Preface

Today, Americans are more likely than ever to own their own homes. The annual homeownership rate stands at an all-time high with 69 percent of American families sharing this experience. Homeownership not only provides families with the single largest investment of their lifetimes, but also strengthens communities, fosters civic pride and provides children with a stable living environment.

At the same time, many families do not share the same opportunities and too many face barriers to homeownership. Indeed the rate of homeownership for minority families continues to lag behind the national average.

To address this problem head on, in June 2002 President Bush issued a bold challenge to the nation: to create an additional 5.5 million new minority homeowners by 2010. Already, significant progress has been made toward achieving this goal. Clearly, more must be done to overcome obstacles to expand homeownership opportunities for all Americans.

This study conducted by HUD's Office of Policy Development and Research is an important part of the effort to achieve the President's challenge. By identifying specific obstacles to homeownership – particularly for minority families – we will be better able to craft policies to overcome them.

This study, through careful research, identifies several key barriers accounting for the homeownership gap. Importantly, it finds that these barriers are often shared across ethnic and racial lines and include differences in income, wealth, marital status, and age of household.

The report highlights in particular the problem confronting many families - a lack of savings for downpayment and closing costs. Indeed, President Bush has already acted to address this obstacle, by signing into law the American Dream Downpayment Initiative in December 2003. This program has already distributed $162 million in downpayment funds to over 400 State and local governments. The FY 2006 Budget requests $200 million to fully fund the Initiative.

In addition, the President has proposed two additional tools in the FY 2006 Budget to remove the barriers to homeownership:

- The Zero Downpayment Mortgage to provide considerable help to first-time buyers with limited savings to purchase their own homes; and

- A new Single Family Homeownership Tax Credit that will increase the supply of homes affordable to low-income families

Finally, the report makes clear that racial discrimination continues to play a role in the homeownership gap. The Administration is committed to enforcing the nation's fair housing laws to stamp out this unfair and illegal practice.

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Executive Summary

Introduction

Homeownership rates currently stand at historically high levels for all segments of the U.S. population. Nevertheless, dramatic gaps in homeownership rates have been stubbornly present over the last several decades, and even increased somewhat during the decade of the 1990s. As of 2004, the white homeownership rate was 76 percent while African-American and Hispanic homeownership rates remained below 50 percent, and the Asian rate was 60 percent. At the same time households with very-low income had a homeownership rate that was 37 percentage points below the rate for high-income households.

Understanding the determinants of homeownership rates and gaps is important because homeownership is widely believed to provide a variety of benefits for both individuals and communities. Homeownership expands individual opportunities to accumulate wealth, enables a family to exert greater control over its living environment, creates incentives for households to better maintain their homes, and may benefit children of homeowners. Homeownership also benefits local neighborhoods because owner-occupiers have a financial stake in the quality of the local community.

In light of the many potential benefits of homeownership, the fact that homeownership rates first declined and then stagnated during the 1980s and into the early 1990s became a cause for concern for the federal government. First, Secretary Jack Kemp set a goal and initiated efforts to create one million new homeowners. Then in 1994, at the President's request, the U.S. Department of Housing and Urban Development (HUD) began work to develop a National Homeownership Strategy with the goal of lifting the overall homeownership rate to 67.5 percent by the end of the year 2000. While the most tangible goal of the National Homeownership Strategy was to raise the overall homeownership rate, in presenting the strategy HUD pointed explicitly to declines in homeownership rates among low-income, young, and minority households as motivation for these efforts. And in June of 2002, President Bush announced a joint public/private initiative to increase minority homeownership by 5.5 million households by the year 2010.

Purpose and Approach of the Study

With these issues as a backdrop, this study has three main goals: to synthesize what is known about the determinants of gaps in homeownership rates by income, racial, and ethnic status; to identify the types of policies that are most likely to be effective in narrowing these gaps; and to identify promising areas for further research about the causes of gaps in homeownership rates.

The first chapter presents a detailed summary of the report's findings. Chapter 2 presents a conceptual framework for analyzing the determinants of homeownership. This framework is used to identify which factors contribute to observed homeownership differentials by income and race. Chapter 3 presents detailed information on trends in homeownership rates by race, ethnicity and income, including trends in key demographic characteristics of the population over time and variations in homeownership rates by geographic areas. Chapter 4 then reviews the existing literature employing statistical modeling to identify the relative importance of various contributing factors to overall observed homeownership gaps. Homeownership gaps are separated into two components: one

being the share of the gap that is explained by observed differences in socio-economic variables among income, racial, and ethnic groups, and the other being an unexplained residual that represents unmeasured factors that include discrimination, lack of information about the home buying and mortgage financing process, and omitted socio-economic variables. Chapter 5 explores policy options for addressing homeownership gaps, including an analysis of the nature of barriers to homeownership, a cataloging of existing efforts to address these barriers, and a review of the literature analyzing the relative importance of the various barriers in producing the observed homeownership gaps.

Conceptual Framework of the Determinants of Homeownership Gaps

From a policy perspective, it would be natural to attempt to eliminate homeownership gaps, ultimately making homeownership equally likely regardless of income, race, and ethnicity. However, homeownership may not be the best financial option for some households. Instead, high transaction costs make ownership very costly for households with a high likelihood of moving, investment risk makes homeownership inappropriate for those with little wealth to risk, and the level of effort necessary to maintain a home may not be feasible for households who either cannot do these tasks themselves or cannot afford to pay for home maintenance. Together, these factors all contribute to differences in the *demand* for homeownership.

On the other hand, *supply* constraints also restrict access to homeownership for some families. These constraints may arise in both the housing and mortgage markets. With regard to housing markets, one factor that may contribute to homeownership gaps is that low-income and minority households tend to be concentrated in central cities due to a combination of economic pressures as well as racial discrimination and segregation. Concentration of these households in cities may contribute to homeownership gaps, as single-family housing, which is more conducive to homeownership, is less common in these areas. One reason for homebuyers' preference for single-family housing may be that multifamily housing is more subject to problems associated with noise, crime, shared access to common space, and additional administrative costs when organizing multifamily units into condominiums suitable for homeownership. Such problems in the housing market are further compounded by evidence of discrimination in mortgage markets. Together, reduced access to single-family housing neighborhoods and reduced accessed to mortgage credit serve to depress minority and low-income homeownership rates.

Homeownership Gaps by Income, Race and Ethnicity: Size, Trends and Contributing Factors

A review of long-run trends in homeownership reveals substantial similarities in these trends by race and ethnicity, indicating that broad demographic, economic, and public policy factors are important in influencing the homeownership trends among all groups. During the two decades following 1940, the nation saw an unprecedented rise in homeownership rates by 18 percentage points. While all racial groups contributed to this rise, the gain in white homeownership rates outpaced the gains among blacks. Homeownership rates generally continued to rise between 1960 and 1980, but at a much more modest pace, gaining only 2.5 percentage points over this period. During this period gains among minorities generally outpaced gains among whites, helping to narrow homeownership gaps. Then during the 1980s, the overall homeownership rate actually declined by a few tenths of a percent, with slight divergences in trends between whites and minorities contributing to widening gaps. Finally, all racial and ethnic groups experienced rising homeownership rates during the 1990s. But

despite these gains, the decennial census of 2000 revealed that differences in homeownership rates between whites and minorities were near their highest levels of the past 60 years.

There are also large differences in homeownership rates by household income. As of 2004, 50.9 percent of very low-income households (those with income below 50 percent of the relevant area median income or AMI) owned their homes, compared to 87.7 percent of high-income households (those with income at or above 120 percent of AMI). Differences in homeownership rates by income are an important factor in understanding homeownership differences by race and ethnicity. Compared to whites, both blacks and Hispanics have much lower incomes, while Asian households have higher incomes. However, after accounting for differences in income levels, homeownership gaps remain for all racial and ethnic minorities, suggesting other factors are at work.

Other factors that contribute to the overall differences in homeownership rates include differences in households' demographic characteristics and geographic location. Key demographic characteristics are age, household type, and education level. Relatively low homeownership rates among blacks and Hispanics are in part attributable to the fact that compared to whites they are generally younger and have lower education levels. Blacks also have fewer married couple households and both blacks and Hispanics have more single-parent families than whites, which also contribute to the observed homeownership gaps. Asians, on the other hand, have household characteristics that are associated with higher homeownership rates. In addition to having income levels that are higher than whites, Asians also have a greater preponderance of married couple households and have higher education levels. The one aspect that serves to depress Asian homeownership rates relative to whites is age, as Asians in the U.S. are much younger on average than whites.

The geographic distribution of the minority population may also contribute to creating gaps in homeownership rates. Compared to whites, minorities are much more concentrated in central cities, which have homeownership rates that are more than 20 percentage points lower than suburban areas. Hispanics and Asians are also disproportionately located in market areas with relatively high housing costs.

Another important factor that contributes to racial and ethnic differences in homeownership rates is the high share of immigrants among the Hispanic and Asian population. Studies of homeownership among immigrants find that factors such as the length of time living in the U.S., English-language ability, and citizenship status affect the likelihood that immigrants will be homeowners. On first entry to the U.S., immigrants are less likely to become homeowners than are native-born individuals with similar characteristics, but they quickly close homeownership gaps. In fact, much of the white-Asian and some of the white-Hispanic homeownership gaps can be attributed to the relatively large numbers of Asian and Hispanic immigrants.

