8%	29.4%	20.8%	8.6% **
Overall availability	32.4%	13.5%	18.9% **	34.0%	22.1%	11.9% **
Advertised unit inspected?	8.1%	5.4%	2.7%	11.4%	7.5%	3.9% **
Similar units inspected	9.5%	8.1%	1.4%	7.9%	7.3%	0.6%
Number units inspected	14.9%	14.9%	0.0%	20.7%	14.3%	6.3% **
Overall inspection	23.0%	18.9%	4.1%	24.4%	17.2%	7.2% **
Rent for advertised unit	9.1%	2.3%	6.8%	12.2%	6.5%	5.7% **
Rental incentives offered?	10.8%	9.5%	1.4%	8.5%	6.7%	1.8%
Amount of security deposit	0.0%	0.0%	0.0%	8.5%	8.0%	0.5%
Application fee required?	6.8%	5.4%	1.4%	8.6%	12.2%	-3.6% **
Overall cost	23.0%	14.9%	8.1%	21.7%	20.0%	1.7%
Follow-up contact from agent?	0.0%	1.4%	-1.4%	2.5%	2.7%	-0.2%
Asked to complete application?	16.2%	14.9%	1.4%	17.3%	17.1%	0.2%
Arrangements for future?	14.9%	21.6%	-6.8%	20.7%	14.5%	6.2% **
Told qualified to rent?	4.1%	5.4%	-1.4%	4.4%	5.0%	-0.6%
Overall encouragement	25.7%	36.5%	-10.8%	32.8%	29.7%	3.1%
Overall hierarchical	51.4%	35.1%	16.2%	52.7%	37.6%	15.1% **
Overall consistency	28.4%	21.6%	6.8%	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.

PUEBLO — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	Pueblo			National		
	% 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.

SAN ANTONIO — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	San Antonio			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	20.3%	8.1%	12.2% *	12.0%	5.4%	6.6% **
Similar units available?	14.9%	10.8%	4.1%	12.7%	11.7%	0.9%
Number units recommended	44.6%	29.7%	14.9%	29.4%	20.8%	8.6% **
Overall availability	47.3%	27.0%	20.3% *	34.0%	22.1%	11.9% **
Advertised unit inspected?	13.5%	14.9%	-1.4%	11.4%	7.5%	3.9% **
Similar units inspected	16.2%	6.8%	9.5%	7.9%	7.3%	0.6%
Number units inspected	28.4%	18.9%	9.5%	20.7%	14.3%	6.3% **
Overall inspection	31.1%	20.3%	10.8%	24.4%	17.2%	7.2% **
Rent for advertised unit	8.3%	12.5%	-4.2%	12.2%	6.5%	5.7% **
Rental incentives offered?	18.9%	13.5%	5.4%	8.5%	6.7%	1.8%
Amount of security deposit	38.5%	7.7%	30.8%	8.5%	8.0%	0.5%
Application fee required?	14.9%	13.5%	1.4%	8.6%	12.2%	-3.6% **
Overall cost	28.4%	25.7%	2.7%	21.7%	20.0%	1.7%
Follow-up contact from agent?	14.9%	5.4%	9.5%	2.5%	2.7%	-0.2%
Asked to complete application?	14.9%	17.6%	-2.7%	17.3%	17.1%	0.2%
Arrangements for future?	8.1%	14.9%	-6.8%	20.7%	14.5%	6.2% **
Told qualified to rent?	4.1%	0.0%	4.1%	4.4%	5.0%	-0.6%
Overall encouragement	29.7%	27.0%	2.7%	32.8%	29.7%	3.1%
Overall hierarchical	55.4%	39.2%	16.2%	52.7%	37.6%	15.1% **
Overall consistency	18.9%	16.2%	2.7%	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.

SAN ANTONIO — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	San Antonio			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	18.9%	17.6%	1.4%	12.0%	15.0%	-3.0%
Similar units available?	21.6%	18.9%	2.7%	16.7%	12.9%	3.8% *
Number units recommended	47.3%	40.5%	6.8%	44.4%	40.7%	3.7%
Overall availability	52.7%	37.8%	14.9%	46.3%	44.4%	1.9%
Advertised unit inspected?	16.2%	20.3%	-4.1%	17.1%	19.3%	-2.2%
Similar units inspected	17.6%	20.3%	-2.7%	18.3%	15.4%	2.9%
Number units inspected	25.7%	41.9%	-16.2%	35.7%	38.1%	-2.4%
Overall inspection	27.0%	41.9%	-14.9%	38.3%	40.9%	-2.6%
Steering - homes recommended	17.6%	13.5%	4.1%	17.1%	15.6%	1.5%
Steering - homes inspected	12.2%	4.1%	8.1%	14.7%	9.7%	5.0% **
Help with financing offered?	25.7%	12.2%	13.5% *	22.2%	10.5%	11.7% **
Lenders recommended?	25.7%	13.5%	12.2%	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	31.1%	9.5%	21.6% **	24.9%	15.4%	9.4% **
Overall financing	48.6%	23.0%	25.7% **	38.6%	24.2%	14.4% **
Follow-up contact from agent?	23.0%	10.8%	12.2%	15.3%	14.6%	0.7%
Told qualified?	28.4%	20.3%	8.1%	18.8%	15.6%	3.2%
Arrangements for future?	5.4%	4.1%	1.4%	5.2%	4.9%	0.3%
Overall encouragement	41.9%	25.7%	16.2%	30.6%	27.5%	3.1%
Overall hierarchical	51.4%	48.6%	2.7%	51.6%	46.8%	4.9%
Overall consistency	21.6%	6.8%	14.9% **	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.

SAN DIEGO — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	San Diego			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	14.5%	0.0%	14.5% **	12.0%	5.4%	6.6% **
Similar units available?	5.8%	8.7%	-2.9%	12.7%	11.7%	0.9%
Number units recommended	29.0%	23.2%	5.8%	29.4%	20.8%	8.6% **
Overall availability	34.8%	21.7%	13.0%	34.0%	22.1%	11.9% **
Advertised unit inspected?	7.2%	7.2%	0.0%	11.4%	7.5%	3.9% **
Similar units inspected	2.9%	2.9%	0.0%	7.9%	7.3%	0.6%
Number units inspected	8.7%	13.0%	-4.3%	20.7%	14.3%	6.3% **
Overall inspection	11.6%	11.6%	0.0%	24.4%	17.2%	7.2% **
Rent for advertised unit	11.4%	9.1%	2.3%	12.2%	6.5%	5.7% **
Rental incentives offered?	4.3%	1.4%	2.9%	8.5%	6.7%	1.8%
Amount of security deposit	2.9%	11.8%	-8.8%	8.5%	8.0%	0.5%
Application fee required?	7.2%	14.5%	-7.2%	8.6%	12.2%	-3.6% **
Overall cost	17.4%	21.7%	-4.3%	21.7%	20.0%	1.7%
Follow-up contact from agent?	2.9%	1.4%	1.4%	2.5%	2.7%	-0.2%
Asked to complete application?	17.4%	18.8%	-1.4%	17.3%	17.1%	0.2%
Arrangements for future?	27.5%	15.9%	11.6%	20.7%	14.5%	6.2% **
Told qualified to rent?	4.3%	2.9%	1.4%	4.4%	5.0%	-0.6%
Overall encouragement	37.7%	29.0%	8.7%	32.8%	29.7%	3.1%
Overall hierarchical	58.0%	36.2%	21.7% *	52.7%	37.6%	15.1% **
Overall consistency	29.0%	21.7%	7.2%	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.

