Racial and Ethnic Disparities in Rents of Constant Quality Units in the Housing Choice Voucher Program: Evidence from HUD's Customer Satisfaction Survey

Assisted Housing
Research Cadre Report

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Preface

This report, *Racial and Ethnic Disparities in Rents of Constant Quality Units in the Housing Choice Voucher Program: Evidence from HUD's Customer Satisfaction Survey,* is intended to quantify the difference in rents, if any, between identical units of housing occupied by minority and majority households and to determine whether these differences are influenced by the racial composition of the neighborhood, the level of poverty in the neighborhood, and the tightness of the housing market.

Specifically, the goal of this research is to answer three policy-relevant questions: Do minority households pay more than majority households for equal quality housing to live in majority white neighborhoods? Do minorities pay more for equal quality housing to live in areas with less concentrations of poverty? Does the tightness of the housing market effect the ability of landlords to charge different rents for equal quality housing based on race and ethnicity?

The sources of the data in this study are HUD's Form HUD-50058 (Family Report), linked to the Customer Satisfaction Survey, administered by HUD. The CSS was a mail-back survey of voucher recipients that collected data across three years, 2000, 2001, and 2002. The CSS contains questions regarding the condition of the unit and building occupied by the tenant and their opinion of the neighborhood. Form 50058 is used, among other things, to determine the subsidy available to the family. Data drawn from this form contain information on the number of persons in the unit, the race and ethnicity of the head of the household, and the gross rent of the unit.

This research finds that differences across races and ethnicities exist, but the results do not provide evidence of widespread differences in rents paid by minority and majority households when occupying similar housing in similar neighborhoods. Instead, a small fraction of metropolitan areas display a sufficiently strong statistically significant relationship between the racial or ethnic makeup of the household and the rents they pay to warrant further consideration.

For example, the results using data from Denver-Boulder, Milwaukee-Racine, Philadelphia-Wilmington-Trenton, and Seattle-Tacoma suggest minorities pay more than whites to live in the low poverty neighborhoods of those metropolitan areas. An examination of the difference in rents between minority and majority households living in tight housing markets suggests that in a couple of areas, Charlotte-Gastonia-Rock Hill and Richmond-Petersburg, minorities pay more than whites to occupy units in neighborhoods with few vacancies. However, in some metropolitan areas, the results suggest that African Americans generally paid rent premiums, but that those premiums were unaffected by the racial composition of the neighborhood. The results suggest that in the Davenport-Rock Island-Moline metropolitan area, African Americans pay roughly 7 percent more than whites on average for equal quality housing, but no statistically significant additional difference is found for African Americans living in majority white neighborhoods. Other metropolitan areas that fit this same pattern include Fresno, Little Rock-North Little Rock, New Orleans, Peoria, Scranton-Wilkes-Barre, and Tampa-St. Petersburg-Clearwater.

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Executive summary

Serving more than 2.2 million households and over 5 million persons at a cost of roughly $16 billion, the Housing Choice Voucher program is one of the most important forms of rental assistance provided by the federal government.[1] A substantial fraction, 62 percent, of the households served by the Housing Choice Voucher program are minority households. The focus of this study is to determine whether discrimination in rental housing markets put minorities in the Housing Choice Voucher program at a disadvantage when searching for private housing. The U.S. Department of Housing and Urban Development's mission statement includes the goal of increasing access to affordable housing free from discrimination. For the Housing Choice Voucher program to expand access to decent, affordable rental housing, it must provide tenants the resources necessary to obtain housing in appropriate areas of their choice, including areas with low concentrations of poverty and in historically white neighborhoods while meeting program guidelines. If minorities face additional financial barriers to obtaining housing in the most desirable locations, HUD may need to adjust the policies governing the Housing Choice Voucher program accordingly.

The research proposed here is intended to quantify the difference in rents, if any, between identical units of housing occupied by minority and majority households and to determine whether these differences are influenced by the racial composition of the neighborhood, the level of poverty in the neighborhood, and the tightness of the housing market. Specifically, the goal of this project is to answer three policy relevant questions related to the variations in access to housing across race and ethnicity:

1. Do minority households pay more than majority households for equal quality housing to live in majority white neighborhoods?
2. Do minorities pay more for equal quality housing to live in areas with less concentrations of poverty?
3. Does the tightness of the housing market effect the ability of landlords to charge different rents for equal quality housing based on race and ethnicity?

Knowing the level of difference across races and ethnicities, if any, will suggest whether the current structure of the Housing Choice Voucher program allows all households equal access to safe and decent rental housing.

Key findings:

Although differences across races and ethnicities exist, the results do not provide evidence of widespread differences in rents paid by minority and majority households when occupying similar housing in similar neighborhoods. Instead, a small fraction of metropolitan areas display a sufficiently strong statistically significant relationship between the racial or ethnic makeup of the household and the rents they pay to warrant further consideration. Furthermore, with 111 separate regressions a small fraction of coefficients across these areas are expected to be shown to be statistically significant merely by chance. Given the limited evidence

[1] Specifics on the families receiving assistance under the Housing Choice Voucher program are found using HUD's Picture of Subsidized Households for 2008 (available <www.huduser.org/portal/picture2008/index.html>). Data on program funding are from the 2008 Green Book (US House of Representatives, 2008).

suggesting a price premium to minorities, it is not possible to justify changes to HUD programs based on these findings.

A simple comparison of the average rents paid and the average composition of neighborhoods across races and ethnicities of households in the voucher or certificate programs suggests that:

- White households in the sample pay less rent ($683) on average than African-American ($730) or Hispanic ($803) households.
- Neighborhoods occupied by white households in these programs have a large fraction of the population of the neighborhood identified as white (78.3 percent) than the neighborhoods occupied by African-American (44.7 percent) or Hispanic (60.9 percent) households.
- Average rates of neighborhood poverty are higher for African Americans (20.6 percent) than for whites (13.9 percent) and the average rate of neighborhood poverty for Hispanics (18.7 percent) falls between those two.
- Hispanic households tend to live in neighborhoods with tighter housing markets (with an average rental vacancy rate of 5.2 percent) than white (6.1 percent) or African-American (7.7 percent) households.

Keeping in mind the concern over whether the relationship between these variables is spurious, noteworthy findings from the hedonic regressions include:

- The results from only a few metropolitan areas provide evidence to support the notion that minorities pay more than majority households to live in equally good housing.
- The results using data from Atlanta, Austin, Birmingham, Columbus, Detroit-Ann Arbor, Greensboro-Winston-Salem-High Point, Kileen-Temple, Knoxville, Omaha, and Portland-Vancouver, suggest differences in the rents between minority and majority households occupying equally good housing in similar neighborhoods.
    - For a subset of those areas, this difference increases as the fraction of the neighborhood white increases.
- The results using data from Denver-Boulder, Milwaukee-Racine, Philadelphia-Wilmington-Trenton, and Seattle-Tacoma suggest minorities pay more than whites to live in the low poverty neighborhoods of those metropolitan areas.
- The results using data from Charlotte-Gastonia-Rock Hill and Richmond-Petersburg suggest minorities pay more than whites to occupy units in neighborhoods with few vacancies.

The technique used to estimate the difference in rents between majority and minority households in the HCV program is an extension of the hedonic regression model. Hedonic regressions allow the rent of a unit to be decomposed into the differences in the attributes of units and their neighborhoods and the price of those attributes. This allows for the estimate of the difference in rents, if any, between constant quality units of housing occupied by minority and majority households and to determine whether these differences are influenced by the racial composition of the neighborhood, the level of poverty in the neighborhood, and the tightness of the housing market. This is not the first study to use hedonic regressions in an attempt to determine racial differences in rents of constant quality housing units. A brief review of the studies employing similar empirical methods is found in Chapter 2. That chapter also helps illustrate the important difference between this study and all previous empirical studies of

discrimination in housing markets, namely estimates across many more geographic areas and a richer source of information on the attributes of units and the composition of neighborhoods.

Those benefits come from the sources of the data available in this study, HUD's Form HUD-50058 (Family Report) and the Customer Satisfaction Survey administered by HUD. The CSS is a mail-back survey of voucher recipients that collected data across three years, 2000, 2001, and 2002. The CSS contains questions regarding the condition of the unit and building occupied by the tenant and their opinion of the neighborhood and those observations are linked to data from Form 50058. Form 50058 is used to, among other things, determine the subsidy available to the family and data drawn from this form contains information on the number of persons in the unit, the race and ethnicity of the head of the household, and the gross rent of the unit.

The sample size and detailed information collected from tenants are two substantial benefits these data have over any other survey used to detect housing discrimination. The CSS asked over 75 questions related to the condition of the housing unit and the neighborhood and the initial sample size includes over 450,000 observations. In addition, since the location of each unit is known, these data can be supplemented by linking to neighborhood data at the Census tract level. All of the past studies using hedonic regression have relied on either a much smaller number of geographic areas, much less detail about the housing units being occupied by minority and majority households, or both. Ultimately, this study produces estimates of the role race and ethnicity play in the rent of units occupied by households using a housing certificate or voucher across 111 metropolitan areas using detailed data on unit and neighborhood characteristics.

This study starts with a brief introduction to the issue and its importance. As mentioned previously, Chapter 2 is a survey of the literature on the empirical methods used to identify the existence of discrimination in housing markets. Chapter 3 describes the data and empirical methods, followed by a discussion of the results in Chapter 4. Chapter 5 illustrates the effect of discrimination on the choices available to minority households and includes summary data on costs to program providers and tenants across groups. The concluding chapter reiterates the important findings and discusses their policy implications.

1. Introduction:

Serving more than 2.2 million households and over 5 million persons at a cost of roughly $16 billion, the Housing Choice Voucher program is one of the most important forms of rental assistance provided by the federal government.[2] A substantial fraction, 62 percent, of the households served by the Housing Choice Voucher program are minority households. The focus of this study is to determine whether discrimination in rental housing markets put minorities in the Housing Choice Voucher program at a disadvantage when searching for private housing. The U.S. Department of Housing and Urban Development's mission statement includes the goal of increasing access to affordable housing free from discrimination. For the Housing Choice Voucher program to expand access to decent, affordable rental housing, it must provide tenants the resources necessary to obtain housing meeting program guidelines in appropriate areas of their choice, including areas with low concentrations of poverty and in historically white neighborhoods. If minorities face additional financial barriers to obtaining housing in the most desirable locations, HUD may need to adjust the policies governing the Housing Choice Voucher program accordingly.

One difficultly in studying discrimination in housing markets is that it can take many forms. The most visible potential result of discrimination is the segregation of neighborhoods by race and ethnicity. The more subtle form of discrimination examined here is to charge different prices to different groups. This form of discrimination is possible if, among other things, owners of housing units believe unobserved factors important to the return on their investment are correlated with race or ethnicity or if landlords have a taste for discrimination as described by Becker (1957).

For example, consider a landlord who perceives that minority status is negatively correlated with tenant maintenance. That landlord would believe that renting to minorities is more costly than renting to whites. One possible reaction by the landlord is to charge more to minorities, possibly by offering lower than advertised rents to whites but not to blacks. A taste for discrimination would have the same effect on the distribution of rents across races. If landlords experience disutility associated with renting to, and dealing with, minorities, they might be willing to charge lower rents to majority households.

Regardless of the reason why landlords might desire to charge different prices to different groups, theory suggests that these differences will be more pronounced in tight housing markets, where the cost of discrimination to the landlord is lower. In areas with an abundance of rental housing units relative to the number of potential renters (high vacancy rates) a landlord's decision to pass over a potential tenant may lead to the unit remaining vacant for a number of months. The resulting forgone rent represents a cost to the landlord. However, in tight markets, landlords may believe that a number of potential tenants will be vying for the unit. Therefore, refusing to rent to one potential tenant will have a small, or possibly no, affect on the expected time the unit is vacant. If the unit is not expected to be vacant for a longer time period, the discriminatory behavior of the landlord is not expected to lead to additional costs to the landlord. This implies it will be more likely to observe landlords acting on their preferences toward certain groups, whether under the belief it is profit maximizing or due to bias, in tight housing markets.

[2] Specifics on the families receiving assistance under the Housing Choice Voucher program are found using HUD's Picture of Subsidized Households for 2008 (available <www.huduser.org/portal/picture2008/index.html>). Data on program funding are from the 2008 Green Book (US House of Representatives, 2008).

The research proposed here is not intended to explain why minorities might pay more for similar housing. Instead it is intended to quantify the difference in rents, if any, between minority and majority households and to determine whether these differences are influenced by the racial composition of the neighborhood, the level of poverty in the neighborhood, and the tightness of the housing market.

Specifically, the goal of this project is to answer three policy relevant questions related to the variations in access to housing across race and ethnicity: 1) Do minorities pay more for equal quality housing to live in majority white neighborhoods? 2) Do minorities pay more for equal quality housing to live in areas with less concentrations of poverty? and 3) Does the tightness of the housing market effect the ability of landlords to charge different rents for equal quality housing based on race and ethnicity? Knowing the level of difference across neighborhood characteristics, if any, will suggest whether the current structure of the Housing Choice Voucher program allows all households equal access to safe and decent rental housing.

The results do not provide evidence of widespread differences in rents paid by minority and majority households. Instead, a small fraction of metropolitan areas display a sufficiently strong relationship between the racial or ethnic makeup of the household and the rents they pay to warrant further consideration. Given the limited evidence suggesting a price premium to minorities, it is not possible to justify changes to HUD programs based on these findings. However, it is also not possible to conclude no differences between the rents of majority and minority households exist, especially for units not covered by housing subsidies.

The next chapter contains a brief survey of the literature covering the empirical methods used to identify the existence of discrimination in housing markets. Chapter 3 describes the data and methods used in the estimations and is followed by a discussion of the results in Chapter 4. Chapter 5 illustrates the effect of discrimination on the choices available to minority households and includes summary data on costs to program providers and tenants across groups. The concluding chapter reiterates the important findings and discusses their policy implications.

2. Literature review:

Given the history of racial tensions within the US, it is not surprising that discrimination against nonwhites has been examined for a number of years. Gary Becker (1957), in The Economics of Discrimination, discusses the economic theory behind discrimination, including discrimination in housing. Although he briefly mentions the likelihood of blacks paying more for identical housing in Chicago and other cities, he argues that Athere have been no detailed empirical studies of this@ (Becker 1957, p. 78). Since then, a number of empirical tests for the existence of housing discrimination have been undertaken. These studies vary greatly in their methods, geographic coverage, time frame, and ability to control for a number of factors needed to identify the affect of the characteristics of the household on their treatment in the market. Although a number of methods have been used to attempt to identify discrimination in housing markets, most studies can be loosely classified as either regression-based or field experiments.

Field experiments (also known as fair housing audits or paired tests) typically send two individuals who differ by their race or other attribute of interest and examine whether they were treated differently. For example, a majority and minority person with similar backgrounds are sent to a rental agency to inquire about rental units and the study captures the number of units each were shown. For pairs of inquires the outcomes can be favorable to the majority person, favorable to the minority person, or equal treatment. Consistent difference in treatment of the two individuals is potentially evidence of discrimination.

Using fair housing audits conducted in Boston in 1981, Yinger (1986) offers an early example of a field experiment designed to uncover discrimination in housing markets. His results suggest that blacks in Boston were invited to inspect on average 36 percent fewer housing units than similar whites. Two large-scale, national housing discrimination studies that relied on fair housing audits took place in 1989 and 2000. Choi, Ondrich, and Yinger (2008) and Ross and Turner (2005) discuss the findings of both audits and the differences through time. Both studies find favorable treatment of white auditors in both years, but that the difference in treatment between minority and majority auditors was less in 2000 than in 1989. Zhao, Ondrich, and Yinger (2006) delve deeper into the 2000 audit data to attempt to determine why real estate brokers continue to discriminate in 2000. Employing a fixed-effects, logit model to estimate the main causes of why discrimination occurs, they find evidence that discrimination is due to the prejudice of brokers and their white customers.

A general finding of fair housing audit studies is unfavorable treatment of black and Hispanic households compared to white households when searching for housing.[3] If minority households are treated less favorably by brokers, this can increase the cost of searching for appropriate housing. Hence, minorities will often find themselves in housing that does not fit their needs as well as housing occupied by majority households.

The data available in this study does not lend itself to determining the relative fit of the housing occupied by majority and minority households. Instead, the concern here is whether minority households pay more than whites for equally good housing and, if so, whether neighborhood characteristics play a role in that difference. This requires the use of hedonic regressions to capture the determinants of the difference in rents of observably identically housing units.

The price a unit of housing commands in the market is not only determined by the amenities of the unit, but also by the amenities of the neighborhood. If people also have feelings about the racial and ethnic composition of the neighborhood, controlling for those neighborhood attributes is critical when attempting to isolate the effects of minority status on rents or house values. Furthermore, since race and neighborhood amenities can be correlated, failure to control carefully for neighborhood characteristics can lead to omitted variable bias in the coefficients of interest. Consider, for example, a situation where minorities were living in areas with higher than average rates of crime and price discrimination in housing exists. If controls for the characteristics of the neighborhood are not included, the coefficient on minority status would pick up two effects, the positive price effect due to discrimination in housing prices and the negative effect on prices due to the high rates of crime in the area. Under that scenario, as a measure of price discrimination, the coefficient on minority status would be biased downward, showing less discrimination based on race or possibly even discounts for minorities. Therefore, a key determinant of the reliability of the results of hedonic regressions is how well the data control for neighborhood attributes including racial composition.

The findings of King and Mieszkowski (1973) illustrate the importance of controlling for neighborhood characteristics, including the racial composition of the area. Using data from the late 1960s on rents in New Haven, CT, they use hedonic regressions with gross rent as the dependent variable and regressors controlling for 10 characteristics of the unit, 2 measures of the quality of the neighborhood, indicators of the racial composition of the neighborhood, and the

[3] Some question the validity of audit studies in detecting discrimination. See Heckman (1998) for an overview of the concerns about these methods.

race, sex, and education of the household head. They run a number of regressions in an attempt to determine the influence of neighborhood attributes and household composition on rents.

When regressing gross rents on indicators of race and sex, they find that compared to the rents of housing units headed by white males, black males pay roughly 7.5 percent higher rents and black females pay 16 percent more and that these results are statistically significant. They find no meaningful difference in rents of units headed by white males and white females. However, the hedonic employed that found the difference between the rents paid by blacks and whites mentioned above did not control for the racial composition of the neighborhood. When they introduce the percent of the housing units headed by blacks on the block as a regressor they find the estimated difference in rents between white males and black males falls by roughly 66 percent and the estimated difference between white males and black females falls by one-third and they no longer find these differences to be statistically significant.

Of interest to King and Mieszkowski (1973) are measures of the differences in rents, controlling for unit and location characteristics, between blacks and whites holding constant the racial composition of the neighborhood. To do so, they divide neighborhoods by their racial composition into white areas (less then 3 percent of housing units area headed by blacks), mixed areas (between 3 and 60 percent black) and Aghetto@ areas (60 percent of more headed by blacks). They then create variables indicating a black household living in a Aghetto@ area, a white household living in a Aghetto@ area, a black household living in a mixed area, and a white household living in a mixed area. The omitted category is blacks or whites living in a white area. Only one difference across those scenarios, namely that whites living in mixed neighborhoods pay roughly 7 percent less than blacks living in the same neighborhoods for similar housing, did they consider an indication of racial price discrimination. They find rents are in general higher in Aghetto@ areas, but find no meaningful difference between the rents paid by blacks and by whites in those areas. Their small sample size and the restriction of the white area to less than 3 percent black, did not allow for a test of whether blacks pay more for equally good housing in the white areas.

Follain and Malpezzi (1981) use the 1975 and 1976 waves of the Annual Housing Survey (now know as the American Housing Survey) to examine whether rents and house prices are higher for minorities after controlling for characteristics of the housing unit. These data include observations across 39 metropolitan areas and include separate hedonic regressions for owners and renters. For renters, the natural logarithm of rent is regressed on 38 independent variables and for owners, the log of the owner's estimate of the value of the home is regressed on 35 variables. Nearly all of the explanatory variables in each regression capture differences in unit quality. Also included are the level of crowding in the unit, opinions about the neighborhood, month of the survey, and whether the unit is located in the central city. Noticeably absent from their list of explanatory variables are detailed neighborhood amenities and the racial composition of the neighborhood.

Both regressions also include a variable (RACE) coded one if a black household, 0 otherwise. The coefficient on RACE is used to gauge the difference in rents or house values between blacks and whites for equal quality housing. Across the 39 metropolitan areas, they find 34 negative and statistically significant coefficients and no positive and statistically significant coefficients on RACE in the regressions explain the owner's perceived value of their home. This implies blacks pay less than whites for identical owner occupied housing. The results for rents were more mixed. Across the 39 rental regressions, 4 of the coefficients on

RACE were positive and statistically significant and 26 were negative and significant. These results again imply that blacks generally pay lower rents than whites for identical housing.

As mentioned above, a shortcoming of their study is their inability to control for the racial composition of the neighborhood. As Follain and Malpezzi note, the variable RACE is capturing any neighborhood amenities that are correlated with the race of the household. If blacks tend to live in neighborhoods with fewer amenities, rents and home prices would be lower on that account and failing to control for those amenities will bias the coefficient on RACE. They argue for including the racial composition of the neighborhood as a control. Without these controls, it is unclear how to interpret the coefficient on RACE in their regressions explaining rents or home values.

The absence of details at the neighborhood level in the Follain and Malpezzi (1981) study was due to that fact that the public use version of the AHS does not include geographic area identifiers that allow linking neighborhood level data. However, Kiel and Zabel (1996) use a nonpublic use version of the AHS that includes the Census tract of the unit and enabling them to control for the racial composition at that level of geography. Specifically, they use the 1975-1991 metropolitan samples of the AHS for three areas, Chicago, Denver, and Philadelphia, to examine whether race explains part of the variation in house values in those areas. The dependent variable is the log of owner reported house value. Each metropolitan area was surveyed five time during this time period. Beyond the ability to include neighborhood racial composition, another benefit of their study is the ability to track changes through time.

Their findings suggest that during this time period, price discrimination was falling in the black areas of Chicago, but increasing in the mixed and white neighborhoods of Denver and in the white areas of Philadelphia. However, they only include five characteristics of the unit to control for quality, leaving many important unit and neighborhood attributes omitted from the regression explaining home value. If these unobserved unit and neighborhood characteristics are correlated with race, their results may be biased.

Chambers (1992) uses 1975 and 1979 Annual Housing Data from Chicago to examine whether blacks and Hispanics pay more than whites for equally good housing. Two advantages of his study are the ability to control for neighborhood amenities and racial composition at lower levels of geography than Follain and Malpezzi (1981) and a more reasonable list of unit characteristics than that employed by Kiel and Zabel (1996). As is common, he uses the log-linear form of the hedonics separately for renters and for owners to capture the effect of race on rents or home prices holding observable characteristics of the neighborhood and the housing unit constant. Specifically, he classifies each of 24 areas of Chicago (groups of connected Census tracts) as the Ablack ghetto@ if the percent of households headed by blacks is greater than 60 percent or the Ablack border@ if 10 to 60 percent of households are headed by blacks. The remaining areas are classified as either Hispanic, if more than 10 percent of household heads are Hispanic, or white otherwise.

He interprets the sign and significance of the coefficients on terms interacting the race of the head of the household with the racial or ethnic classification of the area as indications of whether blacks pay different prices than whites for equal housing across areas types. Results from 1975 suggest that blacks pay 6 percent more than whites for equally good rental housing in areas classified as part of the Ablack ghetto@ and blacks pay 5 percent less than whites in white areas. These results are counter to the notion that blacks must pay a premium to move into white neighborhoods. In fact, they suggest blacks are offered discounts to live in white neighborhoods. However, data from 1979 produced dissimilar results. The results from 1979

suggest that blacks in the Aghetto@ areas realize a rent discount as compared to whites (although that difference is not statistically significant) and the discount to blacks living in white areas is one third as large as in 1975 and no longer statistically significant. It is difficult to explain the large fluctuations in the results across four years leading Chambers to be concerned that some of the differences in rents between blacks and whites may reflect temporary adjustments to new equilibriums.

More recently, Myers (2004) uses national AHS data from 1985, 1989, and 1993 to examine whether minorities pay more for equally good owner occupied and rental housing. Her study differs from the previous literature in two important ways, namely her novel approach at capturing neighborhood attributes and her ability to track price changes through time. During those years, the national AHS collected data on the 10 nearest neighbors of a sub-sample of units being surveyed. She uses the summary data on these clusters of neighbors to construct proxies for neighborhood attributes. Specifically, for each cluster she calculates median income, median education of the reference person, the percent black, percent white, and percent other. Once percentages within racial categories are found for each cluster, those clusters are divided into Awhite neighborhoods,@ Ablack neighborhoods,@ and Aintegrated neighborhoods,@ according to the estimated fraction black. Myers argues that since these clusters of the 10 nearest neighbors are much smaller than Census tracts, they better capture the attributes at a level that is important to housing values. Although, she does point out that only using data on the 10 nearest neighbors could result in too small of a sample to accurately identify the attributes of the neighborhood. In densely populated areas where housing complexes are common, it seems reasonable that the 10 nearest neighbors could be living in the same complex. Under that scenario it is unclear whether summary data from the 10 closest units would be a good proxy for neighborhood attributes. Consider, for example, two adjoining complexes that are of unequal quality and higher income tenants occupy the higher quality complex. The housing values of the lower quality complex might be higher due to the existence of the higher quality housing adjoining those units. Using data solely on the tenants in the low quality complex would not capture well the true attributes of the neighborhood. These concerns are probably less an issue in less dense areas and for owner occupied, detached units.

From a log-linear specification of a hedonic regression, she finds a positive and statistically significant relationship at the 10 percent level between race (existence of a black reference person) and the value of owner occupied housing. Specifically, her results suggest that, on average, blacks pay a 10 percent premium for equal quality owner-occupied housing holding neighborhood attribute constant. She does not, however, find evidence of discrimination in rental housing markets. The lack of evidence from data on the rental housing market, however, may be due to the neighborhood proxies being less accurate for rental housing units.

Myers (2004) use of data across time also allows her to compare changes in the role race plays in determining housing values with changes in the racial composition of the neighborhood for both renters and owners. She finds that house values fall as the percent of the neighborhood black increases and that the impact is greater in predominately white neighborhoods. Again, however, she finds no evidence of discrimination in rental housing markets.

This study hopes to add to the previous attempts to use hedonics to detect whether minorities pay more for equally good housing by better controlling for the racial and ethnic composition of neighborhoods, considering the interactions between neighborhood attributes and the race and ethnicity of the household, and by looking across many more geographic areas

(possible due to a sample size much larger than those of previous studies). In addition, by using data from HUD programs, it is possible to capture the effects of discrimination on households in those programs. The next chapter describes the estimation techniques and data employed to detect differences in rents across minority and majority households.

3. Data and method of estimation:

The primary data used in this project come from two sources, HUD's Form HUD-50058 (Family Report) which is linked to the Customer Satisfaction Survey administered by HUD. The CSS is a mail-back survey of voucher and certificate recipients that collected data across three years, 2000, 2001, and 2002. The CSS contains questions regarding the condition of the unit and building occupied by the tenant and their opinion of the neighborhood and those observations are linked to data from Form 50058. Form 50058 is used to, among other things, determine the subsidy available to the family and data drawn from this form contains information on the number of persons in the unit, the gross rent of the unit and the race and ethnicity of the household.[4]

The sample size and detailed information collected from tenants are two substantial benefits these data have over any other data source used to detect housing discrimination. The CSS asks 75 questions related to the condition of the housing unit and the neighborhood and the initial sample size includes over 450,000 observations. In addition, since the location of each unit is known, these data can be supplemented by linking to neighborhood data at the Census tract level.

Since the data extracted from the CSS and Form 50058 are from units occupied by households in the voucher or certificate programs, they are not representative of the population of rental units in each area. Families generally pay 30 percent of their adjusted income toward rent if they occupy units with rents below the Payment Standard set by the local Public Housing Authority (PHA).[5] Some program participants have the option of occupying units that rent for more than the Payment Standard, but must pay any amount above the Payment Standard. For most recipients of housing assistance, program rules also restrict total housing costs to below 40% of gross income. These limits on the upper rents allowable under the voucher program, restricts the sample to roughly the lower half of the rent distribution. However, since housing programs require tenants occupy units meeting minimum quality standards to be eligible to receive a subsidy, the sample excludes low quality units. Therefore, the units surveyed by the CSS represent a sample of modest rental housing units. Although not representative of the entire rental housing stock, the sample size of the CSS and its focus on modest rental housing ensures that these data will capture well variations in rental housing costs for a substantial fraction of renters. Carrillo, Early, and Olsen (2010) provide further details on the distribution of rents of voucher units and the distribution of housing units in general.

As mentioned previously, the technique used to estimate the difference in rents between majority and minority households in the HCV program is an extension of the hedonic regression model. Hedonic regressions allow the rent of a unit to be decomposed into the differences in

4 Form 50058 is available at http://www.hud.gov/offices/adm/hudclips/forms/files/50058.pdf.

5 Program rules allow Public Housing Authorities to set the Payment Standard at between 90 - 110 percent of FMRs without HUD approval. The contribution a family makes toward rent is the greater of 30 percent of monthly adjusted income, 10 percent of monthly gross income, the welfare payment designated for housing expenses (if applicable), or the PHA's minimum rent. See the Voucher Program Guidebook: Housing Choice for further detail (HUD, 2001).

the attributes of units and their neighborhoods and the price of those attributes. This allows for the estimate of the price of each particular attribute.

The determinants of a unit's rent are commonly decomposed into structural characteristics (S), neighborhood characteristics (N), and contract conditions (C). Given the sample size available in this study and the desire to have the price indices cover a wide range of geographic areas, the three years of data (2000, 2001, and 2002) were combined into a single hedonic regression for each area. Dummy variables (D) will control for the year of the survey.

Economic theory does not guide the functional form of the hedonic, however, the most common functional form used in the construction of housing price indices is the log-linear form and that functional form has been found to best fit the data. Therefore, consider the following hedonic specification:

$$\ln(RENT_i) = \alpha_0 + S_i \cong \alpha_1 + N_i \cong \alpha_2 + C_i \cong \alpha_3 + D_i \cong \alpha_4 + v_i \quad (1)$$

where $RENT_i$ is the gross rent of unit i, S_i, N_i, C_i, and D_i, are vectors of characteristics of unit i as defined above, the αs are vectors of hedonic regression coefficients to be estimated which capture the price of individual unit attributes, and v_i captures the unobservable determinants of rent and is assumed *iid* normal with mean zero and constant variance. Table 1 gives the definitions and summary statistics of the variables used in the hedonic regressions. Explanatory variables include structural characteristics (number of bedrooms, existence of working kitchen appliances, adequate heat in the unit, etc.), neighborhood characteristics (problems with crime, vacant buildings, etc.), contract conditions (whether the unit has been rented for more than one year, number of persons per bedroom), and dummy variables capturing the year of the survey (2000, 2001, or 2002).

The contract conditions differ from the other characteristics of the unit since they capture attributes of tenants. Length of tenure is included to capture discounts often available to long term tenants. The coefficient on the length of tenure is expected to be negative. Housing units depreciate faster as the number of persons in a unit increases and landlords may attempt to capture some of the additional depreciation by charging more for additional persons being added to the lease. It is common to include the number of persons per total number of rooms in hedonic regressions. However, since total number of rooms is not available in the CSS, the number of persons per one plus the number of bedrooms is used as a proxy for the level of crowding in the unit. The coefficient on the crowding variable is expected to be positive.

The coefficient estimates from equation (1) give the difference in rents as a function of each particular unit or neighborhood characteristic holding all other observable characteristics constant. The above hedonic can be used to determine the average cost of equal quality across all occupants of that type of housing. The goal of this study, however, is to determine whether differences exist between the cost of equal quality housing across racial and ethnic differences of the households. To do so, controls for the race and ethnicity of occupants of the rental unit are introduced. Of further interest is how those differences vary across the racial and ethnic concentration of neighborhoods, the distribution of income, and the tightness of the rental housing market. Therefore, interaction terms are included to capture difference in rents across household types and how those differences vary with the characteristics of the neighborhood. Two specifications of the hedonic regression, using either discrete or continuous measures of the neighborhood, are used to capture the composition and housing market of each neighborhood.

Discrete measures of the composition and housing market of the neighborhood include variables indicating whether the neighborhood is majority white (between 50 and 80 percent

white), mostly white (> 80 percent), low poverty (5 to 10 percent poverty rates), very low poverty, (less than 5 percent poverty), low vacancy rates (2 to 4 percent rental vacancy rates), and very low vacancy rates (less than 2 percent). The continuous measures include the percent white, the poverty rate, and the rental vacancy rate. Both methods are employed separately to check the robustness of the results. Equation (2) introduces the discrete measures to the hedonic equation.

$$\ln(RENT_i) = \alpha_0 + S_i\cong\alpha_1 + N_i\cong\alpha_2 + C_i\cong\alpha_3 + D_i\cong\alpha_4 + \alpha_5 BLACK_i + \alpha_6 HISP_i + \alpha_7 MAJWHITE_i + \alpha_8 MOSTWHITE_i + \alpha_9 BLACK_i*MAJWHITE_i + \alpha_{10} BLACK_i*MOSTWHITE_i + \alpha_{11} HISP_i*MAJWHITE_i + \alpha_{12} HISP*MOSTWHITE_i + \alpha_{13} LOWPOV_i + \alpha_{14} VLOWPOV_i + \alpha_{15} BLACK_i*LOWPOV_i + \alpha_{16} BLACK_i*VLOWPOV_i + \alpha_{17} HISP_i*LOWPOV_i + \alpha_{18} HIPS_i*VLOWPOV_i + \alpha_{19} LOWVR_i + \alpha_{20} VLOWVR_i + \alpha_{22} BLACK_i*LOWVR_i + \alpha_{23} BLACK_i*VLOWVR_i + \alpha_{24} HISP_i*LOWVR_i + \alpha_{25} HIPS_i*VLOWVR_i + v_i \quad (2)$$

where $BLACK_i$ is coded 1 if the reference person is African-American, 0 otherwise, $HISP_i$ is coded 1 if the reference person is Hispanic, 0 otherwise, $MAJWHITE_i$ and $MOSTWHITE_i$ are dummies for majority and mostly white, respectively, $LOWPOV_i$ and $VLOWPOV_i$ capture whether the poverty rate is low or very low, $LOWVR_i$ and $VLOWVR_i$ indicate low and very low rental vacancy rates in neighborhood i, and the other variables are as defined above. Table 1 also reports the definition and summary statistics of these variables. Tables 1A, 1B, and 1C, provide summary statistics on the race and ethnicity of households and on the neighborhood attributes of greatest interest, namely the racial composition, the incidence of poverty, and tightness of the housing market, for each metropolitan area used in the estimates.

Due to their length, these tables are attached at the end of this chapter. The sum of the coefficient estimates of α_5 and α_9 will suggest the percentage difference in rents for African-Americans living in majority white neighborhoods relative to whites living in majority white neighborhoods. If positive, this will indicate the premium African-Americans pay to live in majority white neighborhoods. Similar estimates can be made for African-Americans living in low poverty and tight housing markets and analogous measures are available for Hispanic households.

Equation (3) gives the hedonic rent equation using continuous measures of neighborhoods.

$$\ln(RENT_i) = \beta_0 + S_i\cong\beta_1 + N_i\cong\beta_2 + C_i\cong\beta_3 + D_i\cong\beta_4 + \beta_5 BLACK_i + \beta_6 HISP_i + \beta_7 \%WHITE_i + \beta_8 BLACK_i*\%WHITE_i + \beta_9 HISP_i*\%WHITE_i + \beta_{10} POVRATE_i + \beta_{11} BLACK_i*POVRATE_i + \beta_{12} HISP_i*POVRATE_i + \beta_{13} VACRATE_i + \beta_{14} BLACK_i*VACRATE_i + \beta_{15} HISP_i*VACRATE_i + v_i \quad (3)$$

where $\%WHITE_i$ is the percent of the population in household i's neighborhood that self-identify as white, $POVRATE_i$ is the poverty rate in neighborhood i, and $VACRATE_i$ is the rental vacancy rate in neighborhood i, and the other variables are as defined above. The estimate of β_8 suggests the difference in rents for African-Americans for every percentage point increase in the fraction of the neighborhood that is white. A positive and significant estimate of β_8, therefore, would suggest that the premium African-Americans pay to obtain similar housing increases with the percent of the neighborhood white. Similar estimates are possible for the difference in rents to African-Americans for every percentage increase in the poverty rate (β_{11}) and in the rental vacancy rate (β_{14}) and, again, analogous measures are available for Hispanic households.