Projections for homeownership rates by race and ethnicity over the next two decades provide some indication of the likely stubborn nature of these homeownership gaps. Estimates that assume that there will continue to be moderate gains in homeownership rates similar to those that existed over the course of the 1990s indicate that the current gaps in homeownership are likely to persist. Despite the fact that these projections estimate that homeownership rates could rise 9.0 percentage points for blacks and 7.6 percentage points for Hispanics from 2000 to 2020, homeownership gaps with whites would only decline by 2.5 percentage points for blacks and 1.1 percentage points for Hispanics. The reason for the persistence in homeownership gaps despite significant increases in minority

homeownership is that factors that favor minority homeownership also favor white homeownership. For this reason, it is appropriate for policy makers to establish goals for increasing the number of minority homebuyers rather than setting goals for the size of racial and ethnic homeownership gaps.

Empirical Evidence on the Determinants of Homeownership Gaps

What then drives the gaps in homeownership rates by race and ethnicity? An important conclusion from the literature reviewed is that most of the homeownership gap can be explained by differences across race and ethnicity in other household attributes that affect demand for homeownership. For example, differences in income, wealth, marital status, and age of the household are found to account for between 15 and 20 percentage points out of the total racial gap of roughly 25 percentage points. From a policy perspective, an important conclusion from this research is that a lack of savings needed to fund downpayments, closing costs, and to pay down other outstanding debt is a particularly important barrier to homeownership. The lack of savings is particularly evident among minority renters, as half of black and Hispanic renters have close to zero net wealth.

The remaining, unexplained difference in homeownership rates of between 5 and 10 percentage points is attributable to a variety of factors, including discrimination in housing markets, differences in understanding of how to successfully navigate housing and mortgage markets, as well as factors not adequately accounted for in the statistical models, including job security, anticipated mobility, and the like. In that regard, it is important to note that although there is some evidence in the literature that unexplained race-related gaps have diminished over time, that trend may simply reflect improved data and methods used by more recent studies. On the other hand, evidence from fair housing studies, accept-reject studies of mortgage applications, and the well-known concentration of minority households in central-city, high-density housing suggest that discrimination and segregation likely contribute to the unexplained portion of the gaps as well. Surveys of consumer attitudes also suggest that information gaps may also contribute to differences in homeownership rates by race and ethnicity. One implication from these findings is that additional policy initiatives that target information gaps or discrimination in housing and mortgage markets – though potentially important from a social and ethical standpoint – are likely to have a smaller impact on reducing present day racial (and income) gaps in homeownership rates than efforts to address differences in wealth.

Policy Options for Reducing Homeownership Gaps

The first step in thinking about policy options for closing homeownership gaps is to identify the principal constraints on greater homeownership by low-income and minority households. For policy purposes, the most important constraints are on the supply side, as these barriers limit the ability of households who might otherwise choose to be owners from purchasing a home. Homeownership deterrents on the demand side largely relate to factors that make the investment risk of owning too great for some households. While some efforts to address these risks may be helpful and appropriate, in many cases it will simply be the case that the risk of homeownership is inappropriate for some low-income and low-wealth households.

There are two broad categories of supply-side barriers to homeownership: limitations on access to mortgage financing needed to purchase homes, and, in some markets, a lack of supply of housing units that are affordable and attractive options for low-income households. Much of the research on the importance of these barriers to homeownership has focused on access to mortgage finance. An

important feature that restricts low-income household access to mortgage finance is the set of underwriting guidelines used by lenders to limit the risk of mortgage default. Lenders require, for instance, that borrowers not exceed maximum debt-to-income ratios and loan-to-value ratios, and that they have a history of having met their credit obligations. The tendency of low-income families to have low levels of income and wealth, and also poor credit histories, all serve to limit low-income households' access to mortgage finance. In addition, lack of understanding about the mortgage process and racial discrimination further impair the ability of low-income and minority households to obtain mortgage financing.

The most informative studies about the likely impact of changes in the mortgage market on homeownership rates are those that use statistical models to estimate the impact on the probability of homeownership of removing these constraints. These studies have consistently found that a lack of wealth to meet downpayment requirements and, to a lesser extent, poor credit are more important barriers to homeownership than a lack of income to meet limits on monthly payments. The conclusion about the significant role played by wealth constraints in limiting homeownership opportunities is also supported by research using a synthetic underwriting approach, which examines the share of households that could qualify to purchase a modestly priced home under alternative mortgage underwriting and subsidy programs.

Few studies have attempted to estimate the impact of other supply side barriers that limit access to homeownership, such as racial discrimination, lack of information about housing and mortgage markets, or access to suitable housing for ownership. The little research that has been done suggests that while these barriers do restrict homeownership, these constraints are not as important as the lack of wealth.

Given the consistent finding that a lack of savings is the single most important barrier to homeownership, downpayment assistance in the form of loans or grants are an obvious policy response to the challenge faced by families with limited savings. But it is important to note that for many households it is not just the downpayment requirement that is binding. In fact, given the introduction of low or zero downpayment loans in the last decade, the downpayment itself may be becoming less of a constraint over time. The importance of savings is due in part to the fact that it is related to a range of financing requirements, including the downpayment, closings costs, reserve requirements, and the level of outstanding debts. The influence of savings on the willingness and ability of families to take on financial risk is also important. Thus, policies that address a lack of savings by low-income and minority families could have an important impact on homeownership rates. Examples of such policies include individual development accounts that give financial incentives for households to save for specified goals, and financial management training that help households develop the skills and habits needed for savings accumulation.

Aside from homeownership-specific policies, research findings described in this report imply that policy initiatives that address the broader problem of racial and ethnic differences in socioeconomic standing are also needed to close homeownership gaps. Such factors include enhanced job opportunities, job security, and household stability (i.e. marital status) for minority households, which are especially important determinants of the demand for homeownership.

In thinking about policy options for closing homeownership gaps it is also helpful to keep in mind the magnitude of the issue. According to the 2003 CPS, there were 13.3 million black households, 11.3

million Hispanic households, and 4.0 million Asian households. In order to raise the homeownership rate of each of these groups by 1 percentage point, there would have to be an increase of 133,000 black homeowners, 113,000 Hispanic homeowners, and 40,000 Asian homeowners, for a total of 286,000 minority households. In terms of income, there were 37.1 million households with income less than 50 percent of AMI (area median income) and 21.5 million households with income between 50 and 80 percent of AMI. In order to raise homeownership rates of these groups by 1 percent there would have to be an increase of 371,000 and 215,000 homeowners in these income classes. Thus, in order to close homeownership gaps by race and income by a single percentage point, public policy needs to assist several hundred thousand households. The implication is that making substantial progress in closing homeownership gaps by income and race-ethnicity will require moving literally millions of households into homeownership.

Perhaps more importantly, even if increases in minority homeownership of this magnitude are achieved, the homeownership gaps between whites and minorities may not narrow if whites also experience increases in their homeownership rates. Indeed, between 1993 and 2004 homeownership rates increased among blacks and Hispanics by 7.7 and 8.7 percentage points, respectively. Yet, because white homeownership rates increased by 5.8 percentage points, the homeownership gaps with whites only narrowed by 1.9 and 2.9 percentage points, respectively. For this reason, it is probably more relevant to establish policy goals for increasing minority homeownership rates rather for reducing gaps between minority and white rates.

Further Efforts Needed to Enhance Our Understanding of Homeownership Gaps

Our final conclusion is that much remains to be learned. At many points in the chapters to follow, the study notes the need for further research. While the tenure choice literature is quite rich, there is a lack of studies examining the impact of investment risk for low-income households and how this affects their demand for homeownership. Information on the tendency and ability of households to sustain homeownership is also scant. On the supply side, studies on the degree to which racial and income segregation limit access to neighborhoods and housing stock conducive to homeownership also are very limited. In contrast to these deficiencies, the existing literature has answered many of the questions most pressing with regard to the impact of mortgage financing constraints on homeownership. Finally, more research is needed examining the effectiveness of specific policies designed to support homeownership. In particular, studies on the effectiveness of counseling and education programs in spurring homeownership and on the effectiveness of specific efforts to remedy a lack of wealth are almost non-existent.

Chapter One
Introduction and Report Summary

1.1 Introduction

This study has three goals. One goal is to synthesize what is known about the determinants of homeownership rates by income, racial, and ethnic status. We focus on the differences in homeownership rates among these groups, that is, the "gaps" in homeownership rates. A second goal is to identify the types of policies that are most likely to be effective in closing these homeownership gaps. A third goal is to identify promising areas for further research about the causes of gaps in homeownership rates.

Understanding the determinants of homeownership rates and gaps is important because homeownership is widely believed to provide a variety of benefits for both individuals and communities. The benefits of homeownership for individuals include the ability to accumulate wealth through principal payments and asset appreciation and the ability to have greater control over their living environment. Owning a home results in greater investment by owners in their neighborhood and home because they are the recipients of changes in the value of the property. The incentive to invest in a home results in better maintenance and an improved home environment. A better home environment also may benefit resident children. The incentive to invest in a neighborhood may lead to greater participation in neighborhood and community organizations, thus contributing to improving local schools or reducing local crime. Homeownership also increases the stability of households and communities and this stability is thought to increase household investment in neighborhoods.

Given the many potential benefits of homeownership, the fact that homeownership rates first declined and then stagnated during the 1980s and into the early 1990s became a cause for concern. In 1994, at the President's request, the U.S. Department of Housing and Urban Development (HUD) began work to develop a National Homeownership Strategy with the goal of lifting the overall homeownership rate to 67.5 percent by the end of the year 2000. While the most tangible goal of the National Homeownership Strategy was to raise the overall homeownership rate, in presenting the strategy HUD pointed explicitly to declines in homeownership rates among low-income, young, and minority households as motivation for these efforts.