SAN DIEGO — HISPANIC/NON-HISPANIC WHITE SALES TESTS

TREATMENT MEASURES	San Diego			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	12.2%	10.8%	1.4%	12.0%	15.0%	-3.0%
Similar units available?	14.9%	9.5%	5.4%	16.7%	12.9%	3.8% *
Number units recommended	47.3%	40.5%	6.8%	44.4%	40.7%	3.7%
Overall availability	54.1%	40.5%	13.5%	46.3%	44.4%	1.9%
Advertised unit inspected?	27.0%	18.9%	8.1%	17.1%	19.3%	-2.2%
Similar units inspected	16.2%	20.3%	-4.1%	18.3%	15.4%	2.9%
Number units inspected	43.2%	33.8%	9.5%	35.7%	38.1%	-2.4%
Overall inspection	50.0%	36.5%	13.5%	38.3%	40.9%	-2.6%
Steering - homes recommended	20.3%	18.9%	1.4%	17.1%	15.6%	1.5%
Steering - homes inspected	18.9%	9.5%	9.5%	14.7%	9.7%	5.0% **
Help with financing offered?	13.5%	10.8%	2.7%	22.2%	10.5%	11.7% **
Lenders recommended?	13.5%	12.2%	1.4%	19.6%	12.8%	6.7% **
Downpayment reqs discussed?	23.0%	17.6%	5.4%	24.9%	15.4%	9.4% **
Overall financing	32.4%	25.7%	6.8%	38.6%	24.2%	14.4% **
Follow-up contact from agent?	20.3%	17.6%	2.7%	15.3%	14.6%	0.7%
Told qualified?	23.0%	16.2%	6.8%	18.8%	15.6%	3.2%
Arrangements for future?	0.0%	6.8%	-6.8% *	5.2%	4.9%	0.3%
Overall encouragement	35.1%	31.1%	4.1%	30.6%	27.5%	3.1%
Overall hierarchical	55.4%	44.6%	10.8%	51.6%	46.8%	4.9%
Overall consistency	18.9%	12.2%	6.8%	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.

TUCSON — HISPANIC/NON-HISPANIC WHITE RENTAL TESTS

TREATMENT MEASURES	Tucson			National		
	% n-H white favored	% Hispanic favored	net measure	% n-H white favored	% Hispanic favored	net measure
Advertised unit available?	6.7%	5.3%	1.3%	12.0%	5.4%	6.6% **
Similar units available?	14.7%	9.3%	5.3%	12.7%	11.7%	0.9%
Number units recommended	26.7%	14.7%	12.0%	29.4%	20.8%	8.6% **
Overall availability	29.3%	17.3%	12.0%	34.0%	22.1%	11.9% **
Advertised unit inspected?	13.3%	5.3%	8.0%	11.4%	7.5%	3.9% **
Similar units inspected	6.7%	8.0%	-1.3%	7.9%	7.3%	0.6%
Number units inspected	16.0%	8.0%	8.0%	20.7%	14.3%	6.3% **
Overall inspection	22.7%	12.0%	10.7%	24.4%	17.2%	7.2% **
Rent for advertised unit	12.7%	0.0%	12.7% **	12.2%	6.5%	5.7% **
Rental incentives offered?	8.0%	8.0%	0.0%	8.5%	6.7%	1.8%
Amount of security deposit	2.4%	2.4%	0.0%	8.5%	8.0%	0.5%
Application fee required?	5.3%	8.0%	-2.7%	8.6%	12.2%	-3.6% **
Overall cost	21.3%	13.3%	8.0%	21.7%	20.0%	1.7%
Follow-up contact from agent?	1.3%	0.0%	1.3%	2.5%	2.7%	-0.2%
Asked to complete application?	18.7%	20.0%	-1.3%	17.3%	17.1%	0.2%
Arrangements for future?	45.3%	5.3%	40.0% **	20.7%	14.5%	6.2% **
Told qualified to rent?	2.7%	2.7%	0.0%	4.4%	5.0%	-0.6%
Overall encouragement	46.7%	26.7%	20.0% *	32.8%	29.7%	3.1%
Overall hierarchical	58.7%	30.7%	28.0% **	52.7%	37.6%	15.1% **
Overall consistency	29.3%	16.0%	13.3%	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.

TUCSON — HISPANIC/NON-HISPANIC WHITE SALES TESTS

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.

WASHINGTON, DC — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Washington, DC			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	17.6%	18.9%	-1.4%	12.3%	8.3%	4.1% **
Similar units available?	14.9%	29.7%	-14.9% *	14.3%	15.4%	-1.0%
Number units recommended	27.0%	39.2%	-12.2%	28.3%	23.3%	5.1% **
Overall availability	33.8%	41.9%	-8.1%	31.5%	27.6%	3.9% *
Advertised unit inspected?	9.5%	16.2%	-6.8%	15.6%	9.2%	6.4% **
Similar units inspected	10.8%	8.1%	2.7%	8.1%	7.2%	0.9%
Number units inspected	18.9%	27.0%	-8.1%	23.3%	16.2%	7.0% **
Overall inspection	25.7%	29.7%	-4.1%	27.5%	19.2%	8.3% **
Rent for advertised unit	8.3%	16.7%	-8.3%	9.3%	12.0%	-2.7%
Rental incentives offered?	4.1%	9.5%	-5.4%	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?	14.9%	6.8%	8.1%	10.7%	14.5%	-3.8% **
Overall cost	18.9%	17.6%	1.4%	21.4%	22.7%	-1.3%
Follow-up contact from agent?	0.0%	0.0%	0.0%	2.5%	2.1%	0.4%
Asked to complete application?	20.3%	12.2%	8.1%	18.1%	15.8%	2.3%
Arrangements for future?	4.1%	24.3%	-20.3% **	14.7%	16.3%	-1.6%
Told qualified to rent?	1.4%	0.0%	1.4%	3.6%	3.4%	0.2%
Overall encouragement	24.3%	29.7%	-5.4%	31.3%	28.6%	2.6%
Overall hierarchical	41.9%	50.0%	-8.1%	49.0%	41.1%	7.9% **
Overall consistency	16.2%	23.0%	-6.8%	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.