As with other self-administered surveys, some questions in the CSS were either not answered or contain an invalid response. A common method for handling missing data is to restrict the data to observations with complete data, normally referred to as complete case analysis (CCA.) Although few variables had missing information for more than 5 percent of the observations, roughly 50 percent of observations had missing data for at least one variable. Since CCA would have required the omission of a substantial fraction of the sample, omitted variable indicators were constructed and hedonics were run on the full sample. For each variable with missing values, a new variable was constructed that is coded 0 if the data exists, and 1 otherwise and the value of missing variables is coded as 0. With the addition of the missing values indicators, the hedonic specifications are:

$$\ln(RENT_i) = \beta_0 + S_i \cong \beta_1 + N_i \cong \beta_2 + C_i \cong \beta_3 + D_i \cong \beta_4 + Z_i \quad \boldsymbol{\beta} + \gamma_1 MX_{1i} \quad + \ldots + \gamma_n MX_{ni} + v_i \quad (4)$$

where $\mathbf{Z_i}$ represents the measures of the racial composition of the neighborhood and the racial and neighborhood interaction terms as presented in equation (2) or (3), the MXs represents the missing indicator variables and other terms are as defined above. The interpretation of the coefficients on the measures of racial composition, the interaction terms, and the unit and neighborhood characteristics are unaffected by this change. The coefficients on the missing value indicators give the average difference in log gross rent between observations with missing values and observations with the variable observed. Observations with a substantial number of missing values, more than 20, are omitted from the hedonic regressions. In addition, observations with unrealistic rents (less than $200) are not included in the hedonic regression.

Two common techniques when estimating hedonic regressions across areas are running a separate regression for each area or running a single hedonic with area dummies. A hedonic specification using one regression with area dummies assumes that the percentage difference in median rent between two areas is the same for any combination of housing, neighborhood, and household characteristics. Hence, the rent difference associated with any one attribute is assumed constant across areas. A separate hedonic for each area, however, allows variation in the effects on rents of attributes across areas. Attitudes about race and ethnicity may vary across areas and running a separate hedonic for each area allows for estimates of those differences. Therefore, a separate hedonic will be run for each metropolitan area with sufficient size to allow reasonable estimates of the above factors on rents.

In the CSS, sampling weights were assigned to each observation to indicate the different probabilities of being selected for the survey. In addition, observations were not sampled independently. Instead, observations were grouped by the public housing authority administering their subsidy. Failure to account for either the sampling weights or the clustering around public housing authorities can bias estimates of standard errors. Since the focus of this study is on the magnitude and statistical significance of specific coefficients, all of the hedonic estimates reported below take into account the sample weights of each observation and the clustering of samples by public housing authority.

Given the number of included explanatory variables, sample size will be an issue for some metropolitan areas. Observations from all three years (2000, 2001, and 2002) will be used with year dummies controlling for changes across time. Combining the variables listed in Table 1 with the missing indicator variables leads to nearly 200 explanatory variables in either of the two hedonic regressions. To ensure adequate degrees of freedom, metropolitan areas were omitted from the study if there were fewer than 300 usable observations in the sample.

Furthermore, estimates of the interaction of race (or ethnicity) and neighborhood conditions and the price of rental housing requires a reasonable sample of minorities living in majority white neighborhoods.[6] Therefore, to be included in this study a metropolitan area had a reasonable number of minority and nonminority observations (at least 60 of each) and variability in the neighborhoods of minority households. The later was considered reasonable if 40 minority households (either African-American or Hispanic) lived in either (1) majority or mostly white neighborhoods, (2) low or very low poverty neighborhoods, or (3) neighborhoods with low or very low rental vacancy rates.

Some areas had insufficient numbers of either African Americans or Hispanics to warrant their inclusion in the study. In areas with insufficient sample sizes of a particular minority, those minority observations were omitted from the sample. With these restrictions, 60 areas had sufficient samples of African-American households, but not Hispanic households, 7 areas had sufficient samples of Hispanics, but not African Americans, and 44 areas had sufficient samples of both. Therefore, 111 metropolitan areas contain enough observations to estimate the effects of race and/or ethnicity on rents. For the discrete measures, however, some combinations of race or ethnicity and the measures of the racial composition of the neighborhood, the incidence of poverty, or the rental vacancy rate produced very small cell sizes. The concern is that for small cell sizes, one or two outliers can greatly influence the findings, leading to unreliable results. Therefore, any coefficient associated with less than 20 observations within a cell describing the variable of interest is not reported and those results are not summarized in the results presented below. The next chapter reports and discusses the findings across these 111 areas.

[6] I appreciate Brent Mast for pointing this out.

Table 1. Variables Used in the Hedonic Regressions, their Definitions, and Summary Statistics

Variable	Definition	Mean	Std. Dev.
Dependent Variable[1]			
LNRENT	Log of gross rent (contract rent to owner + utility allowance)	6.502	0.337
Explanatory Variables			
Bedrooms[1]			
BDRMS1	unit has 1 bedroom	0.288	0.453
BDRMS2	unit has 2 bedrooms	0.388	0.487
BDRMS3	unit has 3 or more bedrooms	0.308	0.462
BDRMS4P	number of bedrooms - 3, if number of bedrooms > 3	0.052	0.257
Units in the structure			
UNITS1	single-family detached housing unit	0.301	0.459
UNITS4-8	four to eight units in building	0.137	0.344
UNITS8P	eight or more units in building	0.288	0.453
Length of time in the unit			
LT1YR	lived in the unit less than 1 year	0.247	0.431
Kitchens and bathrooms			
OVEN	working oven	0.966	0.181
REFRIG	refrigerator keeps food cold enough that food does not spoil	0.950	0.218
WATER1	tap water has a problem with color or odor	0.099	0.299
WATER2	tap water sometimes has a problem with color or odor	0.092	0.289
KLIGHT	kitchen has a working light fixture	0.957	0.202
KOUT1	one working outlet in the kitchen	0.060	0.237
KOUT2	two or more working outlets in the kitchen	0.903	0.295
HOTCOLD	hot and cold running water in kitchen and bathroom, tub, shower, and sink	0.970	0.170
WLEAK	water is leaking from any kitchen or bathroom sink, pipe, or drain	0.148	0.356
CLOG1	any kitchen or bathroom sink, pipe, or drain is clogged	0.039	0.194
CLOG2	any kitchen or bathroom sink, pipe, or drain is slow	0.352	0.478
BATHVENT	bathroom has either a window that opens or a ventilation system that works	0.905	0.293
TOILETS	all toilets are working	0.966	0.181
BADTOILET13	in the last three months, toilets did not work for more than 6 hours at least once, but fewer than 4 times	0.081	0.273
BADTOILET4P	in the last three months, toilets did not work for more than 6 hours more than 3 times	0.021	0.144
WETFLOOR	bathroom floor was covered by water due to plumbing problem	0.118	0.323

Table 1. Variables Used in the Hedonic Regressions, their Definitions, and Summary Statistics

Variable	Definition	Mean	Std. Dev.
Electrical wiring			
ENCLOSED	all wiring enclosed in walls or metal coverings	0.932	0.252
COVERS	all outlets and switches have cover plates	0.928	0.258
OUTLETS	each room has at least one working outlet (excluding the bathroom)	0.972	0.166
FIXWORK	all ceiling and wall mounted light fixtures work	0.924	0.264
NOFIX	no ceiling or wall mounted light fixtures	0.013	0.112
BLOWN13	fuses blown or circuits tripped 1 to 3 times in last three months	0.158	0.365
BLOWN4P	fuses blown or circuits tripped 4 or more times in last three months	0.037	0.190
Heating and cooling			
HEATOK	heating system provides enough heat in every room	0.784	0.412
HEATDN	do not know whether heating system provides enough heat in every room	0.045	0.207
OVENHEAT1	use oven to heat the unit	0.092	0.290
OVENHEAT2	sometimes use oven to heat the unit	0.082	0.275
NOAC	no air conditioning	0.371	0.483
BADAC	air conditioning is not working	0.071	0.257
ADJHEAT1	can adjust heat when too hot or too cold	0.836	0.370
ADJHEAT2	can partially adjust heat when too hot or too cold	0.053	0.224
NOWINTER	did not live in the unit last winter	0.124	0.329
HEATOFF13	lived in the unit last winter and heating broke down for more than 6 hours at least once, but fewer than 4 times	0.095	0.294
HEATOFF4P	lived in the unit last winter and heating broke down for more than 6 hours more than 3 times	0.019	0.137
COLDHOME	lived in the unit last winter and unit was cold for more than 24 hours	0.118	0.323
Sanitation and safety			
RATS	observed rats in the building or outside around the grounds	0.089	0.285
ROACHES	observed many cockroaches in the unit this week	0.089	0.285
SMELL1	bad odor (sewer, natural gas, etc.) is present in the unit	0.043	0.204
SMELL2	bad odor (sewer, natural gas, etc.) is sometimes present in the unit	0.089	0.285
LOCKS	all doors have working locks	0.925	0.263
WINLOCK	all windows have locks that work	0.885	0.319
BWINDOW	all bedrooms have a window that can open	0.916	0.277
MAILGONE	mail has been stolen	0.072	0.258
DETECTOR	working smoke detector exists	0.934	0.248

Table 1. Variables Used in the Hedonic Regressions, their Definitions, and Summary Statistics

Variable	Definition	Mean	Std. Dev.
DETECTORDK	do not know if a working smoke detector exists	0.024	0.153
EXITS	at least two exits out of the unit to be used in case of a fire	0.927	0.259
GARBAGE	weekly garbage pickup	0.954	0.209
DUMPSTER	covered dumpsters or cans for garbage and trash	0.874	0.332
Dwelling quality			
RAIN	holes or cracks allow outdoor air or rain to enter unit	0.124	0.329
CHIPPING	paint is easily chipped or peeled	0.174	0.379
PEELING	large areas of peeling paint or broken plaster	0.056	0.230
WALLSBAD	walls, ceilings, or floors with serious problems	0.131	0.337
MILDEW	mildew, mold, or water damage on any wall, floor, or ceiling	0.195	0.396
FLOORMISS	flooring material missing, curled, or loose	0.187	0.390
TRIP	floor problems can cause you to trip	0.075	0.263
BADRAILS	secure handrails are not present on all stairs and landings in the unit	0.075	0.264
BADRAILSNA	handrails in unit does not apply	0.284	0.451
BROKENW	any window with broken glass	0.048	0.213
BADPORCH	dangerous porch or balcony	0.064	0.245
BADPORCHNA	porch or balcony condition not applicable	0.185	0.388
BADSTEPS	unsafe handrails, steps, or stairs outside unit	0.084	0.278
BADSTEPSNA	condition of handrails, steps, or stairs outside unit not applicable	0.169	0.374
SIDEWALK	sidewalk, driveway, or parking lot damaged	0.107	0.308
NOLIGHT	not enough exterior light for safety	0.135	0.342
BADFENCE	problems with the fences or gates in bad repair	0.082	0.275
NOFENCE	no fence	0.369	0.483
EXWALLS	exterior walls have serious problems	0.054	0.225
BADROOF	roof sagging, holes, or missing roofing	0.047	0.212
ROOFDK	cannot see roof	0.214	0.410
SAFEYARD	agree or strongly agree that yards, playgrounds, and off-street parking are safe	0.672	0.469
UNSAFEYARD	disagree or strongly disagree that yards, playgrounds, and off-street parking are safe	0.178	0.383
OUT_SAME	lived in unit for one year and condition of building same as a year ago	0.402	0.490
OUT_WORSE	lived in unit for one year and condition of building worse than a year ago	0.056	0.230
SUPER_SAME	lived in unit for one year and landlord's supervision of vacant units is the same as a year ago	0.451	0.498

Table 1. Variables Used in the Hedonic Regressions, their Definitions, and Summary Statistics

Variable	Definition	Mean	Std. Dev.
SUPER_WORSE	lived in unit for one year and landlord's supervision of vacant units is worse than a year ago	0.026	0.158
REPAIR_SAME	lived in unit for one year and repair of problems the same as a year ago	0.432	0.495
REPAIR_WORSE	lived in unit for one year and repair of problems is worse than a year ago	0.060	0.238
Apartment complex amenities			
LAUNDRY1	live in an apartment complex with a laundry room in working condition	0.387	0.487
LAUNDRY2	live in an apartment complex with a non-working laundry room	0.012	0.108
PLAYAREA1	live in an apartment complex with a useable play area	0.307	0.461
PLAYAREA2	live in an apartment complex with a play area, but it is not usable	0.026	0.160
ELEVATOR1	live in an apartment complex with a working elevator	0.074	0.262
ELEVATOR2	live in an apartment complex with an elevator, but it is not in working condition	0.005	0.070
Neighborhood quality			
CRIMEOK	crime or drugs not a problem	0.475	0.499
CRIMEBAD	crime or drugs big problem	0.095	0.293
CRIMEDK	do not know whether crime is a problem	0.203	0.402
TRASHOK	trash or junk nearby not a problem	0.679	0.467
TRASHBAD	trash or junk nearby big problem	0.070	0.255
TRASHDK	do not know whether trash is a problem	0.053	0.225
VACANTOK	vacant or run-down homes or stores not a problem	0.744	0.436
VACANTBAD	vacant or run-down homes or stores big problem	0.028	0.164
VACANTDK	do not know whether vacant or run-down buildings are a problem	0.087	0.282
NBHDOK	scale from 1-10 (10 being best) rated neighborhood 6 - 8	0.400	0.490
NBHDGRT	scale from 1-10 (10 being best) rated neighborhood 9 or 10	0.348	0.476
General opinion of home (rental unit) as a place to live			
HOMEOK	scale from 1-10 (10 being best) rated home as a place to live 6 - 8	0.357	0.479
HOMEGRT	scale from 1-10 (10 being best) rated home as a place to live 9 or 10	0.415	0.493
Year dummies			
YEAR2001	CSS survey from 2001	0.375	0.484
YEAR2002	CSS survey from 2002	0.275	0.447

Table 1. Variables Used in the Hedonic Regressions, their Definitions, and Summary Statistics

Variable	Definition	Mean	Std. Dev.
Contract conditions			
CROWDED[1]	number of persons in the unit divided by 1 + number of bedrooms	0.759	0.353
Census tract variables[2]			
BLT95_98	fraction of rental units built between 1995-1998	0.044	0.077
BLT90_94	fraction of rental units built between 1990-1994	0.048	0.062
BLT80_89	fraction of rental units built between 1980-1989	0.140	0.124
BLT70_79	fraction of rental units built between 1970-1979	0.202	0.131
BLT60_69	fraction of rental units built between 1960-1969	0.157	0.098
BLT50_59	fraction of rental units built between 1950-1959	0.128	0.090
BLT40_49	fraction of rental units built between 1940-1949	0.089	0.078
BLT39	fraction of rental units built between before 1940	0.181	0.187
TRVL_20_39	mean travel time to work, minutes	0.358	0.097
TRVL_40_59	fraction with commute time 20-39 minutes	0.099	0.058
TRVL_60_PLUS	fraction with commute time 40-59 minutes	0.075	0.053
MEDINC	median household income, in $1,000s	37.627	13.948
DENSITY	population density, persons per square kilometer	2484.81	3745.82
Measures of racial/ethnic composition			
BLACK[1]	African-American household	0.383	0.486
HISPANIC[1]	Hispanic household	0.118	0.322
%WHITE[2]	percent of the households in Census Tract identified as white	64.965	28.717
MAJ-WHITE[2]	50 to 80 percent of the households in Census Tract identified as white	0.304	0.460
MOST-WHITE[2]	greater than 80 percent of the households in Census Tract identified as white	0.413	0.492
Measures of poverty concentration[2]			
POVERTY	poverty rate	16.550	11.014
LOW-POV	neighborhood poverty rate < 10 percent and > 5 percent	0.230	0.421
VLOW-POV	neighborhood poverty rate < 5 percent	0.105	0.307
Measures of the tightness of the housing market[2]			
VR	rental vacancy rate	6.669	4.944
LOW-VR	VR > 2 percent and < 4 percent	0.181	0.385
VLOW-VR	VR < 2 percent	0.143	0.350

Notes:
[1]From Form HUD-50058, Family Report
[2] From the 2000 Decennial Census.
All other data from HUD Customer Satisfaction Survey "Tell us About Your Home."
Unless otherwise noted, all variables are coded 1 if the condition exists, 0 otherwise.
The means and standard deviations of each variable are the unweighted means and standard deviations for the sample of the CSS data used in the hedonic regressions.

Table 1 A. Summary statistics on the racial composition of neighborhoods by metropolitan area

Metropolitan Area	BLACK	HISP	%WHITE	MAJ_ WHITE	MOST-WHITE	BLACK * MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	BLACK* % WHITE	HISP* % WHITE
	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Albany-Schenectady-Troy, NY	0.154	0.066	85.680	0.145	0.790	0.063	0.043	0.020	0.040	9.137	5.186
	0.361	0.248	18.785	0.352	0.408	0.244	0.202	0.139	0.196	23.501	20.180
Albuquerque, NM	0.000	0.616	63.800	0.761	0.127	0.000	0.000	0.497	0.045	0.000	38.371
	0.000	0.487	12.657	0.427	0.333	0.000	0.000	0.500	0.208	0.000	31.488
Allentown-Bethlehem-Easton, PA-NJ	0.095	0.212	83.243	0.303	0.652	0.049	0.035	0.136	0.053	6.817	14.465
	0.293	0.409	16.486	0.460	0.476	0.216	0.184	0.343	0.224	21.504	28.746
Atlanta, GA	0.907	0.000	29.827	0.181	0.048	0.147	0.025	0.000	0.000	24.383	0.000
	0.290	0.000	25.618	0.385	0.215	0.354	0.155	0.000	0.000	24.050	0.000
Augusta, GA-SC	0.889	0.000	49.402	0.463	0.104	0.408	0.077	0.000	0.000	42.720	0.000
	0.314	0.000	22.688	0.499	0.305	0.492	0.267	0.000	0.000	26.042	0.000
Austin, TX	0.461	0.224	60.962	0.519	0.173	0.201	0.034	0.152	0.025	24.603	13.869
	0.499	0.417	18.254	0.500	0.378	0.401	0.181	0.359	0.156	29.425	26.738
Baton Rouge, LA	0.907	0.000	39.301	0.231	0.109	0.212	0.054	0.000	0.000	32.253	0.000
	0.290	0.000	28.067	0.422	0.311	0.409	0.226	0.000	0.000	26.515	0.000
Beaumont-Port Arthur, TX	0.830	0.000	40.751	0.193	0.150	0.164	0.044	0.000	0.000	28.246	0.000
	0.376	0.000	28.926	0.395	0.357	0.370	0.206	0.000	0.000	25.857	0.000
Binghamton, NY	0.169	0.000	86.034	0.304	0.696	0.088	0.081	0.000	0.000	13.933	0.000
	0.375	0.000	7.717	0.460	0.460	0.284	0.273	0.000	0.000	31.126	0.000
Birmingham, AL	0.773	0.000	35.230	0.158	0.173	0.092	0.036	0.000	0.000	17.718	0.000
	0.419	0.000	32.954	0.364	0.378	0.289	0.187	0.000	0.000	23.433	0.000
Boise City, ID	0.000	0.084	89.252	0.072	0.923	0.000	0.000	0.022	0.058	0.000	7.032
	0.000	0.278	6.376	0.258	0.267	0.000	0.000	0.148	0.235	0.000	23.411
Boston-Lawrence-Salem, MA-NH	0.120	0.169	78.546	0.269	0.622	0.046	0.034	0.067	0.056	6.968	11.000
	0.325	0.374	20.873	0.444	0.485	0.210	0.182	0.250	0.230	21.378	26.027
Buffalo-Niagara Falls, NY	0.404	0.053	68.858	0.212	0.523	0.108	0.068	0.025	0.013	17.863	3.255
	0.491	0.224	31.335	0.409	0.500	0.310	0.251	0.155	0.114	29.273	14.767
Canton, OH	0.248	0.000	83.099	0.250	0.697	0.097	0.109	0.000	0.000	17.634	0.000

Table 1 A. Summary statistics on the racial composition of neighborhoods by metropolitan area

Metropolitan Area	BLACK	HISP	%WHITE	MAJ_ WHITE	MOST-WHITE	BLACK * MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	BLACK* % WHITE	HISP* % WHITE
	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
	0.432	0.000	17.545	0.433	0.460	0.296	0.312	0.000	0.000	32.787	0.000
Charleston, SC	0.902	0.000	40.676	0.343	0.066	0.285	0.057	0.000	0.000	35.564	0.000
	0.297	0.000	24.844	0.475	0.248	0.452	0.232	0.000	0.000	26.156	0.000
Charleston, WV	0.219	0.000	83.604	0.189	0.750	0.083	0.098	0.000	0.000	15.346	0.000
	0.414	0.000	16.484	0.392	0.433	0.276	0.297	0.000	0.000	30.220	0.000
Charlotte-Gastonia-Rock Hill,	0.698	0.000	60.129	0.500	0.215	0.337	0.094	0.000	0.000	36.906	0.000
NC-SC	0.459	0.000	26.917	0.500	0.411	0.473	0.292	0.000	0.000	33.332	0.000
Chattanooga, TN-GA	0.674	0.000	58.048	0.103	0.458	0.091	0.171	0.000	0.000	29.709	0.000
	0.469	0.000	34.926	0.304	0.499	0.288	0.377	0.000	0.000	33.473	0.000
Chicago-Gary-Lake County,	0.550	0.092	57.037	0.359	0.293	0.206	0.052	0.038	0.021	23.081	5.526
IL-IN-WI	0.498	0.290	30.071	0.480	0.455	0.405	0.223	0.191	0.143	29.817	18.505
Cincinnati-Hamilton, OH-KY-IN	0.343	0.000	75.982	0.144	0.658	0.094	0.074	0.000	0.000	16.436	0.000
	0.475	0.000	29.018	0.351	0.474	0.292	0.262	0.000	0.000	28.925	0.000
Cleveland-Akron-Lorain, OH	0.422	0.067	66.267	0.240	0.471	0.120	0.063	0.029	0.016	17.425	4.433
	0.494	0.250	33.070	0.427	0.499	0.325	0.243	0.168	0.126	29.739	17.214
Colorado Springs, CO	0.198	0.134	74.761	0.598	0.380	0.134	0.051	0.091	0.039	13.510	9.786
	0.399	0.340	12.325	0.491	0.486	0.340	0.220	0.288	0.193	27.764	25.279
Columbia, SC	0.857	0.000	46.000	0.415	0.126	0.348	0.064	0.000	0.000	35.473	0.000
	0.350	0.000	28.829	0.493	0.332	0.477	0.244	0.000	0.000	29.247	0.000
Columbus, OH	0.254	0.000	81.789	0.075	0.775	0.054	0.070	0.000	0.000	12.978	0.000
	0.436	0.000	26.400	0.263	0.418	0.227	0.255	0.000	0.000	27.489	0.000
Dallas-Fort Worth, TX	0.530	0.078	58.375	0.451	0.230	0.210	0.061	0.047	0.018	25.285	5.055
	0.499	0.267	25.660	0.498	0.421	0.408	0.239	0.211	0.135	30.374	18.164
Davenport-Rock Island-Moline,	0.358	0.000	80.919	0.261	0.663	0.129	0.164	0.000	0.000	25.977	0.000
IA-IL	0.480	0.000	16.843	0.440	0.473	0.335	0.370	0.000	0.000	36.974	0.000
Dayton-Springfield, OH	0.457	0.000	65.624	0.075	0.583	0.043	0.102	0.000	0.000	18.284	0.000
	0.498	0.000	33.946	0.264	0.493	0.204	0.303	0.000	0.000	29.531	0.000

Table 1 A. Summary statistics on the racial composition of neighborhoods by metropolitan area

Metropolitan Area	BLACK	HISP	%WHITE	MAJ_ WHITE	MOST-WHITE	BLACK * MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	BLACK* % WHITE	HISP* % WHITE
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Daytona Beach, FL	0.358	0.097	78.787	0.141	0.706	0.081	0.158	0.010	0.081	23.927	7.899
	0.480	0.296	19.445	0.349	0.456	0.273	0.365	0.097	0.273	34.729	24.467
Denver-Boulder, CO	0.142	0.243	76.709	0.410	0.527	0.072	0.027	0.137	0.096	8.258	18.174
	0.349	0.429	16.437	0.492	0.499	0.259	0.162	0.344	0.294	22.171	32.783
Des Moines, IA	0.140	0.000	85.868	0.186	0.763	0.061	0.042	0.000	0.000	9.018	0.000
	0.347	0.000	16.471	0.390	0.426	0.240	0.200	0.000	0.000	23.878	0.000
Detroit-Ann Arbor, MI	0.500	0.038	55.435	0.177	0.407	0.076	0.058	0.007	0.029	14.699	3.141
	0.500	0.192	36.417	0.382	0.491	0.265	0.234	0.085	0.167	26.320	16.028
Dothan, AL	0.768	0.000	57.954	0.476	0.126	0.352	0.068	0.000	0.000	42.259	0.000
	0.422	0.000	22.688	0.500	0.333	0.478	0.252	0.000	0.000	30.463	0.000
Elkhart-Goshen, IN	0.318	0.000	71.809	0.413	0.450	0.143	0.072	0.000	0.000	18.740	0.000
	0.466	0.000	18.637	0.493	0.498	0.350	0.259	0.000	0.000	29.775	0.000
Evansville, IN-KY	0.210	0.000	87.968	0.165	0.802	0.046	0.148	0.000	0.000	17.674	0.000
	0.407	0.000	11.187	0.372	0.399	0.210	0.356	0.000	0.000	34.922	0.000
Fort Collins-Loveland, CO	0.000	0.156	89.205	0.040	0.960	0.000	0.000	0.011	0.145	0.000	13.701
	0.000	0.364	5.362	0.197	0.197	0.000	0.000	0.106	0.353	0.000	31.925
Fort Myers-Cape CoraL, Fl	0.000	0.300	82.224	0.166	0.734	0.000	0.000	0.088	0.191	0.000	24.091
	0.000	0.459	17.158	0.372	0.442	0.000	0.000	0.283	0.393	0.000	37.814
Fresno, CA	0.251	0.399	45.159	0.306	0.013	0.058	0.000	0.117	0.002	10.459	18.022
	0.434	0.490	14.941	0.461	0.115	0.234	0.000	0.322	0.047	19.442	23.691
Grand Forks, ND	0.000	0.096	92.077	0.000	1.000	0.000	0.000	0.000	0.096	0.000	8.626
	0.000	0.295	3.651	0.000	0.000	0.000	0.000	0.000	0.295	0.000	26.529
Grand Rapids, MI	0.551	0.055	65.374	0.446	0.329	0.278	0.075	0.034	0.015	29.529	3.635
	0.498	0.228	26.853	0.497	0.470	0.448	0.263	0.181	0.122	33.184	15.831
Greensboro-Winston-Salem-High Point, NC	0.629	0.000	51.613	0.367	0.224	0.227	0.055	0.000	0.000	25.702	0.000
	0.483	0.000	30.345	0.482	0.417	0.419	0.228	0.000	0.000	29.455	0.000
Greenville-Spartanburg, SC	0.635	0.000	62.859	0.397	0.278	0.234	0.125	0.000	0.000	35.989	0.000

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	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
	0.482	0.000	23.925	0.489	0.448	0.424	0.331	0.000	0.000	33.568	0.000
Harrisburg-Lebanon-Carlisle, PA	0.218	0.110	79.309	0.125	0.725	0.049	0.054	0.026	0.071	10.990	8.536
	0.413	0.313	24.345	0.331	0.447	0.216	0.226	0.159	0.257	24.677	25.208
Hartford, CT	0.280	0.312	61.559	0.355	0.340	0.092	0.053	0.119	0.047	13.339	15.919
	0.449	0.463	27.135	0.478	0.474	0.289	0.225	0.324	0.211	26.546	27.062
Hickory-Morganton, NC	0.343	0.000	78.118	0.301	0.628	0.139	0.166	0.000	0.000	25.077	0.000
	0.475	0.000	16.278	0.459	0.484	0.346	0.373	0.000	0.000	36.214	0.000
Houston-Galveston-Brazoria, TX	0.632	0.151	53.072	0.544	0.121	0.275	0.053	0.127	0.018	29.001	9.679
	0.482	0.358	23.953	0.498	0.326	0.447	0.223	0.333	0.132	29.950	23.391
Indianapolis, IN	0.487	0.000	65.553	0.149	0.500	0.100	0.074	0.000	0.000	20.827	0.000
	0.500	0.000	32.757	0.357	0.500	0.300	0.262	0.000	0.000	28.966	0.000
Jacksonville, FL	0.739	0.000	56.453	0.476	0.226	0.376	0.075	0.000	0.000	35.614	0.000
	0.440	0.000	29.303	0.500	0.419	0.485	0.264	0.000	0.000	32.598	0.000
Janesville-Beloit, WI	0.259	0.000	82.800	0.257	0.600	0.115	0.055	0.000	0.000	17.623	0.000
	0.439	0.000	17.834	0.438	0.490	0.319	0.228	0.000	0.000	31.161	0.000
Johnson City-Kingsport-Bristol,	0.084	0.000	92.552	0.062	0.938	0.014	0.071	0.000	0.000	7.412	0.000
TN-VA	0.278	0.000	6.364	0.241	0.241	0.116	0.257	0.000	0.000	24.559	0.000
Jonesboro, AR	0.337	0.000	83.136	0.192	0.808	0.114	0.223	0.000	0.000	26.230	0.000
	0.473	0.000	11.971	0.394	0.394	0.318	0.417	0.000	0.000	37.556	0.000
Kansas City, MO-KS	0.332	0.022	76.350	0.141	0.692	0.077	0.100	0.005	0.014	17.020	1.652
	0.471	0.147	27.748	0.348	0.462	0.266	0.300	0.069	0.117	30.902	11.642
Killeen-Temple, TX	0.558	0.193	54.020	0.347	0.070	0.149	0.014	0.084	0.014	27.710	11.028
	0.497	0.395	14.371	0.476	0.255	0.357	0.117	0.277	0.117	26.291	23.466
Knoxville, TN	0.283	0.000	82.164	0.111	0.775	0.049	0.139	0.000	0.000	18.193	0.000
	0.451	0.000	22.719	0.314	0.418	0.217	0.346	0.000	0.000	33.350	0.000
Lafayette, LA	0.700	0.000	57.796	0.325	0.322	0.239	0.150	0.000	0.000	36.021	0.000
	0.459	0.000	25.850	0.469	0.467	0.427	0.357	0.000	0.000	31.716	0.000

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	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Lake Charles, LA	0.664	0.000	53.320	0.136	0.373	0.074	0.156	0.000	0.000	27.558	0.000
	0.473	0.000	33.422	0.344	0.484	0.262	0.363	0.000	0.000	32.108	0.000
Lancaster, PA	0.000	0.384	76.075	0.301	0.555	0.000	0.000	0.175	0.085	0.000	22.733
	0.000	0.487	23.380	0.459	0.498	0.000	0.000	0.380	0.279	0.000	32.124
Lansing-East Lansing, MI	0.547	0.000	65.801	0.498	0.258	0.311	0.062	0.000	0.000	32.649	0.000
	0.498	0.000	18.524	0.500	0.438	0.463	0.242	0.000	0.000	31.802	0.000
Las Vegas, NV	0.375	0.090	68.327	0.470	0.344	0.202	0.038	0.048	0.033	21.224	6.368
	0.484	0.286	19.480	0.499	0.475	0.401	0.190	0.215	0.177	29.717	20.806
Lexington-Fayette, KY	0.345	0.000	79.606	0.234	0.669	0.115	0.144	0.000	0.000	23.023	0.000
	0.476	0.000	19.060	0.424	0.471	0.319	0.351	0.000	0.000	34.823	0.000
Little Rock-North Little Rock, AR	0.437	0.000	70.555	0.336	0.433	0.176	0.047	0.000	0.000	22.431	0.000
	0.496	0.000	25.815	0.473	0.496	0.381	0.212	0.000	0.000	30.131	0.000
Longview-Marshall, TX	0.872	0.000	49.949	0.329	0.109	0.259	0.073	0.000	0.000	41.198	0.000
	0.334	0.000	23.343	0.470	0.312	0.439	0.261	0.000	0.000	26.525	0.000
Los Angeles-Anaheim-Riverside, CA	0.286	0.285	48.798	0.381	0.074	0.056	0.005	0.111	0.010	10.093	14.063
	0.452	0.451	19.504	0.486	0.262	0.230	0.071	0.314	0.098	18.809	23.562
Louisville, KY-IN	0.528	0.000	60.643	0.178	0.457	0.103	0.095	0.000	0.000	20.836	0.000
	0.499	0.000	34.951	0.382	0.498	0.304	0.293	0.000	0.000	30.980	0.000
Mansfield, OH	0.285	0.000	81.002	0.208	0.651	0.107	0.078	0.000	0.000	17.887	0.000
	0.452	0.000	21.323	0.406	0.477	0.310	0.268	0.000	0.000	30.669	0.000
Miami-Fort Lauderdale, FL	0.539	0.378	51.979	0.245	0.318	0.115	0.039	0.102	0.243	17.059	29.421
	0.499	0.485	32.791	0.430	0.466	0.319	0.194	0.303	0.429	25.689	39.284
Milwaukee-Racine, WI	0.327	0.048	74.630	0.085	0.694	0.059	0.073	0.006	0.033	13.901	3.684
	0.469	0.215	31.019	0.279	0.461	0.235	0.261	0.075	0.178	26.990	17.276
Minneapolis-St. Paul, MN-WI	0.279	0.026	81.359	0.182	0.729	0.076	0.141	0.006	0.018	19.549	2.093
	0.448	0.160	18.625	0.386	0.444	0.265	0.348	0.075	0.132	33.815	13.129
Mobile, AL	0.811	0.000	38.839	0.153	0.240	0.134	0.093	0.000	0.000	23.974	0.000

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	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
	0.392	0.000	34.236	0.360	0.427	0.341	0.291	0.000	0.000	29.184	0.000
Monroe, LA	0.717	0.000	46.094	0.262	0.220	0.183	0.060	0.000	0.000	24.116	0.000
	0.451	0.000	34.028	0.440	0.415	0.387	0.238	0.000	0.000	29.699	0.000
Myrtle Beach, SC	0.553	0.000	70.748	0.360	0.418	0.242	0.177	0.000	0.000	37.362	0.000
	0.498	0.000	20.313	0.480	0.494	0.429	0.382	0.000	0.000	36.719	0.000
Nashville, TN	0.562	0.000	66.590	0.246	0.484	0.182	0.141	0.000	0.000	30.073	0.000
	0.496	0.000	29.123	0.431	0.500	0.386	0.348	0.000	0.000	34.987	0.000
New Orleans, LA	0.867	0.000	36.695	0.220	0.110	0.174	0.043	0.000	0.000	26.886	0.000
	0.340	0.000	29.405	0.415	0.313	0.379	0.204	0.000	0.000	26.203	0.000
New York-Northern New Jersey-Long Island, NY-NJ-CT	0.349	0.238	59.338	0.330	0.310	0.087	0.031	0.100	0.036	13.576	12.893
	0.477	0.426	28.396	0.470	0.462	0.281	0.174	0.300	0.186	24.372	25.606
Norfolk-Virginia Beach-Newport News, VA	0.903	0.000	41.818	0.349	0.077	0.301	0.052	0.000	0.000	35.691	0.000
	0.296	0.000	26.949	0.477	0.267	0.459	0.221	0.000	0.000	27.691	0.000
Oklahoma City, OK	0.426	0.000	64.974	0.536	0.269	0.206	0.052	0.000	0.000	22.341	0.000
	0.495	0.000	22.531	0.499	0.443	0.404	0.222	0.000	0.000	31.232	0.000
Omaha, NE-IA	0.410	0.000	75.726	0.159	0.653	0.101	0.139	0.000	0.000	23.699	0.000
	0.492	0.000	26.138	0.366	0.476	0.301	0.346	0.000	0.000	34.089	0.000
Orlando, FL	0.433	0.371	64.986	0.503	0.285	0.182	0.076	0.256	0.084	23.399	25.696
	0.496	0.483	22.015	0.500	0.452	0.386	0.265	0.436	0.278	31.452	34.578
Pensacola, FL	0.651	0.000	64.204	0.514	0.280	0.380	0.088	0.000	0.000	36.748	0.000
	0.477	0.000	23.298	0.500	0.450	0.486	0.284	0.000	0.000	32.620	0.000
Peoria, IL	0.380	0.000	76.629	0.223	0.601	0.175	0.054	0.000	0.000	19.625	0.000
	0.486	0.000	26.541	0.417	0.490	0.380	0.226	0.000	0.000	28.215	0.000
Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD	0.544	0.130	58.537	0.328	0.311	0.173	0.090	0.043	0.027	25.378	7.286
	0.498	0.336	29.281	0.470	0.463	0.379	0.287	0.202	0.162	31.732	20.653
Phoenix, AZ	0.195	0.236	71.473	0.619	0.318	0.132	0.040	0.173	0.043	12.922	15.786
	0.396	0.425	14.546	0.486	0.466	0.339	0.197	0.378	0.203	27.090	29.172