Also of concern is the gap in ownership rates comparing high with low-income households and white and minority households. Over the period beginning in 1993, the national homeownership rate rose fairly sharply, achieving the goal of 67.5 percent by the third quarter of 2000 and reaching an all time high of 69.0 percent in 2004. The gains in homeownership since 1993 have been widely shared, with homeownership rates rising 5.8 percentage points for whites, 7.7 percentage points for blacks, 8.7 percentage points for Hispanics, and 7.0 percentage points for Asians. The somewhat greater gains in homeownership among minorities helped to close the gap between whites and minorities. But despite these gains, the gaps remained large. In 2004 the gap between white and black homeownership rates was 26.3 percentage points, which is only one-tenth of a percentage point lower than in 1960. Meanwhile, the homeownership gap between whites and Hispanics was 27.9 percentage points.

Similarly, while homeownership rates rose somewhat faster for households with incomes below the median for their area compared to households with incomes above the area median, the homeownership gap between these two groups remained high.

Our study presents a conceptual framework for analyzing the determinants of homeownership. This framework is then used to identify which factors contribute to observed homeownership differentials by income and race. We review the existing literature on homeownership gaps and identify what is known about the relative importance of the contributing factors. We separate gaps in homeownership rates into two components, one being the share of the gap that is explained by observed differences in socio-economic variables among income, racial, and ethnic groups and an unexplained residual that represents unmeasured factors that include discrimination, lack of information about the home buying and mortgage financing processes, and omitted socio-economic variables. The size of and trends in homeownership differences by income and minority status as well as likely future trends in homeownership rates and the homeownership gap are reported.

Finally, we identify the principal policy options that have been employed to promote homeownership and the types of barriers that these policies are designed to overcome. The existing literature on the actual or potential effectiveness of these policies for promoting homeownership is evaluated. Throughout the study, we suggest the most promising directions for further research to clarify our understanding of the causes of the disparities in homeownership by income and race, changes in homeownership rates over time, and the effectiveness of alternative policy approaches for promoting homeownership.

1.1.1 Methodology

The primary methodology of this study is the identification, review, and synthesis of the relevant literature from academic, public policy, government, and housing industry sources. We also provide supporting descriptive analysis to document levels and changes in homeownership rates for key segments of the population.

Identification of the Relevant Literature

The literature search identified theoretical, analytical, and descriptive studies of the factors impacting a household's tendency to become and remain a homeowner. Also identified were a substantial number of empirical studies of homeownership gaps among particular income, racial, and ethnic groups. Published research was identified through searches of bibliographic databases and unpublished research was identified through a search of the Internet and through contact with active researchers in the field.

Supporting Descriptive Analysis

The existing literature provides snapshots of homeownership rates and gaps for particular years and population groups. A few studies depict trends in homeownership rates for particular time periods and population groups. However, differences in data sources and idiosyncratic aspects of the studies make global comparisons difficult. To overcome these inconsistencies, we provide a comprehensive overview of homeownership rates and gaps for white, black, Hispanic, and Asian households from 1940 through 2000. Our primary data sources include the Decennial Census and the Current Population Survey (CPS). The Annual Demographic Survey is conducted each year as part of the

March CPS. This supplement includes an additional sample and more detailed questions about income and employment status.

1.2 Outline and Summary of the Report

The report is structured to address each of the goals of the study as outlined above. Chapter Two presents a conceptualization of the tenure choice decision with the goal of identifying the factors that contribute to observed differences in homeownership rates by income and race. This conceptualization provides a framework for presenting and interpreting the information discussed in the report. Chapter Three presents descriptive data and analysis of trends in homeownership rates by income and race and across geographic areas. Chapter Four provides a review of the empirical literature related to each of the factors identified in the conceptual framework as factors contributing to the observed differences in homeownership rates. Finally, Chapter Five discusses the principal policy approaches that have been used to promote homeownership, identifies the factors that these approaches are designed to address, and reviews existing literature that analyzes the actual or potential efficacy of these policies in increasing homeownership. The remainder of this section will summarize the report findings from each of these chapters.

1.2.1 Conceptual Framework of the Determinants of Differences in Homeownership Propensities

The conceptual framework is derived primarily from an economic perspective. In keeping with this perspective, the determinants of homeownership are separated into demand and supply factors. The demand for homeownership is clearly an important organizing principle in the literature review, because families choose whether or not to seek out homeownership opportunities. In contrast, the supply of homeownership opportunities is less well defined because owner-occupied housing is not directly produced – any housing unit can be either owned or rented. But supply side effects influence access to homeownership and homeownership rates. Mortgage underwriting criteria, for example, affect the supply of mortgage credit available to individual households and hence the supply of homeownership opportunities. In addition, many lower income and minority inner city neighborhoods are filled with older multifamily buildings. The forces governing the supply of such buildings in these neighborhoods – including filtering mechanisms in the housing market and differences or constraints on minority neighborhood choice – affect the supply of different types of housing stocks over which minority and low-income families can choose. This feature of housing markets affects homeownership rates given that single-family stocks are usually more conducive to homeownership relative to older multifamily units. The demand-supply conceptual structure is general in its overall design and it provides an effective way to organize the discussion of the determinants of homeownership gaps and the potential to narrow these gaps.

Household Formation

We begin by reviewing literature on household formation and the possibility that the decision to form a household is simultaneously determined along with the decision to own or rent a home. Homeownership rates are by definition equal to the number of owner-occupying households in the population divided by the total number of households present. Differences in the propensity to form a household could contribute to income, racial and ethnic gaps in homeownership rates. Factors contributing to differences in household headship rates include differences in marriage, divorce, and

widowhood rates, differences in the typical age that a youth leaves the parental home, and differences in tendencies to reside in group quarters such as college dormitories and prisons. Our review of the literature finds that substantial changes in these factors have occurred during the last thirty years and substantial differences in rates are present comparing income, racial, and ethnic groups. We conclude that household formation is potentially very important to the explanation of why gaps in homeownership are present and how these gaps have changed, but the existing literature that measures the impact is sparse.

Demand Side Determinants of Homeownership

Given that the decision to form a household has been made, the next question is what drives the decision to own versus rent a home. Consider first the demand side. Because housing is a durable asset, demand for homeownership is sensitive to investment considerations and, therefore, is subject to all of the considerations and factors that influence a family's preferred portfolio. The expected rate of return from investing in housing is important. Also, families sensitive to financial risk such as low-income households are less likely to want to own a home, all else equal. The return on homeownership is especially sensitive to household mobility given the very high transactions costs of selling an owner-occupied home relative to moving from a rental unit. Evidence reported in Chapter Two suggests that among renters, lower-income families are more mobile. This implies that low-income families will be less likely to want to own their homes. The Federal tax code provides generous subsidies to homeowners by not taxing imputed rent and allowing deductions for mortgage interest and property tax payments. But the benefits from such favorable tax treatment accrue disproportionately to higher-income households with higher marginal income tax rates and a greater propensity to itemize. Because minorities typically have lower income relative to white households, these considerations contribute to racial and ethnic gaps in homeownership rates as well.

The examples just mentioned highlight the investment return on housing. However, households also receive benefits from residing in a dwelling; that is, they have a consumption demand for shelter. Consumption demand is sensitive to family size, income, and other traditional determinants of consumer demand. A comprehensive approach to understanding households' demand for home ownership must account for the interplay of both consumption and investment demand.

We adopt a theoretical framework developed by Henderson and Ioannides that focuses on the interplay of investment and consumption demand for housing. If investment demand for housing for a given family is large relative to consumption demand, the family could choose to own a home that satisfies its portfolio motives and rent out any remaining unwanted space (e.g. a basement suite, second house, etc.): in this case the family is financially better off if it owns. Alternatively, if a family's consumption demand is large relative to investment demand, for example when family size is large but the family believes house prices will decline, purchasing a home sufficient to satisfy the consumption needs of the family would constitute a bad investment. In this case the family is financially better off if it satisfies its consumption demand by choosing to rent its principal residence.

The Henderson-Ioannides model, while stylized, offers guidance in organizing the demand side of the literature on the determinants of housing tenure choice and homeownership gaps. On the consumption side, all of the usual determinants of consumer demand are likely to apply (e.g. family size, income, control and security of the dwelling, etc.) and thus need little elaboration. On the investment side, we consider factors that affect the rate of return to housing investments and how

these factors create differences in the rate of return among income, racial, and ethnic groups. A discussion of each of the investment related factors follows.

Transactions costs are an important determinant of a household's tenure choice. The cost of selling a home is substantially greater than the cost of moving from rental housing because of the time and effort needed to prepare for and manage the sale, realtor fees, legal fees, and taxes. Further, there are differences in costs among homeowners because families who do not expect to move soon can spread out the high transactions costs of moving to and from owner-occupied housing over a longer period of time. This serves to increase the return on homeownership among relatively immobile families, increasing their demand for homeownership. Families that experience marital or financial instability are likely to have a greater frequency of moves, reducing the return on owner-occupied housing.

It is well established that various provisions of the tax code reduce the cost of housing for owner-occupiers relative to renters; these provisions include deductions for mortgage interest and property tax payments and no taxation of imputed rent and capital gains. Moreover, the benefits from such favorable tax treatment typically increase with the marginal income tax rate of the household and the resulting higher likelihood that the household itemizes instead of taking the standard deduction. Hence, because the financial returns from these tax benefits rise with income, those with relatively high incomes will be more likely to become owner-occupiers.