WASHINGTON, DC — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Washington, DC			National		
	% white favored	% black favored	net measure	% white favored	% black favored	net measure
Advertised unit available?	18.8%	23.2%	-4.3%	15.8%	15.1%	0.8%
Similar units available?	8.7%	30.4%	-21.7% **	18.7%	15.6%	3.1% *
Number units recommended	44.9%	42.0%	2.9%	44.6%	38.6%	6.0% **
Overall availability	44.9%	47.8%	-2.9%	46.2%	42.8%	3.4%
Advertised unit inspected?	15.9%	21.7%	-5.8%	19.1%	15.7%	3.4% *
Similar units inspected	14.5%	33.3%	-18.8% **	22.9%	16.0%	6.9% **
Number units inspected	27.5%	52.2%	-24.6% **	43.2%	30.9%	12.4% **
Overall inspection	36.2%	49.3%	-13.0%	42.9%	34.2%	8.8% **
Steering - homes recommended	21.7%	18.8%	2.9%	15.8%	12.1%	3.7% **
Steering - homes inspected	14.5%	7.2%	7.2%	11.0%	7.5%	3.5% **
Help with financing offered?	15.9%	18.8%	-2.9%	18.6%	17.2%	1.4%
Lenders recommended?	26.1%	23.2%	2.9%	18.9%	17.5%	1.3%
Downpayment reqs discussed?	34.8%	10.1%	24.6% **	21.7%	16.1%	5.6% **
Overall financing	47.8%	31.9%	15.9%	36.6%	31.7%	4.9% **
Follow-up contact from agent?	17.4%	13.0%	4.3%	17.1%	14.7%	2.4%
Told qualified?	29.0%	14.5%	14.5% *	20.4%	12.3%	8.1% **
Arrangements for future?	4.3%	0.0%	4.3%	4.9%	7.6%	-2.8% **
Overall encouragement	39.1%	20.3%	18.8% *	31.3%	26.1%	5.2% **
Overall hierarchical	44.9%	55.1%	-10.1%	53.1%	44.8%	8.3% **
Overall consistency	11.6%	8.7%	2.9%	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.

PITTSBURGH PHASE II — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Pittsburgh, PA		
	% white favored	% black favored	net measure
Advertised unit available?	9.3%	20.0%	-10.7%
Similar units available?	24.0%	6.7%	17.3% **
Number units recommended	46.7%	20.0%	26.7% **
Overall availability	42.7%	33.3%	9.3%
Advertised unit inspected?	16.0%	18.7%	-2.7%
Similar units inspected?	20.0%	4.0%	16.0% **
Number units inspected	38.7%	24.0%	14.7%
Overall inspection	37.3%	26.7%	10.7%
Steering - homes recommended	10.7%	5.3%	5.3%
Steering - homes inspected	6.7%	4.0%	2.7%
Help with financing offered?	13.3%	26.7%	-13.3% *
Agent prequalified tester?	22.7%	12.0%	10.7%
Lenders recommended?	16.0%	17.3%	-1.3%
Overall financing	29.3%	30.7%	-1.3%
Follow-up contact from agent?	6.7%	12.0%	-5.3%
Prequalification required?	12.0%	5.3%	6.7%
Told qualified?	25.3%	9.3%	16.0% **
Arrangements for future?	9.3%	10.7%	-1.3%
Overall encouragement	26.7%	29.3%	-2.7%
Overall hierarchical	50.7%	40.0%	10.7%
Overall consistency	24.0%	17.3%	6.7%

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. These results are based on 50 tests in Phase 1 and 26 tests in Phase 2. Treatment variables for financing and encouragment are slightly different than in Phase 1 thus making composite scores not directly comparable with those shown for Phase 1 metropolitan areas.

PHILADELPHIA PHASE II — BLACK/WHITE RENTAL TESTS

TREATMENT MEASURES	Philadelphia, PA		
	% white favored	% black favored	net measure
Advertised unit available?	16.4%	4.1%	12.3% **
Similar units available?	13.7%	12.3%	1.4%
Number units recommended	30.1%	26.0%	4.1%
Overall availability	38.4%	30.1%	8.2%
Advertised unit inspected?	24.7%	11.0%	13.7% *
Similar units inspected	4.1%	8.2%	-4.1%
Number units inspected	28.8%	13.7%	15.1% *
Overall inspection	35.6%	23.3%	12.3%
Rent for advertised unit	18.2%	9.1%	9.1%
Rental incentives offered?	10.3%	13.2%	-2.9%
Amount of security deposit	27.8%	16.7%	11.1%
Application fee required?	8.8%	17.6%	-8.8%
Overall cost	21.9%	21.9%	0.0%
Follow-up contact from agent?	2.7%	2.7%	0.0%
Asked to complete application?	16.4%	19.2%	-2.7%
Credit check required?	21.9%	9.6%	12.3% *
Arrangements for future?	15.1%	20.5%	-5.5%
Overall encouragement	34.2%	35.6%	-1.4%
Overall hierarchical	53.4%	41.1%	12.3%
Overall consistency	24.7%	12.3%	12.3%

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. These results are based on 52 tests in Phase 1 and 21 tests in Phase 2. Treatment variables for cost and encouragment are slightly different than in Phase 1 thus making composite scores not directly comparable with those shown for Phase 1 metropolitan areas.

PHILADELPHIA PHASE II — BLACK/WHITE SALES TESTS

TREATMENT MEASURES	Philadelphia, PA		
	% white favored	% black favored	net measure
Advertised unit available?	15.7%	11.4%	4.3%
Similar units available?	15.7%	18.6%	-2.9%
Number units recommended	32.9%	40.0%	-7.1%
Overall availability	44.3%	32.9%	11.4%
Advertised unit inspected?	18.6%	17.1%	1.4%
Similar units inspected?	18.6%	20.0%	-1.4%
Number units inspected	27.1%	40.0%	-12.9%
Overall inspection	31.4%	41.4%	-10.0%
Steering - homes recommended	12.9%	14.3%	-1.4%
Steering - homes inspected	7.1%	1.4%	5.7%
Help with financing offered?	22.9%	18.6%	4.3%
Agent prequalified tester?	14.3%	14.3%	0.0%
Lenders recommended?	20.0%	17.1%	2.9%
Overall financing	37.1%	31.4%	5.7%
Follow-up contact from agent?	2.9%	8.6%	-5.7%
Prequalification required?	5.7%	17.1%	-11.4% *
Told qualified?	12.9%	12.9%	0.0%
Arrangements for future?	11.4%	8.6%	2.9%
Overall encouragement	22.9%	31.4%	-8.6%
Overall hierarchical	44.3%	51.4%	-7.1%
Overall consistency	14.3%	21.4%	-7.1%

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. These results are based on 27 tests in Phase 1 and 45 tests in Phase 2. Treatment variables for financing and encouragment are slightly different than in Phase 1 thus making composite scores not directly comparable with those shown for Phase 1 metropolitan areas.

ANNEX 9: METHODOLOGY FOR MULTINOMIAL LOGIT ESTIMATIONS AND SIMULATIONS

ANNEX 9: METHODOLOGY FOR MULTINOMIAL LOGIT ESTIMATION AND SIMULATIONS

This annex describes the four-choice multivariate logit procedure (discussed in chapter 5) for predicting the likelihood of white- and minority-favored treatment after controlling for observed factors other than race or ethnicity that may create treatment differences between testers.[1]

Multinomial Logit Estimation

The simple gross measures of adverse treatment are defined as in previous chapters. Specifically, favorable treatment is estimated as

White-favored = $Pr[T_i=1]$

Minority-favored = $Pr[T_i=2]$

where T_i represents the treatment outcome for test *i*, and the probability is measured as the weighted frequency of tests in a national sample.