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	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Pittsburgh, PA	0.291	0.000	79.444	0.162	0.694	0.078	0.089	0.000	0.000	15.913	0.000
	0.454	0.000	25.576	0.369	0.461	0.268	0.285	0.000	0.000	29.967	0.000
Portland-Vancouver, OR-WA	0.068	0.075	82.201	0.324	0.646	0.039	0.017	0.035	0.032	4.585	5.697
	0.252	0.264	11.643	0.468	0.478	0.195	0.129	0.185	0.175	17.559	20.385
Providence-Fall River-Warwick, RI-MA	0.072	0.125	85.529	0.154	0.774	0.023	0.030	0.051	0.042	4.976	8.298
	0.259	0.331	17.166	0.361	0.418	0.151	0.171	0.220	0.202	18.845	23.393
Raleigh-Durham, NC	0.770	0.000	51.408	0.498	0.146	0.363	0.074	0.000	0.000	35.726	0.000
	0.421	0.000	27.227	0.500	0.353	0.481	0.262	0.000	0.000	31.010	0.000
Richmond-Petersburg, VA	0.869	0.000	36.877	0.334	0.079	0.256	0.049	0.000	0.000	28.877	0.000
	0.337	0.000	27.562	0.472	0.270	0.436	0.216	0.000	0.000	27.075	0.000
Rochester, NY	0.231	0.095	79.181	0.128	0.730	0.044	0.082	0.025	0.046	12.669	6.461
	0.422	0.294	24.440	0.334	0.444	0.205	0.275	0.156	0.210	27.724	21.674
Rockford, IL	0.506	0.000	65.656	0.341	0.381	0.172	0.087	0.000	0.000	25.677	0.000
	0.500	0.000	26.381	0.475	0.486	0.378	0.282	0.000	0.000	31.454	0.000
Sacramento-Yolo, CA	0.174	0.119	68.775	0.367	0.430	0.064	0.015	0.065	0.028	8.424	7.576
	0.379	0.324	21.544	0.482	0.495	0.244	0.121	0.247	0.165	20.217	21.669
St. Louis, MO-IL	0.513	0.000	65.210	0.153	0.542	0.121	0.095	0.000	0.000	20.808	0.000
	0.500	0.000	35.431	0.360	0.498	0.327	0.294	0.000	0.000	30.804	0.000
Salt Lake City-Ogden, UT	0.055	0.160	81.650	0.352	0.644	0.025	0.029	0.069	0.091	4.325	12.621
	0.227	0.367	10.999	0.478	0.479	0.157	0.167	0.254	0.287	18.210	29.305
San Antonio, TX	0.202	0.612	67.534	0.620	0.248	0.119	0.024	0.448	0.090	11.803	40.432
	0.402	0.488	15.326	0.486	0.432	0.324	0.153	0.498	0.287	24.574	33.869
San Diego, CA	0.206	0.288	56.936	0.458	0.167	0.084	0.015	0.104	0.025	9.878	14.161
	0.405	0.453	20.283	0.498	0.373	0.277	0.120	0.305	0.156	21.390	24.507
San Francisco-Oakland-San Jose, CA	0.292	0.148	54.295	0.369	0.184	0.066	0.016	0.060	0.021	11.261	8.192
	0.455	0.355	23.554	0.482	0.388	0.248	0.124	0.238	0.144	20.834	21.053
Santa Barbara-Santa Maria-Lompoc,	0.000	0.319	66.476	0.660	0.134	0.000	0.000	0.175	0.025	0.000	19.093

Table 1 A. Summary statistics on the racial composition of neighborhoods by metropolitan area

Metropolitan Area	BLACK	HISP	%WHITE	MAJ_ WHITE	MOST-WHITE	BLACK * MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	BLACK* % WHITE	HISP* % WHITE
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
CA	0.000	0.466	13.108	0.474	0.341	0.000	0.000	0.381	0.155	0.000	28.954
Sarasota, FL	0.648	0.000	67.076	0.251	0.420	0.189	0.150	0.000	0.000	36.925	0.000
	0.478	0.000	26.619	0.434	0.494	0.392	0.358	0.000	0.000	34.472	0.000
Scranton-Wilkes-Barre, PA	0.028	0.000	96.671	0.003	0.997	0.001	0.026	0.000	0.000	2.557	0.000
	0.164	0.000	3.592	0.057	0.057	0.037	0.160	0.000	0.000	15.206	0.000
Seattle-Tacoma, WA	0.226	0.039	71.827	0.525	0.357	0.124	0.029	0.021	0.016	13.287	2.946
	0.418	0.194	17.396	0.499	0.479	0.330	0.168	0.144	0.125	26.471	14.860
Shreveport, LA	0.740	0.000	45.741	0.402	0.132	0.257	0.050	0.000	0.000	28.258	0.000
	0.439	0.000	29.353	0.491	0.339	0.437	0.218	0.000	0.000	29.615	0.000
South Bend-Mishawaka, IN	0.438	0.000	75.295	0.153	0.633	0.095	0.149	0.000	0.000	26.129	0.000
	0.496	0.000	23.527	0.360	0.482	0.293	0.356	0.000	0.000	33.996	0.000
Springfield, MA	0.111	0.440	69.388	0.334	0.423	0.043	0.015	0.179	0.091	5.910	25.812
	0.315	0.497	24.500	0.472	0.494	0.202	0.120	0.384	0.288	18.655	33.373
Syracuse, NY	0.147	0.032	86.297	0.107	0.807	0.043	0.035	0.005	0.020	7.874	2.391
	0.354	0.176	20.157	0.309	0.395	0.203	0.184	0.068	0.140	21.987	13.977
Tampa-St. Petersburg-Clearwater, FL	0.447	0.121	68.044	0.288	0.467	0.143	0.101	0.053	0.053	23.392	8.864
	0.497	0.327	27.072	0.453	0.499	0.350	0.301	0.224	0.223	32.000	24.760
Toledo, OH	0.477	0.000	67.457	0.182	0.536	0.117	0.107	0.000	0.000	22.824	0.000
	0.500	0.000	29.862	0.386	0.499	0.322	0.309	0.000	0.000	31.659	0.000
Tucson, AZ	0.155	0.523	62.083	0.621	0.123	0.102	0.021	0.305	0.027	9.977	29.446
	0.362	0.500	15.120	0.486	0.328	0.302	0.143	0.461	0.163	24.018	29.827
Tulsa, OK	0.441	0.000	61.345	0.572	0.217	0.220	0.039	0.000	0.000	21.087	0.000
	0.497	0.000	24.790	0.495	0.412	0.415	0.194	0.000	0.000	30.511	0.000
Utica-Rome, NY	0.115	0.057	87.843	0.162	0.813	0.055	0.040	0.018	0.038	7.702	4.452
	0.319	0.231	14.962	0.368	0.390	0.228	0.197	0.132	0.190	22.309	18.529
Washington-Baltimore, DC-MD-VA-WV	0.564	0.038	57.955	0.397	0.290	0.232	0.061	0.021	0.007	24.769	2.258
	0.496	0.192	30.313	0.489	0.454	0.422	0.239	0.142	0.081	31.345	12.089

Table 1 A. Summary statistics on the racial composition of neighborhoods by metropolitan area

Metropolitan Area	BLACK	HISP	%WHITE	MAJ_ WHITE	MOST-WHITE	BLACK * MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	BLACK* % WHITE	HISP* % WHITE
	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
West Palm Beach-Boca	0.624	0.134	49.159	0.240	0.279	0.128	0.063	0.055	0.062	21.253	9.533
Raton-Delray Beach, FL	0.485	0.341	32.439	0.427	0.449	0.334	0.242	0.229	0.241	28.032	25.230
Wichita, KS	0.359	0.000	70.902	0.351	0.479	0.153	0.064	0.000	0.000	18.318	0.000
	0.480	0.000	28.008	0.478	0.500	0.361	0.245	0.000	0.000	31.171	0.000
Youngstown-Warren, OH	0.502	0.000	63.927	0.130	0.489	0.073	0.069	0.000	0.000	19.538	0.000
	0.500	0.000	33.627	0.336	0.500	0.261	0.254	0.000	0.000	27.302	0.000

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Albany-Schenectady-Troy, NY	14.266	0.269	0.160	0.011	0.006	0.010	0.002	4.049	1.336
	10.669	0.444	0.367	0.105	0.080	0.098	0.048	10.509	5.736
Albuquerque, NM	19.112	0.100	0.040	0.000	0.000	0.035	0.031	0.000	11.790
	9.765	0.300	0.196	0.000	0.000	0.183	0.173	0.000	11.480
Allentown-Bethlehem-Easton, PA-NJ	15.448	0.284	0.124	0.018	0.003	0.027	0.009	1.912	5.115
	11.343	0.451	0.330	0.131	0.056	0.162	0.095	6.866	11.591
Atlanta, GA	16.915	0.185	0.062	0.162	0.052	0.000	0.000	15.736	0.000
	10.096	0.388	0.242	0.368	0.222	0.000	0.000	11.002	0.000
Augusta, GA-SC	19.491	0.145	0.024	0.130	0.009	0.000	0.000	17.581	0.000
	10.465	0.352	0.152	0.336	0.093	0.000	0.000	11.577	0.000
Austin, TX	16.684	0.162	0.154	0.069	0.061	0.025	0.028	7.773	4.297
	11.002	0.368	0.361	0.253	0.240	0.156	0.164	10.767	9.724
Baton Rouge, LA	25.840	0.055	0.026	0.037	0.018	0.000	0.000	24.488	0.000
	11.041	0.228	0.160	0.188	0.134	0.000	0.000	12.809	0.000
Beaumont-Port Arthur, TX	25.224	0.126	0.003	0.072	0.002	0.000	0.000	22.465	0.000
	10.592	0.332	0.055	0.259	0.039	0.000	0.000	13.569	0.000
Binghamton, NY	22.319	0.077	0.025	0.009	0.005	0.000	0.000	4.256	0.000
	9.798	0.267	0.157	0.094	0.073	0.000	0.000	10.326	0.000
Birmingham, AL	23.341	0.073	0.045	0.035	0.020	0.000	0.000	20.139	0.000
	11.050	0.261	0.207	0.185	0.141	0.000	0.000	14.157	0.000
Boise City, ID	12.322	0.273	0.109	0.000	0.000	0.008	0.009	0.000	1.185
	6.071	0.446	0.312	0.000	0.000	0.088	0.094	0.000	4.373
Boston-Lawrence-Salem, MA-NH	12.746	0.306	0.215	0.025	0.014	0.029	0.015	1.936	3.206
	9.329	0.461	0.411	0.155	0.119	0.167	0.120	6.193	8.284
Buffalo-Niagara Falls, NY	21.601	0.179	0.105	0.016	0.003	0.002	0.001	11.660	1.628
	13.171	0.384	0.307	0.126	0.059	0.048	0.024	15.840	7.444

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Canton, OH	15.336	0.150	0.107	0.012	0.022	0.000	0.000	4.846	0.000
	9.408	0.358	0.309	0.108	0.146	0.000	0.000	9.904	0.000
Charleston, SC	25.219	0.094	0.018	0.075	0.018	0.000	0.000	23.369	0.000
	12.964	0.292	0.131	0.263	0.131	0.000	0.000	14.505	0.000
Charleston, WV	17.610	0.182	0.021	0.024	0.002	0.000	0.000	4.653	0.000
	8.246	0.386	0.143	0.153	0.040	0.000	0.000	9.601	0.000
Charlotte-Gastonia-Rock Hill, NC-SC	15.281	0.178	0.055	0.090	0.032	0.000	0.000	11.531	0.000
	7.274	0.383	0.229	0.286	0.177	0.000	0.000	9.863	0.000
Chattanooga, TN-GA	20.932	0.189	0.060	0.115	0.049	0.000	0.000	16.237	0.000
	15.294	0.392	0.237	0.319	0.216	0.000	0.000	17.748	0.000
Chicago-Gary-Lake County, IL-IN-WI	14.140	0.316	0.184	0.141	0.056	0.024	0.009	9.553	1.362
	11.282	0.465	0.388	0.348	0.231	0.153	0.095	12.413	5.103
Cincinnati-Hamilton, OH-KY-IN	16.483	0.257	0.119	0.056	0.018	0.000	0.000	7.818	0.000
	12.361	0.437	0.324	0.231	0.132	0.000	0.000	13.839	0.000
Cleveland-Akron-Lorain, OH	17.786	0.201	0.113	0.048	0.011	0.004	0.007	10.099	1.377
	11.347	0.401	0.317	0.215	0.103	0.062	0.083	13.965	5.865
Colorado Springs, CO	12.605	0.449	0.048	0.069	0.019	0.051	0.004	2.589	1.771
	6.498	0.498	0.214	0.253	0.138	0.220	0.064	6.021	5.070
Columbia, SC	18.769	0.211	0.058	0.172	0.034	0.000	0.000	16.778	0.000
	11.348	0.408	0.234	0.378	0.182	0.000	0.000	12.681	0.000
Columbus, OH	14.535	0.288	0.086	0.045	0.015	0.000	0.000	4.981	0.000
	9.251	0.453	0.281	0.207	0.123	0.000	0.000	10.226	0.000
Dallas-Fort Worth, TX	16.667	0.225	0.056	0.096	0.032	0.015	0.005	9.799	1.203
	9.187	0.418	0.230	0.295	0.175	0.123	0.070	11.702	4.718
Davenport-Rock Island-Moline, IA-IL	16.020	0.266	0.069	0.055	0.022	0.000	0.000	7.042	0.000
	10.327	0.442	0.253	0.229	0.146	0.000	0.000	11.829	0.000

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Dayton-Springfield, OH	16.992	0.265	0.073	0.065	0.020	0.000	0.000	9.732	0.000
	10.534	0.442	0.261	0.246	0.140	0.000	0.000	12.816	0.000
Daytona Beach, FL	15.307	0.323	0.003	0.090	0.001	0.060	0.000	6.989	1.236
	8.227	0.468	0.056	0.287	0.033	0.237	0.000	10.936	4.454
Denver-Boulder, CO	13.478	0.287	0.109	0.036	0.014	0.062	0.021	2.120	3.566
	8.564	0.453	0.312	0.186	0.119	0.242	0.144	6.145	7.660
Des Moines, IA	10.981	0.159	0.314	0.016	0.007	0.000	0.000	2.767	0.000
	8.566	0.366	0.465	0.127	0.086	0.000	0.000	7.909	0.000
Detroit-Ann Arbor, MI	17.667	0.209	0.100	0.050	0.021	0.005	0.002	11.275	0.728
	11.024	0.406	0.300	0.218	0.145	0.074	0.047	13.715	4.081
Dothan, AL	20.793	0.026	0.002	0.021	0.002	0.000	0.000	16.355	0.000
	9.462	0.159	0.040	0.144	0.040	0.000	0.000	12.381	0.000
Elkhart-Goshen, IN	13.478	0.502	0.039	0.070	0.004	0.000	0.000	5.789	0.000
	7.995	0.501	0.194	0.256	0.064	0.000	0.000	9.898	0.000
Evansville, IN-KY	15.226	0.308	0.017	0.063	0.000	0.000	0.000	3.412	0.000
	7.630	0.462	0.131	0.244	0.000	0.000	0.000	7.482	0.000
Fort Collins-Loveland, CO	13.101	0.252	0.161	0.000	0.000	0.042	0.010	0.000	2.372
	9.092	0.434	0.368	0.000	0.000	0.201	0.098	0.000	6.834
Fort Myers-Cape CoraL, Fl	12.173	0.506	0.028	0.000	0.000	0.116	0.006	0.000	3.876
	7.896	0.501	0.166	0.000	0.000	0.320	0.079	0.000	7.300
Fresno, CA	31.611	0.034	0.002	0.007	0.001	0.009	0.000	8.155	12.853
	13.584	0.180	0.047	0.082	0.033	0.094	0.000	15.626	17.790
Grand Forks, ND	14.136	0.099	0.005	0.000	0.000	0.000	0.002	0.000	1.267
	5.099	0.299	0.068	0.000	0.000	0.000	0.039	0.000	3.938
Grand Rapids, MI	16.138	0.280	0.092	0.100	0.024	0.012	0.005	10.920	0.950
	10.693	0.449	0.289	0.299	0.152	0.108	0.068	12.857	4.810

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Greensboro-Winston-Salem-High Point,	17.831	0.202	0.030	0.098	0.005	0.000	0.000	12.760	0.000
NC	9.911	0.402	0.170	0.297	0.068	0.000	0.000	12.767	0.000
Greenville-Spartanburg, SC	19.379	0.173	0.008	0.093	0.004	0.000	0.000	13.216	0.000
	9.744	0.378	0.089	0.291	0.063	0.000	0.000	12.835	0.000
Harrisburg-Lebanon-Carlisle, PA	14.579	0.311	0.115	0.036	0.010	0.008	0.006	4.275	1.883
	9.866	0.463	0.319	0.185	0.098	0.087	0.076	9.558	5.885
Hartford, CT	18.133	0.198	0.150	0.031	0.039	0.036	0.020	5.897	7.438
	13.023	0.399	0.357	0.173	0.194	0.185	0.141	12.036	13.182
Hickory-Morganton, NC	12.723	0.404	0.036	0.111	0.012	0.000	0.000	4.713	0.000
	5.586	0.491	0.186	0.314	0.108	0.000	0.000	7.409	0.000
Houston-Galveston-Brazoria, TX	20.186	0.126	0.013	0.077	0.007	0.021	0.002	12.936	3.249
	9.461	0.332	0.114	0.266	0.083	0.142	0.043	12.635	8.426
Indianapolis, IN	16.777	0.137	0.079	0.055	0.015	0.000	0.000	9.927	0.000
	8.656	0.344	0.270	0.229	0.120	0.000	0.000	12.017	0.000
Jacksonville, FL	17.016	0.254	0.023	0.125	0.013	0.000	0.000	14.283	0.000
	11.453	0.435	0.148	0.331	0.111	0.000	0.000	13.347	0.000
Janesville-Beloit, WI	10.846	0.201	0.370	0.021	0.019	0.000	0.000	4.228	0.000
	7.573	0.401	0.483	0.144	0.138	0.000	0.000	7.811	0.000
Johnson City-Kingsport-Bristol, TN-VA	18.552	0.074	0.006	0.005	0.001	0.000	0.000	1.854	0.000
	7.665	0.263	0.079	0.067	0.030	0.000	0.000	6.600	0.000
Jonesboro, AR	22.729	0.127	0.000	0.048	0.000	0.000	0.000	9.441	0.000
	13.672	0.333	0.000	0.214	0.000	0.000	0.000	16.081	0.000
Kansas City, MO-KS	11.816	0.332	0.152	0.063	0.042	0.007	0.003	5.688	0.294
	8.594	0.471	0.359	0.242	0.201	0.082	0.052	10.287	2.383
Killeen-Temple, TX	15.302	0.219	0.004	0.118	0.002	0.040	0.000	8.778	2.932
	7.389	0.414	0.063	0.322	0.045	0.196	0.000	9.850	6.699

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean	mean	mean	mean	mean	mean	mean	mean	mean
	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.	std. dev.
Knoxville, TN	18.922	0.177	0.030	0.026	0.006	0.000	0.000	7.039	0.000
	11.433	0.381	0.172	0.159	0.078	0.000	0.000	13.271	0.000
Lafayette, LA	26.296	0.083	0.002	0.052	0.000	0.000	0.000	19.559	0.000
	11.379	0.275	0.040	0.221	0.000	0.000	0.000	15.920	0.000
Lake Charles, LA	21.896	0.184	0.001	0.088	0.000	0.000	0.000	16.138	0.000
	9.816	0.388	0.037	0.283	0.000	0.000	0.000	13.946	0.000
Lancaster, PA	15.807	0.273	0.168	0.000	0.000	0.031	0.020	0.000	9.073
	11.636	0.446	0.374	0.000	0.000	0.172	0.139	0.000	13.487
Lansing-East Lansing, MI	16.168	0.151	0.104	0.044	0.029	0.000	0.000	9.598	0.000
	9.520	0.358	0.306	0.204	0.168	0.000	0.000	10.886	0.000
Las Vegas, NV	16.512	0.160	0.060	0.030	0.033	0.012	0.007	7.047	1.456
	8.219	0.367	0.238	0.171	0.177	0.107	0.081	10.783	5.247
Lexington-Fayette, KY	17.878	0.177	0.021	0.071	0.004	0.000	0.000	6.811	0.000
	9.220	0.382	0.142	0.257	0.064	0.000	0.000	11.192	0.000
Little Rock-North Little Rock, AR	16.441	0.240	0.040	0.020	0.012	0.000	0.000	9.013	0.000
	9.200	0.427	0.195	0.139	0.110	0.000	0.000	11.927	0.000
Longview-Marshall, TX	23.821	0.023	0.002	0.019	0.002	0.000	0.000	21.568	0.000
	8.477	0.149	0.043	0.136	0.043	0.000	0.000	11.361	0.000
Los Angeles-Anaheim-Riverside, CA	18.693	0.154	0.036	0.019	0.004	0.036	0.009	6.861	5.053
	9.975	0.361	0.187	0.137	0.065	0.187	0.093	12.262	9.243
Louisville, KY-IN	21.461	0.202	0.073	0.038	0.016	0.000	0.000	14.781	0.000
	14.291	0.402	0.260	0.191	0.127	0.000	0.000	17.327	0.000
Mansfield, OH	17.600	0.186	0.059	0.017	0.005	0.000	0.000	6.939	0.000
	9.019	0.390	0.235	0.128	0.071	0.000	0.000	12.008	0.000
Miami-Fort Lauderdale, FL	24.126	0.064	0.010	0.029	0.002	0.025	0.004	14.428	8.116
	10.479	0.245	0.097	0.167	0.050	0.157	0.065	15.746	11.552

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Milwaukee-Racine, WI	11.923	0.268	0.330	0.050	0.015	0.016	0.010	7.066	0.642
	11.305	0.443	0.470	0.218	0.123	0.127	0.098	12.517	3.697
Minneapolis-St. Paul, MN-WI	8.476	0.400	0.384	0.096	0.078	0.009	0.009	3.213	0.274
	7.340	0.490	0.486	0.294	0.268	0.093	0.095	7.205	2.235
Mobile, AL	28.808	0.157	0.007	0.073	0.003	0.000	0.000	25.998	0.000
	15.566	0.364	0.081	0.261	0.052	0.000	0.000	18.419	0.000
Monroe, LA	29.807	0.053	0.003	0.022	0.002	0.000	0.000	24.431	0.000
	14.332	0.225	0.058	0.146	0.041	0.000	0.000	19.253	0.000
Myrtle Beach, SC	15.605	0.140	0.056	0.056	0.016	0.000	0.000	9.273	0.000
	7.360	0.347	0.230	0.230	0.124	0.000	0.000	9.886	0.000
Nashville, TN	17.521	0.180	0.056	0.060	0.032	0.000	0.000	11.339	0.000
	10.153	0.384	0.231	0.238	0.176	0.000	0.000	12.973	0.000
New Orleans, LA	26.565	0.077	0.036	0.043	0.022	0.000	0.000	24.223	0.000
	14.231	0.266	0.186	0.204	0.146	0.000	0.000	16.214	0.000
New York-Northern New Jersey-Long Island, NY-NJ-CT	15.724	0.261	0.153	0.069	0.022	0.050	0.017	6.481	4.272
	12.252	0.439	0.360	0.253	0.148	0.217	0.128	10.959	9.316
Norfolk-Virginia Beach-Newport News, VA	18.035	0.164	0.077	0.149	0.062	0.000	0.000	16.760	0.000
	10.627	0.371	0.266	0.356	0.242	0.000	0.000	11.621	0.000
Oklahoma City, OK	21.037	0.148	0.018	0.047	0.003	0.000	0.000	9.885	0.000
	10.185	0.355	0.133	0.212	0.056	0.000	0.000	13.313	0.000
Omaha, NE-IA	14.167	0.295	0.151	0.083	0.052	0.000	0.000	7.753	0.000
	10.335	0.456	0.358	0.276	0.222	0.000	0.000	12.285	0.000
Orlando, FL	14.670	0.327	0.041	0.095	0.013	0.119	0.024	7.759	4.772
	8.575	0.469	0.198	0.294	0.114	0.324	0.152	11.057	7.330
Pensacola, FL	20.658	0.150	0.017	0.035	0.002	0.000	0.000	15.403	0.000
	9.512	0.357	0.130	0.183	0.044	0.000	0.000	13.424	0.000

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Peoria, IL	17.822	0.286	0.193	0.039	0.009	0.000	0.000	11.418	0.000
	14.915	0.452	0.395	0.195	0.093	0.000	0.000	16.783	0.000
Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD	16.576	0.235	0.114	0.093	0.044	0.022	0.009	10.377	2.474
	10.736	0.424	0.318	0.291	0.206	0.146	0.095	12.600	7.378
Phoenix, AZ	16.531	0.181	0.072	0.028	0.015	0.044	0.015	3.525	4.153
	8.829	0.385	0.258	0.166	0.120	0.205	0.120	8.324	8.626
Pittsburgh, PA	18.222	0.188	0.039	0.032	0.002	0.000	0.000	6.907	0.000
	10.321	0.391	0.193	0.176	0.045	0.000	0.000	12.423	0.000
Portland-Vancouver, OR-WA	13.794	0.308	0.049	0.012	0.002	0.016	0.003	1.148	1.177
	7.257	0.462	0.215	0.109	0.045	0.124	0.057	4.704	4.587
Providence-Fall River-Warwick, RI-MA	14.654	0.268	0.103	0.007	0.005	0.015	0.003	1.509	2.875
	9.296	0.443	0.305	0.084	0.070	0.121	0.054	6.190	8.500
Raleigh-Durham, NC	15.673	0.313	0.061	0.225	0.053	0.000	0.000	12.612	0.000
	9.464	0.464	0.240	0.418	0.225	0.000	0.000	11.241	0.000
Richmond-Petersburg, VA	17.832	0.224	0.075	0.174	0.054	0.000	0.000	16.189	0.000
	10.109	0.417	0.263	0.379	0.226	0.000	0.000	11.296	0.000
Rochester, NY	14.831	0.249	0.222	0.016	0.035	0.009	0.027	5.574	1.949
	12.106	0.433	0.416	0.126	0.184	0.097	0.161	12.384	7.610
Rockford, IL	18.295	0.218	0.053	0.041	0.021	0.000	0.000	11.996	0.000
	12.232	0.413	0.223	0.199	0.142	0.000	0.000	15.072	0.000
Sacramento-Yolo, CA	15.423	0.264	0.132	0.017	0.006	0.017	0.016	3.857	2.164
	10.246	0.441	0.338	0.130	0.077	0.130	0.126	9.460	6.999
St. Louis, MO-IL	17.160	0.287	0.062	0.059	0.011	0.000	0.000	12.215	0.000
	12.171	0.452	0.241	0.237	0.105	0.000	0.000	15.173	0.000
Salt Lake City-Ogden, UT	12.056	0.362	0.171	0.018	0.009	0.052	0.025	0.783	2.154
	8.141	0.481	0.377	0.133	0.096	0.222	0.157	4.124	6.019

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
San Antonio, TX	17.315	0.153	0.065	0.031	0.012	0.064	0.022	3.490	11.883
	8.902	0.360	0.246	0.173	0.111	0.244	0.147	7.990	11.644
San Diego, CA	18.447	0.142	0.062	0.025	0.011	0.023	0.015	4.265	6.023
	9.950	0.349	0.241	0.158	0.106	0.150	0.123	9.786	10.816
San Francisco-Oakland-San Jose, CA	13.046	0.304	0.132	0.052	0.021	0.046	0.018	5.025	1.886
	8.238	0.460	0.338	0.222	0.143	0.210	0.131	9.306	5.351
Santa Barbara-Santa Maria-Lompoc, CA	18.395	0.164	0.013	0.000	0.000	0.032	0.000	0.000	6.604
	9.432	0.371	0.114	0.000	0.000	0.176	0.000	0.000	10.897
Sarasota, FL	20.530	0.160	0.074	0.064	0.027	0.000	0.000	15.786	0.000
	11.416	0.367	0.262	0.245	0.162	0.000	0.000	14.594	0.000
Scranton-Wilkes-Barre, PA	13.911	0.236	0.030	0.000	0.000	0.000	0.000	0.579	0.000
	6.889	0.425	0.172	0.021	0.000	0.000	0.000	3.791	0.000
Seattle-Tacoma, WA	13.151	0.304	0.076	0.053	0.011	0.012	0.004	3.233	0.495
	7.334	0.460	0.266	0.224	0.103	0.107	0.060	6.891	2.803
Shreveport, LA	26.914	0.051	0.024	0.031	0.018	0.000	0.000	21.969	0.000
	13.084	0.220	0.153	0.174	0.133	0.000	0.000	17.061	0.000
South Bend-Mishawaka, IN	15.325	0.232	0.081	0.078	0.007	0.000	0.000	8.407	0.000
	8.394	0.423	0.273	0.268	0.084	0.000	0.000	11.157	0.000
Springfield, MA	23.794	0.086	0.035	0.004	0.004	0.018	0.006	2.949	13.049
	14.304	0.281	0.184	0.064	0.064	0.133	0.076	9.568	17.924
Syracuse, NY	18.313	0.192	0.042	0.012	0.002	0.003	0.000	4.285	0.868
	10.520	0.394	0.200	0.108	0.048	0.053	0.022	11.506	5.439
Tampa-St. Petersburg-Clearwater, FL	18.129	0.178	0.013	0.054	0.003	0.019	0.002	9.781	2.088
	9.161	0.382	0.115	0.226	0.059	0.136	0.047	12.826	6.253
Toledo, OH	20.230	0.212	0.077	0.049	0.006	0.000	0.000	11.813	0.000
	11.238	0.409	0.267	0.216	0.077	0.000	0.000	14.271	0.000

Table 1 B. Summary statistics on poverty rates of neighborhoods by metropolitan area

Metropolitan Area	POVERTY	LOW-POV	VLOW-POV	BLACK* LOW-POV	BLACK* VLOW-POV	HISP* LOW-POV	HISP* VLOW-POV	BLACK* POVERTY	HISP* POVERTY
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Tucson, AZ	22.471	0.116	0.023	0.026	0.005	0.031	0.002	3.266	12.745
	10.116	0.321	0.149	0.159	0.069	0.172	0.040	8.757	13.984
Tulsa, OK	19.203	0.166	0.019	0.043	0.001	0.000	0.000	10.043	0.000
	9.901	0.373	0.136	0.203	0.035	0.000	0.000	13.219	0.000
Utica-Rome, NY	20.256	0.121	0.019	0.001	0.001	0.002	0.002	3.890	1.550
	11.075	0.327	0.137	0.027	0.027	0.047	0.047	11.377	6.826
Washington-Baltimore, DC-MD-VA-WV	12.167	0.308	0.231	0.159	0.106	0.012	0.010	8.057	0.382
	9.693	0.462	0.422	0.366	0.308	0.108	0.101	10.979	2.309
West Palm Beach-Boca Raton-Delray	19.656	0.108	0.012	0.043	0.004	0.024	0.002	14.524	2.045
Beach, FL	10.082	0.310	0.108	0.202	0.063	0.152	0.049	13.857	5.692
Wichita, KS	14.290	0.230	0.201	0.042	0.034	0.000	0.000	7.227	0.000
	10.207	0.421	0.401	0.200	0.180	0.000	0.000	11.920	0.000
Youngstown-Warren, OH	22.771	0.117	0.016	0.026	0.003	0.000	0.000	14.444	0.000
	11.140	0.322	0.125	0.158	0.056	0.000	0.000	15.892	0.000

Table 1 C. Summary statistics on tightness of the housing market by metropolitan area

Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Albany-Schenectady-Troy, NY	7.810	0.127	0.054	0.007	0.003	0.003	0.003	1.415	0.609
	4.173	0.333	0.225	0.085	0.058	0.056	0.058	3.654	2.535
Albuquerque, NM	11.361	0.025	0.065	0.000	0.000	0.020	0.041	0.000	6.955
	5.398	0.157	0.247	0.000	0.000	0.140	0.199	0.000	7.026
Allentown-Bethlehem-Easton, PA-NJ	7.794	0.148	0.037	0.012	0.002	0.024	0.002	0.811	1.756
	4.158	0.355	0.188	0.110	0.046	0.153	0.046	2.769	3.736
Atlanta, GA	6.351	0.127	0.079	0.110	0.070	0.000	0.000	5.798	0.000
	3.508	0.333	0.270	0.313	0.255	0.000	0.000	3.831	0.000
Augusta, GA-SC	10.877	0.066	0.042	0.059	0.031	0.000	0.000	9.751	0.000
	5.763	0.249	0.202	0.235	0.174	0.000	0.000	6.372	0.000
Austin, TX	4.311	0.293	0.237	0.142	0.120	0.068	0.064	1.895	0.814
	2.898	0.456	0.425	0.349	0.326	0.251	0.245	2.769	1.901
Baton Rouge, LA	11.320	0.063	0.002	0.061	0.002	0.000	0.000	10.285	0.000
	6.882	0.243	0.048	0.239	0.048	0.000	0.000	7.392	0.000
Beaumont-Port Arthur, TX	11.306	0.054	0.009	0.038	0.005	0.000	0.000	9.340	0.000
	5.532	0.225	0.095	0.192	0.068	0.000	0.000	6.577	0.000
Binghamton, NY	10.572	0.014	0.000	0.005	0.000	0.000	0.000	1.762	0.000
	3.720	0.119	0.000	0.073	0.000	0.000	0.000	4.222	0.000
Birmingham, AL	9.422	0.026	0.066	0.014	0.048	0.000	0.000	7.423	0.000
	4.701	0.160	0.248	0.119	0.214	0.000	0.000	5.749	0.000
Boise City, ID	5.714	0.198	0.054	0.000	0.000	0.015	0.002	0.000	0.508
	2.555	0.398	0.226	0.000	0.000	0.120	0.047	0.000	1.824
Boston-Lawrence-Salem, MA-NH	3.300	0.368	0.318	0.043	0.031	0.063	0.042	0.430	0.610
	2.562	0.482	0.466	0.204	0.173	0.244	0.201	1.424	1.677
Buffalo-Niagara Falls, NY	10.604	0.042	0.020	0.011	0.000	0.001	0.000	5.080	0.657
	5.072	0.202	0.140	0.107	0.000	0.024	0.000	6.877	2.963

Table 1 C. Summary statistics on tightness of the housing market by metropolitan area

Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Canton, OH	9.973	0.048	0.018	0.016	0.002	0.000	0.000	2.617	0.000
	4.913	0.213	0.132	0.125	0.044	0.000	0.000	5.195	0.000
Charleston, SC	8.453	0.053	0.091	0.048	0.080	0.000	0.000	7.631	0.000
	5.003	0.223	0.288	0.214	0.272	0.000	0.000	5.291	0.000
Charleston, WV	9.057	0.066	0.000	0.006	0.000	0.000	0.000	2.288	0.000
	3.439	0.248	0.000	0.080	0.000	0.000	0.000	4.568	0.000
Charlotte-Gastonia-Rock Hill, NC-SC	7.056	0.077	0.096	0.043	0.062	0.000	0.000	4.907	0.000
	4.166	0.267	0.294	0.204	0.241	0.000	0.000	4.536	0.000
Chattanooga, TN-GA	9.277	0.100	0.025	0.085	0.012	0.000	0.000	6.111	0.000
	3.582	0.300	0.157	0.279	0.109	0.000	0.000	5.205	0.000
Chicago-Gary-Lake County, IL-IN-WI	5.744	0.153	0.180	0.073	0.083	0.015	0.017	3.499	0.464
	4.026	0.360	0.385	0.260	0.276	0.122	0.129	4.502	1.739
Cincinnati-Hamilton, OH-KY-IN	8.638	0.101	0.048	0.018	0.013	0.000	0.000	3.360	0.000
	4.377	0.302	0.214	0.131	0.112	0.000	0.000	5.310	0.000
Cleveland-Akron-Lorain, OH	8.151	0.086	0.044	0.020	0.013	0.009	0.002	4.086	0.554
	4.353	0.280	0.204	0.141	0.115	0.093	0.044	5.675	2.300
Colorado Springs, CO	6.296	0.176	0.054	0.045	0.006	0.021	0.007	1.247	0.812
	3.026	0.381	0.226	0.208	0.074	0.142	0.083	2.872	2.279
Columbia, SC	9.854	0.015	0.011	0.013	0.009	0.000	0.000	8.202	0.000
	4.542	0.120	0.102	0.114	0.096	0.000	0.000	5.250	0.000
Columbus, OH	7.804	0.032	0.083	0.011	0.015	0.000	0.000	2.467	0.000
	4.487	0.176	0.276	0.104	0.123	0.000	0.000	5.072	0.000
Dallas-Fort Worth, TX	7.443	0.141	0.070	0.061	0.032	0.011	0.010	4.254	0.525
	4.923	0.348	0.256	0.239	0.176	0.107	0.098	5.611	2.207
Davenport-Rock Island-Moline, IA-IL	7.997	0.061	0.046	0.018	0.020	0.000	0.000	3.112	0.000
	4.057	0.240	0.209	0.133	0.142	0.000	0.000	5.011	0.000