The characteristics of the housing stock may vary across geographic locations in a manner that affects the risk and return on homeownership and resulting homeownership rates. The risk of substantial maintenance and renovation costs is greater in older housing. This housing is typically located in inner city areas. Further, inner city areas tend to be populated by low income and minority households. Because low-income families are less able to absorb financial shocks such as catastrophic housing repair bills, they are less likely to prefer owner-occupation of housing located in inner city areas.

The investment return to housing also depends on expected house price appreciation (quality adjusted). We review the literature that measures spatial differences in observed house price appreciation and find evidence of substantial variation by location, at least in the short run. However, the correlation of the pattern of house price changes with household income, race, and ethnicity is unclear. There is evidence that the variance of house price changes is larger for houses with relatively low prices, suggesting the risk of investment is greater for these houses. Because low-priced houses are mostly purchased by low-income households, the Henderson-Ioannides model suggests that this high variance will deter the likelihood that these properties will be owner occupied.

It should be emphasized that all of the factors that affect the return on homeownership influence the flow cost of housing services for an owner-occupier. That flow cost – most often referred to as the user cost of owner-occupied housing – is analogous to the rent paid by a renter for the flow of housing services over a given period of time (such as a month or a year). In the case of an owner-occupier, such measures must necessarily take into account the cost of financing the home, maintenance costs, the anticipated length of stay in the home (which affects the annualized transactions cost of buying and selling the home), expected capital gains, as well as favorable tax provisions that reduce the cost of owner-occupied housing. As noted above, many of the components of the user cost of homeownership vary by income and by the location of the property. For these

reasons, the user cost of homeownership likely differs across families by race, ethnicity, and income and helps to explain observed differences in homeownership rates.

Supply Side Determinants of Homeownership

The conceptual framework is completed by considering supply side factors that affect the ability of families to attain homeownership. Most obvious, the supply of mortgage credit has a direct effect on the ability of most low-income and minority households to buy a home. We review studies that explain why competitive lenders impose binding credit constraints instead of rationing mortgage credit through interest rates. The nature of the loan contract exposes lenders to default and late-payment risk. Under certain market conditions, lenders may respond by offering credit at below market clearing rates and then using credit scores to ration out loanable funds to the lowest risk borrowers. Many studies have provided empirical evidence on the extent and manner in which credit barriers restrict access to homeownership. An important finding from these studies is that borrowing constraints continue to impede homeownership for underserved groups in the population, including younger families, minorities, and low-income households.

A related set of studies provides evidence of racial discrimination in mortgage markets. Such discrimination provides a different but clearly important explanation for differential access to mortgage credit. Because minorities often are of lower income and wealth, and have less secure employment, they may be subject to statistical discrimination in loan markets to the extent that lenders use race and ethnicity as predictors of hard-to-observe risk attributes. Such behavior is illegal in the mortgage market. Nevertheless, a number of studies have provided evidence of discrimination in mortgage markets, most prominently, a study of the Boston mortgage market in the 1980s conducted by members of the Boston Federal Reserve Bank. Regardless of whether the underlying discriminatory behavior is based on statistical discrimination or outright bigotry, it reduces minority homeownership rates.

Partly in response to concerns about minority access to mortgage credit, beginning in the early 1990s a variety of very low-downpayment mortgage products became available through conventional lenders. Given that research has consistently found that a lack of wealth is a significant constraint to accessing mortgage financing, these loan products offer the possibility of raising homeownership rates. Despite these mortgage product innovations, the very low level of wealth among minority renters is still a cause of concern. Half of black and Hispanic renters in 1998 had close to zero net wealth. For these families, even very low-downpayment mortgages will likely not be sufficient to make homeownership financially feasible. Moreover, these very low wealth families may rationally prefer to rent rather than subject themselves to the financial risks that go along with homeownership. Another supply side factor is the type of housing stock available in different neighborhoods. Single-family homes tend to be more conducive to owner-occupation relative to older, multifamily buildings. This could arise because of preferences for such housing among prospective homebuyers; that is, single-family housing and homeownership could be viewed by households as complementary goods. In addition, single-family housing does not typically entail common property issues. In contrast, in a multifamily building management and maintenance of common space and controls for noise and safety create administrative costs when organizing the units into condominiums suitable for homeownership. For these reasons, access to single-family housing may foster homeownership. We find evidence that among middle- and higher-income households, racial and ethnic gaps in homeownership largely disappear after controlling for central city location and the type of structure in which the family resides (e.g. single family versus multifamily). We also find that minorities of all

income levels are more likely to live in high-density central city housing relative to comparable white households.

The literature suggests several reasons why low-income and minority families are found more often in high-density inner city areas with older multifamily housing. Long-standing arguments in urban economics suggest that low-income families are more likely to live in the inner cities and higher income families in the suburbs. This argument hinges on the idea that the demand for land increases more quickly with income than do commuting costs. Access to public transit has also been noted as a reason for why low-income families without cars may seek out central city locations. Alternatively, the spatial mismatch literature has found evidence that suburban housing market discrimination has restricted minority access to suburban markets. Recent studies continue to find evidence of differences in access to suburban neighborhoods. For example, evidence suggests that minority households face discrimination in the housing search process. In addition, there is some evidence that white and minority home-seekers differ in their likelihood of using realtor services.

1.2.2 Homeownership Differences by Income, Race, and Ethnicity: Size, Trends, and Contributing Factors

This chapter of the report presents data that describe homeownership gaps and inter-temporal trends in these gaps. There are substantial similarities in long-run trends in homeownership rates by race and ethnicity indicating that broad demographic, economic, and public policy factors are important in influencing the homeownership trends among all groups.

Decennial census data report that during the two decades following 1940, the nation saw an unprecedented rise in homeownership rates. The overall homeownership rate rose by more than 18 percentage points, from 43.6 percent to 61.9 percent. All racial groups contributed to this rise as the white homeownership rate rose by 17.7 points from 45.6 percent to 64.3 percent, the black rate rose by 15.3 points from 22.8 percent to 38.1 percent, and the Asian rate rose by 27.8 points from 16.3 percent to 44.1 percent.

Homeownership rates generally continued to rise between 1960 and 1980, but at a more modest pace. During this period gains among minorities generally outpaced gains among whites. The white rate increased by 4.2 points, while the black rate rose by 7.2 points and the Asian rate rose by 7.9 points.

During the 1980s, the overall homeownership rate declined by 0.2 points. This decline was comprised of a small rise in the white homeownership rate of 0.5 points coupled with declines among all minority groups: 1.4 points among blacks, 1.0 points among Hispanics, and 0.1 points among Asians.

All racial and ethnic groups experienced rising homeownership rates during the 1990s. Census data indicate that between 1990 and 2000, homeownership increased by 3.3 percentage points among whites, 2.4 percentage points among blacks, 3.0 percentage points among Hispanics, and 2.2 percentage points among Asians. However, because white households experienced the largest increase in homeownership, all of the white-minority homeownership gaps increased over the decade.

In 2000, we find that the white-black homeownership gap was near the highest levels of the past 60 years, as measured by decennial census data. The white-Hispanic homeownership gap has also

generally increased over the last few decades, rising from 23.0 percentage points in 1970 to 27.0 points in 2000. A significant factor in this widening gap is the rapid rise in Hispanic immigration, which has served to depress overall Hispanic homeownership rates. The greatest decrease in the homeownership gap has occurred among Asians when it dropped from 29.3 percentage points in 1940 to 16.5 percentage points in 1980, rising slightly to 18.3 in 2000. As with Hispanics, the increase in the gap between 1980 and 2000 is in part attributable to the growth in the Asian immigrant population.

An alternative data source is the Current Population Survey (CPS). Our study discusses why Census and CPS data differ in relatively small but important ways. Even though both data sets agree that the overall trend in homeownership rates is very similar, they differ in their conclusions about changes in the white-minority gap in homeownership rates. According to CPS data, black and Hispanic homeownership rates increased more sharply than white rates beginning in about 1993 when the size of the gap peaked. At that point the white-black gap reached 30.8 percentage points while for Hispanics the gap was 28.2 percentage points. The CPS finds that between 1993 through 2003 the white-black homeownership gap fell by 1.6 percentage points, while the white-Hispanic gap fell by 2.1 percentage points. The white-Asian homeownership gap, however, increased over this period, as increases in the Asian homeownership rate did not keep pace with gains among whites. According to both data sets, the sizes of white-minority homeownership gaps remain high by historical standards. As of 2003, the homeownership rate among whites was 26.6 percentage points higher than the black rate (CPS data), 28.7 percentage points higher than the Hispanic rate, and 19.1 percentage points higher than the Asian rate. In comparison, in 1980 these gaps were 23.2, 25.1, and 16.5 percentage points, respectively.

We find there are large differences in homeownership rates by household income. As of 2003, 51.2 percent of very low-income households (those with income below 50 percent of the relevant area median income or AMI) owned their homes, compared to 86.6 percent of high-income households (those with income at or above 120 percent of AMI). As described in Chapter Two, there are a number of reasons why homeownership is lower among low-income households including the financial risks of homeownership, few tax advantages, and the high transaction costs of buying and selling homes. We find that over the period from 1970 to 1986, the homeownership rate for very low-income households declined while that for high-income households increased. The result was the gap grew from 30.1 to 38.5 percentage points. This trend modestly reversed in the 1990s and the gap fell to 36.1 percentage points.