The econometric model of real estate agent behavior is a four-choice multinomial logit, and the probability of each outcome is expressed as:

$$Pr[T_i=j / X_i]= exp(\exists_j X_i) \ / \ (exp(\exists_1 X_i) + exp(\exists_2 X_i) + exp(\exists_3 X_i) + exp(\exists_4 X_i))$$

where X_i are the observed characteristics of test *i* and $\exists_j$ is the relationship between the characteristics and the likelihood of outcome j. Note that the likelihood of an outcome must be estimated relative to another outcomes, and so the coefficients on outcome 4 (neither treated favorably) are initialized to zero.

At this point, it is useful to contrast this model with the fixed-effects logit model discussed in Annex 9. Both models are designed to control for the fact that the two testers are part of a common test, but these controls are accomplished in quite different ways. The multinomial logit model allows the likelihood of each event to vary on all observable test characteristics. For example, if the testers encounter the same agent, the likelihood of both testers or neither tester being treated favorably may increase relative to the white-favored or minority-favored outcomes. The fixed-effects logit assumes that the visits of the two testers are completely independent from the perspective of the individual real estate agent and are only linked through the testing process, which is equivalent to assuming that $\exists_3$ equals the sum of $\exists_1$ and $\exists_2$. Based on this

[1] Specifically, the four choice model can be used to examine how differences between testers and their visits decrease the likelihood of both testers being favored relative to either white favored or minority favored outcomes.

assumption, the common effect of the test on treatment can be eliminated by differencing the outcomes of the two testers and only considering tests where there are differences in treatment.[2] The advantage of the second approach is that it controls for both observable and unobservable characteristics of the test, making it ideal for testing how discrimination varies across tests because it eliminates potential biases caused by omitted test characteristics. On the other hand, the independence assumption in the fixed-effects approach rules out the possibility that an agent may decide whether to show a unit based on who else has seen the unit already, which may be an important consideration. Moreover, the estimated model arising from the fixed-effects logit cannot be used to predict sample probabilities without very strong assumptions.

The vector of test characteristics in the multinomial logit model includes the test-specific information that is common across the two testers (Z_i), such as assigned family income or the attributes of the neighborhood in which the advertised unit is located; as well as tester characteristics or circumstances that arise during an individual tester's visit (W_i or B_i), such as the tester's actual education level or the timing of the individual tester's visits. The vector X_i may be rewritten as

$$Xi = [\, Z_i \,,\, W_i \,,\, B_i \,]$$

We implemented a simulation strategy where we estimated the four-choice model using these observed test characteristics, then used the estimated coefficients to predict the likelihood of outcome T_i, and finally calculated the weighted average of probabilities over the sample:

White-favored = $Pr[T_i=2 \,/\, Z_i \,,\, W_i \,,\, B_i]$

Minority-favored = $Pr[T_i=3 \,/\, Z_i \,,\, W_i \,,\, B_i]$

Since we only have one observation per test, the multinomial logit specification exploits all information provided by the observed outcomes, and the weighted predicted probabilities using X_i will exactly match the weighted frequencies. Next, the predicted probabilities were calculated for alternative values of Z_i, W_i, and B_i .to estimate the effects of test and tester characteristics. The testers' individual attributes or visit circumstances were assigned to the same value for both testers within a test ($\overline{W}_i$) where this value was usually based on the average of the observed white and minority values. Unit and neighborhood characteristics were assigned in order to avoid segments of the market in which we expect that the real estate agent might intentionally or systematically favor minority clients ($\overline{Z}_i$).

[2] Specifically, under the assumption that the outcomes for individual tester visits are described as a simple logit with two possibilities, favored (1) or disfavored (0), a model of the difference between the white and minority outcomes can be estimated as a simple logit with two possibilities, white favored (1) and minority favored (-1), as a function of the difference between the characteristics associated with the white and minority visits.

The first three simulations eliminated factors that may create differences between white and minority treatment that are unrelated to race or ethnicity. The resulting probabilities of adverse treatment may be written as:

White-favored = $Pr[T_i=2 / Z_i, \overline{W}_i, \overline{W}_i]$

Minority-favored = $Pr[T_i=3 / Z_i, \overline{W}_i, \overline{W}_i]$

If the conditional probability of white- and minority-favored treatment are substantially lower than the observed frequencies in the sample, the findings indicate that random differences between testers in terms of their attributes or the circumstances encountered lead to the high levels of observed white and minority adverse treatment. Such evidence would suggest increased reliance on the net measure of adverse treatment. On the other hand, the last two simulations, in which the probabilities may be written as

White-favored = $Pr[T_i=2 / \overline{Z}_i, \overline{W}_i, \overline{W}_i]$

Minority-favored = $Pr[T_i=3 / \overline{Z}_i, \overline{W}_i, \overline{W}_i]$

are intended to rule out neighborhood environments in which minority testers might be systematically favored. If these simulations result in a substantial reduction in the probability of adverse treatment against whites while leaving adverse treatment against minorities relatively unchanged, the evidence would suggest increased reliance on the gross measure of adverse treatment.

Observed Test Characteristics

The vector of test characteristics include standard assignment variables and observable attributes on which testers were matched:

- Tester gender
- Marital status
- Presence of children in the household
- Number of bedrooms required
- Asset to income ratio (sales only)
- Debt payments to income ratio (sales only)

as well as variables that result from the selection of the advertised unit:

- Target price (rental only)
- Family income (sales only – assignment based on listing price of unit)
- Percent African-American in tract
- Percent Hispanic in tract

- Percent poverty in tract
- Percent owner-occupied in tract (sales only)

The first set of variables is standard across all metropolitan areas. The second set of variables, however, reflects substantial variation across metropolitan areas in both the cost of housing and the spatial distribution of different demographic groups. This raises the possibility that the influence of unit and neighborhood attributes might vary across metropolitan areas as well as within each site. Therefore, we identified the modal value for each of the unit and neighborhood variables listed above in each metropolitan area based on the sample of advertised units. In addition, we defined a range around the mode within which at least 60 percent of the advertised units fell. Then two variables were created to specify how far each unit's price or neighborhood composition was above or below the mode. This type of specification is typically referred to as a spline.

The vector of visit-specific characteristics includes actual tester attributes based on the employment application, such as:

- Previous experience as a tester
- Age of tester
- Family income
- High school graduate
- College graduate
- Whether tester resides in owner-occupied housing (sales only)

Both the white and minority tester's values on these variables are included in the specification along with the interaction between the white and minority tester's values. The effect of tester differences on test outcomes can be eliminated in the simulated measures of adverse treatment by setting white and minority tester characteristics to the same value. This simulation both eliminates a potentially important source of random differences between tester outcomes and also eliminates the possibility that net differences in treatment arise because minority testers on average have lower quality real-life characteristics than white testers.

The visit-specific characteristics also include

- The timing and order of the individual visits
- Name of the agent encountered

Rental visits always occurred in close proximity, and it is believed that order of visits may be very important for rental tests because sometimes there is only one apartment to rent. Therefore, a series of binary variables were created to represent whether the white tester visited the agency first and if so whether the tests occurred within four hours of each other, longer than four hours apart on the same day, or on different days (never more than one day apart). A

similar set of binary variables was created to control for whether the minority tester visited first. Sales visits never occurred on the same day and often were conducted many days apart. As a result, the specification included the number of days between the minority and the majority tester's visits and the day the advertisement appeared in the newspaper, the square of these two variables, and the interaction between the minority and the majority variables. The squared terms are included to allow for the possibility that the importance of delaying the visit by one day changes as the visits fall further from the date of the advertisement, and the interaction term is included in case the time between the two testers visits influence test outcomes. Finally, a binary variable was created to reflect whether the two testers saw the same agent during their visit based on a manual inspection of the names of the agents encountered by the two testers.[3] In the simulations, these variables can be set as if the visits occurred at the same time and were conducted with the same real estate agent.