Table 1 C. Summary statistics on tightness of the housing market by metropolitan area

Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Dayton-Springfield, OH	9.938	0.028	0.058	0.015	0.018	0.000	0.000	5.576	0.000
	6.210	0.166	0.234	0.121	0.135	0.000	0.000	8.010	0.000
Daytona Beach, FL	7.298	0.192	0.046	0.083	0.016	0.027	0.002	2.651	0.568
	3.836	0.394	0.209	0.276	0.125	0.161	0.046	4.250	1.990
Denver-Boulder, CO	3.760	0.371	0.244	0.054	0.030	0.096	0.054	0.561	0.908
	3.348	0.483	0.429	0.225	0.172	0.294	0.226	2.137	2.155
Des Moines, IA	6.950	0.155	0.024	0.003	0.000	0.000	0.000	1.117	0.000
	3.229	0.362	0.153	0.055	0.000	0.000	0.000	3.181	0.000
Detroit-Ann Arbor, MI	6.144	0.172	0.161	0.061	0.068	0.005	0.001	3.533	0.295
	4.428	0.377	0.367	0.240	0.252	0.071	0.033	4.867	1.659
Dothan, AL	14.125	0.000	0.000	0.000	0.000	0.000	0.000	10.902	0.000
	4.938	0.000	0.000	0.000	0.000	0.000	0.000	7.246	0.000
Elkhart-Goshen, IN	7.938	0.089	0.010	0.033	0.002	0.000	0.000	2.953	0.000
	3.844	0.285	0.101	0.179	0.045	0.000	0.000	4.921	0.000
Evansville, IN-KY	9.121	0.008	0.129	0.002	0.029	0.000	0.000	1.706	0.000
	5.753	0.087	0.335	0.044	0.168	0.000	0.000	4.167	0.000
Fort Collins-Loveland, CO	4.095	0.385	0.176	0.000	0.000	0.065	0.013	0.000	0.708
	3.958	0.487	0.381	0.000	0.000	0.246	0.113	0.000	2.258
Fort Myers-Cape CoraL, Fl	9.024	0.134	0.006	0.000	0.000	0.047	0.003	0.000	2.610
	5.576	0.342	0.079	0.000	0.000	0.212	0.056	0.000	4.618
Fresno, CA	6.745	0.188	0.059	0.035	0.010	0.085	0.032	1.784	2.513
	3.335	0.391	0.236	0.183	0.100	0.279	0.177	3.477	3.694
Grand Forks, ND	8.343	0.022	0.005	0.000	0.000	0.000	0.002	0.000	0.904
	2.083	0.146	0.068	0.000	0.000	0.000	0.039	0.000	2.850
Grand Rapids, MI	6.805	0.149	0.058	0.072	0.020	0.009	0.001	3.992	0.382
	3.317	0.357	0.233	0.259	0.139	0.095	0.036	4.307	1.767

Table 1 C. Summary statistics on tightness of the housing market by metropolitan area

Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Greensboro-Winston-Salem-High Point, NC	7.728	0.068	0.021	0.042	0.010	0.000	0.000	4.922	0.000
	3.340	0.251	0.144	0.201	0.098	0.000	0.000	4.606	0.000
Greenville-Spartanburg, SC	11.833	0.014	0.003	0.010	0.002	0.000	0.000	7.673	0.000
	4.176	0.116	0.057	0.098	0.040	0.000	0.000	6.749	0.000
Harrisburg-Lebanon-Carlisle, PA	8.178	0.068	0.029	0.012	0.000	0.004	0.001	2.493	0.939
	4.097	0.252	0.168	0.107	0.000	0.062	0.031	5.270	2.900
Hartford, CT	6.486	0.196	0.081	0.045	0.017	0.047	0.011	2.132	2.279
	3.686	0.397	0.273	0.207	0.129	0.212	0.105	4.080	3.900
Hickory-Morganton, NC	7.661	0.075	0.030	0.016	0.010	0.000	0.000	2.602	0.000
	3.212	0.264	0.170	0.125	0.099	0.000	0.000	3.912	0.000
Houston-Galveston-Brazoria, TX	9.421	0.051	0.031	0.039	0.023	0.006	0.003	5.866	1.430
	4.871	0.220	0.172	0.193	0.151	0.077	0.057	5.984	3.818
Indianapolis, IN	11.151	0.039	0.017	0.012	0.006	0.000	0.000	6.182	0.000
	5.130	0.194	0.130	0.109	0.077	0.000	0.000	7.531	0.000
Jacksonville, FL	9.903	0.049	0.013	0.035	0.009	0.000	0.000	7.216	0.000
	4.902	0.215	0.111	0.184	0.093	0.000	0.000	5.790	0.000
Janesville-Beloit, WI	6.876	0.245	0.058	0.002	0.012	0.000	0.000	2.006	0.000
	3.415	0.431	0.234	0.042	0.111	0.000	0.000	3.699	0.000
Johnson City-Kingsport-Bristol, TN-VA	10.374	0.020	0.006	0.000	0.000	0.000	0.000	0.972	0.000
	4.187	0.140	0.079	0.000	0.000	0.000	0.000	3.380	0.000
Jonesboro, AR	10.462	0.000	0.000	0.000	0.000	0.000	0.000	3.726	0.000
	2.352	0.000	0.000	0.000	0.000	0.000	0.000	5.400	0.000
Kansas City, MO-KS	7.796	0.079	0.084	0.020	0.028	0.002	0.002	2.978	0.185
	4.329	0.271	0.277	0.141	0.166	0.049	0.041	5.255	1.439
Killeen-Temple, TX	9.226	0.038	0.030	0.020	0.016	0.006	0.004	5.115	1.829
	4.733	0.191	0.170	0.140	0.125	0.077	0.063	5.645	4.305
Knoxville, TN	11.497	0.080	0.014	0.016	0.001	0.000	0.000	3.308	0.000

Table 1 C. Summary statistics on tightness of the housing market by metropolitan area

Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
	5.614	0.271	0.119	0.125	0.028	0.000	0.000	5.888	0.000
Lafayette, LA	10.166	0.002	0.017	0.000	0.011	0.000	0.000	7.063	0.000
	4.379	0.040	0.131	0.000	0.105	0.000	0.000	5.959	0.000
Lake Charles, LA	12.782	0.000	0.000	0.000	0.000	0.000	0.000	8.210	0.000
	5.028	0.000	0.000	0.000	0.000	0.000	0.000	6.867	0.000
Lancaster, PA	6.615	0.177	0.087	0.000	0.000	0.046	0.007	0.000	3.259
	3.509	0.382	0.283	0.000	0.000	0.209	0.081	0.000	4.551
Lansing-East Lansing, MI	6.869	0.184	0.051	0.110	0.029	0.000	0.000	3.916	0.000
	4.401	0.388	0.220	0.313	0.168	0.000	0.000	5.112	0.000
Las Vegas, NV	9.897	0.018	0.073	0.008	0.043	0.001	0.007	3.689	0.859
	8.534	0.134	0.261	0.091	0.204	0.029	0.081	7.410	3.279
Lexington-Fayette, KY	9.018	0.016	0.017	0.005	0.008	0.000	0.000	3.216	0.000
	3.684	0.125	0.128	0.069	0.087	0.000	0.000	4.986	0.000
Little Rock-North Little Rock, AR	8.862	0.071	0.013	0.007	0.003	0.000	0.000	4.360	0.000
	4.286	0.257	0.115	0.083	0.052	0.000	0.000	5.723	0.000
Longview-Marshall, TX	10.486	0.060	0.000	0.047	0.000	0.000	0.000	9.317	0.000
	3.907	0.238	0.000	0.212	0.000	0.000	0.000	5.089	0.000
Los Angeles-Anaheim-Riverside, CA	3.545	0.347	0.333	0.089	0.050	0.100	0.115	1.358	0.833
	3.227	0.476	0.471	0.284	0.217	0.301	0.319	2.808	1.963
Louisville, KY-IN	8.214	0.061	0.035	0.020	0.008	0.000	0.000	4.681	0.000
	3.838	0.240	0.183	0.139	0.088	0.000	0.000	5.034	0.000
Mansfield, OH	10.325	0.077	0.028	0.009	0.011	0.000	0.000	3.796	0.000
	4.871	0.266	0.165	0.094	0.107	0.000	0.000	6.607	0.000
Miami-Fort Lauderdale, FL	6.245	0.188	0.107	0.056	0.032	0.117	0.072	3.880	1.805
	3.967	0.391	0.309	0.230	0.175	0.321	0.258	4.609	3.153
Milwaukee-Racine, WI	6.091	0.216	0.062	0.038	0.021	0.011	0.002	2.488	0.345
	3.636	0.412	0.241	0.191	0.143	0.103	0.045	4.413	1.829

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Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Minneapolis-St. Paul, MN-WI	2.899	0.297	0.470	0.083	0.112	0.009	0.010	0.917	0.098
	3.635	0.457	0.499	0.276	0.316	0.097	0.098	2.221	1.410
Mobile, AL	11.152	0.077	0.032	0.073	0.029	0.000	0.000	8.600	0.000
	6.933	0.267	0.176	0.261	0.169	0.000	0.000	6.685	0.000
Monroe, LA	9.257	0.017	0.055	0.017	0.053	0.000	0.000	6.727	0.000
	5.084	0.128	0.228	0.128	0.225	0.000	0.000	6.111	0.000
Myrtle Beach, SC	17.185	0.003	0.000	0.003	0.000	0.000	0.000	9.023	0.000
	10.391	0.056	0.000	0.056	0.000	0.000	0.000	10.822	0.000
Nashville, TN	7.538	0.056	0.025	0.042	0.019	0.000	0.000	4.184	0.000
	3.606	0.229	0.157	0.201	0.136	0.000	0.000	4.653	0.000
New Orleans, LA	8.054	0.135	0.080	0.120	0.072	0.000	0.000	7.058	0.000
	5.713	0.342	0.271	0.325	0.259	0.000	0.000	6.069	0.000
New York-Northern New Jersey-Long Island, NY-NJ-CT	4.032	0.326	0.257	0.103	0.069	0.085	0.063	1.612	0.913
	3.284	0.469	0.437	0.304	0.254	0.279	0.243	2.947	2.179
Norfolk-Virginia Beach-Newport News, VA	6.651	0.218	0.066	0.199	0.057	0.000	0.000	6.048	0.000
	4.518	0.413	0.249	0.399	0.232	0.000	0.000	4.717	0.000
Oklahoma City, OK	11.798	0.049	0.014	0.012	0.007	0.000	0.000	5.880	0.000
	6.493	0.216	0.118	0.108	0.082	0.000	0.000	8.329	0.000
Omaha, NE-IA	9.009	0.094	0.037	0.046	0.014	0.000	0.000	3.720	0.000
	9.254	0.292	0.188	0.210	0.116	0.000	0.000	7.585	0.000
Orlando, FL	7.635	0.153	0.081	0.049	0.029	0.059	0.037	3.452	2.810
	4.677	0.360	0.273	0.217	0.168	0.236	0.188	4.975	4.791
Pensacola, FL	11.257	0.000	0.000	0.000	0.000	0.000	0.000	7.105	0.000
	5.209	0.000	0.000	0.000	0.000	0.000	0.000	6.482	0.000
Peoria, IL	9.168	0.174	0.026	0.028	0.001	0.000	0.000	4.197	0.000
	6.464	0.379	0.160	0.164	0.038	0.000	0.000	6.714	0.000

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	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Philadelphia-Wilmington-Trenton, PA-NJ-DE-MD	7.613	0.102	0.096	0.053	0.040	0.017	0.011	4.159	0.820
	5.423	0.302	0.295	0.225	0.196	0.129	0.103	4.955	2.680
Phoenix, AZ	9.202	0.074	0.055	0.015	0.011	0.021	0.016	1.682	2.144
	6.369	0.262	0.227	0.123	0.104	0.143	0.125	4.180	4.942
Pittsburgh, PA	10.309	0.041	0.045	0.006	0.004	0.000	0.000	3.560	0.000
	5.712	0.198	0.207	0.080	0.063	0.000	0.000	6.570	0.000
Portland-Vancouver, OR-WA	6.820	0.112	0.030	0.002	0.002	0.009	0.002	0.518	0.500
	2.922	0.315	0.171	0.049	0.040	0.094	0.040	2.064	1.921
Providence-Fall River-Warwick, RI-MA	4.990	0.215	0.159	0.012	0.006	0.024	0.008	0.411	0.655
	2.710	0.411	0.365	0.109	0.076	0.152	0.088	1.617	1.904
Raleigh-Durham, NC	7.745	0.044	0.055	0.041	0.046	0.000	0.000	5.940	0.000
	4.600	0.205	0.229	0.198	0.210	0.000	0.000	5.226	0.000
Richmond-Petersburg, VA	7.769	0.068	0.120	0.053	0.107	0.000	0.000	6.921	0.000
	5.048	0.252	0.325	0.224	0.309	0.000	0.000	5.510	0.000
Rochester, NY	8.441	0.082	0.069	0.009	0.006	0.003	0.002	2.411	1.081
	4.719	0.274	0.254	0.094	0.077	0.054	0.042	4.826	3.609
Rockford, IL	7.869	0.035	0.023	0.012	0.009	0.000	0.000	4.432	0.000
	2.903	0.183	0.150	0.107	0.094	0.000	0.000	4.851	0.000
Sacramento-Yolo, CA	4.894	0.193	0.226	0.037	0.010	0.026	0.026	0.968	0.529
	4.867	0.395	0.418	0.190	0.100	0.160	0.160	2.398	1.737
St. Louis, MO-IL	8.759	0.075	0.023	0.030	0.008	0.000	0.000	5.032	0.000
	4.702	0.264	0.151	0.170	0.087	0.000	0.000	6.049	0.000
Salt Lake City-Ogden, UT	7.144	0.103	0.078	0.005	0.005	0.014	0.014	0.405	1.207
	3.618	0.303	0.268	0.068	0.068	0.117	0.117	1.902	3.182
San Antonio, TX	7.026	0.096	0.072	0.014	0.014	0.073	0.035	1.467	4.247
	3.744	0.295	0.258	0.118	0.118	0.261	0.185	3.249	4.474

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	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
San Diego, CA	2.928	0.443	0.344	0.096	0.073	0.120	0.113	0.550	0.815
	2.640	0.497	0.475	0.295	0.259	0.325	0.317	1.380	1.856
San Francisco-Oakland-San Jose, CA	2.635	0.332	0.455	0.104	0.090	0.045	0.077	0.988	0.362
	2.607	0.471	0.498	0.305	0.286	0.207	0.267	2.166	1.448
Santa Barbara-Santa Maria-Lompoc, CA	3.426	0.353	0.355	0.000	0.000	0.100	0.132	0.000	0.923
	2.789	0.478	0.479	0.000	0.000	0.300	0.339	0.000	1.852
Sarasota, FL	8.342	0.039	0.041	0.016	0.035	0.000	0.000	5.301	0.000
	3.903	0.194	0.199	0.127	0.184	0.000	0.000	4.843	0.000
Scranton-Wilkes-Barre, PA	8.111	0.127	0.037	0.000	0.001	0.000	0.000	0.300	0.000
	3.869	0.333	0.190	0.021	0.030	0.000	0.000	1.916	0.000
Seattle-Tacoma, WA	5.846	0.221	0.066	0.062	0.015	0.009	0.002	1.263	0.247
	3.385	0.415	0.248	0.241	0.121	0.094	0.047	2.851	1.404
Shreveport, LA	9.847	0.085	0.009	0.065	0.008	0.000	0.000	7.240	0.000
	5.010	0.279	0.094	0.246	0.090	0.000	0.000	5.969	0.000
South Bend-Mishawaka, IN	6.082	0.266	0.191	0.078	0.052	0.000	0.000	3.436	0.000
	4.464	0.442	0.394	0.268	0.223	0.000	0.000	4.859	0.000
Springfield, MA	5.307	0.291	0.175	0.017	0.020	0.111	0.049	0.667	2.754
	3.630	0.454	0.380	0.129	0.141	0.314	0.216	2.263	4.056
Syracuse, NY	9.659	0.017	0.023	0.002	0.005	0.000	0.000	2.038	0.375
	4.647	0.129	0.151	0.043	0.068	0.022	0.022	5.481	2.312
Tampa-St. Petersburg-Clearwater, FL	8.806	0.106	0.066	0.060	0.030	0.013	0.009	3.949	1.021
	5.136	0.308	0.248	0.237	0.172	0.115	0.093	5.573	3.235
Toledo, OH	8.800	0.101	0.012	0.040	0.004	0.000	0.000	5.030	0.000
	6.356	0.301	0.108	0.196	0.067	0.000	0.000	6.670	0.000
Tucson, AZ	8.314	0.039	0.079	0.010	0.026	0.024	0.026	1.100	4.489
	3.968	0.193	0.270	0.098	0.159	0.154	0.159	3.118	5.146

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Metropolitan Area	VR	LOW-VR	VLOW-VR	BLACK* LOW-VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW-VR	BLACK* VR	HISP* VR
	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.	mean std. dev.
Tulsa, OK	8.223	0.086	0.021	0.021	0.001	0.000	0.000	3.863	0.000
	3.859	0.280	0.145	0.145	0.035	0.000	0.000	4.957	0.000
Utica-Rome, NY	11.712	0.071	0.010	0.001	0.000	0.000	0.000	1.699	0.798
	5.390	0.256	0.097	0.027	0.000	0.000	0.000	4.903	3.436
Washington-Baltimore, DC-MD-VA-WV	5.381	0.228	0.195	0.129	0.105	0.012	0.012	3.216	0.143
	4.220	0.420	0.396	0.335	0.307	0.108	0.111	4.438	0.957
West Palm Beach-Boca Raton-Delray Beach, FL	8.725	0.074	0.023	0.040	0.016	0.015	0.001	5.269	1.125
	4.185	0.261	0.150	0.195	0.125	0.122	0.028	5.182	3.319
Wichita, KS	9.866	0.024	0.048	0.002	0.011	0.000	0.000	3.890	0.000
	5.061	0.153	0.214	0.040	0.105	0.000	0.000	6.034	0.000
Youngstown-Warren, OH	10.052	0.050	0.020	0.004	0.001	0.000	0.000	6.007	0.000
	5.046	0.218	0.141	0.065	0.033	0.000	0.000	7.121	0.000

4. Results.

An analysis of the CSS data linked to neighborhood characteristics at the Census tract level indicates substantial differences in rents and neighborhood composition across races and ethnicities. Table 2 provides summary data for the sample of observations used in the hedonic regressions. Separate estimates are provided for the entire sample, for white households, for African-American households, and for Hispanic households. Comparing mean rents across these groups indicates that whites in the sample pay less rent on average than African Americans or Hispanics. It is not possible, however, to suggest that whites on average are occupying less desirable housing since these means do not control for price variation across metropolitan areas. The results from the hedonic regressions control for, among other things, the geographic location of the unit.

Not surprisingly, the results presented in Table 2 suggest that the neighborhoods occupied by white households in the voucher or certificate programs have a large fraction of the population identified as white than the neighborhoods occupied by African-American or Hispanic households in the same programs. The average fraction of the neighborhood white is over 78 percent for white households, but less than 45 percent for African-American households. Furthermore, African-American and Hispanic households are much less likely to live in predominantly white neighborhoods. Nearly 60 percent of white households in these programs live in neighborhoods where at least 80 percent of the households self-identify as white, whereas only 14 percent of African-American households and 24 percent of Hispanic households live in mostly white neighborhoods.

On average minorities in the voucher and certificate programs live in neighborhoods with a larger fraction of the population poor. As Table 2 suggests, more than 40 percent of white voucher and certificate holders occupy units of housing in low or very low poverty neighborhoods. For African-American households, this fraction is cut in half. Average rates of neighborhood poverty are also higher for African Americans (20.6 percent) than for whites (13.9 percent) and the average rate of neighborhood poverty for Hispanics falls between those two (18.7 percent).

The relationship between the race and ethnicity and the relative tightness of the rental housing market of the neighborhood does not mirror the relationship between household characteristics and poverty. Interestingly, Hispanic households tend to live in neighborhoods with tighter housing markets than whites or African Americans, although the difference is only pronounced between Hispanics and African Americans. The average rental vacancy rate is nearly 50 percent higher in the neighborhood occupied by African Americans than the neighborhoods occupied by Hispanics. Furthermore, roughly 47 percent of Hispanics in the voucher and certificate programs occupy housing in neighborhoods with low or very low vacancy rates. However, less than half of this fraction (23.3 percent) of African-American households live in neighborhoods with similarly tight housing markets.

Table 2. Differences in rents and neighborhood characteristics by race and ethnicity.

	All	Whites	African Americans	Hispanics
	mean (std. dev.)	mean (std. dev.)	mean (std. dev.)	mean (std. dev.)
Gross rent	706.150 (253.545)	683.026 (248.407)	730.351 (245.405)	803.028 (262.187)
Fraction of neighborhood white	64.965 (28.717)	78.322 (19.659)	44.725 (28.814)	60.907 (21.581)
Majority white neighborhood	0.304 (0.460)	0.296 (0.457)	0.312 (0.463)	0.445 (0.497)
Mostly white neighborhood	0.413 (0.492)	0.594 (0.491)	0.143 (0.350)	0.235 (0.424)
Poverty rate	16.550 (11.014)	13.935 (9.670)	20.619 (11.750)	18.688 (10.789)
Low poverty	0.230 (0.421)	0.281 (0.449)	0.151 (0.358)	0.171 (0.377)
Very low poverty	0.105 (0.307)	0.138 (0.345)	0.055 (0.228)	0.063 (0.244)
Rental vacancy rate	6.669 (4.944)	6.071 (4.666)	7.721 (5.188)	5.222 (4.194)
Low vacancy rate	0.181 (0.385)	0.206 (0.405)	0.138 (0.345)	0.263 (0.440)
Very low vacancy rate	0.143 (0.350)	0.167 (0.373)	0.095 (0.293)	0.207 (0.405)
Number of observations	228,423	135,696	87,411	26,851

Notes: The above summary statistics are the unweighted means and standard deviations of the observations used in the hedonic regressions.

Table 2 indicates that differences in rents paid and neighborhood composition exists across races and ethnicities. However, some of those differences can be explained by differences in the racial and ethnic composition of metropolitan areas. If, for example, Hispanics are more likely to live in urban areas, it is not surprising to witness higher rents and lower vacancy rates on average for those households. The goal of this research was not to identify whether these differences exists. Rather, the goal is to determine whether the race or ethnicity of the household explains this difference. Summary data do not generally allow for such determination. Regression analysis, on the other hand, is designed to control for the many determinants of these differences allowing a better understanding of the role of race and ethnicity in determining differences in rents and living conditions.

The remainder of this chapter discusses the findings of the hedonic regression models developed in the previous chapter. As the previous chapter noted, separate regressions are estimated for each metropolitan area with sufficient sample size to produce reliable estimates. Table 3 gives summary data on the coefficients and their level of significance from the estimates of the 111 hedonic equations described above. The summary statistics and regression results for the missing value indicators are not reported. Two sets of results are reported, those using discrete measures of neighborhood composition (Eq. 2) and those using continuous measures (Eq. 3). Model fit data shown at the bottom of Table 3 suggests that on average model fit was good under both specifications with an average adjusted R-squared of over .72 for each. However, much variation in the fit of the models exists across metropolitan areas. The range of adjusted-R squareds was from a low of .43 in Indianapolis to a high of .89 in Tucson.

Table 3 also reports the mean coefficient, mean standard error, number of coefficients that are statistically significant and positive, and the number of coefficients that are significant and negative separately for the hedonics employing discrete and continuous measures of neighborhood attributes. To illustrate how to interpret these summary data, consider the results related to unit size. Since the hedonic specification is log-linear, each coefficient gives an estimate of the percentage change in rent as the variable increases by one. For example, the average coefficient on BDRMS1 is .164 under the discrete hedonic. This implies that rents on one bedroom apartments are on average 16 percent more expensive than efficiency apartments, the omitted category. As expected, the difference between the rent of a unit and the rent of an efficiency apartment increases as the number of bedrooms increases. This is shown by observing that the coefficient estimates increase with the size of the unit and are commonly found to be positive and statistically significant. In fact, in 107 of the 111 areas the coefficient indicating a three bedroom apartment is positive and statistically significant. Although many variables had coefficients of the expected sign, some individual characteristics have signs opposite from what was expected and are significantly different from zero.

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
Variable	mean coefficient	mean std. error	significant & pos.	neg.	mean coefficient	mean std. error	significant & pos.	neg.
Bedrooms								
BDRMS1	0.164	0.096	69	6	0.161	0.090	67	7
BDRMS2	0.328	0.039	94	3	0.327	0.033	93	4
BDRMS3	0.531	0.003	107	0	0.534	0.002	107	0
BDRMS4P	0.112	0.056	90	0	0.112	0.051	90	0
Units in the structure								
UNITS1	0.036	0.207	49	2	0.036	0.213	48	2
UNITS4-8	-0.006	0.328	8	11	-0.006	0.329	9	15
UNITS8P	-0.004	0.317	10	19	-0.003	0.294	10	19
Length of time in the unit								
LT1YR	0.047	0.125	70	0	0.047	0.141	69	0
Kitchens and bathrooms								
OVEN	0.000	0.323	11	9	0.000	0.315	6	9
REFRIG	-0.001	0.372	10	14	-0.002	0.371	12	13
WATER1	0.000	0.333	16	11	0.000	0.345	13	15
WATER2	-0.002	0.363	13	12	-0.002	0.376	12	13
KLIGHT	0.013	0.400	13	6	0.009	0.378	14	7
KOUT1	0.009	0.405	10	5	0.008	0.399	12	8
KOUT2	0.015	0.366	19	9	0.014	0.378	18	8
HOTCOLD	-0.002	0.340	16	14	0.000	0.348	18	14
WLEAK	0.004	0.357	17	7	0.004	0.345	15	7
CLOG1	0.009	0.345	18	6	0.008	0.342	21	8

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
Variable	mean coefficient	mean std. error	significant & pos.	neg.	mean coefficient	mean std. error	significant & pos.	neg.
CLOG2	-0.002	0.356	11	7	-0.002	0.381	9	7
BATHVENT	0.000	0.422	4	8	-0.001	0.406	5	8
TOILETS	-0.006	0.358	10	14	-0.006	0.386	8	15
BADTOILET13	0.001	0.362	14	11	0.000	0.363	14	10
BADTOILET4P	-0.003	0.376	9	9	-0.002	0.378	11	9
WETFLOOR	0.002	0.357	15	12	0.002	0.328	13	13
Electrical wiring								
ENCLOSED	-0.001	0.393	9	11	-0.003	0.372	10	10
COVERS	0.005	0.380	16	9	0.006	0.398	18	9
OUTLETS	-0.008	0.337	12	12	-0.008	0.335	12	15
FIXWORK	-0.008	0.369	6	19	-0.005	0.350	6	17
NOFIX	-0.010	0.348	11	17	-0.004	0.353	11	17
BLOWN13	0.005	0.400	18	5	0.006	0.405	17	4
BLOWN4P	0.008	0.328	19	9	0.008	0.322	21	10
Heating and cooling								
HEATOK	-0.005	0.324	5	26	-0.005	0.323	8	22
HEATDN	0.000	0.386	11	10	0.002	0.374	11	5
OVENHEAT1	-0.013	0.382	7	26	-0.013	0.355	6	26
OVENHEAT2	-0.006	0.360	7	17	-0.006	0.351	7	16
NOAC	-0.029	0.197	5	48	-0.030	0.205	5	47
BADAC	-0.005	0.351	5	18	-0.006	0.329	7	22
ADJHEAT1	0.019	0.333	25	4	0.020	0.316	26	5
ADJHEAT2	0.015	0.323	24	9	0.015	0.316	24	11

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
	mean	mean	significant &		mean	mean	significant &	
Variable	coefficient	std. error	pos.	neg.	coefficient	std. error	pos.	neg.
NOWINTER	0.008	0.362	15	4	0.008	0.337	18	5
HEATOFF13	0.002	0.380	11	7	0.002	0.342	14	10
HEATOFF4P	0.004	0.406	10	9	0.006	0.395	14	8
COLDHOME	0.003	0.335	21	7	0.004	0.365	19	5
Sanitation and safety								
RATS	0.001	0.358	14	10	0.002	0.379	13	12
ROACHES	-0.001	0.326	13	14	-0.001	0.347	12	13
SMELL1	-0.001	0.401	10	9	0.000	0.370	11	9
SMELL2	0.001	0.334	15	8	0.000	0.377	11	8
LOCKS	-0.001	0.375	12	8	-0.001	0.398	12	3
WINLOCK	0.003	0.370	11	8	0.002	0.364	13	9
BWINDOW	-0.005	0.333	8	15	-0.006	0.331	10	16
MAILGONE	0.004	0.396	17	8	0.003	0.402	14	6
DETECTOR	-0.001	0.350	8	7	-0.001	0.361	8	9
DETECTORDK	0.014	0.404	14	4	0.014	0.390	14	3
EXITS	0.007	0.412	13	9	0.005	0.399	16	11
GARBAGE	0.005	0.356	13	10	0.004	0.365	11	8
DUMPSTER	-0.005	0.354	9	19	-0.005	0.339	7	17
Dwelling quality								
RAIN	0.002	0.359	9	10	0.002	0.368	13	11
CHIPPING	0.002	0.374	14	6	0.001	0.394	13	8
PEELING	0.002	0.398	11	11	0.002	0.408	11	14
WALLSBAD	-0.006	0.385	5	14	-0.005	0.393	6	18

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
Variable	mean coefficient	mean std. error	significant & pos.	neg.	mean coefficient	mean std. error	significant & pos.	neg.
MILDEW	0.007	0.336	17	8	0.007	0.322	18	6
FLOORMISS	0.000	0.350	6	12	0.000	0.380	7	12
TRIP	0.004	0.391	13	8	0.003	0.398	12	7
BADRAILS	0.000	0.346	11	10	0.000	0.360	11	9
BADRAILSNA	-0.001	0.402	8	8	-0.001	0.392	10	8
BROKENW	-0.005	0.330	7	15	-0.005	0.344	8	12
BADPORCH	-0.003	0.339	11	13	-0.003	0.344	6	17
BADPORCHNA	-0.008	0.314	7	21	-0.008	0.328	6	18
BADSTEPS	-0.001	0.378	13	11	0.000	0.372	12	12
BADSTEPSNA	0.003	0.378	14	7	0.003	0.382	15	8
SIDEWALK	0.002	0.369	12	8	0.002	0.367	14	7
NOLIGHT	0.001	0.315	13	14	0.001	0.321	12	11
BADFENCE	0.006	0.323	18	7	0.006	0.326	17	5
NOFENCE	-0.011	0.291	5	24	-0.011	0.297	2	24
EXWALLS	-0.003	0.384	7	11	-0.003	0.426	7	10
BADROOF	0.003	0.416	14	10	0.002	0.414	10	11
ROOFDK	-0.002	0.416	7	12	-0.002	0.410	6	14
SAFEYARD	0.002	0.349	11	13	0.001	0.336	12	10
UNSAFEYARD	0.002	0.378	10	7	0.002	0.364	7	9
OUT_SAME	0.007	0.402	21	6	0.007	0.396	17	5
OUT_WORSE	0.003	0.398	5	8	0.003	0.414	6	7
SUPER_SAME	0.000	0.320	16	17	0.001	0.339	15	20
SUPER_WORSE	-0.001	0.360	11	10	0.001	0.356	8	7
REPAIR_SAME	0.009	0.309	27	8	0.008	0.302	24	8
REPAIR_WORSE	0.010	0.337	21	9	0.009	0.330	24	8

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
Variable	mean coefficient	mean std. error	significant & pos.	neg.	mean coefficient	mean std. error	significant & pos.	neg.
Apartment complex amenities								
LAUNDRY1	-0.008	0.314	12	21	-0.009	0.321	7	22
LAUNDRY2	-0.011	0.295	11	22	-0.013	0.299	10	21
PLAYAREA1	0.005	0.348	19	9	0.005	0.336	21	9
PLAYAREA2	-0.010	0.393	6	19	-0.010	0.393	7	19
ELEVATOR1	0.018	0.291	23	14	0.018	0.296	24	12
ELEVATOR2	0.010	0.364	18	8	0.008	0.352	16	11
Neighborhood quality								
CRIMEOK	0.004	0.368	13	8	0.003	0.374	12	7
CRIMEBAD	-0.001	0.372	5	9	-0.001	0.391	9	8
CRIMEDK	0.002	0.387	11	11	0.002	0.381	13	10
TRASHOK	0.004	0.397	9	6	0.004	0.398	10	4
TRASHBAD	0.002	0.444	10	8	0.002	0.433	8	6
TRASHDK	-0.006	0.340	11	12	-0.006	0.347	7	11
VACANTOK	0.005	0.327	17	9	0.005	0.333	18	8
VACANTBAD	0.004	0.338	14	13	0.007	0.348	14	11
VACANTDK	0.002	0.399	10	5	0.001	0.386	10	8
NBHDOK	0.002	0.377	15	7	0.003	0.379	15	8
NBHDGRT	0.009	0.340	19	6	0.009	0.332	18	8
General opinion of home (rental unit) as a place to live								
HOMEOK	0.005	0.378	14	10	0.005	0.389	14	7
HOMEGRT	0.005	0.331	21	6	0.005	0.315	21	8

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
Variable	mean coefficient	mean std. error	significant & pos.	neg.	mean coefficient	mean std. error	significant & pos.	neg.
Year dummies								
YEAR2001	0.029	0.162	67	1	0.029	0.173	64	0
YEAR2002	0.109	0.006	107	0	0.109	0.008	104	0
Contract conditions								
CROWDED	0.125	0.022	103	0	0.125	0.022	103	0
Census tract variables								
BLT95_98	0.137	0.334	16	10	0.110	0.366	15	9
BLT90_94	0.055	0.337	15	13	-0.003	0.323	12	13
BLT80_89	0.118	0.306	17	12	0.077	0.318	18	13
BLT70_79	0.088	0.294	18	17	0.042	0.306	13	18
BLT60_69	0.078	0.271	20	15	0.021	0.278	14	21
BLT50_59	0.093	0.323	17	16	0.035	0.337	14	15
BLT40_49	0.044	0.332	16	17	-0.004	0.321	11	16
BLT39	0.015	0.295	15	20	-0.018	0.304	14	20
TRVL_20_39	0.025	0.296	17	10	0.028	0.279	18	9
TRVL_40_59	-0.288	0.214	12	34	-0.251	0.256	10	31
TRVL_60_PLUS	-0.144	0.339	3	25	-0.126	0.352	6	20
MEDINC	0.002	0.223	52	2	0.002	0.229	39	6
DENSITY	0.000	0.199	58	0	0.000	0.197	51	0
Measures of racial/ethnic composition of the household and the neighborhood								
BLACK	0.019	0.356	25	6	-0.014	0.315	15	11

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
	mean	mean	significant &		mean	mean	significant &	
Variable	coefficient	std. error	pos.	neg.	coefficient	std. error	pos.	neg.
HISPANIC	0.016	0.314	8	6	0.023	0.400	8	4
%WHITE					0.000	0.310	9	19
MAJ-WHITE	0.006	0.311	17	11				
MOST-WHITE	-0.002	0.339	15	16				
BLACK*MAJ-WHITE	0.003	0.311	14	10				
BLACK*MOST-WHITE	0.008	0.374	12	8				
HISPANIC*MAJ-WHITE	-0.021	0.356	5	8				
HISPANIC*MOST-WHITE	-0.026	0.371	3	4				
BLACK*%WHITE					0.000	0.330	18	9
HISPANIC*%WHITE					0.000	0.364	4	7
Measures of poverty concentration								
POVERTY					-0.001	0.312	9	23
LOW-POV	0.003	0.335	13	11				
VLOW-POV	0.006	0.361	10	12				
BLACK*LOW-POV	0.007	0.384	8	5				
BLACK*VLOW-POV	0.011	0.307	6	5				
HISPANIC*LOW-POV	0.007	0.373	4	1				
HISPANIC*LOW-POV	0.045	0.374	2	1				
BLACK*POVERTY					0.000	0.396	10	10
HISPANIC*POVERTY					0.000	0.426	1	3
Measures of the tightness of the housing market								
VR					-0.001	0.348	9	16
LOW-VR	-0.010	0.344	12	12				

Table 3. Summary of coefficient estimates from discrete and continuous hedonic regressions.