Differences in homeownership rates by income are an important factor in understanding homeownership differences by race and ethnicity. Compared to whites, both blacks and Hispanics have much lower incomes, while Asian households have higher incomes. However, after accounting for differences in income levels, homeownership gaps remain for all racial and ethnic minorities, suggesting other factors are at work. White-minority homeownership gaps are largest for very low-income households, ranging from 20 to 25 percentage points. Among high-income households the white-minority gap is 10 to 15 percentage points.

Other factors that contribute to the overall differences in homeownership rates include differences in households' demographic characteristics and geographic location. Key demographic characteristics are age, household type, and education level. Homeownership is higher for older households, married couples, and those with higher levels of education, and lower for other families with children (largely

single-parent families) and single persons, and those with low levels of education. Income is strongly associated with all of these demographic characteristics, as income rises with age, is higher for married couple families, and increases with education level.

Relatively low homeownership rates among blacks and Hispanics are in part attributable to the fact that, compared to whites, they are generally younger and have lower education levels. Blacks also have fewer married couple households and both blacks and Hispanics have more single-parent families than whites, which also contributes to the observed homeownership gaps. Asians, on the other hand, have household characteristics that are associated with higher homeownership rates. In addition to having income levels that are higher than whites, Asians also have a greater preponderance of married couple households and have higher education levels. The one aspect that serves to depress Asian homeownership rates relative to whites is age, as Asians in the U.S. are much younger on average than whites.

A lower percentage of married blacks than whites accounts for about 8 percentage points of the homeownership gap. Black-white age differences account for about a 5 percentage-point difference, and differences in education levels account for about a 2 percentage points of the homeownership gap. Among Hispanics, differences in age and education levels account for 5 to 7 percentage points of the difference from the white homeownership rate. Among Asians, differences in age contributes about 4 percentage points to observed differences from white homeownership rates, while the shares of married couples and education levels lead to higher homeownership rates compared with whites.

The geographic distribution of the minority population may contribute to creating gaps in homeownership rates. Central cities have homeownership rates that were 23.0 percentage points lower than suburban areas in 2001. Minorities are much more concentrated in central cities than whites. For example, 53.5 percent of black households live in central cities compared to only 22.9 percent of white households. The difference between suburban and central city homeownership rates is largest for the very low-income households at 24.5 percent, but even among the highest income households homeownership rates are 12.6 percentage points lower in central city areas. Thus, even for these relatively unconstrained households, homeownership is less likely in central cities, reflecting supply constraints or location-specific factors such as high risks on investments in residential property. These observations suggest that some aspect of central city location other than income affects homeownership rates. If minority households were distributed across regions and metropolitan areas in the same way as white households, the black homeownership rate in 2001 would be 2.4 percentage points higher, the Hispanic rate would be 5.0 percentage points higher, and the Asian rate would be 4.0 percentage points higher. These effects are relatively small compared with the total size of the white-minority gap.

Chapter Three of the study also reviews three other topics: the impact of immigration, trends among first-time homeowners, and projections of homeownership rates. Studies of homeownership among immigrants find that factors such as the length of time living in the U.S., English-language ability, and citizenship status affect the likelihood that immigrants will be homeowners. On first entry to the U.S., immigrants are less likely to become homeowners than are native-born individuals with similar characteristics, but they quickly close homeownership gaps. Much of the white-Asian and some of the white-Hispanic homeownership gaps can be attributed to the relatively large numbers of Asian and Hispanic immigrants.

An analysis of data on first-time homebuyers from the American Housing Survey (AHS) shows that during the 1990s the number of first-time homebuyers increased significantly. In the two-year period of 1989-1990 there were 3.1 million first-time homebuyers. By 1999-2000 this number had increased by 34 percent to 4.2 million. In comparison, repeat homebuyers only increased by 11 percent over this same period. Importantly, minorities made an important contribution to the increase in first-time homebuyers, with their share of this group rising from 22.9 percent to 31.5 percent over the same period. An analysis of changes in characteristics of minority first-time buyers over the 1990s finds that there was a rising share of moderate- and high-income households and younger households.

Projections for homeownership rates over the next two decades depend on the underlying assumptions. A low growth rate assumption mimics the homeownership trends of the early 1990s, a high series mimics homeownership trends from the late 1990s, and the average of these two rates forms the middle growth rate. In all cases, the current gaps in homeownership are likely to persist. Using the middle series, homeownership gaps with whites will decline by 2.5 percentage points for blacks and 1.1 percentage points for Hispanics—despite the fact that the homeownership rates are projected to rise 9.0 percentage points for blacks and 7.6 percentage points for Hispanics. The white-Asian gap is projected to increase by 2.2 percentage points as immigration continues to dampen homeownership among Asians. The reason for the persistence in homeownership gaps despite significant increases in minority homeownership is that factors that favor minority homeownership also favor white homeownership.

1.2.3 Causes of Racial Gaps in Homeownership Rates

Despite the gains made by minorities since the 1960s in both economic affluence and in legal protection from housing market discrimination, there has been little improvement in minority homeownership rates over the last thirty years relative to white homeownership rates. Studies of racial and ethnic differences in homeownership rates have consistently found that two broad factors contribute to minority households having a lower probability of homeownership. One factor relates to differences between whites and minorities in a range of demographic and economic factors that are associated with homeownership. The other factor relates to unobserved variables that include discrimination and a lack of understanding about the home buying and mortgage finance processes.

Early studies of homeownership gaps assumed that the factors influencing households to become homeowners were the same for minorities and whites and that both groups' behavioral responses to these factors were the same. The studies separated the gap into two components: that due to differences in endowments and an unexplained residual amount. In these early studies, the magnitude of the residual shortfall in the probability of homeownership attributed to race rather than endowments has ranged up to 20 percentage points depending on the time period and the sample. Subsequent studies dropped these restrictive assumptions and followed a more general technique to decompose the homeownership gap into effects due to differences in socio-economic variables and the residual amount.

Over time there has been a downward trend in the estimated size of the residual component of the white-minority homeownership gaps. Also, studies of new households and recent movers found single digit gaps in homeownership once differences in endowment were taken into account. The decreasing size of the residual could occur because recent studies have used a more comprehensive set of socio-economic explanatory variables as the quality of data sets improved. Or, it could be due

to a smaller impact of discrimination in the mortgage and housing market. The latter conclusion is consistent with the establishment and enforcement of a number of policies that monitor mortgage markets and brokerage services and that enforce fair housing laws. To date, most studies that have noted a decline in the residual component of the homeownership gap have attributed this change to reduced discrimination. However, it is also clear that researchers are now including more and better explanatory variables in their analyses, thus reducing the size of the unexplained residual.

Current estimates of the residual gap appear to be in the range of five to ten percentage points. This remaining unexplained gap may well be accounted for by potentially important explanatory variables that have not generally been captured by these studies, such as a household's expected mobility, credit history, income variability, willingness to take financial risks, and understanding of the home buying and mortgage finance processes. Thus, it is possible that a future study using a complete set of all relevant explanatory variables will "explain" the entire racial gap in homeownership. However, this finding should not be construed as providing evidence that existing anti-discrimination laws are obsolete. Rather, it is possible that the inter-temporal decline in and current modest-sized race-related residuals from homeownership gap studies result, at least in part, from government policies and oversight regarding discriminatory treatment in housing and mortgage markets. However, the degree to which current government legislation has helped to reduce the size of race-related disparities in homeownership is unknown.

A major limitation of existing studies is the lack of linkage between the theory of homeownership and the set of explanatory variables included in empirical studies of ownership gaps. This failure results in the omission of important concepts (e.g. income stability) and it complicates the interpretation of included variables. For example, age and marital status become proxies for expected mobility and income becomes a proxy for the tax benefits of homeownership. Further, theory suggests that the effects of variables such as income and its interaction with the tax code should have nonlinear effects. Few studies of gaps in homeownership allow for such nonlinearities.

Another general problem with the literature on homeownership gaps is that it trails advances that have been made in the study of the propensity of a given household to become a homeowner. Most current studies of when and whether households become homeowners adopt an inter-temporal approach, using information on changes in household circumstances over time to predict future choices. In contrast, apart from the occasional use of permanent rather than current income, studies of homeownership gaps are typically silent regarding inter-temporal aspects of homeownership and instead rely exclusively on current household attributes to predict tenure choice. In many cases, studies of gaps in homeownership appear to have not advanced very much beyond methods used in the 1970s to estimate the probability of homeownership. In contrast, studies of the likelihood that individual households become homeowners have been using panel data and related econometric methods for two decades. While the homeownership literature recognizes that a household's current tenure status will affect its future housing tenure choices, there is little recognition of this inter-temporal dependence in the homeownership gaps literature. The literature on the propensity for homeownership also recognizes that expectations of future events affect current tenure choice decisions, but again the gaps literature, in general, fails to take this point into account.

Two broad but compelling conclusions emerge from our review of the literature in this chapter. First, additional efforts targeting discrimination in housing and mortgage markets and a lack of information about the homebuying process are unlikely to narrow racial gaps in homeownership by more than

perhaps five percentage points. That in turn implies that future efforts to narrow aggregate white-minority gaps in homeownership should primarily focus on addressing the differences in household circumstances by race – including wealth, income, education levels, and marital status – that account for a large majority of the observed differences. Some of these factors can be addressed by efforts to reduce barriers to homeownership associated with wealth and income. But the fact that so much of the homeownership gap is attributable to the generally lower socioeconomic standing of minorities suggests that policies that address broader societal factors will also be needed to close these gaps over time. The factors that are important to supporting homeownership but may fall outside the range of homeownership policies include enhanced job opportunities, job security, marital status, and household stability. Creating an environment conducive to financial and family security for minorities is a challenging task, but one that policy makers must grapple with if they are to substantially reduce current racial gaps in homeownership. A second conclusion from this review is that there are considerable opportunities for further research to expand our knowledge of the determinants of race-related and income-related gaps in homeownership.