[3] This variable might help explain the substantial increase in gross white and minority adverse treatment in the sales sample. The share of sales tests in which both partners met the same agent fell from 58.6 to 27.0 percent between the 1989 and the 2000 studies.

ANNEX 10: METHODOLOGY FOR FIXED-EFFECTS LOGIT ESTIMATION

ANNEX 10: METHODOLOGY FOR FIXED EFFECTS LOGIT ESTIMATION

This annex describes the fixed-effects logit procedure used to perform statistical tests for the existence of discrimination. The primary goal of this analysis is to examine the robustness of the statistical results presented in chapter 3 after controlling for differences between testers' visits to the real estate agency and between the testers themselves.

Fixed Effects Logit Estimation

This approach assumes that the testers' visits are independent from the perspective of the real estate agency and similar tester treatment is only observed because the testers approach the same agency and follow the exact same protocols. The probability (Pr) that an agent will take a particular, discrete action can be characterized as follows:

$$\Pr(A_{av} = 1 | W, \delta, X, \beta, \alpha) = F(\delta W_{av} + \beta' X_{av} + \alpha_a).$$

In this equation, *a* stands for a test, *v* stands for a visit by a tester, and there are two visits (one by a minority tester and one by a white tester) for each test.[1] In this setting, A_{av} equals one if the broker takes the action and zero otherwise; W_{av} equals one if the tester is a white and zero otherwise; X is a vector of explanatory variables such as the tester's age and the income assigned for the purposes of the test; α_a is a fixed effect associated with the test; and δ and β are coefficients to be estimated. Finally, *F* is a function that relates the (linear) expression in parentheses with the probability that the action is taken. The analysis in this report assumes that this is the well-known logit function.[2]

In this model, δ is a measure of discrimination. It measures systematic favorable treatment of white testers or, equivalently, systematic unfavorable treatment of minority testers. Because it describes the treatment of minority testers relative to the treatment of their teammates, this coefficient corresponds to a net measure of discrimination. A test for the significance of δ is therefore a test of the null hypothesis that there is no (net) discrimination. In addition, the fixed effect represents unobserved factors that are shared by teammates and influence an agent's behavior, such as the personality of the agent or the policies of the agency. A methodology that does not account for this effect could make incorrect inferences about the

[1] The vertical line and following symbols indicate that this expression should be read the probability that an action is taken "given values for the explanatory variables and underlying parameters."

[2] With a logit function, the left side of the equation can be written as the natural logarithm of the odds that the agent will take the action (defined as the probability divided by one minus the probability) and the right side is the linear form in parentheses after "*F*."

existence of discrimination, such as concluding that there is no discrimination even when discrimination exists (Yinger 1986).

Because the fixed effect is not observed, it cannot be estimated in this equation. However, Chamberlain (1980) shows that one can difference this equation, thereby eliminating the fixed effect. Estimating this differenced version of the model accounts for the fixed effects and provides an accurate test for the hypothesis that discrimination exists. Let a "1" indicate a visit by a minority tester and a "2" indicate a visit by the white tester. Then the Chamberlain fixed-effects logit can be written as follows:

$$\Pr(A_{a2} - A_{a1} = 1 \mid A_{a1} + A_{a2} = 1;\ \delta, (X_2 - X_1), \beta) = F(\delta + \beta'(X_{a2} - X_{a1})).$$

In this model, the dependent variable is now the difference in the treatment of test teammates, and the analysis applies only to the set of tests in which teammates are treated differently. In other words, a fixed-effects logit is conducted using only a sub-sample of the tests. If teammates are not treated differently very often for a particular type of behavior, therefore, the sample size for that type of behavior is very small and it is difficult to determine whether discrimination varies across tests.

The explanatory variables are now differences between test teammates. For example, if the age of the tester is one of the *X* variables, then the difference in the age of the testers now appears in the equation. Note that δ is now the constant term of the regression; however, δ has exactly the same interpretation it had before and is therefore still a net measure of discrimination.

The next step in the analysis is to recognize that discrimination can vary; that is, δ may not be the same under all circumstances. In more technical terms, the impact of *W* on the probability that A_{av} equals one may depend on the *X*'s. In this case, our original equation becomes

$$\Pr(A_{av} = 1 \mid W, \delta^*, X, \beta, \gamma, \alpha) = F(\delta^* X_{av} + \gamma' W_{av} Z_{a2} + \alpha_a),$$

where *Z* is the subvector of the *X*'s that might be associated with discriminatory behavior and the coefficient of *W,* now δ^*, no longer embodies the full effect of discrimination. Note that only the white values of the *Z*s appear because the model already accounts for differences in the *Z*s (and other elements of the *X*s) across teammates.

When a differencing procedure is applied to the explanatory variables in this model, the *Z*'s remain. To be specific, the Chamberlain procedure leads to the following equation:

$$\Pr(A_{a2} - A_{a1} = 1 \mid A_{a1} + A_{a2} = 1;\ \delta^*, (X_2 - X_1),\ \beta,\ X_a, \gamma) = F(\delta^* + \gamma' Z_{a2} + \beta'(X_{a2} - X_{a1})).$$

One final step is needed for the purposes of this analysis. In the above equation, the average level of discrimination is estimated by $\delta^* + \gamma'\overline{Z}$, where $\overline{Z}$ is the vector of mean values for the *Z*s for the white testers. This is an awkward way to estimate average discrimination, however, and a preferable method is to adjust the model so that this average is given, as in the simpler models, by the intercept. To accomplish this step, the variables in *Z* must be redefined as deviations from their mean values. If the HDS sample were nationally representative, the sample means could be used in this procedure. In fact, however, weighted means must be used to account for the HDS sampling plan. Thus, each *Z* variable (but not the control variables for teammate differences, which still do not affect the average difference in treatment) is expressed as a deviation from its weighted sample mean for white testers, and the intercept can be interpreted as an estimate of average discrimination.[3] The final estimating equation is as follows, where a *w* superscript indicates a variable or parameter estimate affected by weighting.

$$\Pr(A_{a2} - A_{a1} = 1 \mid A_{a1} + A_{a2} = 1;\ \delta^w, (X_2 - X_1), \beta, (X - \overline{X}^w), \gamma) = F(\delta^w + \gamma'(Z_{a2} - \overline{Z}^w) + \beta'(X_{a2} - X_{a1})).$$

With this formulation, $\delta^w = \delta^* + \gamma'\overline{Z}^w$ is an unbiased estimate of discrimination for the nation as a whole, and a test for the statistical significance of this coefficient can be interpreted as a test of the hypothesis that discrimination exists. Moreover, each γ coefficient indicates whether discrimination varies significantly with one of the *Z* variables. In other words, these coefficients indicate whether there is significant variation in discriminatory behavior. As explained earlier, this approach to variation in discriminatory behavior holds all other variables constant.