	Discrete measures of neighborhood composition, poverty, and vacancy rates				Continuous measures of neighborhood composition, poverty, and vacancy rates			
	mean	mean	significant &		mean	mean	significant &	
Variable	coefficient	std. error	pos.	neg.	coefficient	std. error	pos.	neg.
VLOW-VR	0.008	0.330	14	8				
BLACK*LOW-VR	-0.006	0.367	4	4				
BLACK*VLOW-VR	-0.007	0.364	4	4				
HISPANIC*LOW-VR	0.007	0.302	3	3				
HISPANIC*LOW-VR	0.021	0.348	3	0				
BLACK*VR					0.000	0.365	9	11
HISPANIC*VR					-0.001	0.336	6	7
Constant term								
CONSTANT	5.644	0.005	110	0	5.769	0.001	111	0
Model fit and sample size	mean	min	max		mean	min	max	
R-squared	0.774	0.465	0.925		0.771	0.459	0.927	
Adj. R-squared	0.726	0.431	0.886		0.724	0.415	0.893	
Sample size	2058	320	25890		2058	320	25890	

Notes:
Dependent variable is the log of gross rent (market rent plus tenant paid utilities).
The means and standard deviations of the coefficients and the number positive or negative and statistically significant are across 111 metropolitan areas with sufficient sample size and variation in minority presence in majority and mostly white, low and very low poverty, or low and very low vacancy rate areas to allow their calculation and reporting.
Significance indicates $p < .05$
Summary data on missing values indicators are omitted.

The racial composition of the neighborhood

Of interest, however, are the coefficients dealing with the racial composition of neighborhoods, measures of poverty, the tightness of the rental housing market, and the interaction of those neighborhood attributes with the racial and ethnic composition of the household. The summary of the hedonic regression coefficients found in Table 3 find inconsistent results regarding the role of the race of the household and the racial composition of the neighborhood and rents for equal quality housing. From the hedonics employing discrete measures of the racial composition, constant quality rental units in majority white neighborhoods (MAJ-WHITE) were, on average, associated with higher rents than in neighborhoods with less than 50 percent white in 17 metropolitan areas and in 11 areas a negative and significant relationship is found. The results suggest roughly equal numbers of areas with a positive and a negative relationship between rents and being a mostly white neighborhood (MOST-WHITE). However, using the continuous measure of the racial composition of the neighborhoods suggests a negative relationship between the percent white (%WHITE) and rents is roughly twice as common as a positive and significant relationship.

As mentioned previously, for the discrete measures of neighborhood racial composition, the coefficients of interest in detecting discrimination based on the race of the household are on BLACK, BLACK*MAJ-WHITE, and BLACK*MOST-WHITE. A positive coefficient on BLACK, which is true on average and is positive and statistically significant for 25 of the 104 areas with sufficient sample size to estimate and report the effects for African Americans, suggests that African Americans, on average, pay more for similar housing. Positive coefficients on BLACK*MAJ-WHITE or BLACK*MOST-WHITE would suggest that rents increase further when African Americans live in majority or mostly white neighborhoods. The average coefficients on these two measure are both positive, and across the 104 metropolitan areas the coefficient is positive and statistically different from zero across 14 areas for BLACK*MAJ-WHITE and 12 areas for BLACK*MOST-WHITE. Finding positive coefficients for the variable BLACK and on the coefficients indicating majority or mostly white neighborhood suggests African Americans on average pay more than whites for similar housing, and that this difference is greater in majority and mostly white neighborhoods. Using the average coefficients to illustrate this relationship suggests that blacks in majority white neighborhoods pay 2.3 percent more than whites for similar housing. In mostly white neighborhoods, this increases to a 2.7 percent premium.

Therefore, the average coefficient estimates from the discrete hedonics suggest that African Americans pay more for similar housing to live in majority white (> 50-80 percent white) and mostly white (greater than 80 percent white) neighborhoods. However, much variation in these findings exits across areas. For example, Table 3 notes that 10 areas have coefficient estimates that are negative and statistically significant on the coefficient on BLACK*MAJ-WHITE and 8 areas have the same finding for BLACK*MOST-WHITE. Negative coefficients on these variables suggest African Americans pay *less* than whites when renting similar housing in white neighborhoods.

Table 3A provides the coefficients, standard errors, the level of statistical significance of the coefficients on the measures of the racial composition of the neighborhood, and estimates of the rent premiums to minorities separately for each of the 111 metropolitan areas in the sample. An examination of the areas with positive and statistically significant coefficients on BLACK from the discrete hedonics suggests, in some areas, these differences are fairly large (greater than 5 percent). The largest, statistically significant coefficient on BLACK was found for

Jacksonville. The coefficient estimate of .134, suggests that, in Jacksonville, rents for similar housing are 13.4 percent higher for African Americans than for whites. Given the large positive coefficient on BLACK, it is counter-intuitive to find a large, negative and statistically significant coefficient on BLACK*MAJ-WHITE in the same metropolitan area. This suggests that the rent premium charged to African Americans is smaller or nonexistent in majority white neighborhoods. The results for Boston are also counter to the notion the discrimination will increase rents to African Americans in white neighborhoods. As Table 3A indicates, the coefficient on BLACK is .059, suggesting a nearly 6 percent rent premium to African Americans there. However, the coefficients on BLACK*MAJ-WHITE of -0.088 and on BLACK*MOST-WHITE of -0.121, suggest that African Americans in Boston pay more for housing in minority neighborhoods and pay less than whites for similar housing in white neighborhoods.

Table 3 also provides summary data on the coefficients from the hedonics employing continuous measures of neighborhood composition (right-hand side columns). From that specification, it is the relationship between the coefficient on BLACK and on BLACK*%WHITE that predicts the difference in rents for African-Americans compared to whites as a function of the racial composition of the neighborhood. A negative coefficient on BLACK and a positive coefficient on BLACK*%WHITE suggests that for neighborhoods with a small fraction of the population white, blacks pay *less* than whites for similar housing and as the fraction of the neighborhood white increases, rents paid by African Americans for equal quality housing start to increase relative to rents paid by whites. The relative magnitudes of the two coefficients determines whether African Americans ultimately pay more to live in equally good housing in neighborhoods with a large fraction of the population white. Using the averages as a measure of this relationship, suggests that for neighborhoods with less than 32 percent of the households indicating they are white, African Americans pay less than whites for similar housing. However, once the fraction exceeds 32 percent, African Americans start to pay a premium to live in those neighborhoods and this premium increases slowly with the fraction of the neighborhoods identified as white. In neighborhoods that are roughly 65 percent white, the average across neighborhoods in the sample, the average coefficient estimates suggest African Americans pay roughly 1.5 percent more than whites for similar housing.[7]

The right-hand side columns of Table 3A provide information on the coefficients for the continuous measures. Nearly all of the areas with large positive and statistically significant coefficients on BLACK, have negative coefficients on BLACK*%WHITE, suggesting the rent premium African Americans pay *falls* as the fraction of the neighborhood white increases. Again, this is counter to the notion that bias will require African Americans to pay more than white to live in white neighborhoods.

In some areas the estimates are more consistent with the notion of housing discrimination leading to rent premiums for minority tenants to live in majority white neighborhoods. For eight metropolitan areas, the results suggest that African Americans realize rent discounts in neighborhoods with high concentrations of minorities (negative and statistically significant coefficient on BLACK) and see this discount fall as the fraction of the neighborhood white increases (positive and statistically significant coefficient on BLACK*%WHITE). For another nine metropolitan areas, the findings suggest no statistically significant difference in rents for African Americans in general, but that a positive and statistically significant relationship exists between the rents paid by African Americans and the fraction of the neighborhood white.

7 Table 2 reports coefficients to 3 decimal places. The average coefficient on BLACK*%WHITE is 0.000441.

Table 3A also provides estimates of the rent premium to minorities when living in majority white neighborhoods. For the discrete measures, separate estimates are reported for African Americans living in majority white and in mostly white neighborhoods. For the continuous measures, predictions are based on the assumption that the tenant occupies a unit of housing in a neighborhood with 80 percent of the households self-identifying as white. However, much care should be used when interpreting the estimated premiums to minorities. Many of the estimates of rent premiums reported in Table 3A are derived for areas where none, or only one, of the coefficients used in the derivation are statistically different from zero.

The results from the hedonic employing discrete measures of the racial composition of the neighborhood, suggests that in a handful of locations, the premium to African Americans exceeds 10 percent. Austin had the largest predicted premium for African Americans at over 18 percent. The results for Austin suggest that this difference is not due to African Americans being charge more in all areas (the coefficient on BLACK is small and insignificant), but instead due to the higher rents to African Americans living in mostly white neighborhoods (a large positive and statistically significant coefficient on BLACK*MOST-WHITE). Similar results are found in Birmingham with an estimated premium for African Americans living in mostly white neighborhoods at nearly 17 percent and in Atlanta at just over 14 percent. Although smaller in magnitude, the premiums to African Americans were dependent on the fraction of the population white for a few other areas, namely Columbus, Dallas-Ft. Worth, Johnson City-Kingsport-Bristol, Oklahoma City, and Sarasota.

In some metropolitan areas, the results suggest that African Americans generally paid rent premiums, but that those premiums were unaffected by the racial composition of the neighborhood. For example, the results suggest that in the Davenport-Rock Island-Moline metropolitan area African Americans pay roughly 7 percent more than whites on average for equal quality housing, but no statistically significant additional difference is found for African Americans living in majority white neighborhoods. Other metropolitan areas that fit this same pattern include Fresno, Little Rock-North Little Rock, New Orleans, Peoria, Scranton-Wilkes-Barre, and Tampa-St. Petersburg-Clearwater.

Looking across the estimates based on hedonics with the discrete measures of the racial composition, it was rare to find general rent premiums for African Americans that also increased when they occupy units in majority white neighborhoods. Only the results for the Portland and South Bend-Mishawaka metropolitan areas provide evidence in support of this relationship.

Even less evidence was found using the estimates from the hedonics with continuous measures of the racial composition of neighborhoods for the notion that rents for equal quality housing in general are higher for African Americans than for whites, and that this premium increases as the fraction of the neighborhood white increases. In fact, in no metropolitan area was the coefficients on BLACK and BLACK*%WHITE both positive and statistically significant.

Seven of the 104 metropolitan areas with sufficient data on African Americans (see, for example, Cincinnati) showed evidence of general rent increases to African Americans, but no further increase as the fraction of the neighborhood white increased. For those areas, estimated rent premiums to African Americans were as high as 18 percent. The results for roughly the same number of metropolitan areas, nine, suggest the rent premiums to African Americans is due solely to rents increasing for African Americans as the fraction of the neighborhood white increases. The largest rent premium in that group was 8.6 percent for Austin.

Table 3 also reports the summary data on the coefficients used to capture estimates of rent premiums to Hispanics. The general findings from the discrete hedonics are less suggestive of price discrimination with Hispanics than with African Americans. Although the average coefficient on HISPANIC was positive, nearly as many areas had negative and statistically significant coefficients on HISPANIC (6 areas) as did areas with positive and significant coefficients (8 areas). Furthermore, the average coefficients on HISP*MAJ-WHITE and HISP*MOST-WHITE were both negative, and across the 51 areas with sufficient sample sizes to include Hispanics, it is more likely to find negative and significant coefficients than positive and significant on those two measures. The pattern is similar using the continuous measures of the racial composition of the neighborhood. The average coefficient on HISPANIC is positive across the continuous hedonics, and it was more likely to find a positive and statistically significant coefficient on HISPANIC (in 8 areas) than a negative and significant coefficient (4 areas)[8]. Similar to the findings with the discrete measures, it was more common to find a negative and significant coefficient on HISPANIC*%WHITE than positive and significant.

Table 3A also provides details on the differences in rents to Hispanics across metropolitan areas. Concentrating on the results from the hedonics using discrete measures across the 51 areas that include Hispanic households in the estimates, suggests 8 metropolitan areas show evidence of rent premiums for Hispanics. For the continuous measures, 7 areas displayed evidence to support the notion of a rent premium to Hispanics. When present, these magnitude of the premiums to Hispanics appear to be much less than the magnitude of the premium to African Americans. Only one metropolitan area using discrete measures and two areas using continuous measures suggest a premium to Hispanics of over 10 percent. Furthermore, the results suggest the higher rents to Hispanics are generally not due to higher rents in all areas, but only in majority or mostly white neighborhoods.

The use of two hedonic specifications, including either discrete or continuous descriptors of neighborhoods, was in order to capture well the various ways race and ethnicity can influence rents of similar housing in similar neighborhoods. It was also hoped that the results would be robust: the estimation results would not be dependent on which of the two specifications was employed. In other words, similar findings across the two specifications would strengthen the level of confidence in the findings. However, it was rare to see the results from the discrete hedonic match the results of the hedonic employing continuous measures for the variable BLACK for any one metropolitan area. For example, the results in only three areas, Houston, Little Rock, and Tampa, suggest positive and statistically significant coefficients on that variable in both specifications, and only three areas, Fresno, Seattle, and Tampa, showed the same for the coefficient HISPANIC. It was more common, in fact, to find significant coefficients with opposite signs than significant and positive coefficients on BLACK across the two specifications with seven areas having coefficients of opposite signs and both being significantly different from zero.

More consistent findings across the two specifications were detected with the variables used to capture the rent premium to African Americans as a function of the fraction of the neighborhood white. These variables include BLACK*MAJ-WHITE and

[8] The summary data on the coefficient on the variable Hispanic in the continuous hedonics includes one extreme outlier, Minneapolis-St. Paul. The coefficient estimate in that metropolitan area suggests rents for Hispanics are *twice* as high as whites. This finding is nearly 45 times the average findings and at a magnitude that is difficult to find credible.

BLACK*MOST-WHITE in the discrete hedonics and BLACK*%WHITE in the continuous hedonics. Eight metropolitan areas had results suggesting positive and significant coefficients for these coefficients in both specifications. However, that consistent results was only found for one metropolitan area, Killeen-Temple, when looking at the role ethnicity plays in determining rents for similar housing in similar neighborhoods. However, it was rare, only two cases, to find a metropolitan area where the signs of the coefficients capturing whether the household was Hispanic were opposite and significant.

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Albany--Schenectady--Troy, NY	0.049†	0.028*	-0.037‡	-0.022	-0.044*	-0.087‡	1.2%	2.7%	-1.6%	-5.9%
	(0.018)	(0.012)	(0.010)	(0.021)	(0.022)	(0.013)				
Albuquerque, NM	---	0.120*	---	---	-0.094	-0.076	---	---	2.6%	4.4%
	---	(0.036)	---	---	(0.048)	(0.038)				
Allentown--Bethlehem--Easton, PA--NJ	-0.009	-0.025*	0.011	0.021	0.029	0.055†	0.2%	1.2%	0.4%	3.0%
	(0.011)	(0.011)	(0.014)	(0.022)	(0.017)	(0.014)				
Atlanta, GA	-0.015	---	0.029	0.156‡	---	---	1.4%	14.1%	---	---
	(0.025)	---	(0.020)	(0.028)	---	---				
Augusta, GA--SC	0.023	---	-0.017	-0.174†	---	---	0.6%	-15.1%	---	---
	(0.021)	---	(0.030)	(0.033)	---	---				
Austin, TX	0.012	0.091	0.079	0.169‡	0.005	-0.052	9.1%	18.1%	9.6%	3.9%
	(0.054)	(0.074)	(0.044)	(0.039)	(0.032)	(0.090)				
Baton Rouge, LA	0.009	---	-0.013	0.017	---	---	-0.4%	2.6%	---	---
	(0.038)	---	(0.052)	(0.059)	---	---				
Beaumont--Port Arthur, TX	0.097	---	-0.025	-0.117	---	---	7.2%	-2.0%	---	---
	(0.062)	---	(0.092)	(0.062)	---	---				
Binghamton, NY	0.025	---	0.009	---	---	---	3.4%	---	---	---
	(0.022)	---	(0.031)	---	---	---				
Birmingham, AL	0.032	---	-0.029	0.137†	---	---	0.3%	16.9%	---	---
	(0.028)	---	(0.015)	(0.035)	---	---				
Boise City, ID	---	0.181	---	---	-0.170	-0.205	---	---	1.1%	-2.4%
	---	(0.065)	---	---	(0.075)	(0.083)				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Boston--Lawrence--Salem, MA--NH	0.059†	0.017	-0.088‡	-0.121*	-0.050	-0.069	-2.9%	-6.2%	-3.3%	-5.2%
	(0.020)	(0.026)	(0.020)	(0.050)	(0.032)	(0.051)				
Buffalo--Niagara Falls, NY	0.020*	0.031	-0.034	-0.016	-0.061	-0.087†	-1.4%	0.4%	-3.0%	-5.6%
	(0.008)	(0.029)	(0.015)	(0.029)	(0.054)	(0.021)				
Canton, OH	-0.114‡	---	0.111*	0.097	---	---	-0.3%	-1.7%	---	---
	(0.005)	---	(0.020)	(0.032)	---	---				
Charleston, SC	0.081†	---	-0.099†	0.040	---	---	-1.8%	12.1%	---	---
	(0.017)	---	(0.022)	(0.072)	---	---				
Charleston, WV	0.043	---	-0.039‡	-0.079†	---	---	0.4%	-3.6%	---	---
	(0.020)	---	(0.003)	(0.017)	---	---				
Charlotte--Gastonia--Rock Hill, NC--SC	0.003	---	0.012	0.014	---	---	1.5%	1.7%	---	---
	(0.030)	---	(0.040)	(0.052)	---	---				
Chattanooga, TN--GA	-0.016	---	-0.020	0.033	---	---	-3.6%	1.7%	---	---
	(0.013)	---	(0.012)	(0.013)	---	---				
Chicago--Gary--Lake County, IL--IN--WI	0.071*	0.075‡	-0.059	-0.030	-0.116*	-0.077	1.2%	4.1%	-4.1%	-0.2%
	(0.029)	(0.019)	(0.044)	(0.036)	(0.054)	(0.051)				
Cincinnati--Hamilton, OH--KY--IN	0.026	---	0.014	-0.004	---	---	4.0%	2.2%	---	---
	(0.023)	---	(0.026)	(0.014)	---	---				
Cleveland--Akron--Lorain, OH	-0.002	-0.031	0.020	0.023	0.056*	-0.001	1.8%	2.1%	2.5%	-3.2%
	(0.023)	(0.024)	(0.019)	(0.028)	(0.024)	(0.032)				
Colorado Springs, CO	0.079	-0.005	-0.058	-0.017	0.001	0.067	2.1%	6.2%	-0.4%	6.2%
	(0.168)	(0.112)	(0.163)	(0.175)	(0.125)	(0.116)				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Columbia, SC	0.016	---	0.052†	-0.033	---	---	6.8%	-1.7%	---	---
	(0.013)	---	(0.008)	(0.041)	---	---				
Columbus, OH	-0.006	---	0.028	0.107‡	---	---	2.2%	10.1%	---	---
	(0.026)	---	(0.018)	(0.014)	---	---				
Dallas--Fort Worth, TX	-0.000	0.007	0.007	0.082†	-0.016	-0.018	0.7%	8.2%	-0.9%	-1.1%
	(0.033)	(0.032)	(0.033)	(0.030)	(0.037)	(0.048)				
Davenport--Rock Island--Moline, IA--IL	0.070*	---	-0.043	0.011	---	---	2.7%	8.1%	---	---
	(0.025)	---	(0.023)	(0.024)	---	---				
Dayton--Springfield, OH	-0.028	---	0.071*	0.023	---	---	4.3%	-0.5%	---	---
	(0.011)	---	(0.019)	(0.031)	---	---				
Daytona Beach, FL	0.003	-0.016	-0.035	-0.004	---	0.046	-3.2%	-0.1%	---	3.0%
	(0.018)	(0.050)	(0.021)	(0.024)	---	(0.068)				
Denver--Boulder, CO	0.012	0.027	0.061	-0.034	-0.020	-0.082	7.3%	-2.2%	0.7%	-5.5%
	(0.039)	(0.045)	(0.043)	(0.061)	(0.054)	(0.047)				
Des Moines, IA	-0.023	---	0.078	0.000	---	---	5.5%	-2.3%	---	---
	(0.052)	---	(0.049)	(0.098)	---	---				
Detroit--Ann Arbor, MI	-0.065*	0.056	0.069*	0.071	-0.084†	-0.045	0.4%	0.6%	-2.8%	1.1%
	(0.027)	(0.028)	(0.031)	(0.039)	(0.026)	(0.039)				
Dothan, AL	0.044	---	0.014	-0.155*	---	---	5.8%	-11.1%	---	---
	(0.052)	---	(0.093)	(0.049)	---	---				
Elkhart--Goshen, IN	0.073	---	-0.015	-0.074	---	---	5.8%	-0.1%	---	---
	(0.089)	---	(0.097)	(0.086)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Evansville, IN--KY	0.009	---	0.079*	-0.043	---	---	8.8%	-3.4%	---	---
	(0.025)	---	(0.018)	(0.046)	---	---				
Fort Collins--Loveland, CO	---	-0.016	---	---	---	---	---	---	---	---
	---	(0.011)	---	---	---	---				
Fort Myers--Cape CoraL, Fl	---	0.101*	---	---	-0.066*	-0.055	---	---	3.5%	4.6%
	---	(0.026)	---	---	(0.015)	(0.038)				
Fresno, CA	0.073*	0.036*	-0.013	---	-0.034	---	6.0%	---	0.2%	---
	(0.018)	(0.011)	(0.059)	---	(0.020)	---				
Grand Forks, ND	---	0.023	---	---	---	---	---	---	---	---
	---	(0.026)	---	---	---	---				
Grand Rapids, MI	-0.007	-0.003	-0.001	0.013	-0.024	0.019	-0.8%	0.6%	-2.7%	1.6%
	(0.026)	(0.038)	(0.029)	(0.054)	(0.053)	(0.094)				
Greensboro--Winston-Salem--High Point, NC	-0.017‡	---	0.053†	0.107*	---	---	3.6%	9.0%	---	---
	(0.004)	---	(0.015)	(0.042)	---	---				
Greenville--Spartanburg, SC	0.070	---	-0.048	-0.036	---	---	2.2%	3.4%	---	---
	(0.033)	---	(0.032)	(0.040)	---	---				
Harrisburg--Lebanon--Carlisle, PA	-0.022	-0.012	0.068	0.019	-0.056	-0.021	4.6%	-0.3%	-6.8%	-3.3%
	(0.026)	(0.032)	(0.048)	(0.022)	(0.043)	(0.026)				
Hartford, CT	0.007	0.000	0.013	-0.015	0.009	-0.004	2.0%	-0.8%	0.9%	-0.4%
	(0.013)	(0.009)	(0.024)	(0.033)	(0.026)	(0.020)				
Hickory--Morganton, NC	0.048	---	-0.026	-0.022	---	---	2.2%	2.6%	---	---
	(0.038)	---	(0.012)	(0.039)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Houston--Galveston--Brazoria, TX	0.043‡	0.024	-0.022	-0.027	-0.018	-0.015	2.1%	1.6%	0.6%	0.9%
	(0.010)	(0.070)	(0.019)	(0.026)	(0.070)	(0.081)				
Indianapolis, IN	-0.008	---	-0.025	0.047	---	---	-3.3%	3.9%	---	---
	(0.014)	---	(0.022)	(0.022)	---	---				
Jacksonville, FL	0.134‡	---	-0.111†	0.006	---	---	2.3%	14.0%	---	---
	(0.020)	---	(0.021)	(0.058)	---	---				
Janesville--Beloit, WI	-0.001	---	0.017	0.067	---	---	1.6%	6.6%	---	---
	(0.004)	---	(0.013)	(0.032)	---	---				
Johnson City--Kingsport--Bristol, TN--VA	0.019	---	---	---	---	---	---	---	---	---
	(0.022)	---	---	---	---	---				
Jonesboro, AR	-0.020*	---	---	0.063	---	---	---	4.3%	---	---
	(0.004)	---	---	(0.034)	---	---				
Kansas City, MO--KS	0.043*	-0.054*	-0.034	0.050	---	0.089	0.9%	9.3%	---	3.5%
	(0.020)	(0.026)	(0.019)	(0.050)	---	(0.052)				
Killeen--Temple, TX	0.046	-0.055†	-0.005	---	0.116*	---	4.1%	---	6.1%	---
	(0.021)	(0.007)	(0.012)	---	(0.028)	---				
Knoxville, TN	-0.019	---	0.050*	0.056*	---	---	3.1%	3.7%	---	---
	(0.018)	---	(0.019)	(0.020)	---	---				
Lafayette, LA	0.049*	---	-0.052†	-0.063*	---	---	-0.3%	-1.4%	---	---
	(0.019)	---	(0.014)	(0.026)	---	---				
Lake Charles, LA	-0.001	---	0.072	-0.014	---	---	7.1%	-1.5%	---	---
	(0.006)	---	(0.033)	(0.013)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Lancaster, PA	---	0.027	---	---	-0.027	0.125	---	---	0.0%	15.2%
	---	(0.043)	---	---	(0.036)	(0.052)				
Lansing--East Lansing, MI	0.012	---	-0.017	0.023	---	---	-0.5%	3.5%	---	---
	(0.009)	---	(0.010)	(0.022)	---	---				
Las Vegas, NV	0.017	-0.032	-0.011	0.047	0.035	0.027	0.6%	6.4%	0.3%	-0.5%
	(0.009)	(0.101)	(0.006)	(0.071)	(0.090)	(0.081)				
Lexington-Fayette, KY	0.016	---	-0.029	0.024	---	---	-1.3%	4.0%	---	---
	(0.011)	---	(0.015)	(0.014)	---	---				
Little Rock--North Little Rock, AR	0.066‡	---	-0.007	-0.025	---	---	5.9%	4.1%	---	---
	(0.010)	---	(0.014)	(0.024)	---	---				
Longview--Marshall, TX	0.042	---	-0.008	-0.046	---	---	3.4%	-0.4%	---	---
	(0.021)	---	(0.018)	(0.056)	---	---				
Los Angeles--Anaheim--Riverside, CA	0.016	-0.022	-0.020	0.003	-0.000	-0.015	-0.4%	1.9%	-2.2%	-3.7%
	(0.019)	(0.014)	(0.015)	(0.021)	(0.011)	(0.042)				
Louisville, KY--IN	0.019	---	0.014	0.019	---	---	3.3%	3.8%	---	---
	(0.019)	---	(0.016)	(0.035)	---	---				
Mansfield, OH	-0.000	---	0.018	0.012	---	---	1.8%	1.2%	---	---
	(0.001)	---	(0.008)	(0.024)	---	---				
Miami--Fort Lauderdale, FL	0.002	0.028	-0.022	-0.032	-0.023	-0.023	-2.0%	-3.0%	0.5%	0.5%
	(0.019)	(0.019)	(0.018)	(0.017)	(0.020)	(0.020)				
Milwaukee--Racine, WI	-0.021	-0.042	-0.020	-0.091‡	---	-0.035	-4.1%	-11.2%	---	-7.7%
	(0.017)	(0.038)	(0.034)	(0.018)	---	(0.038)				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Minneapolis--St. Paul, MN--WI	0.013	-0.028	-0.003	0.025	---	-0.331	1.0%	3.8%	---	-35.9%
	(0.015)	(0.026)	(0.051)	(0.030)	---	(0.180)				
Mobile, AL	0.034	---	-0.023	0.085	---	---	1.1%	11.9%	---	---
	(0.036)	---	(0.037)	(0.068)	---	---				
Monroe, LA	0.063†	---	-0.058*	-0.022	---	---	0.5%	4.1%	---	---
	(0.009)	---	(0.012)	(0.016)	---	---				
Myrtle Beach, SC	0.031	---	-0.021	-0.031	---	---	1.0%	0.0%	---	---
	(0.054)	---	(0.042)	(0.055)	---	---				
Nashville, TN	0.005	---	-0.014	0.033	---	---	-0.9%	3.8%	---	---
	(0.017)	---	(0.020)	(0.036)	---	---				
New Orleans, LA	0.084‡	---	-0.057	0.067	---	---	2.7%	15.1%	---	---
	(0.010)	---	(0.035)	(0.037)	---	---				
New York--Northern New Jersey--Long Island, NY--NJ--CT	0.028†	0.017	-0.015	0.036	-0.061†	0.026	1.3%	6.4%	-4.4%	4.3%
	(0.010)	(0.009)	(0.015)	(0.023)	(0.019)	(0.034)				
Norfolk--Virginia Beach--Newport News, VA	0.056	---	-0.032	-0.004	---	---	2.4%	5.2%	---	---
	(0.035)	---	(0.036)	(0.044)	---	---				
Oklahoma City, OK	-0.020	---	0.030	0.104*	---	---	1.0%	8.4%	---	---
	(0.012)	---	(0.019)	(0.039)	---	---				
Omaha, NE--IA	0.002	---	0.049†	0.049*	---	---	5.1%	5.1%	---	---
	(0.006)	---	(0.009)	(0.016)	---	---				
Orlando, FL	-0.035	0.028	0.037	0.058	-0.014	0.013	0.2%	2.3%	1.4%	4.1%
	(0.046)	(0.035)	(0.040)	(0.058)	(0.039)	(0.054)				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Pensacola, FL	-0.048*	---	0.044	-0.007	---	---	-0.4%	-5.5%	---	---
	(0.014)	---	(0.019)	(0.025)	---	---				
Peoria, IL	0.065*	---	-0.035	-0.025	---	---	3.0%	4.0%	---	---
	(0.016)	---	(0.013)	(0.052)	---	---				
Philadelphia--Wilmington—Trenton, PA--NJ--DE--MD	0.007	0.012	0.006	-0.015	-0.019	0.038	1.3%	-0.8%	-0.7%	5.0%
	(0.013)	(0.012)	(0.010)	(0.023)	(0.024)	(0.045)				
Phoenix, AZ	0.007	-0.005	0.003	-0.001	-0.010	-0.000	1.0%	0.6%	-1.5%	-0.5%
	(0.024)	(0.024)	(0.027)	(0.034)	(0.027)	(0.038)				
Pittsburgh, PA	0.035*	---	0.036	0.001	---	---	7.1%	3.6%	---	---
	(0.013)	---	(0.017)	(0.017)	---	---				
Portland--Vancouver, OR--WA	0.041†	-0.083†	0.013	0.055*	0.017	0.100*	5.4%	9.6%	-6.6%	1.7%
	(0.012)	(0.028)	(0.018)	(0.026)	(0.021)	(0.041)				
Providence--Fall River--Warwick, RI--MA	0.049	-0.006	-0.043*	-0.093‡	0.022	-0.054	0.6%	-4.4%	1.6%	-6.0%
	(0.024)	(0.041)	(0.018)	(0.025)	(0.046)	(0.047)				
Raleigh--Durham, NC	0.008	---	0.024	0.043	---	---	3.2%	5.1%	---	---
	(0.045)	---	(0.065)	(0.075)	---	---				
Richmond--Petersburg, VA	-0.020	---	0.035	0.065	---	---	1.5%	4.5%	---	---
	(0.039)	---	(0.042)	(0.056)	---	---				
Rochester, NY	-0.005	-0.011	0.040‡	0.021	0.017	-0.021	3.5%	1.6%	0.6%	-3.2%
	(0.010)	(0.015)	(0.006)	(0.018)	(0.021)	(0.026)				
Rockford, IL	0.015*	---	0.006	0.065	---	---	2.1%	8.0%	---	---
	(0.004)	---	(0.017)	(0.026)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Sacramento--Yolo, CA	-0.015	-0.041*	0.055‡	0.062	0.012	0.041	4.0%	4.7%	-2.9%	0.0%
	(0.009)	(0.017)	(0.009)	(0.043)	(0.043)	(0.063)				
St. Louis, MO--IL	0.014	---	0.027	0.016	---	---	4.1%	3.0%	---	---
	(0.014)	---	(0.019)	(0.018)	---	---				
Salt Lake City--Ogden, UT	0.002	0.052	-0.020	0.027	-0.034	-0.050	-1.8%	2.9%	1.8%	0.2%
	(0.073)	(0.032)	(0.088)	(0.099)	(0.041)	(0.034)				
San Antonio, TX	0.028	-0.009	0.018	-0.104	0.039*	0.068	4.6%	-7.6%	3.0%	5.9%
	(0.026)	(0.013)	(0.033)	(0.051)	(0.012)	(0.058)				
San Diego, CA	0.020	-0.112†	0.033	0.089	0.054*	-0.060	5.3%	10.9%	-5.8%	-17.2%
	(0.038)	(0.028)	(0.016)	(0.061)	(0.024)	(0.058)				
San Francisco--Oakland--San Jose, CA	-0.023	0.059	0.079	0.038	0.021	0.060*	5.6%	1.5%	8.0%	11.9%
	(0.033)	(0.039)	(0.040)	(0.054)	(0.026)	(0.022)				
Santa Barbara--Santa Maria--Lompoc, CA	---	-0.035	---	---	0.014	---	---	---	-2.1%	---
	---	(0.033)	---	---	(0.050)	---				
Sarasota, FL	-0.023	---	0.072	0.104†	---	---	4.9%	8.1%	---	---
	(0.021)	---	(0.035)	(0.032)	---	---				
Scranton--Wilkes-Barre, PA	0.062*	---	---	0.006	---	---	---	6.8%	---	---
	(0.026)	---	---	(0.029)	---	---				
Seattle--Tacoma, WA	0.089‡	0.162‡	-0.051†	-0.069	-0.159‡	-0.299‡	3.8%	2.0%	0.3%	-13.7%
	(0.022)	(0.039)	(0.016)	(0.044)	(0.030)	(0.040)				
Shreveport, LA	0.009	---	-0.017	-0.022	---	---	-0.8%	-1.3%	---	---
	(0.008)	---	(0.017)	(0.032)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
South Bend--Mishawaka, IN	0.070*	---	0.081†	-0.007	---	---	15.1%	6.3%	---	---
	(0.014)	---	(0.012)	(0.020)	---	---				
Springfield, MA	-0.040‡	-0.028	0.070*	-0.025	0.067*	0.042	3.0%	-6.5%	3.9%	1.4%
	(0.010)	(0.014)	(0.025)	(0.038)	(0.026)	(0.030)				
Syracuse, NY	0.041‡	-0.006	-0.025†	-0.033	---	0.015	1.6%	0.8%	---	0.9%
	(0.006)	(0.009)	(0.006)	(0.019)	---	(0.022)				
Tampa--St. Petersburg--Clearwater, FL	0.055†	0.078‡	-0.043	-0.030	-0.063†	-0.077†	1.2%	2.5%	1.5%	0.1%
	(0.016)	(0.016)	(0.025)	(0.020)	(0.021)	(0.023)				
Toledo, OH	0.001	---	0.040†	-0.031	---	---	4.1%	-3.0%	---	---
	(0.005)	---	(0.005)	(0.013)	---	---				
Tucson, AZ	0.013	0.040	0.025	---	-0.041	---	3.8%	---	-0.1%	---
	(0.034)	(0.015)	(0.044)	---	(0.028)	---				
Tulsa, OK	-0.019	---	0.051*	0.050*	---	---	3.2%	3.1%	---	---
	(0.014)	---	(0.011)	(0.017)	---	---				
Utica--Rome, NY	-0.005	0.129*	0.008	0.003	-0.067	-0.099	0.3%	-0.2%	6.2%	3.0%
	(0.025)	(0.062)	(0.031)	(0.026)	(0.083)	(0.064)				
Washington--Baltimore, DC--MD--VA--WV	-0.007	-0.025	0.020	0.054	-0.014	0.006	1.3%	4.7%	-3.9%	-1.9%
	(0.029)	(0.018)	(0.038)	(0.049)	(0.057)	(0.115)				
West Palm Beach--Boca Raton--Delray Beach, FL	0.052	0.062*	-0.047	-0.025	-0.059†	-0.068	0.5%	2.7%	0.3%	-0.6%
	(0.029)	(0.026)	(0.037)	(0.065)	(0.020)	(0.058)				
Wichita, KS	0.090*	---	-0.022	-0.102†	---	---	6.8%	-1.2%	---	---
	(0.025)	---	(0.013)	(0.018)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using discrete measures of neighborhood composition									
	BLACK	HISPAN	BLACK* MAJ-WHITE	BLACK* MOST-WHITE	HISP* MAJ-WHITE	HISP* MOST-WHITE	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	MAJ-WHITE	MOST-WHITE	MAJ-WHITE	MOST-WHITE
Youngstown--Warren, OH	-0.018	---	-0.001	0.053	---	---	-1.9%	3.5%	---	---
	(0.036)	---	(0.047)	(0.063)	---	---				