1.2.4 Policy Options for Reducing Homeownership Gaps

In thinking about policy options for closing homeownership gaps it is also helpful to keep in mind the magnitude of the issue. According to the 2003 CPS, there were 13.3 million black households, 11.3 million Hispanic households, and 4.0 million Asian households. In order to raise the homeownership rate of each of these groups by 1 percentage point, there would have to be an increase of 133,000 black homeowners, 113,000 Hispanic homeowners, and 40,000 Asian homeowners, for a total of 286,000 minority households. In terms of income, there were 37.1 million households with income less than 50 percent of AMI (adjusted median income) and 21.5 million with income between 50 and 80 percent of AMI. In order to raise homeownership rates of these groups by 1 percent there would have to be an increase of 371,000 and 215,000 homeowners in these income classes. Thus, in order to close homeownership gaps by race and income by a single percentage point, public policy needs to assist several hundred thousand households. The implication is that making substantial progress in closing homeownership gaps by income and race-ethnicity will require moving literally millions of households into homeownership, requiring a sustained policy effort over many years. In the short run, it seems appropriate for policy makers to focus on incremental gains. We provide evidence in this report that a more modest goal of raising homeownership rates by a few percentage points is certainly within the reach of variety of policy options and would help hundreds of thousands of households.

A further challenge facing policy makers in attempting to narrow homeownership gaps by race and ethnicity is that policies cannot be targeted to minorities. Policies can, however, be targeted by income and, because minorities (at least blacks and Hispanics) disproportionately have lower incomes, efforts to assist low-income households may help close homeownership gaps by race and ethnicity. But there are many low-income white households who will, rightly, also benefit from these efforts. As a result, efforts to aid low-income households may only have a marginal impact on closing homeownership gaps. This suggests that as a policy goal it may be more appropriate to focus on raising minority and low-income homeownership *rates* rather than specifically on narrowing *gaps*. This is consistent with the Bush administration's policy goal of increasing the number of minority homeowners by 5.5 million over the first decade of the century.

The first step in thinking about policy options for closing homeownership gaps is to identify the constraints on greater homeownership by low-income and minority households. For policy purposes, the most important constraints are on the supply side, as these barriers limit the ability of households who might otherwise choose to be owners from purchasing a home. Homeownership deterrents on the demand side largely relate to factors that make the investment risk of owning too great for some households. While some efforts to address these risks may be helpful and appropriate, such as home equity insurance, in some cases it will simply be the case that the risk of homeownership is inappropriate for some low-income and low-wealth households. The high transaction costs of buying and selling homes also deters households with high-expected mobility from pursuing homeownership. But, again, these households are probably simply best off renting. But while it is true that homeownership may not be the best choice for some low-income households, a challenge for policy makers is that there is no bright line distinguishing which low-income households would be better served by delaying a move to homeownership.

There are two broad categories of supply-side limits on homeownership: limitations on access to mortgage financing needed to purchase homes, and, in some markets, a lack of supply of housing units that are affordable and attractive options for low-income households. Much of the research on the importance of these barriers in limiting homeownership has focused on limits on access to mortgage finance. The most informative studies about the likely impact of changes in the mortgage market on homeownership rates are those that estimate the impact on the probability of homeownership of removing these constraints. In general, these studies have found that a lack of wealth is a much more important limitation on homeownership than is a lack of income to meet limits on monthly payments. Wealth is needed to meet downpayment and reserve requirements, to pay closing costs, and to reduce outstanding debt levels. In terms of the magnitude of the potential for increasing homeownership, research has shown that reduction in wealth and credit constraints could increase overall homeownership rates by between 4 to 8 percentage points, with larger gains generally for lower-income and minority households. Given the importance of the wealth constraint, the most effective policies for increasing homeownership are likely to be efforts to provide downpayment assistance, provide mortgage products with lower downpayment requirements, or efforts to support wealth accumulation by low-income households such as individual development accounts.

Few studies have attempted to estimate the impact of other supply side barriers that limit access to homeownership, such as racial discrimination, lack of information about housing and mortgage markets, or access to suitable housing for ownership. More research is needed to better understand the importance of housing supply restrictions on homeownership rates.

Another strand of the literature that examines the potential for increasing homeownership uses a synthetic underwriting approach. These studies rely on very detailed information on current household financial circumstances and apply varying assumptions about underwriting requirements, home prices, and transaction costs to estimate how changes in these parameters affect the number of households who could qualify for a mortgage. Estimates from these studies of the influence of various underwriting requirements on homeownership rates are fairly small, possibly because these studies do not allow for households to change their financial circumstances in order to qualify for homeownership. Nonetheless, the findings from these studies are instructive about the relative importance of different options for increasing access to homeownership.

Perhaps one of the most interesting aspects of results from studies based on the synthetic underwriting approach is that FHA guidelines are as effective at reaching low-income and minority households as most of the new mortgage products introduced during the 1990s. These studies also examine the potential of a range of interventions to increase homeownership, such as lowering interest rates, reducing downpayment levels, lowering transaction costs, reducing home prices, and providing income supplements or cash grants. Of these options, by far the most effective policy is to provide cash grants of $10,000, as these funds directly address a range of financial constraints arising from lack of household savings. (Grants of $5,000 have a fairly large impact, but $10,000 grants have a several-fold larger impact.) Such grants alleviate the need to pay downpayment and closing costs, provide a fund for reserve requirements, and help to pay down existing debts. These findings are in keeping with conclusions from other studies that lack of wealth and a limited ability to save is the most important barrier to homeownership for low-income households.

Policies that address a lack of savings by low-income and minority families are likely to have an important impact on homeownership rates. Such efforts could include loans or grants for downpayments, but it is important to note that for many households it is not just the downpayment requirement that is binding. In fact, given the introduction of low or zero downpayment loans in the last decade, the downpayment itself may be less of a constraint now than it was in years past (although the volume of lending through these programs is still fairly low). Also, there are also legitimate concerns about default risk from households with little of their own savings at stake and with little history of an ability to save. For this reason, efforts to help households develop the ability to accrue savings should be part of a broader homeownership policy. Current examples of such policies in other contexts include the government's willingness to match contributions in various settings – for example by allowing shielding of savings from taxation as in IRA type accounts. Such initiatives directed towards savings earmarked for homeownership would encourage households to save. Also, efforts to educate households about financial management may help to develop the skills and habits needed for savings accumulation.

As a broad characterization, one of the most effective ways to increase homeownership among low-income and minority households would be to improve the financial well being of these households. Thus, public policies that help to provide better and more stable economic opportunities would likely be the most effective homeownership policy. Nonetheless, taken as a whole the literature suggests that some housing-specific policies, particularly those that address wealth constraints, also have promise for increasing homeownership among low-income and minority households.

1.3 Recommendations for Further Research

An important feature of this report has been to summarize areas where further research would be most fruitful to advance our understanding of the causes of homeownership gaps and policies that would be most effective in reducing these gaps. To that end, we point out such opportunities throughout the report. Below we summarize areas where current research on homeownership gaps is nonexistent or inadequate to draw conclusions. The texts of Chapters Two through Five elaborate on the specific nature of the deficiencies identified. We also briefly identify several HUD sponsored studies known to be currently underway that examine various issues related to homeownership gaps.

1.3.1 Areas in Need of Further Research

While the research on tenure choice is quite rich, there are a variety of ways in which the existing literature could be extended to better understand differences in the demand for homeownership by race and income. For example, while the stability of household income is understood to be an important determinant of homeownership, very little research has focused on the manner and extent to which employment and income stability affect both the demand for homeownership and constraints imposed on low-income and minority households. Studies in this area are needed to understand the extent to which some households rationally choose to rent when faced with an unstable flow of future income.

As the conceptual framework makes clear, demand for homeownership is strongly influenced by the investment demand for housing. While this is well understood, there is a shortage of literature that examines how the investment returns from housing vary by income and race. For example, a household's expected length of stay will have a significant effect on the investment return from homeownership. But while there are many studies of household mobility, there are few that link differences in expected mobility by race and income to gaps in homeownership rates.

Variations in investment return by race may also contribute to racial gaps in homeownership rates. If house values increase less for homes owned by minority households than for white households, then the expected return from owning is reduced along with the propensity for homeownership. These concerns can arise when preferences for neighborhood racial composition give rise to tipping effects whereby in-movement of a discriminated group (e.g. blacks) prompts an exodus from the neighborhood (e.g. white "flight"), thereby reducing property values. Patterns of racial segregation may also limit housing appreciation in minority neighborhoods if few whites seek to buy homes in these areas. Research is needed to investigate the degree to which such phenomena occur and the role that this may play in reducing minority homeownership.

House price volatility is an important source of risk in homeownership. However, there is only one study that we are aware of that assesses the inter-temporal variance of the price of low-priced homes, and this study is limited in spatial scope. Further study is needed to identify the degree of risk to which low-income families are exposed when they purchase low-priced homes.

Another issue that may differentially affect the financial risk and returns to homeownership for low-income households generally is the cost of home maintenance. It is well known that older housing is subject to higher levels of maintenance costs on average, and also a greater risk of potentially very high maintenance expenses. However, it is not known whether these factors contribute to income and race-related gaps in homeownership.

Finally, while the impact of favorable tax treatment of homeownership on overall homeownership rates has been studied, the impact of favorable tax treatment on racial gaps in homeownership rates is in need of further study.