The fixed-effects logit procedure differs from the multivariate methods presented in Annex 8 precisely because it accounts for the test-level fixed effects. As noted earlier, the great advantage of this procedure is that it provides a particularly accurate and precise test of the hypothesis that discrimination exists, when discrimination is defined by a net measure. Because the fixed effects are not actually estimated, however, this approach cannot estimate the net incidence of discrimination without additional assumptions (see Ondrich et al., 1998). This procedure therefore cannot replace the multivariate method for estimating the net incidence of discrimination that was presented earlier in this report. Instead, it supplements this method by providing a precise test of the hypothesis that discrimination exists (by the net measure) and by determining whether net discrimination varies systematically with any observable variables, holding other variables constant.

[3] Weighted sample means are always calculated for the entire sample of tests, not the sub-sample used for any particular fixed-effects regression.

Difference Variables

The fixed effects logit allows the analyst to control for differences between teammates and their visits to the real estate agency. This analysis controls for differences in the standard, unmatched factors that are clearly observed by the real estate agent. Namely,

- Difference in teammates' ages
- Difference in order (1 = white first, -1 = minority first)
- Difference in whether visit to housing agent took place in afternoon

The analysis also controls for factors that are not directly observed by the real estate agent, but may influence outcomes because they are correlated with tester appearance or behavior during the tester's visit. These include:

- Difference in whether tester is currently employed
- Difference in whether tester is currently a homeowner
- Difference in whether tester has experience conducting tests
- Difference in highest level of education completed by tester
- Difference in whether tester is looking for housing at the present time
- Difference in whether tester lives in the metropolitan area
- Difference in tester's gross annual income
- Difference in whether tester was born in the United States

These tester attributes were drawn from the employment applications of the individual testers.

ANNEX 11: FIXED-EFFECTS LOGIT RESULTS

Annex 11-1: Fixed-Effects Logit Results, Black/White Rental Tests, Housing Availability and Inspections

	Similar Units Available		Number of Units Recommended		Advertised Unit Inspected		Number of Units Inspected	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.6970	0.0061	0.4479	0.0025	1.0608	< .0001	0.7371	< .0001
Difference Variables								
AUDAGE	-0.0121	0.3370	0.0019	0.7875	-0.0313	0.0260	-0.0167	0.0721
NORDER	-0.2706	0.4675	-0.3509	0.0975	-0.5892	0.0764	-0.5677	0.0233
AFTNOON	-0.0008	0.9976	0.2775	0.0771	-0.1306	0.5885	0.0363	0.8458
CUREMP	-0.1149	0.7368	-0.0429	0.8399	0.1469	0.6698	0.0162	0.9485
NBUS	0.1091	0.8229	0.1503	0.5873	-0.2974	0.5308	0.2615	0.4047
White Tester Characteristics								
WAUDFEM	0.0679	0.8275	0.2547	0.1616	0.1592	0.5839	0.1167	0.5927
Agent and Agency Characteristics								
WAGBLK	0.1121	0.8100	0.1228	0.6835	-0.7549	0.0808	-0.2562	0.4253
WAGHIS	0.5675	0.3474	1.3988	0.0012	1.0036	0.1859	0.6885	0.1416
WAGAGE	0.2081	0.2126	0.2963	0.0038	0.5176	0.0021	0.3965	0.0008
NUMPEOP	-0.2277	0.2539	0.0768	0.5478	0.4145	0.0690	0.4669	0.0034
SIM	-0.3888	0.1942	-0.1518	0.4422	-0.7187	0.0129	-0.2190	0.3145
Neighborhood Characteristics								
POV	0.0251	0.2029	-0.0009	0.9349	0.0222	0.1400	0.0269	0.0390
PBLK	-0.0070	0.3260	-0.0021	0.6412	-0.0018	0.7602	-0.0088	0.0814
White Tester's Non-Test Characteristics								
WCUREMP	-0.8150	0.0776	-0.0663	0.8148	-0.6810	0.1545	0.1031	0.7608
WNBUS	-0.3144	0.7157	-1.1200	0.0440	-0.2922	0.7161	-1.1975	0.0521

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-2: Fixed-Effects Logit Results, Black/White Rental Tests, Terms and Conditions

	Rent Incentives Offered		Application Fee Required	
	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.2937	0.3297	-0.5571	0.0363
Difference Variables				
AUDAGE	0.0084	0.6423	0.0292	0.0542
NORDER	0.3267	0.4709	-0.3251	0.3725
AFTNOON	-0.4008	0.2560	-0.0926	0.7369
CUREMP	-0.0140	0.9764	-0.6560	0.0442
CURTENR			0.6548	0.0835
EXPERNC	0.7216	0.0357	-0.3477	0.3710
HIGHEDU			0.1944	0.0037
HOMEHNT	-0.5484	0.2187	0.6514	0.0374
MALIVE			-1.4949	0.0227
PEGAI	-0.2642	0.0748	0.2840	0.0092
NBUS	-0.2413	0.6407	-0.3723	0.3537
White Tester Characteristics				
WAUDFEM	-0.6210	0.1129		
WINCOME			0.0001	0.0708
Agent and Agency Characteristics				
WAGHIS			1.6602	0.0313
WAGAGE	0.4127	0.0429		
NUMPEOP	0.9270	0.0015		
White Tester's Non-Test Characteristics				
WCUREMP	1.2507	0.0594		
WCURTENR			-1.5900	0.0025
WEXPERNC			1.1329	0.0241
WHOMEHNT	-1.7623	0.0490		
WMALIVE			1.7702	0.0230
WPEGAI	0.3462	0.0358		
Timing Variables				
TESTNOV			-1.3148	0.0640
TESTDEC			-2.5869	0.0228

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-3: Fixed-Effects Logit Results, Black/White Rental Tests, Agent Encouragement

	Tester Asked to Complete Application	
	Coefficient	p-Value
Intercept	0.4661	0.0161
Difference Variables		
AUDAGE	0.0149	0.1460
NORDER	-0.7560	0.0057
AFTNOON	0.2266	0.2647
CUREMP	0.6587	0.0182
CURTENR	0.3824	0.0929
HOMEHNT	0.1823	0.5021
PEGAI	-0.1978	0.0048
NBUS	0.9398	0.0124
Agent and Agency Characteristics		
WAGFEM	-0.1117	0.6840
Teammate Differences in Agent and Agency Characteristics		
AGFEM	0.4694	0.1090
White Tester's Non-Test Characteristics		
WCUREMP	-0.6464	0.0709
WHOMEHNT	-1.8705	0.0025
WNBUS	-2.0060	0.0032
Timing Variables		
TESTJUN	-0.7878	0.0134

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-4: Fixed-Effects Logit Results, Hispanic/Non-Hispanic White Rental Tests, Housing Availability and Inspections