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
	BLACK	HISPANIC	BLACK* %WHITE	HISP* %WHITE	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)		
Albany--Schenectady--Troy, NY	-0.020	0.049	0.001	-0.001	6.0%	-3.1%
	(0.051)	(0.056)	(0.001)	(0.000)		
Albuquerque, NM	---	0.140	---	-0.001	---	6.0%
	---	(0.077)	---	(0.001)		
Allentown--Bethlehem--Easton, PA--NJ	-0.329	-0.276†	0.003	0.003†	-8.9%	-3.6%
	(0.156)	(0.067)	(0.002)	(0.001)		
Atlanta, GA	-0.161†	---	0.003‡	---	7.9%	---
	(0.047)	---	(0.000)	---		
Augusta, GA--SC	0.387‡	---	-0.004‡	---	6.7%	---
	(0.025)	---	(0.000)	---		
Austin, TX	-0.154	0.037	0.003*	-0.000	8.6%	3.7%
	(0.083)	(0.067)	(0.001)	(0.001)		
Baton Rouge, LA	-0.321	---	0.004	---	-0.1%	---
	(0.177)	---	(0.002)	---		
Beaumont--Port Arthur, TX	0.239	---	-0.001	---	15.9%	---
	(0.324)	---	(0.003)	---		
Binghamton, NY	0.435	---	-0.003	---	19.5%	---
	(0.317)	---	(0.003)	---		
Birmingham, AL	-0.193*	---	0.002†	---	-3.3%	---
	(0.080)	---	(0.001)	---		
Boise City, ID	---	0.135	---	-0.002	---	-2.5%

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
	---	(0.263)	---	(0.002)		
Boston--Lawrence--Salem, MA--NH	0.036	0.006	-0.000	-0.001	3.6%	-7.4%
	(0.050)	(0.053)	(0.001)	(0.001)		
Buffalo--Niagara Falls, NY	-0.084*	0.135‡	0.001	-0.001	-0.4%	5.5%
	(0.031)	(0.025)	(0.000)	(0.000)		
Canton, OH	-0.109	---	0.002*	---	5.1%	---
	(0.068)	---	(0.001)	---		
Charleston, SC	-0.097	---	0.001	---	-1.7%	---
	(0.179)	---	(0.002)	---		
Charleston, WV	-0.090	---	0.000	---	-9.0%	---
	(0.131)	---	(0.001)	---		
Charlotte--Gastonia--Rock Hill, NC--SC	0.133	---	-0.000	---	13.3%	---
	(0.084)	---	(0.001)	---		
Chattanooga, TN--GA	-0.149*	---	0.002†	---	1.1%	---
	(0.046)	---	(0.000)	---		
Chicago--Gary--Lake County, IL--IN--WI	-0.042	-0.002	0.000	-0.000	-4.2%	-0.2%
	(0.061)	(0.064)	(0.001)	(0.001)		
Cincinnati--Hamilton, OH--KY--IN	0.045*	---	0.000	---	4.5%	---
	(0.019)	---	(0.000)	---		
Cleveland--Akron--Lorain, OH	0.050	-0.040	0.000	0.000	5.0%	-4.0%
	(0.056)	(0.076)	(0.001)	(0.001)		
Colorado Springs, CO	0.118*	0.008	-0.000	-0.000	11.8%	0.8%
	(0.045)	(0.090)	(0.001)	(0.001)		

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
Columbia, SC	0.180‡	---	0.000	---	18.0%	---
	(0.016)	---	(0.000)	---		
Columbus, OH	-0.121*	---	0.002†	---	3.9%	---
	(0.044)	---	(0.000)	---		
Dallas--Fort Worth, TX	-0.057	0.045	0.002	0.000	10.3%	4.5%
	(0.100)	(0.131)	(0.001)	(0.001)		
Davenport--Rock Island--Moline, IA--IL	-0.059	---	0.001	---	2.1%	---
	(0.233)	---	(0.002)	---		
Dayton--Springfield, OH	0.053	---	0.000	---	5.3%	---
	(0.027)	---	(0.000)	---		
Daytona Beach, FL	0.233	-0.200	-0.002	0.002	7.3%	-4.0%
	(0.167)	(0.174)	(0.001)	(0.002)		
Denver--Boulder, CO	0.165*	0.378‡	-0.002*	-0.004‡	0.5%	5.8%
	(0.062)	(0.067)	(0.001)	(0.001)		
Des Moines, IA	-0.147	---	0.002	---	1.3%	---
	(0.138)	---	(0.002)	---		
Detroit--Ann Arbor, MI	-0.091	-0.216*	0.002†	0.002	6.9%	-5.6%
	(0.065)	(0.087)	(0.001)	(0.001)		
Dothan, AL	-0.296	---	0.002	---	-13.6%	---
	(0.219)	---	(0.002)	---		
Elkhart--Goshen, IN	0.030	---	-0.000	---	3.0%	---
	(0.344)	---	(0.004)	---		
Evansville, IN--KY	0.259	---	-0.003	---	1.9%	---

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
	(0.204)	---	(0.002)	---		
Fort Collins--Loveland, CO	---	0.461	---	-0.004	---	14.1%
	---	(0.630)	---	(0.007)		
Fort Myers--Cape CoraL, Fl	---	0.086	---	-0.000	---	8.6%
	---	(0.421)	---	(0.003)		
Fresno, CA	-0.030	0.132*	0.001	-0.002*	5.0%	-2.8%
	(0.064)	(0.039)	(0.002)	(0.001)		
Grand Forks, ND	---	-1.297	---	0.010	---	-49.7%
	---	(1.373)	---	(0.012)		
Grand Rapids, MI	-0.157	-0.182	0.002	0.002	0.3%	-2.2%
	(0.131)	(0.092)	(0.001)	(0.001)		
Greensboro--Winston-Salem--High Point, NC	-0.130	---	0.002†	---	3.0%	---
	(0.071)	---	(0.001)	---		
Greenville--Spartanburg, SC	0.080	---	-0.001	---	0.0%	---
	(0.062)	---	(0.001)	---		
Harrisburg--Lebanon--Carlisle, PA	0.004	-0.019	0.000	-0.001	0.4%	-9.9%
	(0.031)	(0.128)	(0.000)	(0.001)		
Hartford, CT	-0.017	-0.080	0.000	0.001	-1.7%	0.0%
	(0.069)	(0.060)	(0.001)	(0.001)		
Hickory--Morganton, NC	-0.021	---	0.001	---	5.9%	---
	(0.087)	---	(0.001)	---		
Houston--Galveston--Brazoria, TX	0.125‡	0.230	-0.001*	-0.002	4.5%	7.0%
	(0.017)	(0.145)	(0.000)	(0.002)		

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
Indianapolis, IN	0.001	---	0.000	---	0.1%	---
	(0.059)	---	(0.001)	---		
Jacksonville, FL	-0.082	---	0.003*	---	15.8%	---
	(0.104)	---	(0.001)	---		
Janesville--Beloit, WI	-0.050	---	0.001	---	3.0%	---
	(0.057)	---	(0.001)	---		
Johnson City--Kingsport--Bristol, TN--VA	0.276	---	-0.003	---	3.6%	---
	(0.351)	---	(0.003)	---		
Jonesboro, AR	-0.668	---	0.005	---	-26.8%	---
	(0.609)	---	(0.008)	---		
Kansas City, MO--KS	0.008	-0.127	0.000	0.002	0.8%	3.3%
	(0.070)	(0.116)	(0.001)	(0.001)		
Killeen--Temple, TX	0.090	0.035	-0.002	0.001*	-7.0%	11.5%
	(0.056)	(0.052)	(0.001)	(0.000)		
Knoxville, TN	-0.020	---	0.001†	---	6.0%	---
	(0.037)	---	(0.000)	---		
Lafayette, LA	0.059	---	-0.001	---	-2.1%	---
	(0.095)	---	(0.001)	---		
Lake Charles, LA	0.013	---	0.000	---	1.3%	---
	(0.062)	---	(0.001)	---		
Lancaster, PA	---	-0.485*	---	0.005†	---	-8.5%
	---	(0.052)	---	(0.000)		
Lansing--East Lansing, MI	0.088	---	-0.000	---	8.8%	---

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
	(0.051)	---	(0.001)	---		
Las Vegas, NV	-0.121	-0.064	0.002	0.001	3.9%	1.6%
	(0.094)	(0.065)	(0.001)	(0.001)		
Lexington-Fayette, KY	-0.071	---	0.001	---	0.9%	---
	(0.039)	---	(0.000)	---		
Little Rock--North Little Rock, AR	0.197†	---	-0.002*	---	3.7%	---
	(0.067)	---	(0.001)	---		
Longview--Marshall, TX	-0.310*	---	0.002	---	-15.0%	---
	(0.125)	---	(0.001)	---		
Los Angeles--Anaheim--Riverside, CA	-0.034	0.041	-0.000	-0.001	-3.4%	-3.9%
	(0.048)	(0.062)	(0.001)	(0.001)		
Louisville, KY--IN	-0.133	---	0.001	---	-5.3%	---
	(0.070)	---	(0.001)	---		
Mansfield, OH	0.041	---	-0.000	---	4.1%	---
	(0.101)	---	(0.001)	---		
Miami--Fort Lauderdale, FL	0.071†	-0.008	-0.001†	-0.000	-0.9%	-0.8%
	(0.021)	(0.018)	(0.000)	(0.000)		
Milwaukee--Racine, WI	0.163*	0.296	-0.002*	-0.003	0.3%	5.6%
	(0.053)	(0.219)	(0.001)	(0.002)		
Minneapolis--St. Paul, MN--WI	-0.138	1.033†	0.002	-0.011†	2.2%	15.3%
	(0.081)	(0.287)	(0.001)	(0.003)		
Mobile, AL	-0.237	---	0.003*	---	0.3%	---
	(0.125)	---	(0.001)	---		

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
Monroe, LA	0.046	---	-0.000	---	4.6%	---
	(0.038)	---	(0.000)	---		
Myrtle Beach, SC	-0.068	---	0.001	---	1.2%	---
	(0.354)	---	(0.004)	---		
Nashville, TN	0.043	---	-0.000	---	4.3%	---
	(0.064)	---	(0.001)	---		
New Orleans, LA	-0.064	---	0.001	---	1.6%	---
	(0.050)	---	(0.001)	---		
New York--Northern New Jersey--Long Island, NY--NJ--CT	-0.055*	-0.006	0.001†	0.000	2.5%	-0.6%
	(0.025)	(0.017)	(0.000)	(0.000)		
Norfolk--Virginia Beach--Newport News, VA	-0.118	---	0.001	---	-3.8%	---
	(0.080)	---	(0.001)	---		
Oklahoma City, OK	0.059	---	-0.000	---	5.9%	---
	(0.063)	---	(0.001)	---		
Omaha, NE--IA	-0.201‡	---	0.002†	---	-4.1%	---
	(0.032)	---	(0.000)	---		
Orlando, FL	0.009	-0.133	0.001	0.001	8.9%	-5.3%
	(0.087)	(0.084)	(0.001)	(0.001)		
Pensacola, FL	0.140*	---	-0.001	---	6.0%	---
	(0.044)	---	(0.000)	---		
Peoria, IL	-0.084*	---	0.001*	---	-0.4%	---
	(0.022)	---	(0.000)	---		
Philadelphia--Wilmington--Trenton, PA--NJ--DE--MD	0.014	-0.023	0.000	0.001	1.4%	5.7%

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
	(0.045)	(0.064)	(0.000)	(0.001)		
Phoenix, AZ	0.191*	-0.110	-0.002	0.001	3.1%	-3.0%
	(0.087)	(0.112)	(0.001)	(0.001)		
Pittsburgh, PA	-0.059	---	0.001*	---	2.1%	---
	(0.050)	---	(0.000)	---		
Portland--Vancouver, OR--WA	-0.191	-0.347*	0.002*	0.004*	-3.1%	-2.7%
	(0.105)	(0.154)	(0.001)	(0.002)		
Providence--Fall River--Warwick, RI--MA	0.100	0.065	-0.001*	-0.001	2.0%	-1.5%
	(0.077)	(0.130)	(0.001)	(0.001)		
Raleigh--Durham, NC	-0.013	---	0.001	---	6.7%	---
	(0.071)	---	(0.001)	---		
Richmond--Petersburg, VA	0.094	---	0.000	---	9.4%	---
	(0.043)	---	(0.001)	---		
Rochester, NY	0.108†	0.011	-0.001	-0.000	2.8%	1.1%
	(0.031)	(0.050)	(0.000)	(0.000)		
Rockford, IL	-0.115†	---	0.001*	---	-3.5%	---
	(0.016)	---	(0.000)	---		
Sacramento--Yolo, CA	0.002	0.041	0.001	0.000	8.2%	4.1%
	(0.031)	(0.083)	(0.000)	(0.001)		
St. Louis, MO--IL	0.033	---	0.000	---	3.3%	---
	(0.044)	---	(0.001)	---		
Salt Lake City--Ogden, UT	-0.421	0.039	0.005	-0.000	-2.1%	3.9%
	(0.280)	(0.139)	(0.003)	(0.002)		

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
	BLACK	HISPANIC	BLACK* %WHITE	HISP* %WHITE	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
Metropolitan Area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)		
San Antonio, TX	0.048	-0.152	0.000	0.002	4.8%	0.8%
	(0.119)	(0.086)	(0.001)	(0.001)		
San Diego, CA	-0.044	-0.035	0.001*	0.000	3.6%	-3.5%
	(0.034)	(0.146)	(0.000)	(0.002)		
San Francisco--Oakland--San Jose, CA	-0.109	-0.054	0.002	0.001	5.1%	2.6%
	(0.072)	(0.035)	(0.001)	(0.001)		
Santa Barbara--Santa Maria--Lompoc, CA	---	0.082	---	-0.001	---	0.2%
	---	(0.175)	---	(0.001)		
Sarasota, FL	-0.390	---	0.004	---	-7.0%	---
	(0.260)	---	(0.002)	---		
Scranton--Wilkes-Barre, PA	0.142	---	-0.001	---	6.2%	---
	(0.194)	---	(0.002)	---		
Seattle--Tacoma, WA	0.148	0.461†	-0.002	-0.005†	-1.2%	6.1%
	(0.102)	(0.133)	(0.001)	(0.002)		
Shreveport, LA	-0.043	---	0.001	---	3.7%	---
	(0.025)	---	(0.001)	---		
South Bend--Mishawaka, IN	0.137	---	-0.001	---	5.7%	---
	(0.119)	---	(0.001)	---		
Springfield, MA	0.174*	0.172*	-0.002*	-0.002	1.4%	1.2%
	(0.061)	(0.076)	(0.001)	(0.001)		
Syracuse, NY	0.113	0.088	-0.001	-0.001	3.3%	0.8%
	(0.064)	(0.166)	(0.001)	(0.001)		
Tampa--St. Petersburg--Clearwater, FL	0.142*	0.214†	-0.001	-0.002*	6.2%	5.4%

Table 3A. Hedonic results and rent premium estimates as a function of the racial composition of the neighborhood

	Hedonics using continuous measures of neighborhood composition					
Metropolitan Area	BLACK Coeff. (S.E.)	HISPANIC Coeff. (S.E.)	BLACK* %WHITE Coeff. (S.E.)	HISP* %WHITE Coeff. (S.E.)	Premium African Americans pay to live in areas 80% white	Premium Hispanics pay to live in areas 80% white
	(0.061)	(0.060)	(0.001)	(0.001)		
Toledo, OH	0.004	---	0.000	---	0.4%	---
	(0.023)	---	(0.000)	---		
Tucson, AZ	0.178†	0.210*	-0.002†	-0.003†	1.8%	-3.0%
	(0.023)	(0.068)	(0.000)	(0.000)		
Tulsa, OK	0.045	---	0.000	---	4.5%	---
	(0.047)	---	(0.000)	---		
Utica--Rome, NY	-0.172	0.266	0.000	-0.002*	-17.2%	10.6%
	(0.149)	(0.141)	(0.001)	(0.001)		
Washington--Baltimore, DC--MD--VA--WV	-0.097	0.091	0.002	-0.001	6.3%	1.1%
	(0.076)	(0.114)	(0.001)	(0.001)		
West Palm Beach--Boca Raton--Delray Beach, FL	0.106	0.017	-0.001	-0.000	2.6%	1.7%
	(0.121)	(0.109)	(0.001)	(0.001)		
Wichita, KS	-0.124†	---	-0.001	---	-20.4%	---
	(0.022)	---	(0.000)	---		
Youngstown--Warren, OH	-0.023	---	0.001	---	5.7%	---
	(0.130)	---	(0.001)	---		

Notes:
Coefficients and standard errors for variables with sufficient sample size and variation to allow their inclusion.
Dependent variable is the log of gross rent (market rent plus tenant paid utilities).
* p<.05
† p<.01
‡ p<.001

Neighborhood poverty rates

Since the sample of minorities living in low and very low poverty areas was small, using discrete measures of the incidence of poverty sample size became an issue for several areas and, as mentioned previously, the coefficients associated with any cell with less than 20 observations are not reported. For example, if within a metropolitan area fewer than 20 African Americans lived in neighborhoods considered low poverty, the coefficient on BLACK*LOW-POV is not reported for that area. Given the small sample size, one or two observations can dramatically alter the coefficient estimates and estimates of rent premiums to minorities. The summary results presented in Table 3 for the hedonics employing discrete and continuous measures of the rate of poverty in the neighborhoods show no consistent relationship between poverty rates and rents, holding other factors constant. The average coefficients on LOW-POV and VLOW-POV suggest that rents fall in areas with higher rates of poverty. Using a continuous measure of the neighborhood poverty rates to capture this relationship also suggests that, on average, rents are lower in higher poverty neighborhoods. However, there is much variation across metropolitan areas. In fact, more of the coefficients on VLOW-POV were negative and statistically significant than were positive and significant.

The coefficients on BLACK*LOW-POV, BLACK*VLOW-POV, and on BLACK*POVERTY suggest whether African Americans pay a rent premium to live in low poverty areas and whether the premium is a function of the rate of poverty. Positive coefficients on the two discrete measures of the poverty rate interacted with race and a negative coefficient on the poverty rate times the dummy indicating an African-American household would be consistent with rental price discrimination based on race. Few of the discrete measures were significantly different from zero and the number of positive and significant coefficients is only slightly greater than the number of negative and significant coefficients. For the continuous measures, it was equally likely to find a positive and statistically significant coefficient on BLACK*POVERTY as negative and significant.

Table 3B provides coefficient estimates and estimated premiums for the variables interacting race or ethnicity with neighborhood poverty rates for each metropolitan area with sufficient sample size. Premium estimates for African Americans and Hispanics living in low and very low poverty neighborhoods and specifically living in neighborhoods with 5 percent poverty are reported. As was true for measures of the racial composition of the neighborhood, the results across the two specifications are nearly always inconsistent. In fact, positive and significant coefficients on the discrete measures of living in a low or very low poverty neighborhood and a negative and significant coefficient on BLACK*POVERTY was detected in only one area, Milwaukee-Racine. Part of this may be due to the fact that some coefficients from the discrete measures are not reported but, as before, it is troubling not to have consistent findings across the two specifications.

Estimates of the magnitude of the rent premium to African Americans to live in low poverty neighborhoods suggests that in some metropolitan areas, these premium can be large. Boston had the largest estimated premium (21 percent) to African Americans living in very low poverty neighborhoods and the coefficients on BLACK*LOW-POV and BLACK*VLOW-POV were both positive and statistically significant, suggesting the premium increases as the poverty rate falls. Of note is that the estimates for Boston actually suggest that African Americans pay *less* to live in majority white neighborhoods. The results using discrete measures of the incidence of poverty from a few other metropolitan areas, namely Cincinnati-Hamilton, Orlando, Syracuse, and West Palm Beach-Boca Raton-Delray Beach, also suggests large rent premiums

being paid by African-American households living in low poverty neighborhoods. Using the results from the continuous measures of poverty to predict the rent premium in neighborhoods with 5 percent rates of poverty suggest largest premiums are found in the Augusta (35.2 percent), Daytona Beach (20.8 percent), and Tucson (16.3 percent) metropolitan areas. Care should be taken, however, when interpreting the findings using the continuous measures of poverty rates. The large magnitude estimates are largely due to the coefficient estimates on BLACK presented in Table 3A, some of which are not statistically different from zero.

Insufficient sample and cell size was a bigger issue when attempting to capture difference in rents between Hispanic and white households than African-American and white households. Since fewer metropolitan areas had sufficient samples to allow reporting of their results, it is not surprising that fewer areas have results suggestive of rental price discrimination to Hispanics living in low or very low poverty areas. However, of the six areas with statistically significant positive relationships between the level of poverty and rents to Hispanics, two areas produces large magnitude estimates of the premium. Specifically, the results suggest a nearly 32 percent rent premium charged to Hispanic living in the low poverty neighborhoods of Seattle and a 12.3 percent premium to Hispanics in very low poverty areas of Denver-Boulder. Using the coefficients from the hedonic employing continuous measures of the rate of neighborhood poverty to predict the rent premium charged Hispanics to live in neighborhoods with 5 percent poverty, produced estimates for a few metropolitan areas that are even more driven by the estimates on HISPANIC reported in 2A than BLACK for African Americans. This suggests that Hispanics pay higher rents across neighborhoods in those metropolitan areas, including low poverty neighborhoods.

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Albany--Schenectady--Troy, NY	0.003	0.016	0.052	---	5.2%	6.5%	8.0%	---
	(0.037)	(0.043)	(0.049)	---				
Albuquerque, NM	---	---	-0.053	0.115	---	---	6.7%	23.5%
	---	---	(0.023)	(0.087)				
Allentown--Bethlehem--Easton, PA--NJ	0.015	---	0.015	---	0.6%	---	-1.0%	---
	(0.017)	---	(0.015)	---				
Atlanta, GA	0.029	0.072	---	---	1.4%	5.7%	---	---
	(0.030)	(0.045)	---	---				
Augusta, GA--SC	0.149	---	---	---	17.2%	---	---	---
	(0.062)	---	---	---				
Austin, TX	-0.070	-0.016	-0.186*	0.115	-5.8%	-0.4%	-9.5%	20.6%
	(0.078)	(0.032)	(0.071)	(0.107)				
Baton Rouge, LA	0.116	---	---	---	12.5%	---	---	---
	(0.119)	---	---	---				
Beaumont--Port Arthur, TX	0.065	---	---	---	16.2%	---	---	---
	(0.068)	---	---	---				
Binghamton, NY	---	---	---	---	---	---	---	---
	---	---	---	---				
Birmingham, AL	-0.016	-0.153*	---	---	1.6%	-12.1%	---	---
	(0.047)	(0.054)	---	---				
Boise City, ID	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Boston--Lawrence--Salem, MA--NH	0.064*	0.151†	0.014	-0.036	12.3%	21.0%	3.1%	-1.9%
	(0.029)	(0.047)	(0.025)	(0.053)				
Buffalo--Niagara Falls, NY	0.008	---	---	---	2.8%	---	---	---
	(0.035)	---	---	---				
Canton, OH	---	---	---	---	---	---	---	---
	---	---	---	---				
Charleston, SC	0.055	---	---	---	13.6%	---	---	---
	(0.035)	---	---	---				
Charleston, WV	---	---	---	---	---	---	---	---
	---	---	---	---				
Charlotte--Gastonia--Rock Hill, NC--SC	0.018	-0.008	---	---	2.1%	-0.5%	---	---
	(0.030)	(0.053)	---	---				
Chattanooga, TN--GA	0.136	0.081	---	---	12.0%	6.5%	---	---
	(0.051)	(0.045)	---	---				
Chicago--Gary--Lake County, IL--IN--WI	-0.046†	-0.011	0.001	-0.014	2.5%	6.0%	7.6%	6.1%
	(0.017)	(0.019)	(0.059)	(0.032)				
Cincinnati--Hamilton, OH--KY--IN	0.034	0.108†	---	---	6.0%	13.4%	---	---
	(0.018)	(0.029)	---	---				
Cleveland--Akron--Lorain, OH	0.051*	-0.060*	---	---	4.9%	-6.2%	---	---
	(0.021)	(0.026)	---	---				
Colorado Springs, CO	0.012	---	-0.067	---	9.1%	---	-7.2%	---
	(0.029)	---	(0.037)	---				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Columbia, SC	0.064	0.080	---	---	8.0%	9.6%	---	---
	(0.034)	(0.034)	---	---				
Columbus, OH	-0.033	-0.071*	---	---	-3.9%	-7.7%	---	---
	(0.046)	(0.020)	---	---				
Dallas--Fort Worth, TX	0.007	-0.003	-0.001	-0.017	0.7%	-0.3%	0.6%	-1.0%
	(0.018)	(0.059)	(0.025)	(0.038)				
Davenport--Rock Island--Moline, IA--IL	-0.022	---	---	---	4.8%	---	---	---
	(0.017)	---	---	---				
Dayton--Springfield, OH	0.031	0.071	---	---	0.3%	4.3%	---	---
	(0.022)	(0.041)	---	---				
Daytona Beach, FL	0.022	---	-0.020	---	2.5%	---	-3.6%	---
	(0.034)	---	(0.018)	---				
Denver--Boulder, CO	-0.013	0.106	0.035	0.096*	-0.1%	11.8%	6.2%	12.3%
	(0.043)	(0.059)	(0.032)	(0.044)				
Des Moines, IA	---	---	---	---	---	---	---	---
	---	---	---	---				
Detroit--Ann Arbor, MI	0.015	0.068†	-0.069	---	-5.0%	0.3%	-1.3%	---
	(0.037)	(0.022)	(0.067)	---				
Dothan, AL	---	---	---	---	---	---	---	---
	---	---	---	---				
Elkhart--Goshen, IN	-0.005	---	---	---	6.8%	---	---	---
	(0.061)	---	---	---				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Evansville, IN--KY	0.052	---	---	---	6.1%	---	---	---
	(0.042)	---	---	---				
Fort Collins--Loveland, CO	---	---	0.005	---	---	---	-1.1%	---
	---	---	(0.033)	---				
Fort Myers--Cape CoraL, Fl	---	---	0.053	---	---	---	15.4%	---
	---	---	(0.017)	---				
Fresno, CA	---	---	---	---	---	---	---	---
	---	---	---	---				
Grand Forks, ND	---	---	---	---	---	---	---	---
	---	---	---	---				
Grand Rapids, MI	0.031	-0.027	---	---	2.4%	-3.4%	---	---
	(0.019)	(0.029)	---	---				
Greensboro--Winston-Salem--High Point, NC	-0.030	---	---	---	-4.7%	---	---	---
	(0.035)	---	---	---				
Greenville--Spartanburg, SC	-0.001	---	---	---	6.9%	---	---	---
	(0.013)	---	---	---				
Harrisburg--Lebanon--Carlisle, PA	-0.038	---	---	---	-6.0%	---	---	---
	(0.022)	---	---	---				
Hartford, CT	0.022	0.035	0.010	0.050*	2.9%	4.2%	1.0%	5.0%
	(0.021)	(0.029)	(0.022)	(0.023)				
Hickory--Morganton, NC	-0.004	---	---	---	4.4%	---	---	---
	(0.008)	---	---	---				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Houston--Galveston--Brazoria, TX	-0.016	---	-0.003	---	2.7%	---	2.1%	---
	(0.019)	---	(0.044)	---				
Indianapolis, IN	-0.075	---	---	---	-8.3%	---	---	---
	(0.031)	---	---	---				
Jacksonville, FL	-0.032	---	---	---	10.2%	---	---	---
	(0.015)	---	---	---				
Janesville--Beloit, WI	---	---	---	---	---	---	---	---
	---	---	---	---				
Johnson City--Kingsport--Bristol, TN--VA	---	---	---	---	---	---	---	---
	---	---	---	---				
Jonesboro, AR	-0.077†	---	---	---	-9.7%	---	---	---
	(0.008)	---	---	---				
Kansas City, MO--KS	-0.022	-0.032	0.019	---	2.1%	1.1%	-3.5%	---
	(0.026)	(0.046)	(0.073)	---				
Killeen--Temple, TX	-0.001	---	0.064†	---	4.5%	---	0.9%	---
	(0.018)	---	(0.007)	---				
Knoxville, TN	0.071*	---	---	---	5.2%	---	---	---
	(0.025)	---	---	---				
Lafayette, LA	-0.068	---	---	---	-1.9%	---	---	---
	(0.043)	---	---	---				
Lake Charles, LA	0.010	---	---	---	0.9%	---	---	---
	(0.038)	---	---	---				
Lancaster, PA	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Lansing--East Lansing, MI	-0.028	-0.012	---	---	-1.6%	0.0%	---	---
	(0.054)	(0.042)	---	---				
Las Vegas, NV	0.018	0.040	---	---	3.5%	5.7%	---	---
	(0.031)	(0.026)	---	---				
Lexington-Fayette, KY	0.021	---	---	---	3.7%	---	---	---
	(0.027)	---	---	---				
Little Rock--North Little Rock, AR	0.016	-0.027	---	---	8.2%	3.9%	---	---
	(0.035)	(0.046)	---	---				
Longview--Marshall, TX	---	---	---	---	---	---	---	---
	---	---	---	---				
Los Angeles--Anaheim--Riverside, CA	-0.006	-0.189†	0.034*	0.042	1.0%	-17.3%	1.2%	2.0%
	(0.021)	(0.069)	(0.016)	(0.036)				
Louisville, KY--IN	0.029	0.065	---	---	4.8%	8.4%	---	---
	(0.038)	(0.053)	---	---				
Mansfield, OH	---	---	---	---	---	---	---	---
	---	---	---	---				
Miami--Fort Lauderdale, FL	0.035	---	0.004	---	3.7%	---	3.2%	---
	(0.018)	---	(0.016)	---				
Milwaukee--Racine, WI	0.097†	0.093†	0.054	---	7.6%	7.2%	1.2%	---
	(0.025)	(0.023)	(0.042)	---				
Minneapolis--St. Paul, MN--WI	-0.058	-0.054	0.123	0.160	-4.5%	-4.1%	9.5%	13.2%
	(0.030)	(0.032)	(0.112)	(0.102)				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Mobile, AL	-0.097	---	---	---	-6.3%	---	---	---
	(0.053)	---	---	---				
Monroe, LA	---	---	---	---	---	---	---	---
	---	---	---	---				
Myrtle Beach, SC	0.026	---	---	---	5.7%	---	---	---
	(0.026)	---	---	---				
Nashville, TN	0.015	-0.054	---	---	2.0%	-4.9%	---	---
	(0.047)	(0.034)	---	---				
New Orleans, LA	-0.065	-0.104	---	---	1.9%	-2.0%	---	---
	(0.067)	(0.068)	---	---				
New York--Northern New Jersey--Long Island, NY--NJ--CT	-0.050‡	-0.040	0.019	-0.025	-2.2%	-1.2%	3.6%	-0.8%
	(0.014)	(0.021)	(0.025)	(0.041)				
Norfolk--Virginia Beach--Newport News, VA	-0.046	0.044	---	---	1.0%	10.0%	---	---
	(0.037)	(0.051)	---	---				
Oklahoma City, OK	-0.005	---	---	---	-2.5%	---	---	---
	(0.015)	---	---	---				
Omaha, NE--IA	-0.002	-0.037*	---	---	0.0%	-3.5%	---	---
	(0.010)	(0.012)	---	---				
Orlando, FL	0.000	0.230‡	-0.056	0.090	-3.5%	19.5%	-2.8%	11.8%
	(0.028)	(0.058)	(0.032)	(0.096)				
Pensacola, FL	---	---	---	---	---	---	---	---

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
	---	---	---	---				
Peoria, IL	0.020	---	---	---	8.5%	---	---	---
	(0.054)	---	---	---				
Philadelphia--Wilmington--Trenton, PA--NJ--DE--MD	0.037†	0.029	-0.027	0.036	4.4%	3.6%	-1.5%	4.8%
	(0.013)	(0.019)	(0.035)	(0.049)				
Phoenix, AZ	0.004	0.055†	0.008	0.024	1.1%	6.2%	0.3%	1.9%
	(0.027)	(0.018)	(0.051)	(0.046)				
Pittsburgh, PA	0.011	---	---	---	4.6%	---	---	---
	(0.025)	---	---	---				
Portland--Vancouver, OR--WA	-0.073	---	-0.019	---	-3.2%	---	-10.2%	---
	(0.037)	---	(0.026)	---				
Providence--Fall River--Warwick, RI--MA	0.013	---	0.117*	---	6.2%	---	11.1%	---
	(0.034)	---	(0.043)	---				
Raleigh--Durham, NC	0.007	0.061	---	---	1.5%	6.9%	---	---
	(0.062)	(0.106)	---	---				
Richmond--Petersburg, VA	-0.011	0.015	---	---	-3.1%	-0.5%	---	---
	(0.018)	(0.035)	---	---				
Rochester, NY	-0.064	0.007	---	0.105	-6.9%	0.2%	---	9.4%
	(0.034)	(0.020)	---	(0.050)				
Rockford, IL	-0.053*	---	---	---	-3.8%	---	---	---
	(0.017)	---	---	---				
Sacramento--Yolo, CA	-0.056†	---	-0.031	0.060	-7.1%	---	-7.2%	1.9%
	(0.017)	---	(0.031)	(0.030)				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
St. Louis, MO--IL	0.005	-0.024	---	---	1.9%	-1.0%	---	---
	(0.024)	(0.037)	---	---				
Salt Lake City--Ogden, UT	0.064	---	-0.017	0.013	6.6%	---	3.5%	6.5%
	(0.044)	---	(0.024)	(0.046)				
San Antonio, TX	0.043	---	0.018	0.041	7.1%	---	0.9%	3.2%
	(0.046)	---	(0.038)	(0.152)				
San Diego, CA	-0.014	---	0.055	0.148	0.6%	---	-5.7%	3.6%
	(0.029)	---	(0.063)	(0.092)				
San Francisco--Oakland--San Jose, CA	-0.026	0.027	-0.066	-0.078†	-4.9%	0.4%	-0.7%	-1.9%
	(0.037)	(0.053)	(0.040)	(0.028)				
Santa Barbara--Santa Maria--Lompoc, CA	---	---	---	---	---	---	---	---
	---	---	---	---				
Sarasota, FL	-0.096*	---	---	---	-11.9%	---	---	---
	(0.041)	---	---	---				
Scranton--Wilkes-Barre, PA	---	---	---	---	---	---	---	---
	---	---	---	---				
Seattle--Tacoma, WA	-0.020	-0.003	0.156‡	---	6.9%	8.6%	31.8%	---
	(0.028)	(0.038)	(0.040)	---				
Shreveport, LA	0.086†	-0.037	---	---	9.5%	-2.8%	---	---
	(0.023)	(0.042)	---	---				
South Bend--Mishawaka, IN	0.011	---	---	---	8.1%	---	---	---
	(0.040)	---	---	---				
Springfield, MA	---	---	-0.036	---	---	---	-6.4%	---

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
	---	---	(0.033)	---				
Syracuse, NY	0.063*	---	---	---	10.4%	---	---	---
	(0.026)	---	---	---				
Tampa--St. Petersburg--Clearwater, FL	0.040	---	0.000	---	9.5%	---	7.8%	---
	(0.025)	---	(0.039)	---				
Toledo, OH	0.068	---	---	---	6.9%	---	---	---
	(0.026)	---	---	---				
Tucson, AZ	---	---	---	---	---	---	---	---
	---	---	---	---				
Tulsa, OK	-0.048	---	---	---	-6.7%	---	---	---
	(0.021)	---	---	---				
Utica--Rome, NY	---	---	---	---	---	---	---	---
	---	---	---	---				
Washington--Baltimore, DC--MD--VA--WV	-0.012	-0.002	0.062	-0.019	-1.9%	-0.9%	3.7%	-4.4%
	(0.019)	(0.026)	(0.063)	(0.065)				
West Palm Beach--Boca Raton--Delray Beach, FL	0.104‡	---	0.010	---	15.6%	---	7.2%	---
	(0.022)	---	(0.030)	---				
Wichita, KS	0.083	-0.029	---	---	17.3%	6.1%	---	---
	(0.033)	(0.050)	---	---				