Another aspect of the demand for homeownership that warrants further study is homeownership among immigrants. Historically, immigrants have had substantially lower homeownership rates than the native born. However, that gap substantially narrows with 20 or more years of residency. Despite that pattern, it is not clear whether recent immigrants will achieve the same homeownership profile as

natives. For example, recent Hispanic immigrants have low levels of U.S. naturalization, and citizenship is highly correlated with homeownership. The greater openness of both Asian and Hispanic households to multi-generational living arrangements also has potential to affect homeownership both by increasing the consumption demand for homeownership and by creating larger pools of family wealth. Nevertheless, our understanding of these issues is limited.

In general, studies of household decisions to own a home tend to be based on more advanced models than those of gaps in homeownership rates. For example, current theoretical and empirical models of household decisions to own a home often adopt an inter-temporal optimization framework that recognizes the long-term nature of homeownership decisions. Further work is needed to adapt similar models to studies of gaps in homeownership rates.

Along these same lines, while the literature on household decisions to own a home recognizes that a household's current tenure status affects its future housing tenure choices, there is little recognition of this fact in the homeownership gaps literature. One consequence of the importance of past homeownership attainment on future tenure choices is that cohort specific gaps appear to persist over time. That is, if blacks born between 1960 and 1964 fall well short of similarly aged whites in homeownership at age 30, this large gap in homeownership differences will persist for these two groups as they age. If true, this is important for housing policy because programs that increase the homeownership rate of young minority and low-income households will have long-term effects throughout these individuals' lifetimes. But research on this topic is basically nonexistent.

Another inter-temporal aspect of tenure choice put forward by several studies is the hypothesis that that there is intergenerational transmission of the tendency to become a homeowner. Aside from the obvious transmission of wealth across generations, another possible motivation for such phenomena would be intergenerational transmission of information about both the benefits of homeownership and how to navigate the real estate brokerage and mortgage markets. If true, policies that close the white-minority homeownership gap may have long-term positive effects by boosting homeownership of the next generation of minorities. Hard evidence related to this idea is scant and implies the need for further study.

On the supply side, there has been a fair amount of research on the impact of mortgage finance barriers on homeownership. However, relatively little research has examined the impact of limits on access to affordable and attractive homeownership options on low-income and minority homeownership rates. In the early 1970s, one study argued that racial segregation in conjunction with high-density central city housing restricted homeownership opportunities for minorities. Aside from an unpublished dissertation, little attention has been given to this issue since it was first proposed, despite the fact that residential segregation by race is still quite high in many areas. A related deficiency in the literature is the absence of any study that carefully documents the administrative costs associated with organizing multifamily buildings into condominiums. Are these costs higher if the tenants have low-income? Are they higher in localities with high crime rates or highly mobile households? How do these costs vary with the type of building and neighborhood? These issues have never been carefully researched but warrant further attention.

Another important supply side question is the role of manufactured homes as an affordable homeownership option. Units of this type comprise a large (8.2 percent) and growing share of the nation's owner-occupied housing stock and this sector has been one of the keys to homeownership

growth in the 1990s. This growth in ownership of manufactured housing has been particularly strong for low-income and black households. This suggests that manufactured housing has a substantial role to play in explaining and helping to close homeownership gaps by race and ethnicity, particularly if financing issues for manufactured housing are addressed. Further study is needed of the profiles of new manufactured homeowners, the duration of ownership of manufactured housing, and what explains the differences in the likelihood of owning manufactured housing by different income, racial, and ethnic groups.

Finally, an important omission in the literature is the very limited amount of research that has sought to evaluate the effectiveness of specific homeownership policies. Policy makers therefore should consider including evaluation efforts as part of homeownership programs. Given the emphasis in policy circles on efforts to address wealth constraints and on education and counseling, these are two areas where evaluative research would be most beneficial. In addition, while the influence of financial constraints on access to homeownership has been extensively studied, efforts to examine the influence of other potentially important constraints have been thin. Such constraints include limits on access to housing conducive to homeownership, and the degree and manner in which limited access to information about financing and housing opportunities deter potential for homeownership.

1.3.2 HUD Sponsored Studies Currently Underway

In conjunction with this literature review, HUD also sponsored a series of studies examining in detail some of the issues raised in this literature review. Below we briefly describe these studies and their principal findings.

The Impact of Differences in Household Formation Rates on Homeownership Gaps by Race
Homeownership rates are influenced both by the percentage of individuals that choose to become households (referred to as the headship rate) and the percentage of households that choose to become homeowners. While there has been extensive study of racial differences in homeownership rates, there has been little study of racial and ethnic differences in household formation. Analysis of the impact of these differences on homeownership rates is essentially non-existent. This study examines these questions on an age-specific basis using data from the 1970 to 2000 public use micro samples (PUMS) of the decennial census.

From 1970 to 2000, age-specific homeownership rates fell by 5 percentage points for individuals from their mid-20s to mid-30s. That difference diminished for older age groups, reaching zero for individuals in their mid-40s, and then rose to positive 10 percentage points among individuals in their 60s. This analysis found that changes in headship behavior over time contributed little to these observed patterns. For those segments of the population where changes in headship behavior did affect homeownership rates, lower headship rates reduced homeownership. This occurred because with lower headship rates some prospective households do not form, and many of these prospective households would have been owner-occupants. This pattern is most notable for individuals in their early and mid-20s for whom reductions in headship rates between 1970 and 2000 served to depress homeownership rates by 3 to 5 percentage points. That effect accounts for much of the observed decline in homeownership for this group over the 1970 to 2000 period.

With regard to racial differences in homeownership, this study finds that for the year 2000, black and Hispanic homeownership rates are sensitive to differences in headship behavior relative to white

individuals, although primarily only for individuals in their 20s, 30s, and 40s. Among blacks, headship rates for these age groups are higher than among white individuals, and that difference serves to *narrow* the observed white-black gap in homeownership rates by roughly three percentage points. Among Hispanics, headship rates for those under age 40 are lower than among white individuals, and that difference serves to *widen* the observed white-Hispanic gap in homeownership rates by two to three percentage points. Once again, lower headship rates are associated with lower homeownership rates. Moreover, controlling for headship behavior, white-black homeownership gaps are somewhat more severe than previously recognized, while the reverse is true for white-Hispanic gaps in homeownership.

The Sustainability of Homeownership: Factors Affecting the Duration of Homeownership Spells for Low-Income and Minority Households

The overall rate of homeownership and white-minority gaps in homeownership are both sensitive to the ability and tendency of households to sustain homeownership. Policies that promote homeownership that result in only a temporary transition from renting to owning have little impact on long-term homeownership rates. However, research on the duration of ownership spells is limited and analyses by race and ethnicity are nearly nonexistent. This study uses a national data set (the National Longitudinal Survey of Youth-NLSY) that follows a cohort of individuals for 21 years. Residence histories are tracked, measuring the time spent in each type of tenure.

The study finds strong evidence that the cliché "once an owner, always an owner" is false. Terminations of first-time homeownership averaged 12 percent per year over the 21-year period, being very high when the respondents were young and falling to 4 percent per year when the respondents were age 38. There are also substantial racial differences in termination rates of first, second, and third spells of ownership. Overall, the termination rate of homeownership spells by African-Americans is 240 percent of the rate for whites while the rate for Hispanics is 168 percent of whites. These greater annual rates of terminating spells of homeownership indicate that the duration of stay in homeownership is shorter for African-Americans and Hispanics than whites. A statistical analysis of the expected length of first homeownership also finds large differences by race and ethnicity, with whites having an expected duration of 16.1 years, compared to 9.5 for blacks and 12.5 for Hispanics.

The study also analyzes the time spent renting or living with parents following a terminated spell of homeownership. Here, the spells are shortest for whites (10.7 years), then Hispanics (14.3 years), and then blacks (14.4 years). These lengthy estimated periods of non-ownership indicate that if you terminate first-time homeownership, it is often difficult to return to ownership, especially for minorities.

These findings highlight the importance of efforts to maintain homeownership among those who have achieved it as an important component of policy efforts to reduce homeownership gaps by race.

Homeownership Gains By Race and Income During the 1990s: Composition Effects, Rate Effects and Implications for Future Trends

Changes in homeownership rates can be decomposed into changes in household characteristics (e.g., changes in the distribution of households by age, type, etc.) and changes in homeownership rates for specific types of households. This type of analysis can explain the extent to which changes in the

homeownership rates of groups, such as minorities, are due to changes in the composition of the group (by age, household type, etc) versus changes in the homeownership rates of the various subgroups.

This paper uses the public use microdata samples (PUMS) from the 1990 and 2000 censuses, about one million households from each census. It divides the households in each sample into 1,750 separate groups defined by the age of the householder (7 age brackets), household type (5 types), the race and ethnicity of the householder (5 race and ethnicity combinations), real household income (5 classes) and the location of the household (inside or outside of central cities). The analysis examines changes in both the homeownership rates of these 1,750 groups and in the distribution of the population across the groups. In particular, the study calculates what the change in homeownership rates would be if one froze the distribution of the population across groups at the 1990 profile but allowed homeownership rates to move from their 1990 to 2000 levels. This is called the *rate effect*. It also calculates what the change in homeownership rates would be if one froze the homeownership rates at their 1990 levels but allowed the distribution of the population to change from its 1990 profile to its 2000 profile. This is called the *composition effect*. The sum of the rate effect and the composition effect equals the actual change in homeownership rates. This decomposition technique identifies the extent to which homeownership increases can be attributed to demographic shifts in the population versus increased homeownership propensities holding the demographic profile constant.