	Similar Units Available		Number of Units Recommended		Advertised Unit Inspected		Number of Units Inspected	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
Intercept	1.6423	0.0002	0.3869	0.0343	0.9807	0.0085	0.4127	0.0621
Difference Variables								
AUDAGE	0.0321	0.1867	0.0004	0.9704	0.0305	0.1745	0.0111	0.3797
NORDER	-1.2685	0.0235	-0.1543	0.5835	-1.2573	0.0149	-0.0325	0.9243
AFTNOON	0.1797	0.6463	0.2194	0.2767	0.7322	0.0586	0.0271	0.9138
EXPERNC	-0.4052	0.4820	-0.0836	0.7689	0.3227	0.5673	0.0217	0.9495
HIGHEDU	0.0104	0.9337	0.0274	0.6588	0.0326	0.7923	-0.0314	0.6962
NBUS	0.7037	0.1978	-0.3543	0.2230	0.4949	0.3941	-0.0299	0.9342
Agent and Agency Characteristics								
WAGHIS	-0.2314	0.7378	-0.6659	0.0460	0.6918	0.2558	-0.1510	0.7038
WAGAGE	0.5468	0.0429	0.0645	0.6175	0.4495	0.0580	0.1482	0.3562
WAGFEM	-0.2524	0.5878	0.1198	0.5956	1.0550	0.0142	0.2650	0.3373
Neighborhood Characteristics								
PHSP	0.0006	0.9717	0.0083	0.2566	-0.0210	0.0587	-0.0125	0.1305
White Tester's Non-Test Characteristics								
WEXPERNC	0.0069	0.9929	-0.7555	0.0627	-0.2413	0.7660	-0.8075	0.0989
WHIGHEDU	0.2864	0.0504	0.0673	0.3638	0.1240	0.4026	0.0006	0.9951
WNBUS	1.1768	0.2390	0.7497	0.1103	0.7591	0.3494	0.8027	0.1528

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-5: Fixed-Effects Logit Results, Hispanic/Non-Hispanic White Rental Tests, Housing Costs

	Rent Incentives Offered		Application Fee Required	
	Coefficient	p-Value	Coefficient	p-Value
Intercept	-1.0649	0.0578	-0.5353	0.1153
Difference Variables				
AUDAGE	0.0133	0.6335	-0.0108	0.5664
NORDER	1.8901	0.0057	-0.4805	0.3842
AFTNOON	-0.6060	0.1698	0.4914	0.1684
CUREMP	1.0393	0.0165		
CURTENR	0.0252	0.9661		
EXPERNC	1.0226	0.1837	-0.4557	0.4095
HIGHEDU	-0.0730	0.6013	0.1796	0.1859
HOMEHNT			-0.7771	0.0699
PEGAI	0.2095	0.2932	-0.7201	0.0012
NBUS	-1.1545	0.1554		
White Tester Characteristics				
WCHILD			1.3321	0.0064
WMARRIED			-1.9507	0.0002
WAUDFEM			-1.0078	0.0365
Agent and Agency Characteristics				
WAGHIS	-1.2525	0.0696		
WAGAGE			-0.6984	0.0066
WAGFEM	-0.0627	0.9193	-0.4188	0.3362
Teammate Differences in Agent and Agency Characteristics				
AGFEM	1.1862	0.0394		
Neighborhood Characteristics				
POWN			0.0026	0.7873
White Tester's Non-Test Characteristics				
WCURTENR	-0.4549	0.6204		
WEXPERNC	-2.3685	0.0351	0.9937	0.1959
WHIGHEDU	0.0850	0.6338	-0.4534	0.0080
WPEGAI			0.6121	0.0173
WNBUS	3.0725	0.0135		

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-6: Fixed Effects Logit Results, Hispanic/Non-Hispanic White Rental Tests, Agent Encouragement

	Arrangements For Future Contacts	
	Coefficient	p-Value
Intercept	-0.8297	0.0050
Difference Variables		
AUDAGE	0.0343	0.1031
NORDER	0.7666	0.0677
AFTNOON	-0.5885	0.0485
HIGHEDU	0.4519	<.0001
PEGAI	0.4746	0.0011
White Tester Characteristics		
WAGE	-0.0456	0.0161
Neighborhood Characteristics		
PBLK	-0.0633	0.0699

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-7: Fixed-Effects Logit Results, Black/White Sales Tests, Housing Availability and Inspections

	Similar Units Available		Similar Units Available		Number Inspected	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.3277	0.0428	0.3764	0.0148	0.4024	0.0003
Difference Variables						
AUDAGE	0.00950	0.3363	0.00201	0.8434	0.00163	0.8165
NORDER	-0.1434	0.5314	0.0955	0.6545	-0.00411	0.9782
AFTNOON	-0.3996	0.0231	-0.4911	0.0048	-0.5240	<.0001
EXERNC	-0.0300	0.9146	0.2009	0.4627	0.6444	0.0012
HIGHEDU	0.1783	0.0239	0.0747	0.3030	0.0003	0.9959
White Tester Characteristics						
WAUDFEM	-0.4157	0.0679	-0.6306	0.0055	-0.2515	0.1065
Agent and Agency Characteristics						
WAGBLK	-0.8617	0.0722	-0.7299	0.1085	-0.3981	0.2056
WAGHIS	0.1977	0.7208	0.0869	0.8873	0.4312	0.3682
WAGAGE	0.2865	0.0468	0.1056	0.4490	0.0763	0.4263
WAGFEM	0.1195	0.5897	0.1935	0.3733	0.3785	0.0130
Neighborhood Characteristics						
MVAL	-3.01E-6	0.0114	-3.39E-6	0.0060	-1.21E-6	0.1556
PBLK	-0.00698	0.2660	-0.0176	0.0067	-0.0125	0.0081
White Tester's Non-Test Characteristics						
WEXPERNC	0.3098	0.3590	-0.2451	0.4640	-0.5962	0.0153
WHIGHEDU	-0.1035	0.2643	-0.0103	0.9100	0.0338	0.5823

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-8: Fixed-Effects Logit Results, Black/White Sales Tests, Financing Assistance

	Help with Finance Offered		Down payment Discussed	
	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.2572	0.1402	0.5372	0.0043
Difference Variables				
AUDAGE	0.0029	0.8143	0.0033	0.7715
NORDER	-0.1865	0.4179	-0.4143	0.0868
AFTNOON	0.0812	0.6391	0.1763	0.3158
CUREMP	0.0117	0.9541	-0.0884	0.7747
CURTENR	0.2039	0.4251		
EXPERNC	-0.4698	0.1203		
HIGHEDU	-0.1657	0.0250		
HOMEHNT			-.02981	0.2095
MALIVE	-0.5964	0.1748	1.6783	0.0010
PEGAI			-0.1695	0.0157
NBUS			1.3315	0.0032
White Tester Characteristics				
WMARRIED			-0.2990	0.2974
Agent and Agency Characteristics				
WAGHIS	1.2871	0.0513	1.0835	0.1673
NUMPEOP			0.4575	0.0082
Teammate Differences in Agent and Agency Characteristics				
AGAGE	0.2789	0.0110	0.2950	0.0067
AGFEM			-0.3439	0.0950
AGNUM	0.5098	0.0007	0.8820	<.0001
Neighborhood Characteristics				
POV	-0.0396	0.0341		
White Tester's Non-Test Characteristics				
WCUREMP			0.6574	0.1035
WCURTENR	-0.9661	0.0058		
WEXPERNC	1.1272	0.0058		
WHIGHEDU	0.1597	0.0724		
WMALIVE	2.0018	0.0055		
WNBUS			-2.3932	0.0004
Timing Variables				
TESTAUG	-0.5685	0.0586		
TESTSEPT	-0.8537	0.0135		
TESTOCT	-0.9713	0.0056		