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using discrete measures of the incidence of poverty in the neighborhood							
	BLACK* LOW- POV	BLACK * VLOW- POV	HISP* LOW- POV	HISP* VLOW- POV	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW- POV	VLOW - POV	LOW- POV	VLOW- POV
Youngstown--Warren, OH	0.015	---	---	---	-0.3%	---	---	---
	(0.025)	---	---	---				

Notes:
Coefficients and standard errors for variables with sufficient sample size and variation to allow their inclusion.
Dependent variable is the log of gross rent (market rent plus tenant paid utilities).
* p<.05
† p<.01
‡ p<.001

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Albany--Schenectady--Troy, NY	0.000	-0.001	-2.0%	4.4%
	(0.001)	(0.002)		
Albuquerque, NM	---	0.002	---	15.0%
	---	(0.002)		
Allentown--Bethlehem--Easton, PA--NJ	0.002	0.001	-31.9%	-27.1%
	(0.001)	(0.001)		
Atlanta, GA	0.001	---	-15.6%	---
	(0.003)	---		
Augusta, GA--SC	-0.007†	---	35.2%	---
	(0.001)	---		
Austin, TX	0.001	0.000	-14.9%	3.7%
	(0.001)	(0.001)		
Baton Rouge, LA	0.006	---	-29.1%	---
	(0.005)	---		
Beaumont--Port Arthur, TX	-0.002	---	22.9%	---
	(0.007)	---		
Binghamton, NY	-0.000	---	43.5%	---
	(0.005)	---		
Birmingham, AL	0.005*	---	-16.8%	---
	(0.002)	---		
Boise City, ID	---	0.001	---	14.0%
	---	(0.003)		
Boston--Lawrence--Salem, MA--NH	0.001	-0.000	4.1%	0.6%
	(0.001)	(0.001)		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Buffalo--Niagara Falls, NY	0.000	0.001	-8.4%	14.0%
	(0.001)	(0.001)		
Canton, OH	-0.003	---	-12.4%	---
	(0.001)	---		
Charleston, SC	0.004	---	-7.7%	---
	(0.004)	---		
Charleston, WV	0.003*	---	-7.5%	---
	(0.001)	---		
Charlotte--Gastonia--Rock Hill, NC--SC	-0.004*	---	11.3%	---
	(0.002)	---		
Chattanooga, TN--GA	-0.003	---	-16.4%	---
	(0.001)	---		
Chicago--Gary--Lake County, IL--IN--WI	0.002	0.002	-3.2%	0.8%
	(0.001)	(0.002)		
Cincinnati--Hamilton, OH--KY--IN	-0.000	---	4.5%	---
	(0.001)	---		
Cleveland--Akron--Lorain, OH	-0.002	-0.001	4.0%	-4.5%
	(0.001)	(0.001)		
Colorado Springs, CO	-0.003†	0.000	10.3%	0.8%
	(0.001)	(0.003)		
Columbia, SC	-0.002	---	17.0%	---
	(0.001)	---		
Columbus, OH	0.001	---	-11.6%	---
	(0.002)	---		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
	BLACK* POVERTY	HISP* POVERTY		
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Dallas--Fort Worth, TX	-0.000	-0.000	-5.7%	4.5%
	(0.002)	(0.002)		
Davenport--Rock Island--Moline, IA--IL	-0.000	---	-5.9%	---
	(0.003)	---		
Dayton--Springfield, OH	-0.000	---	5.3%	---
	(0.001)	---		
Daytona Beach, FL	-0.005*	0.003	20.8%	-18.5%
	(0.002)	(0.002)		
Denver--Boulder, CO	-0.003	-0.007‡	15.0%	34.3%
	(0.001)	(0.001)		
Des Moines, IA	0.003	---	-13.2%	---
	(0.001)	---		
Detroit--Ann Arbor, MI	-0.001	0.001	-9.6%	-21.1%
	(0.001)	(0.002)		
Dothan, AL	0.007	---	-26.1%	---
	(0.003)	---		
Elkhart--Goshen, IN	0.001	---	3.5%	---
	(0.003)	---		
Evansville, IN--KY	0.000	---	25.9%	---
	(0.001)	---		
Fort Collins--Loveland, CO	---	-0.004	---	44.1%
	---	(0.002)		
Fort Myers--Cape CoraL, Fl	---	-0.003	---	7.1%
	---	(0.001)		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
	BLACK* POVERTY	HISP* POVERTY		
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Fresno, CA	0.001	-0.000	-2.5%	13.2%
	(0.001)	(0.001)		
Grand Forks, ND	---	0.033	---	-113.2%
	---	(0.023)		
Grand Rapids, MI	0.002	0.005*	-14.7%	-15.7%
	(0.002)	(0.002)		
Greensboro--Winston-Salem--High Point, NC	0.002	---	-12.0%	---
	(0.002)	---		
Greenville--Spartanburg, SC	0.000	---	8.0%	---
	(0.001)	---		
Harrisburg--Lebanon--Carlisle, PA	-0.001	-0.002	-0.1%	-2.9%
	(0.001)	(0.002)		
Hartford, CT	0.000	0.002	-1.7%	-7.0%
	(0.001)	(0.001)		
Hickory--Morganton, NC	0.001	---	-1.6%	---
	(0.001)	---		
Houston--Galveston--Brazoria, TX	-0.003‡	-0.003	11.0%	21.5%
	(0.001)	(0.002)		
Indianapolis, IN	-0.000	---	0.1%	---
	(0.002)	---		
Jacksonville, FL	0.001	---	-7.7%	---

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
	(0.002)	---		
Janesville--Beloit, WI	0.003	---	-3.5%	---
	(0.001)	---		
Johnson City--Kingsport--Bristol, TN--VA	0.001	---	28.1%	---
	(0.002)	---		
Jonesboro, AR	0.001	---	-66.3%	---
	(0.007)	---		
Kansas City, MO--KS	0.000	0.002	0.8%	-11.7%
	(0.002)	(0.002)		
Killeen--Temple, TX	-0.002†	-0.002	8.0%	2.5%
	(0.000)	(0.001)		
Knoxville, TN	-0.001	---	-2.5%	---
	(0.001)	---		
Lafayette, LA	-0.001	---	5.4%	---
	(0.002)	---		
Lake Charles, LA	0.000	---	1.3%	---
	(0.002)	---		
Lancaster, PA	---	0.007	---	-45.0%
	---	(0.002)		
Lansing--East Lansing, MI	-0.005†	---	6.3%	---
	(0.001)	---		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Las Vegas, NV	0.001	0.001	-11.6%	-5.9%
	(0.001)	(0.002)		
Lexington-Fayette, KY	-0.001	---	-7.6%	---
	(0.001)	---		
Little Rock--North Little Rock, AR	-0.001	---	19.2%	---
	(0.002)	---		
Longview--Marshall, TX	0.008*	---	-27.0%	---
	(0.003)	---		
Los Angeles--Anaheim--Riverside, CA	0.002†	-0.001	-2.4%	3.6%
	(0.001)	(0.001)		
Louisville, KY--IN	0.002	---	-12.3%	---
	(0.001)	---		
Mansfield, OH	0.006†	---	7.1%	---
	(0.001)	---		
Miami--Fort Lauderdale, FL	-0.001	-0.001	6.6%	-1.3%
	(0.001)	(0.000)		
Milwaukee--Racine, WI	-0.003*	-0.007	14.8%	26.1%
	(0.001)	(0.004)		
Minneapolis--St. Paul, MN--WI	0.004	-0.018†	-11.8%	94.3%
	(0.002)	(0.005)		
Mobile, AL	0.005	---	-21.2%	---
	(0.004)	---		
Monroe, LA	0.001	---	5.1%	---
	(0.001)	---		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Myrtle Beach, SC	0.002	---	-5.8%	---
	(0.008)	---		
Nashville, TN	-0.001	---	3.8%	---
	(0.001)	---		
New Orleans, LA	0.006†	---	-3.4%	---
	(0.002)	---		
New York--Northern New Jersey--Long Island, NY--NJ--CT	0.002‡	-0.000	-4.5%	-0.6%
	(0.000)	(0.000)		
Norfolk--Virginia Beach--Newport News, VA	0.006	---	-8.8%	---
	(0.003)	---		
Oklahoma City, OK	-0.001	---	5.4%	---
	(0.002)	---		
Omaha, NE--IA	0.005‡	---	-17.6%	---
	(0.001)	---		
Orlando, FL	-0.004	0.003	-1.1%	-11.8%
	(0.003)	(0.002)		
Pensacola, FL	-0.003*	---	12.5%	---
	(0.001)	---		
Peoria, IL	0.002	---	-7.4%	---
	(0.001)	---		
Philadelphia--Wilmington--Trenton, PA--NJ--DE--MD	-0.001	0.001	0.9%	-1.8%
	(0.001)	(0.001)		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Phoenix, AZ	-0.003	0.001	17.6%	-10.5%
	(0.002)	(0.002)		
Pittsburgh, PA	0.002*	---	-4.9%	---
	(0.001)	---		
Portland--Vancouver, OR--WA	0.003	0.001	-17.6%	-34.2%
	(0.002)	(0.002)		
Providence--Fall River--Warwick, RI--MA	0.000	-0.001	10.0%	6.0%
	(0.001)	(0.002)		
Raleigh--Durham, NC	-0.001	---	-1.8%	---
	(0.002)	---		
Richmond--Petersburg, VA	-0.002	---	8.4%	---
	(0.001)	---		
Rochester, NY	-0.000	-0.001	10.8%	0.6%
	(0.001)	(0.001)		
Rockford, IL	0.001†	---	-11.0%	---
	(0.000)	---		
Sacramento--Yolo, CA	-0.001	0.000	-0.3%	4.1%
	(0.001)	(0.001)		
St. Louis, MO--IL	0.000	---	3.3%	---
	(0.001)	---		
Salt Lake City--Ogden, UT	0.004	0.000	-40.1%	3.9%
	(0.002)	(0.002)		
San Antonio, TX	-0.001	0.002	4.3%	-14.2%

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
	BLACK* POVERTY	HISP* POVERTY		
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
	(0.002)	(0.002)		
San Diego, CA	0.000	0.000	-4.4%	-3.5%
	(0.000)	(0.002)		
San Francisco--Oakland--San Jose, CA	0.001	0.003	-10.4%	-3.9%
	(0.003)	(0.002)		
Santa Barbara--Santa Maria--Lompoc, CA	---	-0.001	---	7.7%
	---	(0.003)		
Sarasota, FL	0.009	---	-34.5%	---
	(0.005)	---		
Scranton--Wilkes-Barre, PA	-0.001	---	13.7%	---
	(0.001)	---		
Seattle--Tacoma, WA	-0.002	-0.010‡	13.8%	41.1%
	(0.002)	(0.002)		
Shreveport, LA	0.001	---	-3.8%	---
	(0.001)	---		
South Bend--Mishawaka, IN	-0.002	---	12.7%	---
	(0.002)	---		
Springfield, MA	-0.001	-0.002	16.9%	16.2%
	(0.001)	(0.001)		
Syracuse, NY	0.000	-0.000	11.3%	8.8%
	(0.001)	(0.003)		

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%
Tampa--St. Petersburg--Clearwater, FL	-0.002	-0.000	13.2%	21.4%
	(0.002)	(0.002)		
Toledo, OH	-0.001	---	-0.1%	---
	(0.001)	---		
Tucson, AZ	-0.003*	-0.002	16.3%	20.0%
	(0.001)	(0.002)		
Tulsa, OK	-0.001	---	4.0%	---
	(0.001)	---		
Utica--Rome, NY	-0.001	-0.002	-17.7%	25.6%
	(0.002)	(0.002)		
Washington--Baltimore, DC--MD--VA--WV	0.001	-0.000	-9.2%	9.1%
	(0.002)	(0.004)		
West Palm Beach--Boca Raton--Delray Beach, FL	0.000	0.004	10.6%	3.7%
	(0.004)	(0.003)		
Wichita, KS	-0.000	---	-12.4%	---
	(0.001)	---		
Youngstown--Warren, OH	-0.000	---	-2.3%	---
	(0.002)	---		

Notes:
Coefficients and standard errors for variables with sufficient sample size and variation to allow their inclusion.
Dependent variable is the log of gross rent (market rent plus tenant paid utilities).
* p<.05

Table 3B. Hedonic results and rent premium estimates as a function of the poverty rate of the neighborhood

	Hedonics using continuous measures of the incidence of poverty			
Metropolitan area	BLACK* POVERTY Coeff. (S.E.)	HISP* POVERTY Coeff. (S.E.)	Premium African Americans pay to live in areas with poverty rate of 5%	Premium Hispanics pay to live in areas with poverty rate of 5%

† p<.01
‡ p<.001

Neighborhood vacancy rates

Summaries of the results examining rents as a function of the tightness of the housing market and whether the magnitude of rental price discrimination is greater in tight housing markets are presented near the bottom of Table 3. The coefficient estimates from the discrete measures of the tightness of the rental housing market do not show a consistent relationship between rents and vacancy rates, holding other factors constant. Using the actual vacancy rate as a regressor in the hedonic suggest, on average, a negative relationship between rents and vacancy rates and it is more likely to find a negative and statistically significant relationship than a positive and significant relationship.

The coefficients on BLACK*LOW-VR, BLACK*VLOW-VR, and BLACK*VR are used to estimate whether the magnitude of rental price discrimination is greater in tight housing markets. The summaries of these coefficients show little support for the notion that it is common to find more rental price discrimination against African Americans in tight rental housing markets than in markets with more available units. For the two discrete measures of housing market tightness, the same number of metropolitan areas displayed positive and significant relationships with rents as negative and significant. Using the continuous vacancy rate interacted with race indicates that 11 areas have statistically significant, negative coefficients on that variable and 9 have a positive and significant relationship.

The estimates of the coefficients and estimates of rent premiums as a function of the rental housing vacancy rate presented in Table 3C show that sample and cell size issues were even more pronounced for the discrete measures of the tightness of the housing market. Table 2 indicates that roughly 10 percent of African-American households occupy a unit of housing in a very low vacancy rate neighborhood. This number of households spread across 111 metropolitan areas led to cell or sample sizes too low to report or produce results for BLACK*LOW-VR in 51 metropolitan areas and in 65 areas for BLACK*VLOW-VR. A comparison of the metropolitan areas with significant positive relationships between the rent premium to African Americans and living in neighborhoods with low vacancy rates suggest a few premiums exceed 10 percent. The largest estimated premium (16.4 percent) is for African Americans living in low vacancy rate neighborhoods of Augusta. Other metropolitan areas with estimated premiums in excess of 10 percent are St. Louis and Charlotte-Gastonia-Rock Hill.

Estimated rent premiums to African Americans living in neighborhoods with vacancy rates of 2 percent were sizable in a few metropolitan areas, for example Binghamton, Columbia, and Charlotte-Gastonia-Rock Hill. However, as was true for large estimated premiums living in neighborhoods with 5 percent poverty, these large magnitudes are driven by the large coefficients on BLACK reported in Table 3A and do not necessarily imply a large premium due to the tightness of the housing market.

Sample and cell size issues were particularly prevalent when using discrete measures to examine whether Hispanics pay more to live in low or very low vacancy rate neighborhoods. Table 2 suggests a larger fraction of Hispanic households (nearly 21 percent) live in very low vacancy rate neighborhoods. However, the total sample of Hispanic households is small relative to white and African-American households. This prevented reasonably precise estimates of the role of living in a very low vacancy rate neighborhood plays in determining rent differences between white and Hispanic households in 78 of the 111 areas and this increases to 86 areas when restricting to very low vacancy rate neighborhoods. The results across metropolitan areas with sufficient samples of Hispanic households across rental vacancy rates suggest the largest rent premium is for Hispanics living in Minneapolis, with an estimated 22.5

percent premium for Hispanics living in low vacancy rate neighborhoods and nearly 20 percent to live in very low vacancy rate neighborhoods. Using the discrete measures, only one other metropolitan area, Chicago-Gary-Lake County, had estimated premiums exceeding 10 percent. None of the estimated premiums to Hispanics living in neighborhoods with 2 percent rental vacancy rates exceeded 10 percent. The largest estimate was for Tampa-St. Petersburg-Clearwater at 6.4 percent.

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW- VR	HISP* LOW- VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Albany--Schenectady--Troy, NY	0.024	---	---	---	7.3%	---	---	---
	(0.034)	---	---	---				
Albuquerque, NM	---	---	---	0.011	---	---	---	13.1%
	---	---	---	(0.086)				
Allentown--Bethlehem--Easton, PA--NJ	-0.036*	---	-0.020	---	-4.5%	---	-4.5%	---
	(0.013)	---	(0.010)	---				
Atlanta, GA	-0.075†	-0.012	---	---	-9.0%	-2.7%	---	---
	(0.026)	(0.024)	---	---				
Augusta, GA--SC	0.141‡	0.077	---	---	16.4%	10.0%	---	---
	(0.016)	(0.056)	---	---				
Austin, TX	-0.049	-0.056	-0.000	-0.085	-3.7%	-4.4%	9.1%	0.6%
	(0.061)	(0.054)	(0.051)	(0.069)				
Baton Rouge, LA	-0.072	---	---	---	-6.3%	---	---	---
	(0.041)	---	---	---				
Beaumont--Port Arthur, TX	-0.003	---	---	---	9.4%	---	---	---
	(0.069)	---	---	---				
Binghamton, NY	---	---	---	---	---	---	---	---
	---	---	---	---				
Birmingham, AL	---	-0.074	---	---	---	-4.2%	---	---
	---	(0.104)	---	---				
Boise City, ID	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW- VR	HISP* LOW- VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Boston--Lawrence--Salem, MA--NH	0.014	0.009	-0.041	0.029	7.3%	6.8%	-2.4%	4.6%
	(0.037)	(0.018)	(0.027)	(0.039)				
Buffalo--Niagara Falls, NY	-0.061	---	---	---	-4.1%	---	---	---
	(0.032)	---	---	---				
Canton, OH	---	---	---	---	---	---	---	---
	---	---	---	---				
Charleston, SC	-0.130	0.052	---	---	-4.9%	13.3%	---	---
	(0.051)	(0.049)	---	---				
Charleston, WV	---	---	---	---	---	---	---	---
	---	---	---	---				
Charlotte--Gastonia--Rock Hill, NC--SC	0.102*	0.050	---	---	10.5%	5.3%	---	---
	(0.046)	(0.031)	---	---				
Chattanooga, TN--GA	-0.311	---	---	---	-32.7%	---	---	---
	(0.120)	---	---	---				
Chicago--Gary--Lake County, IL--IN--WI	0.028	-0.001	0.068	0.055*	9.9%	7.0%	14.3%	13.0%
	(0.038)	(0.034)	(0.054)	(0.025)				
Cincinnati--Hamilton, OH--KY--IN	-0.020	-0.006	---	---	0.6%	2.0%	---	---
	(0.020)	(0.024)	---	---				
Cleveland--Akron--Lorain, OH	0.108	0.028	0.009	---	10.6%	2.6%	-2.2%	---
	(0.051)	(0.046)	(0.021)	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Colorado Springs, CO	-0.015	---	---	---	6.4%	---	---	---
	(0.043)	---	---	---				
Columbia, SC	---	---	---	---	---	---	---	---
	---	---	---	---				
Columbus, OH	---	-0.086*	---	---	---	-9.2%	---	---
	---	(0.027)	---	---				
Dallas--Fort Worth, TX	0.029	0.049	0.021	0.087	2.9%	4.9%	2.8%	9.4%
	(0.024)	(0.063)	(0.024)	(0.063)				
Davenport--Rock Island--Moline, IA--IL	---	---	---	---	---	---	---	---
	---	---	---	---				
Dayton--Springfield, OH	0.064	0.025	---	---	3.6%	-0.3%	---	---
	(0.036)	(0.047)	---	---				
Daytona Beach, FL	0.018	---	0.034	---	2.1%	---	1.8%	---
	(0.030)	---	(0.033)	---				
Denver--Boulder, CO	-0.021	-0.037*	-0.001	-0.044	-0.9%	-2.5%	2.6%	-1.7%
	(0.019)	(0.015)	(0.016)	(0.031)				
Des Moines, IA	---	---	---	---	---	---	---	---
	---	---	---	---				
Detroit--Ann Arbor, MI	0.032	-0.001	-0.005	---	-3.3%	-6.6%	5.1%	---
	(0.032)	(0.024)	(0.067)	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Dothan, AL	---	---	---	---	---	---	---	---
	---	---	---	---				
Elkhart--Goshen, IN	---	---	---	---	---	---	---	---
	---	---	---	---				
Evansville, IN--KY	---	---	---	---	---	---	---	---
	---	---	---	---				
Fort Collins--Loveland, CO	---	---	0.017	---	---	---	0.1%	---
	---	---	(0.025)	---				
Fort Myers--Cape CoraL, Fl	---	---	---	---	---	---	---	---
	---	---	---	---				
Fresno, CA	-0.057	---	-0.043	0.075	1.6%	---	-0.7%	11.1%
	(0.022)	---	(0.016)	(0.070)				
Grand Forks, ND	---	---	---	---	---	---	---	---
	---	---	---	---				
Grand Rapids, MI	-0.050	0.023	---	---	-5.7%	1.6%	---	---
	(0.028)	(0.031)	---	---				
Greensboro--Winston-Salem--High Point, NC	-0.022	0.023	---	---	-3.9%	0.6%	---	---
	(0.032)	(0.049)	---	---				
Greenville--Spartanburg, SC	---	---	---	---	---	---	---	---
	---	---	---	---				
Harrisburg--Lebanon--Carlisle, PA	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Hartford, CT	-0.015	0.003	-0.020	-0.047	-0.8%	1.0%	-2.0%	-4.7%
	(0.027)	(0.034)	(0.018)	(0.037)				
Hickory--Morganton, NC	---	---	---	---	---	---	---	---
	---	---	---	---				
Houston--Galveston--Brazoria, TX	-0.001	-0.095	---	---	4.2%	-5.2%	---	---
	(0.017)	(0.048)	---	---				
Indianapolis, IN	---	---	---	---	---	---	---	---
	---	---	---	---				
Jacksonville, FL	0.032	---	---	---	16.6%	---	---	---
	(0.065)	---	---	---				
Janesville--Beloit, WI	---	---	---	---	---	---	---	---
	---	---	---	---				
Johnson City--Kingsport--Bristol, TN--VA	---	---	---	---	---	---	---	---
	---	---	---	---				
Jonesboro, AR	---	---	---	---	---	---	---	---
	---	---	---	---				
Kansas City, MO--KS	-0.010	-0.001	---	---	3.3%	4.2%	---	---
	(0.025)	(0.023)	---	---				
Killeen--Temple, TX	---	---	---	---	---	---	---	---
	---	---	---	---				
Knoxville, TN	0.060	---	---	---	4.1%	---	---	---
	(0.030)	---	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Lafayette, LA	---	---	---	---	---	---	---	---
	---	---	---	---				
Lake Charles, LA	---	---	---	---	---	---	---	---
	---	---	---	---				
Lancaster, PA	---	---	-0.032	---	---	---	-0.5%	---
	---	---	(0.037)	---				
Lansing--East Lansing, MI	0.046	-0.076	---	---	5.8%	-6.4%	---	---
	(0.057)	(0.037)	---	---				
Las Vegas, NV	---	-0.034*	---	---	---	-1.7%	---	---
	---	(0.015)	---	---				
Lexington-Fayette, KY	---	---	---	---	---	---	---	---
	---	---	---	---				
Little Rock--North Little Rock, AR	---	---	---	---	---	---	---	---
	---	---	---	---				
Longview--Marshall, TX	-0.046	---	---	---	-0.4%	---	---	---
	(0.035)	---	---	---				
Los Angeles--Anaheim--Riverside, CA	-0.020	-0.016	-0.003	0.024	-0.4%	0.0%	-2.5%	0.2%
	(0.023)	(0.025)	(0.020)	(0.018)				
Louisville, KY--IN	0.003	---	---	---	2.2%	---	---	---
	(0.038)	---	---	---				
Mansfield, OH	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Miami--Fort Lauderdale, FL	0.019	0.053†	-0.031	-0.017	2.1%	5.5%	-0.3%	1.1%
	(0.020)	(0.014)	(0.018)	(0.014)				
Milwaukee--Racine, WI	0.019	0.084	-0.030	---	-0.2%	6.3%	-7.2%	---
	(0.023)	(0.051)	(0.047)	---				
Minneapolis--St. Paul, MN--WI	-0.003	0.049†	0.253†	0.226‡	1.0%	6.2%	22.5%	19.8%
	(0.043)	(0.017)	(0.078)	(0.052)				
Mobile, AL	-0.039	0.003	---	---	-0.5%	3.7%	---	---
	(0.065)	(0.095)	---	---				
Monroe, LA	---	-0.220	---	---	---	-15.7%	---	---
	---	(0.087)	---	---				
Myrtle Beach, SC	---	---	---	---	---	---	---	---
	---	---	---	---				
Nashville, TN	-0.035	0.105	---	---	-3.0%	11.0%	---	---
	(0.029)	(0.059)	---	---				
New Orleans, LA	0.014	-0.016	---	---	9.8%	6.8%	---	---
	(0.075)	(0.046)	---	---				
New York--Northern New Jersey--Long Island, NY--NJ--CT	-0.016	0.035*	-0.034†	-0.001	1.2%	6.3%	-1.7%	1.6%
	(0.024)	(0.014)	(0.012)	(0.027)				
Norfolk--Virginia Beach--Newport News, VA	-0.014	-0.033	---	---	4.2%	2.3%	---	---
	(0.022)	(0.054)	---	---				
Oklahoma City, OK	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW- VR	HISP* LOW- VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Omaha, NE--IA	-0.006	---	---	---	-0.4%	---	---	---
	(0.015)	---	---	---				
Orlando, FL	-0.033	0.031	0.013	0.033	-6.8%	-0.4%	4.1%	6.1%
	(0.071)	(0.035)	(0.027)	(0.055)				
Pensacola, FL	---	---	---	---	---	---	---	---
	---	---	---	---				
Peoria, IL	---	---	---	---	---	---	---	---
	---	---	---	---				
Philadelphia--Wilmington--Trenton, PA--NJ--DE--MD	-0.053†	-0.015	-0.030	-0.018	-4.6%	-0.8%	-1.8%	-0.6%
	(0.017)	(0.022)	(0.017)	(0.025)				
Phoenix, AZ	0.010	0.004	-0.041	-0.027	1.7%	1.1%	-4.6%	-3.2%
	(0.012)	(0.028)	(0.032)	(0.038)				
Pittsburgh, PA	---	---	---	---	---	---	---	---
	---	---	---	---				
Portland--Vancouver, OR--WA	---	---	0.026	---	---	---	-5.7%	---
	---	---	(0.020)	---				
Providence--Fall River--Warwick, RI--MA	0.052	---	0.040	-0.016	10.1%	---	3.4%	-2.2%
	(0.031)	---	(0.026)	(0.040)				
Raleigh--Durham, NC	0.018	-0.045	---	---	2.6%	-3.7%	---	---
	(0.032)	(0.085)	---	---				
Richmond--Petersburg, VA	0.083	0.100‡	---	---	6.3%	8.0%	---	---
	(0.041)	(0.005)	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW- VR	HISP* LOW- VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Rochester, NY	---	---	---	---	---	---	---	---
	---	---	---	---				
Rockford, IL	---	---	---	---	---	---	---	---
	---	---	---	---				
Sacramento--Yolo, CA	0.031‡	---	0.064	0.073*	1.6%	---	2.3%	3.2%
	(0.007)	---	(0.037)	(0.033)				
St. Louis, MO--IL	0.111‡	-0.046	---	---	12.5%	-3.2%	---	---
	(0.020)	(0.042)	---	---				
Salt Lake City--Ogden, UT	---	---	0.014	0.043	---	---	6.6%	9.5%
	---	---	(0.011)	(0.021)				
San Antonio, TX	---	---	-0.119‡	-0.019	---	---	-12.8%	-2.8%
	---	---	(0.011)	(0.091)				
San Diego, CA	-0.019	-0.038	0.077*	0.057	0.1%	-1.8%	-3.5%	-5.5%
	(0.037)	(0.017)	(0.032)	(0.036)				
San Francisco--Oakland--San Jose, CA	-0.024	-0.025	-0.022	-0.009	-4.7%	-4.8%	3.7%	5.0%
	(0.021)	(0.028)	(0.036)	(0.030)				
Santa Barbara--Santa Maria--Lompoc, CA	---	---	0.028	0.020	---	---	-0.7%	-1.5%
	---	---	(0.013)	(0.009)				
Sarasota, FL	---	---	---	---	---	---	---	---
	---	---	---	---				
Scranton--Wilkes-Barre, PA	---	---	---	---	---	---	---	---
	---	---	---	---				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW- VR	HISP* LOW- VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
Seattle--Tacoma, WA	-0.015	-0.018	-0.060†	---	7.4%	7.1%	10.2%	---
	(0.011)	(0.029)	(0.021)	---				
Shreveport, LA	-0.025	---	---	---	-1.6%	---	---	---
	(0.043)	---	---	---				
South Bend--Mishawaka, IN	-0.092	-0.025	---	---	-2.2%	4.5%	---	---
	(0.030)	(0.026)	---	---				
Springfield, MA	0.039	-0.018	-0.032	0.028	-0.1%	-5.8%	-6.0%	0.0%
	(0.058)	(0.053)	(0.027)	(0.029)				
Syracuse, NY	---	---	---	---	---	---	---	---
	---	---	---	---				
Tampa--St. Petersburg--Clearwater, FL	-0.060*	0.019	0.043	-0.000	-0.5%	7.4%	12.1%	7.8%
	(0.022)	(0.022)	(0.029)	(0.028)				
Toledo, OH	0.015	---	---	---	1.6%	---	---	---
	(0.022)	---	---	---				
Tucson, AZ	---	---	---	---	---	---	---	---
	---	---	---	---				
Tulsa, OK	---	---	---	---	---	---	---	---
	---	---	---	---				
Utica--Rome, NY	---	---	---	---	---	---	---	---
	---	---	---	---				
Washington--Baltimore, DC--MD--VA--WV	0.023	-0.000	0.080*	0.042	1.6%	-0.7%	5.5%	1.7%
	(0.028)	(0.033)	(0.033)	(0.051)				

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using discrete measures of the tightness of the housing market							
	BLACK* LOW- VR	BLACK* VLOW-VR	HISP* LOW-VR	HISP* VLOW- VR	Premium African Americans pay to live in		Premium Hispanics pay to live in	
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	Coeff. (S.E.)	LOW-POV	VLOW-POV	LOW-POV	VLOW-POV
West Palm Beach--Boca Raton--Delray Beach, FL	-0.018	-0.155*	---	---	3.4%	-10.3%	---	---
	(0.051)	(0.070)	---	---				
Wichita, KS	---	---	---	---	---	---	---	---
	---	---	---	---				
Youngstown--Warren, OH	---	---	---	---	---	---	---	---
	---	---	---	---				

Notes:
Coefficients and standard errors for variables with sufficient sample size and variation to allow their inclusion.
Dependent variable is the log of gross rent (market rent plus tenant paid utilities).
* p<.05
† p<.01
‡ p<.001

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Albany--Schenectady--Troy, NY	-0.003	0.000	-2.6%	2.8%
	(0.002)	(0.004)		
Albuquerque, NM	---	-0.004	---	11.2%
	---	(0.002)		
Allentown--Bethlehem--Easton, PA--NJ	0.008*	0.006†	-31.3%	-1.3%
	(0.003)	(0.001)		
Atlanta, GA	0.006*	---	-14.9%	---
	(0.002)	---		
Augusta, GA--SC	-0.002	---	38.3%	---
	(0.002)	---		
Austin, TX	-0.003	0.008	-16.0%	10.7%
	(0.005)	(0.008)		
Baton Rouge, LA	0.000	---	-32.1%	---
	(0.004)	---		
Beaumont--Port Arthur, TX	-0.003	---	23.3%	---
	(0.005)	---		
Binghamton, NY	-0.015*	---	40.5%	---
	(0.006)	---		
Birmingham, AL	0.002	---	-18.9%	---
	(0.007)	---		

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Boise City, ID	---	0.004	---	18.9%
	---	(0.006)		
Boston--Lawrence--Salem, MA--NH	-0.001	0.004	3.4%	2.5%
	(0.003)	(0.003)		
Buffalo--Niagara Falls, NY	0.004	-0.009*	-7.6%	1.3%
	(0.002)	(0.003)		
Canton, OH	-0.000	---	-10.9%	---
	(0.002)	---		
Charleston, SC	0.002	---	-9.3%	---
	(0.003)	---		
Charleston, WV	0.000	---	-9.0%	---
	(0.003)	---		
Charlotte--Gastonia--Rock Hill, NC--SC	-0.006†	---	12.1%	---
	(0.002)	---		
Chattanooga, TN--GA	0.012	---	-12.5%	---
	(0.007)	---		
Chicago--Gary--Lake County, IL--IN--WI	0.001	-0.002	-4.0%	7.1%
	(0.004)	(0.003)		
Cincinnati--Hamilton, OH--KY--IN	-0.000	---	4.5%	---
	(0.003)	---		

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Cleveland--Akron--Lorain, OH	0.001	0.005	5.2%	-2.1%
	(0.003)	(0.003)		
Colorado Springs, CO	-0.000	0.000	11.8%	-0.5%
	(0.006)	(0.003)		
Columbia, SC	-0.008*	---	16.4%	---
	(0.003)	---		
Columbus, OH	0.002	---	-11.7%	---
	(0.001)	---		
Dallas--Fort Worth, TX	-0.003	-0.006*	-6.3%	-0.5%
	(0.003)	(0.003)		
Davenport--Rock Island--Moline, IA--IL	0.001	---	-5.7%	---
	(0.004)	---		
Dayton--Springfield, OH	-0.003	---	4.7%	---
	(0.003)	---		
Daytona Beach, FL	-0.002	0.007	22.9%	-0.2%
	(0.004)	(0.006)		
Denver--Boulder, CO	0.012‡	0.006	18.9%	3.9%
	(0.003)	(0.004)		
Des Moines, IA	0.001	---	-14.5%	---
	(0.004)	---		
Detroit--Ann Arbor, MI	-0.002	0.005	-9.5%	6.6%
	(0.002)	(0.005)		
Dothan, AL	0.006	---	-28.4%	---

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
	(0.004)	---		
Elkhart--Goshen, IN	0.004	---	3.8%	---
	(0.004)	---		
Evansville, IN--KY	0.003	---	26.5%	---
	(0.003)	---		
Fort Collins--Loveland, CO	---	-0.011	---	-3.8%
	---	(0.006)		
Fort Myers--Cape CoraL, Fl	---	0.003	---	10.7%
	---	(0.014)		
Fresno, CA	0.000	-0.002	-3.0%	3.2%
	(0.003)	(0.002)		
Grand Forks, ND	---	-0.005	---	1.3%
	---	(0.013)		
Grand Rapids, MI	0.002	-0.004	-15.3%	-1.1%
	(0.002)	(0.004)		
Greensboro--Winston-Salem--High Point, NC	-0.001	---	-13.2%	---
	(0.002)	---		
Greenville--Spartanburg, SC	-0.000	---	8.0%	---
	(0.003)	---		
Harrisburg--Lebanon--Carlisle, PA	0.002	0.006	0.8%	0.0%
	(0.002)	(0.009)		
Hartford, CT	-0.002	-0.002	-2.1%	-0.4%
	(0.003)	(0.003)		
Hickory--Morganton, NC	-0.004	---	-2.9%	---

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
	BLACK*VR	HISP*VR	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)		
	(0.005)	---		
Houston--Galveston--Brazoria, TX	-0.000	0.000	12.5%	2.4%
	(0.001)	(0.002)		
Indianapolis, IN	-0.001	---	-0.1%	---
	(0.005)	---		
Jacksonville, FL	-0.006	---	-9.4%	---
	(0.004)	---		
Janesville--Beloit, WI	-0.010*	---	-7.0%	---
	(0.004)	---		
Johnson City--Kingsport--Bristol, TN--VA	0.001	---	27.8%	---
	(0.006)	---		
Jonesboro, AR	0.023	---	-62.2%	---
	(0.019)	---		
Kansas City, MO--KS	0.001	-0.004*	1.0%	-6.2%
	(0.001)	(0.002)		
Killeen--Temple, TX	0.008*	-0.007*	10.6%	-6.9%
	(0.001)	(0.002)		
Knoxville, TN	-0.001	---	-2.2%	---
	(0.002)	---		
Lafayette, LA	0.004	---	6.7%	---
	(0.002)	---		
Lake Charles, LA	-0.002	---	0.9%	---
	(0.001)	---		

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Lancaster, PA	---	0.006*	---	3.9%
	---	(0.001)		
Lansing--East Lansing, MI	0.003	---	9.4%	---
	(0.004)	---		
Las Vegas, NV	0.001†	-0.003*	-11.9%	-3.8%
	(0.000)	(0.001)		
Lexington-Fayette, KY	0.002	---	-6.7%	---
	(0.001)	---		
Little Rock--North Little Rock, AR	0.000	---	19.7%	---
	(0.003)	---		
Longview--Marshall, TX	0.005*	---	-30.0%	---
	(0.002)	---		
Los Angeles--Anaheim--Riverside, CA	-0.002	-0.004	-3.8%	-3.0%
	(0.003)	(0.003)		
Louisville, KY--IN	0.005	---	-12.3%	---
	(0.003)	---		
Mansfield, OH	-0.012‡	---	1.7%	---
	(0.001)	---		
Miami--Fort Lauderdale, FL	-0.003	0.006‡	6.5%	4.0%
	(0.002)	(0.001)		
Milwaukee--Racine, WI	-0.002	-0.003	15.9%	-4.8%
	(0.003)	(0.005)		
Minneapolis--St. Paul, MN--WI	-0.004*	-0.007	-14.6%	-4.2%

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
	(0.002)	(0.005)		
Mobile, AL	-0.002	---	-24.1%	---
	(0.001)	---		
Monroe, LA	-0.003	---	4.0%	---
	(0.001)	---		
Myrtle Beach, SC	-0.001	---	-7.0%	---
	(0.002)	---		
Nashville, TN	-0.001	---	4.1%	---
	(0.001)	---		
New Orleans, LA	-0.008	---	-8.0%	---
	(0.004)	---		
New York--Northern New Jersey--Long Island, NY--NJ--CT	-0.002	-0.000	-5.9%	1.7%
	(0.002)	(0.002)		
Norfolk--Virginia Beach--Newport News, VA	0.002	---	-11.4%	---
	(0.002)	---		
Oklahoma City, OK	-0.002*	---	5.5%	---
	(0.001)	---		
Omaha, NE--IA	-0.001	---	-20.3%	---
	(0.001)	---		
Orlando, FL	-0.000	0.001	0.9%	3.0%
	(0.005)	(0.001)		
Pensacola, FL	-0.002	---	13.6%	---
	(0.002)	---		

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Peoria, IL	0.002	---	-8.0%	---
	(0.002)	---		
Philadelphia--Wilmington--Trenton, PA--NJ--DE--MD	0.002	-0.002	1.8%	0.8%
	(0.001)	(0.003)		
Phoenix, AZ	-0.001	0.001	18.9%	-0.3%
	(0.001)	(0.001)		
Pittsburgh, PA	-0.001	---	-6.1%	---
	(0.001)	---		
Portland--Vancouver, OR--WA	-0.000	0.001	-19.1%	-8.1%
	(0.002)	(0.004)		
Providence--Fall River--Warwick, RI--MA	-0.002	0.003	9.6%	0.0%
	(0.004)	(0.003)		
Raleigh--Durham, NC	0.001	---	-1.1%	---
	(0.003)	---		
Richmond--Petersburg, VA	-0.007*	---	8.0%	---
	(0.002)	---		
Rochester, NY	-0.006*	0.004*	9.6%	-0.3%
	(0.002)	(0.002)		
Rockford, IL	0.006†	---	-10.3%	---
	(0.001)	---		
Sacramento--Yolo, CA	-0.001	-0.014*	0.0%	-6.9%
	(0.002)	(0.005)		
St. Louis, MO--IL	-0.001	---	3.1%	---

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
	BLACK*VR	HISP*VR	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Metropolitan area	Coeff. (S.E.)	Coeff. (S.E.)		
	(0.002)	---		
Salt Lake City--Ogden, UT	-0.003	-0.003	-42.7%	4.6%
	(0.004)	(0.002)		
San Antonio, TX	-0.004*	-0.000	4.0%	-0.9%
	(0.001)	(0.003)		
San Diego, CA	0.004	-0.004	-3.6%	-12.0%
	(0.003)	(0.005)		
San Francisco--Oakland--San Jose, CA	0.003	0.009‡	-10.3%	7.7%
	(0.003)	(0.002)		
Santa Barbara--Santa Maria--Lompoc, CA	---	-0.006	---	-4.7%
	---	(0.008)		
Sarasota, FL	-0.007	---	-40.4%	---
	(0.004)	---		
Scranton--Wilkes-Barre, PA	0.004	---	15.0%	---
	(0.003)	---		
Seattle--Tacoma, WA	0.005	0.007*	15.8%	17.6%
	(0.003)	(0.003)		
Shreveport, LA	-0.002	---	-4.7%	---
	(0.002)	---		
South Bend--Mishawaka, IN	0.005	---	14.7%	---
	(0.002)	---		
Springfield, MA	-0.007	-0.003	16.0%	-3.4%
	(0.004)	(0.004)		

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK*VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent
Syracuse, NY	-0.003*	-0.002	10.7%	-1.0%
	(0.001)	(0.001)		
Tampa--St. Petersburg--Clearwater, FL	-0.003	-0.007*	13.6%	6.4%
	(0.002)	(0.003)		
Toledo, OH	0.002	---	0.8%	---
	(0.001)	---		
Tucson, AZ	0.005	0.003	18.8%	4.6%
	(0.002)	(0.002)		
Tulsa, OK	-0.002	---	4.1%	---
	(0.001)	---		
Utica--Rome, NY	0.011‡	0.002	-15.0%	13.3%
	(0.003)	(0.003)		
Washington--Baltimore, DC--MD--VA--WV	-0.001	-0.009	-9.9%	-4.3%
	(0.002)	(0.004)		
West Palm Beach--Boca Raton--Delray Beach, FL	-0.004	-0.005*	9.8%	5.2%
	(0.002)	(0.003)		
Wichita, KS	0.019‡	---	-8.6%	---
	(0.002)	---		
Youngstown--Warren, OH	-0.004	---	-3.1%	---
	(0.002)	---		

Notes:
Coefficients and standard errors for variables with sufficient sample size and variation to allow their inclusion.
Dependent variable is the log of gross rent (market rent plus tenant paid utilities).
* p<.05

Table 3C. Hedonic results and rent premium estimates as a function of the vacancy rate of the neighborhood

	Hedonics using continuous measures of the tightness of the housing market			
Metropolitan area	BLACK* VR Coeff. (S.E.)	HISP*VR Coeff. (S.E.)	Premium African Americans pay to live in areas with vacancy rate of 2 percent	Premium Hispanics pay to live in areas with vacancy rates of 2 percent

† p<.01
‡ p<.001

Spatial autocorrelation

Given the role location plays in determining house values and rents, of concern is the existence of spatial autocorrelation. Since housing authorities have fixed geographic areas, controlling for the clustering of samples by housing authority will help to control for spatial autocorrelation. To determine whether those controls have adequately accounted for the spatial aspects of the data, tests for the existence of spatial autocorrelation are introduced.

Longitude and latitude data were provided and merged with the existing data described above. It was not possible to merge geographic information for all observations: roughly 45 percent of the observations had either no longitude or latitude data or it was not possible to match those with observations in the initial data set[9]. However, given the data intense nature of testing for spatial autocorrelation, the smaller data set is not a concern. Tests of spatial autocorrelation require an NxN spatial weights matrix (where N is the number of observations) that gives the distance between each pairs of observations. In order to create a feasible spatial weights matrix, sample size for each metropolitan area was restricted to no more than 500 observations. For all but a handful of metropolitan areas, this required a reduction in the number of observations.

A variety of techniques can be used to test for spatial autocorrelation. Our interest, however, is whether the results from the hedonic regressions are affected in a meaningful way by the existence of spatial autocorrelation. As a test of the influence of spatial autocorrelation on estimates from an OLS regression, Haining (1990) suggests testing whether the error term in a regression shows evidence of spatial autorcorrelation. Therefore, for each metropolitan area, a spatial weights matrix is found for the observation in that area or a random sample of 500 observations for areas with more than 500 observations. Using those subsamples, hedonics as described in equations (2) and (3) are run. The residuals from these hedonics are captured and used in conjunction with the spatial weights matrix to test for the existence of spatial autorcorrelation using Moran's I test statistic. The test is of the null hypothesis that no spatial autocorrelation is present.

These tests indicate that spatial autocorrelation is not a common issue in these data. It was not possible to reject the null hypothesis of no spatial autocorrelation for only 29 of the 111 metropolitan areas using the continuous measure of neighborhood attributes and for only 25 areas using the discrete measures. Table 4 lists those areas for each specification. Since the existence of spatial autocorrelation will generally lead to estimates of standard errors that are smaller than estimates controlling fully for the spatial aspects of the data, the tests of significance presented in Tables 3, 3A, 3B, and 3C may suggest the significance levels showing stronger correlations than are justified. Since sample size makes it difficult to include spatial weights for the full metropolitan area samples used to produce the results presented above, no further controls were attempted.

9 I am grateful to Robert Gray of Econometrica, Inc. for providing these data.

Table 4. Metropolitan areas with evidence of spatial autocorrelation

Continuous measures of neighborhood attributes	Discrete measures of neighborhood attributes
Albuquerque, NM	Albuquerque, NM
	Allentown--Bethlehem--Easton, PA--NJ
Atlanta, GA	Atlanta, GA
Binghamton, NY	Binghamton, NY
Boise City, ID	Boise City, ID
Boston--Lawrence--Salem, MA--NH	
Buffalo--Niagara Falls, NY	Buffalo--Niagara Falls, NY
Charlotte--Gastonia--Rock Hill, NC--SC	
Cincinnati--Hamilton, OH--KY--IN	
	Chicago--Gary--Lake County, IL--IN--WI
	Cleveland--Akron--Lorain, OH
Colorado Springs, CO	
Columbus, OH	Columbus, OH
	Dallas--Fort Worth, TX
Des Moines, IA	Des Moines, IA
Detroit--Ann Arbor, MI	Detroit--Ann Arbor, MI
Dothan, AL	Dothan, AL
Evansville, IN--KY	
Fresno, CA	
	Greensboro--Winston-Salem--High Point, NC
Grand Forks, ND	
Hartford, CT	
Houston--Galveston--Brazoria, TX	
Jonesboro, AR	Jonesboro, AR
	Killeen--Temple, TX
	Knoxville, TN
Lexington-Fayette, KY	
Louisville, KY--IN	
Norfolk--Virginia Beach--Newport News, VA	Norfolk--Virginia Beach--Newport News, VA
Omaha, NE--IA	Omaha, NE--IA
Portland--Vancouver, OR--WA	Portland--Vancouver, OR--WA
Rochester, NY	Rochester, NY
San Antonio, TX	San Antonio, TX
Santa Barbara--Santa Maria--Lompoc, CA	Santa Barbara--Santa Maria--Lompoc, CA
Syracuse, NY	
	Utica--Rome, NY
Washington--Baltimore, DC--MD--VA--WV	Washington--Baltimore, DC--MD--VA--WV

Notes: Moran's I use as test statistics. The null hypothesis that there is no spatial autocorrelation was rejected at the 5 percent level of the metropolitan areas listed above.

5. The distribution of the costs of discrimination:

For a handful of metropolitan areas, the results presented above provide some support for the notion that African Americans and Hispanics pay higher rents than whites for similar housing in similar neighborhoods. Of interest is whether the cost of that discrimination is passed on to minority tenants or whether it increases program costs. Knowing who pays the cost of discrimination depends on how discrimination alters the budget constraint of tenants in housing assistance programs[10] and the level of housing service consumed by program participants. This analysis is complicated by the fact that these data cover clients across more than one rental housing program and it is not possible to directly measure the quality of housing service being consumed.

During the time these data were collected, those surveyed were in one of three HUD administered rental housing assistance programs, a housing certificate program and two housing voucher programs. The newer of the two forms of the voucher program is now known as the Housing Choice Voucher program and starting in October of 1999, clients in the old voucher program and the certificate program were being moved into that program. This movement away from the certificate and old voucher program continued throughout 2002, the last year of the CSS survey. The data identifies whether the household is in a certificate or voucher program, but not which voucher program. The majority, 86 percent, of the observations used in this study were receiving a housing voucher and, given the move to the new voucher program, it is assumed that the vast majority of voucher recipients were in the new program.

In the certificate program, tenants pay roughly 30 percent of adjusted gross income as rent and are free to occupy rental units meeting certain minimum requirements and whose rent does not exceed the ceiling rents associate with that local housing authority. These ceiling rents were generally HUD established fair market rents.[11] Figure 1 illustrates the choices a household faces in and out of the housing certificate program. For simplicity, all goods and services are divided into nonhousing spending, Q_X, and consumption of housing services, Q_H. Let M represent the income of the household, Adj. M the adjusted gross income of the household, P_H the price per unit of housing service, $\underline{H}$ the level of housing service associated with the minimum standards of the certificate program, and FMR[12] the fair market rent of that area.

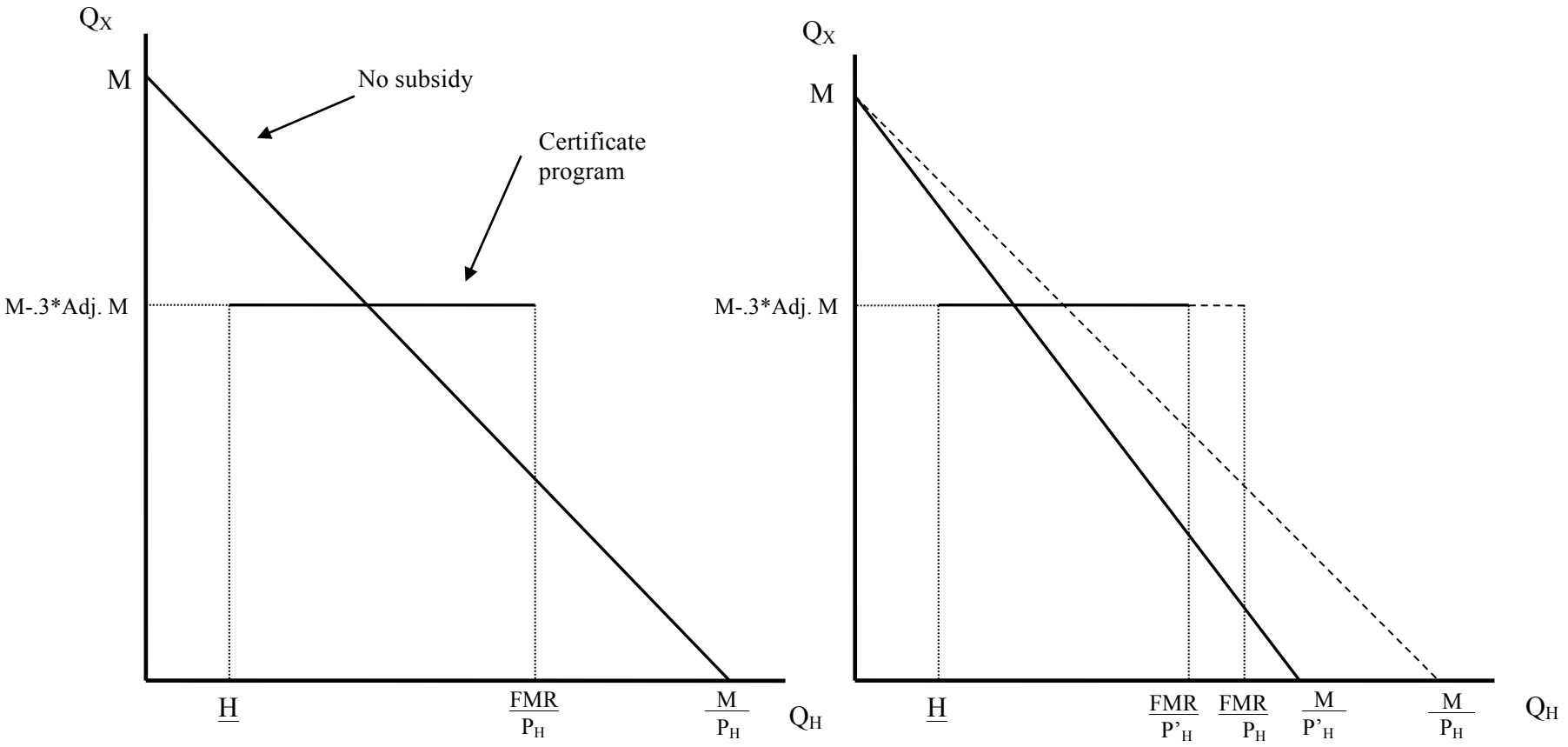
Panel A of Figure 1 gives the budget space in the absence of discrimination. In the absence of a housing subsidy, a household can consume any point on or below the line bound by income (M) on the vertical axis and M/P_H on the horizontal axis. The horizontal line between $\underline{H}$ and FMR/P_H illustrates the budget space for a household in the housing certificate program. As long as their rental unit meets minimum program standards ($\underline{H}$) and does not rent for more than the ceiling rents associated with the program (the FMR), tenant rent in the certificate program is equal to 30 percent of adjusted gross income and the remainder of their income can be used to purchase nonhousing goods and services. Since discrimination in rental housing markets is assumed to increase the price per unit of housing service for minorities, it has a predictable effect on the choices available to the household.

[10] Olsen (2003, pp. 400-404) describes in detail the budget spaces of families offered these subsidies.

[11] Local housing authorities had some flexibility in setting the ceiling rents in the certificate program. They could set ceiling rents up to 10 percent above FMRs for 20 percent of their clients without HUD approval and further increases were possible with HUD approval.

[12] To simplify the analysis, the FMR is assumed to be equal to ceiling rents in the certificate program.

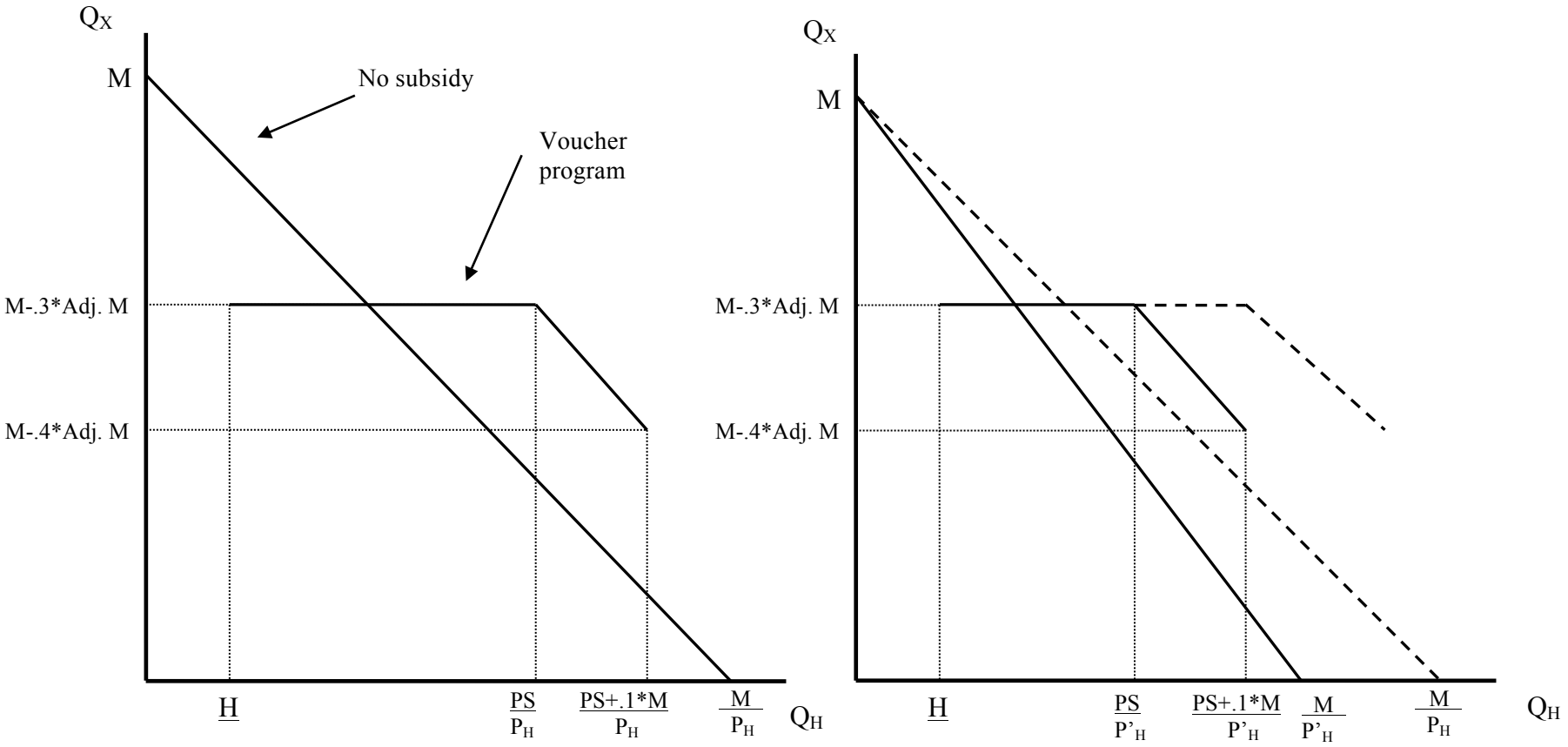
Figure 1. Budget space of a household in and out of the Housing Certificate program.



Panel A. Budget spaces in the absence of discrimination

Panel B. Budget spaces assuming higher prices due to discrimination

Figure 2. Budget space of a household in and out of the Housing Choice Voucher program.



Panel A. Budget spaces in the absence of discrimination

Panel B. Budget spaces assuming higher prices due to discrimination

Let P_H represent the higher price of rental housing service minorities face when discrimination in rental housing markets exists. Panel B of Figure 1 illustrates the budget space to minority households facing higher prices for rental housing in and out of the certificate program. In that panel, options no longer available to the household are denoted with dashed lines. For minority households not receiving a housing certificate, the budget space pivots in due to the higher cost per unit of housing service facing those households. Those in the certificate program still devote 30 percent of income to rent, however the FMR affords minority households a lower level of housing service, leading to the removal of the availability of quantities of housing service between FMR/P_H and FMR/P_H.

In the new voucher program, households can rent any unit meeting minimum program requirements (greater than H) and with rents less than their assigned payment standard (PS) and pay 30 percent of gross income as rent. Unlike the certificate program, however, households with a voucher have the option of consuming a level of housing service beyond what the PS would afford, but must pay the difference in the rent of the unit and the PS. The old voucher program did not place a cap on the out-of-pocket costs associated with better housing. When a household enters the new HCV program or moves while in the program, the total tenant rent is capped at 40 percent of adjusted gross income. A household can pay more than 40 percent of their income for rent, while renting in place, if for instance their rent is increased or their income decreases at some point after they enter the program. Since the discussion of the distribution of the costs of housing discrimination are similar under the two forms of the voucher program and the move at this time was to the new HCV program, Figure 2 and the resulting discussion only consider the effects of discrimination associated with the HCV program.

Panel A of Figure 2 illustrates the budget space associated with the HCV program in the absence of discrimination. As noted above, tenant rent is the same when renting any unit that meets program requirements and rents for less than the PS associated with that area. Past that level of housing (PS/P_H), the budget space of the household is parallel to the budget space for those without housing assistance, indicating that households pay the additional rent beyond the PS. The maximum amount of housing service available to a household in the voucher program is the level of housing service the PS plus 10 percent of adjusted gross income can afford ($(PS + .1*Adj.\ M)/P_H$). Panel B illustrates a hypothetical budget space for minority households faced with higher prices of housing due to discrimination. As before, the dashed line segments show choices that are no longer available to the household due to the higher price of housing.

Panel B of Figure 2 illustrates the additional cost to minorities when faced with higher prices per unit of housing service. As with the certificate program, the maximum level of housing service available to minority households is less when faced with discrimination. In addition, for minority households occupying a unit with a rent greater than the payment standard, the total tenant rent to minority households is greater than the tenant rent to white households renting identical units.

Since the cost to tenants in the certificate program is a fixed fraction of adjusted income, discrimination will not increase the out-of-pocket costs to minorities. However, as mentioned previously, the maximum housing service available to minorities is less than the maximum available to majority households. For minority households in the voucher programs who occupy units renting for less than the PS, the pecuniary cost of discrimination is also zero. Again, the effect of discrimination for these households is a restriction of units available to them. If discrimination increases the gross rent of units occupied by minorities, program costs are greater in all three housing subsidy programs. The cost of a subsidy is the vertical distance between the budget space associated with the program and the budget space in the absence of the

program. As Panel B illustrates, for all minority households in the certificate program and for minority households occupying units with rents less than the PS in the voucher program, program costs are higher with discrimination.

Voucher recipients have the option of renting units with rents beyond the PS. If discrimination increases the cost of housing service facing minorities, they pay more than white households to occupy better housing. Panel B of Figure 2 illustrates that additional cost to minorities. For any level of housing service greater than PS/P_H, minorities pay the full costs of that additional rent, while white households would still pay only 30 percent of income as rent for levels of housing service less than PS/P_H. The difference in rents paid by minorities and whites is the vertical distance between the dotted budget constraint and the constraint facing minority households. As Panel B indicates, this difference increases as the household occupies better housing.

The above description of the budget spaces associated with the certificate and voucher programs provide guidance as to how to estimate the impact of housing discrimination for minority households. For minority households in the certificate program and for those with a voucher in units with rents less than the PS, the pecuniary costs are borne by the government and are equal to the difference between the rent facing white and minority households. If minorities on average pay 10 percent higher rents than whites for identical housing, program costs are 10 percent higher when providing minorities the same level of housing service as white households. It is more difficult, however, to predict the role discrimination plays on program costs and the costs to tenants in the voucher programs when tenants occupy units with rents exceeding the payment standard.

Ideally, one would observe the cost to tenants and the Housing Assistance Payment for two households occupying identical housing in identical neighborhoods that only differ by their race or ethnicity. Clearly, that type of analysis is not possible. Instead, Table 4 provides rough estimates of the magnitude of the differences in rents between minority and white households using summary data across households.

Table 5 provides summary statistics on a number of factors that give some indication of the possible distribution of these costs. The data covered by Table 5 are restricted to the observations that could be linked to a separate data set containing program specific information. The first column gives summary statistics for all observations, the second set of statistics cover the certificate program, and the last set of statistics deal with the voucher programs. For the certificate and voucher programs, summary data is separately provided for white, African-American, and Hispanic households.

In both programs, Hispanics have the highest mean income and white households have the lowest. Since these means are across metropolitan areas, these differences may be due to the differences in where people live. Since program eligibility is partially determined by area median incomes, the mean income of program participants is likely to be greater in high income metropolitan areas. If Hispanics reside disproportionately in high income areas, the mean income for that group would be greater on that account.

Table 5. Distribution of the costs of discrimination – All metropolitan areas

		Certificate Program			Voucher Programs		
	All	White	Black	Hispanic	White	Black	Hispanic
	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)
African American	0.36	0.00	1.00	0.00	0.00	1.00	0.00
	(0.48)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hispanic	0.12	0.00	0.00	1.00	0.00	0.00	1.00
	(0.33)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Monthly household income	906.79	868.61	921.81	948.92	888.04	918.18	964.69
	(532.12)	(486.85)	(585.22)	(590.12)	(489.49)	(566.14)	(591.37)
Monthly adjusted income	812.07	781.16	825.50	857.04	797.15	816.11	870.10
	(505.44)	(465.16)	(558.51)	(550.32)	(465.18)	(537.88)	(559.65)
Voucher bedrooms	1.93	1.67	2.18	2.05	1.70	2.22	2.06
	(0.92)	(0.88)	(0.90)	(0.92)	(0.87)	(0.90)	(0.91)
Actual bedrooms	2.04	1.77	2.28	2.14	1.82	2.34	2.14
	(0.91)	(0.89)	(0.86)	(0.89)	(0.88)	(0.85)	(0.89)
Tenant payment	239.94	232.85	245.15	253.93	236.20	239.75	256.09
	(148.79)	(137.17)	(164.76)	(161.82)	(137.34)	(158.43)	(162.80)
Tenant payment as percent of income	0.31	0.27	0.27	0.27	0.29	0.35	0.32
	(3.11)	(0.33)	(0.44)	(0.13)	(1.72)	(4.86)	(3.27)
Housing Assistance Payment	402.14	350.11	399.77	429.28	375.80	432.81	457.07
	(221.47)	(190.01)	(210.07)	(211.74)	(212.80)	(226.45)	(242.82)

Notes: Means and standard deviations of the observations across all metropolitan areas used in the hedonic regressions that could be linked to a separate data set containing program specific information.

Table 5. Distribution of the costs of discrimination - Tampa--St. Petersburg--Clearwater

		Certificate Program			Voucher Programs		
	All	White	Black	Hispanic	White	Black	Hispanic
	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)
African American	0.44	0.00	1.00	0.00	0.00	1.00	0.00
	(0.50)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hispanic	0.12	0.00	0.00	1.00	0.00	0.00	1.00
	(0.33)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Monthly household income	816.49	796.59	937.46	862.65	754.03	868.62	785.87
	(449.98)	(348.29)	(530.21)	(419.60)	(373.66)	(513.89)	(446.31)
Monthly adjusted income	727.65	727.44	827.13	776.28	677.29	764.93	705.74
	(425.27)	(334.23)	(509.04)	(409.51)	(352.38)	(484.51)	(429.54)
Voucher bedrooms	1.87	1.42	2.17	1.98	1.60	2.16	1.92
	(0.89)	(0.79)	(0.86)	(0.83)	(0.80)	(0.87)	(0.93)
Actual bedrooms	1.95	1.49	2.23	1.91	1.69	2.25	2.01
	(0.85)	(0.76)	(0.77)	(0.69)	(0.80)	(0.81)	(0.86)
Tenant payment	212.67	218.13	242.83	218.20	198.39	220.95	211.40
	(123.55)	(95.57)	(150.47)	(124.04)	(103.01)	(139.71)	(126.43)
Tenant payment as percent of income	0.28	0.27	0.26	0.25	0.26	0.27	0.27
	(0.49)	(0.04)	(0.11)	(0.06)	(0.05)	(0.15)	(0.11)
Housing Assistance Payment	370.80	268.54	348.20	330.50	343.21	419.21	393.20
	(160.05)	(123.20)	(149.00)	(140.85)	(140.24)	(170.27)	(160.52)

Notes: Means and standard deviations of the observations used in the hedonic regressions that could be linked to a separate data set containing program specific information. This panel restricts the data to the Tampa—St. Petersburg—Clearwater, FL metropolitan area.

The data indicate that African Americans on average have a certificate or voucher associated with a larger number of bedrooms and also occupy units with more bedrooms. Tenant payment is determined by the adjusted income of the household and the size of the unit the household occupies. Holding other factors constant, higher income increases tenant payment and tenant payments are reduced as the payment standard increases with additional bedrooms. The data suggest little difference across race or ethnicity in the cost to tenants. With these data, however, it is not possible to determine whether the quality of the rental housing being occupied is lower for minority households than for white households. Program costs, as captured by the housing assistance payments, show a larger difference than the differences in tenant payments. However, as with differences in incomes across areas, areas with higher housing costs will lead to higher program costs.

To determine whether these distributions are driven by the differences across areas, the data are restricted to one area. Tampa-St. Petersburg-Clearwater is one of the few areas with estimated coefficients on BLACK and HISPANIC that are positive and statistically significant across both specifications of the hedonics. If African-American and Hispanic households pay more than whites for equal quality housing in this area, cost to program providers should be higher in the certificate program for both minority groups and costs to tenants should be higher in the voucher program. Of interest, is whether the differences in gross rents detected using the hedonics also show up as higher average costs to minorities in the program and higher average program costs when providing subsidies to minority households in that area. The bottom portion of Table 5, reports the summary data restricted to this one metropolitan area. Surprisingly, even with the consistent findings from the hedonic regressions regarding the influence of the race and ethnicity of the household, the summary data on the fraction of income going toward rent and program costs are not dissimilar from what is found across all metropolitan areas. In the certificate program, the fraction of income going toward rent for African Americans and Hispanics is slightly less than for white households. Housing Assistance Payments, however, are highest for subsidies to African Americans. In the voucher program, tenant costs were highest for African Americans, but they were also the group with the highest average income. Once again, the fraction of income going toward rent is roughly equivalent across the three groups. Hence, the summary data, even when restricted to a metropolitan area in which the hedonic estimates suggests minorities pay higher rents for equally good housing, do not offer evidence of substantial differences in out-of-pocket costs to minorities or higher costs to providers.

6. Conclusion and policy implications:

The goal of this study was to answer three questions: 1) Do minorities pay more than whites for equal quality housing to live in majority white neighborhoods? 2) Do minorities pay more for equal quality housing to live in areas with less concentrations of poverty? and 3) Does the tightness of the housing market effect the ability of landlords to charge different rents for equal quality housing based on race and ethnicity? In addition, this analysis was to provide policy recommendations, if warranted.

For most areas, the results provide little or no evidence to support the notion that minorities pay more to live in equally good housing, regardless of the neighborhood and in most areas with significant findings, the results were not consistent across model specifications. It is not possible to determine precisely the cause of the differences across models. However, given the number of metropolitan areas, each of which was subject to its own hedonic regression, it

would not unexpected to find a handful of significant coefficients even if no relationship between the characteristics of the household and rents actually existed. The lack of consistency across models might be a by-product of that fact.

In some areas, namely Atlanta, Austin, Birmingham, Columbus, Detroit-Ann Arbor, Greensboro-Winston-Salem-High Point, Kileen-Temple, Knoxville, Omaha, and Portland-Vancouver,[13] the results suggest differences in the rents between minority and majority households occupying equally good housing in similar neighborhoods and, for a subset of those areas, that this difference increases as the fraction of the neighborhood white increases. Given the limitations of the data, it is more difficult to derive credible estimates of the difference in rents between minority and majority households based on poverty rates of neighborhoods or the tightness of the housing market of the neighborhood. However, the results using data from Denver-Boulder, Milwaukee-Racine, Philadelphia-Wilmington-Trenton, and Seattle-Tacoma suggest minorities pay more than whites to live in the low poverty neighborhoods of those metropolitan areas. An examination of the difference in rents between minority and majority households living in tight housing markets suggests that in a couple areas, Charlotte-Gastonia-Rock Hill and Richmond-Petersburg, minorities pay more than whites to occupy units in neighborhoods with few vacancies.

Complicating the estimates of the role of the tightness of the housing market in differences in rents for equal quality housing across races and ethnicities is the lack of observations for both African Americans and Hispanics in very low vacancy rate neighborhoods. Less than 10 percent of African-American households with a voucher or a certificate live in neighborhoods with very low rental vacancy rates. This fraction of those observations spread across 111 metropolitan areas, left 65 areas with insufficient sample size to produce reliable estimates for African Americans in very low vacancy rate neighborhoods. Although a larger fraction of Hispanic households (nearly 21 percent), live in very low vacancy rate neighborhoods, the total sample of Hispanics is small relative to white and African-American households. This prevented reasonably precise estimates of the role of living in a very low vacancy rate neighborhood plays in determining rent differences between white and Hispanic households in 78 of the 111 areas.

Since no widespread differences in the rents between minority and majority households with a Federal housing subsidy were detected, changes to the Housing Choice Voucher program rules are not proposed. Instead, in the areas listed above, knowing more about the situation facing voucher holders is warranted. Further evidence of discrimination by landlords would strengthen the argument for intervention to assist minority voucher holders in those locations. Since discrimination is expected to lower the value of the subsidy for minority households, minority households may be less motivated to find a unit suitable for the program. Therefore, knowing the difference in take-up rates for minority and majority households might provide further evidence of housing discrimination in those areas. Other differences in outcomes between minority and majority households in those areas would also strengthen the argument that minorities are at a disadvantage when participating in the Housing Choice Voucher program.

The results described above, however, do not prove minorities do not pay higher rents than whites for equally good housing. It is important to note again that the data used in this study are restricted to data from households using a housing subsidy. If discriminating landlords believe that additional scrutiny of their pricing behavior may occur when agreeing to

[13] This list includes those metropolitan areas with coefficient estimates suggesting rent differences for African American or Hispanic households across both specifications of the hedonic regressions.

accept certificate or voucher households, they may be less willing to rent to those households. Therefore, these data might be poorly suited to capture the discriminatory behavior in the unsubsidized market. In addition, these data are unable to capture other costs associated with housing discrimination, such as additional search costs and minorities occupying housing less suited to their needs, that might occur if minorities are less able to find landlords willing to accept their voucher. These issues, however, are beyond the scope of this study.

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