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-9: Fixed-Effects Logit Results, Black/White Sales Tests, Agent Encouragement

	Follow-Up		Qualified to Buy	
	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.0618	0.7383	0.9887	<.0001
Difference Variables				
AUDAGE	-0.0017	0.8813	-0.0059	0.6375
NORDER	-0.1088	0.6457	-0.5623	0.0290
AFTNOON	0.3332	0.0796	0.3106	0.1429
CUREMP	0.2675	0.1789		
CURTENR	0.1716	0.4310	0.3278	0.2965
EXPERNC			0.4372	0.1019
HIGHEDU	0.0391	0.6216	-0.7469	0.0048
HOMEHNT	1.0100	0.0002		
PEGAI			-0.1043	0.1642
NBUS			0.8091	0.0107
White Tester Characteristics				
WCHILD	-0.7577	0.0025	-0.4354	0.1101
WINCOME			0.0001	0.2404
Agent and Agency Characteristics				
WAGBLK	0.8018	0.0575		
WAGAGE			-0.5345	0.0130
WAGFEM	-0.7167	0.0029		
Teammate Differences in Agent and Agency Characteristics				
AGAGE			0.5592	0.0008
AGNUM			0.6114	<.0001
Neighborhood Characteristics				
MVAL	0.0000	0.2153	1.835E-6	0.3112
PBLK			-0.0121	0.1209
White Tester's Non-Test Characteristics				
WCURTENR			-0.4882	0.1763
WHIGHEDU	0.1378	0.1684		

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-10: Fixed-Effects Logit Results, Hispanic/Non-Hispanic White Sales Tests, Housing Availability and Inspections

	Advertised Units Available		Number Recommended		Advertised Unit Inspected	
	Coefficient	p-Value	Coefficient	p-Value	Coefficient	p-Value
Intercept	0.1619	0.5514	0.1395	0.2830	-0.0236	0.9223
Difference Variables						
AUDAGE	0.0325	0.0824	0.0025	0.7714	0.0469	0.0049
NORDER	-0.7059	0.0421	-0.0860	0.6096	-0.6004	0.0350
AFTNOON	-0.5577	0.0341	0.0363	0.7813	-0.6523	0.0018
EXERNC	-1.0663	0.0227	0.3626	0.0882	-0.5282	0.1501
CUREMP	-0.8887	0.0719	0.5989	0.0108	-0.6345	0.0955
MALIVE	-1.0933	0.1937	-0.4176	0.3520	0.5829	0.5399
White Tester Characteristics						
WAGAGE	-0.0195	0.2058	-0.0144	0.0843	-0.0138	0.3054
WCHILD	-0.1775	0.6244	-0.3178	0.0671	-0.3948	0.2048
Agent and Agency Characteristics						
WAGHIS	-0.2787	0.7423	0.2960	0.3887	0.5631	0.3183
WAGAGE	0.7949	0.0004	0.0563	0.6052	0.2769	0.1380
WAGFEM	0.5275	0.1291	-0.0117	0.9450	-0.2257	0.4280
Neighborhood Characteristics						
MVAL	-4.41E-7	0.8279	8.874E-8	0.9293	-4.57E-7	0.7528
PHIS	-0.0071	0.6014	0.0003	0.9595	-0.0133	0.1882
White Tester's Non-Test Characteristics						
WEXPERNC	2.0236	0.0013	-0.7578	0.0125	1.2692	0.0190
WCUREMP	0.7376	0.2628	-0.6852	0.0331	0.7465	0.1659
WMALIVE	1.5379	0.2282	1.7505	0.0081	0.2024	0.8671

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-11: Fixed-Effects Logit Results, Hispanic/Non-Hispanic White Sales Tests, Financing Assistance

	Help with Financing Offered		Lenders Recommended		Down Payment Discussed	
	Coefficient	p-Value	Coefficient	p-Value		
Intercept	1.2752	<.0001	0.2793	0.2084	0.4377	0.0477
Difference Variables						
AUDAGE	-0.0014	0.9364	0.0014	0.9283	0.0136	0.3115
NORDER	-0.6608	0.0650	0.1000	0.7337	0.1949	0.4769
AFTNOON	0.3190	0.2509	-0.0118	0.9597	0.0769	0.7346
CUREMP	0.9978	0.0013	0.1860	0.4262		
CURTENR	-1.1485	0.0161	-0.0156	0.9606	0.0491	0.8931
EXPERNC	0.9192	0.0643	0.4992	0.1890	0.8795	0.0383
HIGHEDU					0.1741	0.0735
HOMEHNT	-0.3548	0.4563			-0.9843	0.0286
MALIVE	1.1374	0.0649			-1.0474	0.1894
PEGAI	-0.4144	0.0125				
NBUS					-1.9096	0.0016
White Tester Characteristics						
WAGAGE	0.3622	0.0732	-0.0164	0.2762	0.3681	0.0389
Agent and Agency Characteristics						
WAGFEM			0.4418	0.2225		
NUMPEOP	-0.1542	0.4939	-0.2246	0.3269	0.2804	0.0886
Teammate Differences in Agent and Agency Characteristics						
AGNUM	0.4438	0.0367	0.5366	0.0044		
Neighborhood Characteristics						
PBLK			0.0186	0.4070		
White Tester's Non-Test Characteristics						
WCURTENR	-1.3867	0.0128	-0.9384	0.0288	-1.0073	0.0258
WEXPERNC	-2.1669	0.0018	-1.2644	0.0144	-1.3518	0.0156
WHIGHEDU					-0.1740	0.0882
WHOMEHNT	1.5781	0.0264			1.7141	0.0050
WMALIVE					2.4524	0.0407
WPEGAI	0.6120	0.0017				
WNBUS					1.6762	0.0343

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

Annex 11-12: Fixed-Effects Logit Results, Hispanic/Non-Hispanic White Sales Tests, Agent Encouragement

	Qualified to Buy	
	Coefficient	p-Value
Intercept	0.1734	0.4733
Difference Variables		
AUDAGE	0.0070	0.6477
NORDER	-0.2623	0.4031
AFTNOON	-0.1014	0.6590
CUREMP	0.7934	0.0043
CURTENR	0.2824	0.4316
EXPERNC	0.1881	0.5190
HIGHEDU	0.0359	0.7030
HOMEHNT	-0.4531	0.1621
PEGAI	0.3945	0.0040
White Tester Characteristics		
WAUDFEM	-0.9853	0.0049
Agent and Agency Characteristics		
NUMPEOP	0.5621	0.0084
SIM	1.0675	0.0598
Teammate Differences in Agent and Agency Characteristics		
AGNUM	0.7360	0.0002
SAMEAGNT	-0.5197	0.1472
White Tester's Non-Test Characteristics		
WCURTENR	-0.0221	0.9623
WHIGHEDU	-0.1677	0.1548

Note: Estimated with fixed-effect logit. Regressions also include dummy variables to indicate missing data.

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