The growth in homeownership over the decade can largely be attributed to increases in homeownership propensities among a large share of these 1,750 groups, rather than just shifts in the population to include larger shares of households in groups with high homeownership rates. Overall, the rate effect accounted for 79 percent of the growth in the national homeownership rate over the decade. However, while homeownership increases were widespread, changes in the rate structure were not uniformly positive for all the disadvantaged groups. The rate effect was only a minor contributor to the gain for non-Hispanic blacks, while rates among very low-income groups actually declined over the decade. However, the rate effect was an important factor in the rise of Hispanic homeownership rates, accounting for more than half of the rise in Hispanic homeownership. On the other hand, changes in the composition of the population also contributed to the increase in the homeownership rates of all racial and ethnic groups. Growth in real income appears to have been the most important shift in the composition of these groups.

Changes in Homeownership Rates Among Neighborhoods in the 1990s

Since homeownership is thought to benefit neighborhoods as well as individuals, the question of how the recent gains in homeownership have been distributed across neighborhoods is of interest to policy makers. This study explores the characteristics of neighborhoods (as defined by census tracts) where homeownership rates increased the most as well as those where rates actually declined during the 1990s. The study sorts neighborhoods into five quintiles ranging from those with the largest declines in homeownership rates to those with the largest gains.

Somewhat surprisingly, there are a number of similarities between neighborhoods with large gains in homeownership rates and those with large declines. Both groups of neighborhoods experienced strong household growth over the decade. Both groups of neighborhoods also began the decade with lower average household incomes and house prices than the other quintiles of neighborhoods that experienced less change in homeownership rates. However, the rapid growth of homeowners in the

top quintile was associated with a substantial increase in both household incomes and house prices in these areas. While areas of high homeownership growth were slightly less likely to be in central cities, in general there was little difference in the intra-metropolitan location of tracts with large gains in homeownership. That is, neighborhoods with large gains and large declines in homeownership are found spread throughout metropolitan areas. Finally, underserved areas are somewhat underrepresented among areas with large gains in homeownership, but there are nonetheless a significant share of these tracts in these high growth areas.

The study also examines the distribution of gains in homeownership among blacks, Hispanics, and Asians. For each of these groups, neighborhoods were again sorted into quintiles ranging from areas with large declines in homeownership among the minority group to those with large increases. Similar to the pattern for all households, areas with large gains and large declines in minority homeownership rates both experienced very rapid growth in the minority group – but some areas attracted mainly renter households, while others attracted mainly owners. These areas of high growth tended to be areas with lower concentration of minority households. So gains in minority homeownership are associated with a movement of households into more integrated neighborhoods. While in general, there is little variation in the socioeconomic status of neighborhoods across the homeownership change quintiles for minorities, areas with strong minority homeownership gains do tend to have higher incomes and house prices than areas with smaller shifts in homeownership rates.

The Potential of Downpayment Assistance for Increasing Homeownership Among Minority and Low-Income Households

The purpose of this study is to investigate the potential for downpayment assistance efforts to increase homeownership rates, both overall and among the low-income and minority households that are of special concern to policy makers. There are several ways in which this study adds to existing research. First, it evaluates the potential of downpayment assistance programs to stimulate homeownership by measuring the impact of cash grants on the propensity to own. Second, it avoids the endogeneity of wealth and homeownership by focusing exclusively on a sample of renter households. Third, by tracking renter households over time it captures the ability of households to accumulate savings, reduce expenses, and/or increase income to achieve homeownership – dynamic aspects of the tenure transition process that are not captured by cross-sectional analysis. Finally, the period of study, 1997 to 2000, is a time when there was growing availability of low downpayment mortgage products. Thus, the study sheds light on the importance of wealth constraints at a time when renters could benefit from these mortgage market innovations.

The study analyzes data from the 1996 Panel of the Survey of Income and Program Participation (SIPP). Of particular interest for this study, the 1996 SIPP included detailed questions about household assets and liabilities once each year. The sample used for this study consists of some 11,000 renter households as of the last quarter of 1996 and tracks their tenure choices every three months through February 2000. The analysis has two stages. In the first stage, a parametric proportional hazard model is estimated of the transition to homeownership based on a variety of demographic and financial characteristics of each household as well as economic conditions in the markets where they live. Of particular importance are measures of each household's liquid financial wealth. In the second stage, the results of the hazard model are used to simulate the impact of cash grants to households on the probability of becoming a homeowner over time. The simulations are run for all renter households as well as for sub-groups of low-income, black, and Hispanic households.

Results confirm that liquid financial assets are statistically significant predictors of homeownership. But while the importance of wealth in predicting homeownership is in keeping with the findings of previous research, a somewhat surprising finding of this analysis is that the largest impact on the probability of homeownership was associated with savings between $0 and $1,000, while savings between $1,000 and $5,000 had a lower marginal impact on this probability, savings between $5,000 and $20,000 added only slightly to the likelihood of buying, and savings above $20,000 had no statistically significant impact.

Given the importance of low levels of liquid financial assets on the probability of homeownership in the estimated model, the simulations suggest that small amounts of downpayment assistance can be very effective at stimulating fairly large numbers of renter households to become homeowners. Downpayment assistance of as little as $1,000 is simulated to entice 700,000 additional low-income households to purchase a home, a 19 percent increase from the baseline estimate of the number of homebuyers absent any assistance. Reflecting the finding from the survival model that there is a diminishing impact of higher levels of savings on the probability of buying a home, higher levels of assistance do not have as large a marginal impact on the number of homebuyers. Assistance of $5,000 per household is simulated to increase the number of low-income homeowners by an additional 15 percent beyond the gain from $1,000 in assistance, while assistance of $10,000 is simulated to increase the number of buyers by an additional 7 percentage points beyond the gain associated with $5,000 in assistance.

The results also suggest that policy efforts to support savings efforts by households to accumulate the funds needed to buy a home, such as through individual development accounts, may also be an effective approach for enabling homeownership among low-income households. Such savings incentives could also be coupled with support for financial management training to help households develop the skills needed to manage their finances to the point where they can accumulate savings. The findings from this analysis suggest that a little savings can go a long way toward enabling homeownership.

Wealth and Income Constraints on the Transition to Homeownership

Existing research has demonstrated that both household income and wealth place constraints on the ability of household to achieve homeownership. Surprisingly, none of the existing studies takes advantage of using a longitudinal data set to observe how cohorts of households actually transition from renting to owning over time and how the probability and timing of this transition relates to household income and wealth constraints. This study makes use of data on households tracked from 1984 through 1999 as part of the Panel Study of Income Dynamics to examine the impact of income and wealth constraints on the probability of becoming a homeowner over a long period of time. Specifically, this paper uses survival analysis to examine whether there have been any changes in the importance of wealth and income constraints on homeownership over this period and whether income and wealth constraints have similar effects on whites and minorities.

The study finds that both household income and net wealth are positively related to the likelihood of achieving homeownership while controlling for other demographic factors. One of the key findings is that wealth constraints appear to be more binding for minorities. The results also support the view that the proliferation of mortgage products allowing for low down payments in the late 1990s may have contributed to a reduction in the importance of wealth constraints on homeownership during the

1994 to 1999 period. These results, however, are somewhat fragile, so further research is needed to support this conclusion.

The paper does not find any support for a reduction in the importance of the income constraint over time, despite the fact that mortgage product innovation has also increased the allowable ratios of debt to income. However, most existing research has found that wealth constraints have been more important in limiting homeownership than income constraints. Thus, the results may be taken to mean that the relaxation of down payment constraints has been more important in increasing homeownership opportunities than changes in allowable debt ratios.

Chapter Two
Conceptual Framework of the Determinants of Differences in Homeownership Propensities

2.1 Introduction

By 2004, the white homeownership rate was 76 percent, while African-American and Hispanic homeownership rates remained below 50 percent and the Asian rates was nearly 60 percent. At the same time households with very low income had a homeownership rates that was 37 percentage points below the rate for high-income households. What accounts for these and other substantial gaps in homeownership rates for different groups in the population? This chapter provides a conceptual framework that will help to organize how we think about that question. A challenge in providing such a framework is to do justice to well known stylized "facts" while at the same time providing enough structure to offer a picture of how the ideas and information in the vast literature in this area fit together. To facilitate, Exhibit 2-1 provides a schematic of the central ideas around which this chapter is organized.

Descriptive studies of homeownership rates emphasize that several key family attributes are associated with much of the observed difference in homeownership status across families. Most prominently in the context of the present study are differences in homeownership rates by race and ethnicity as noted above. But in addition, older individuals are far more likely to own their primary residences, as are higher-income families. Similarly, given the need to acquire a downpayment for home purchase, families with more wealth have higher owner-occupancy rates. More generally, to what extent do differences in these and other family attributes between white and non-white households account for racial and ethnic gaps in homeownership rates?

Exhibit 2-2 partly addresses this question by presenting results from two linear probability (ordinary least squares) regressions of homeownership rates. These regressions are based on weighted data from the 1998 Survey of Consumer Finances and are representative of the United States population in that year. The first regression includes only a constant and an indicator for race and ethnicity of the household head: Black, Hispanic, or Other, where white is the omitted category. Accordingly, the reported race and ethnicity coefficients indicate the percentage point difference in the homeownership rate between key minority groups and white households, while the constant measures the homeownership rate for white families. Consistent with well-established observations, white homeownership rates are a bit above 70 percent, while the white-black and white-Hispanic homeownership gaps are both roughly 25 percentage points.

Exhibit 2-1: Conceptual Framework

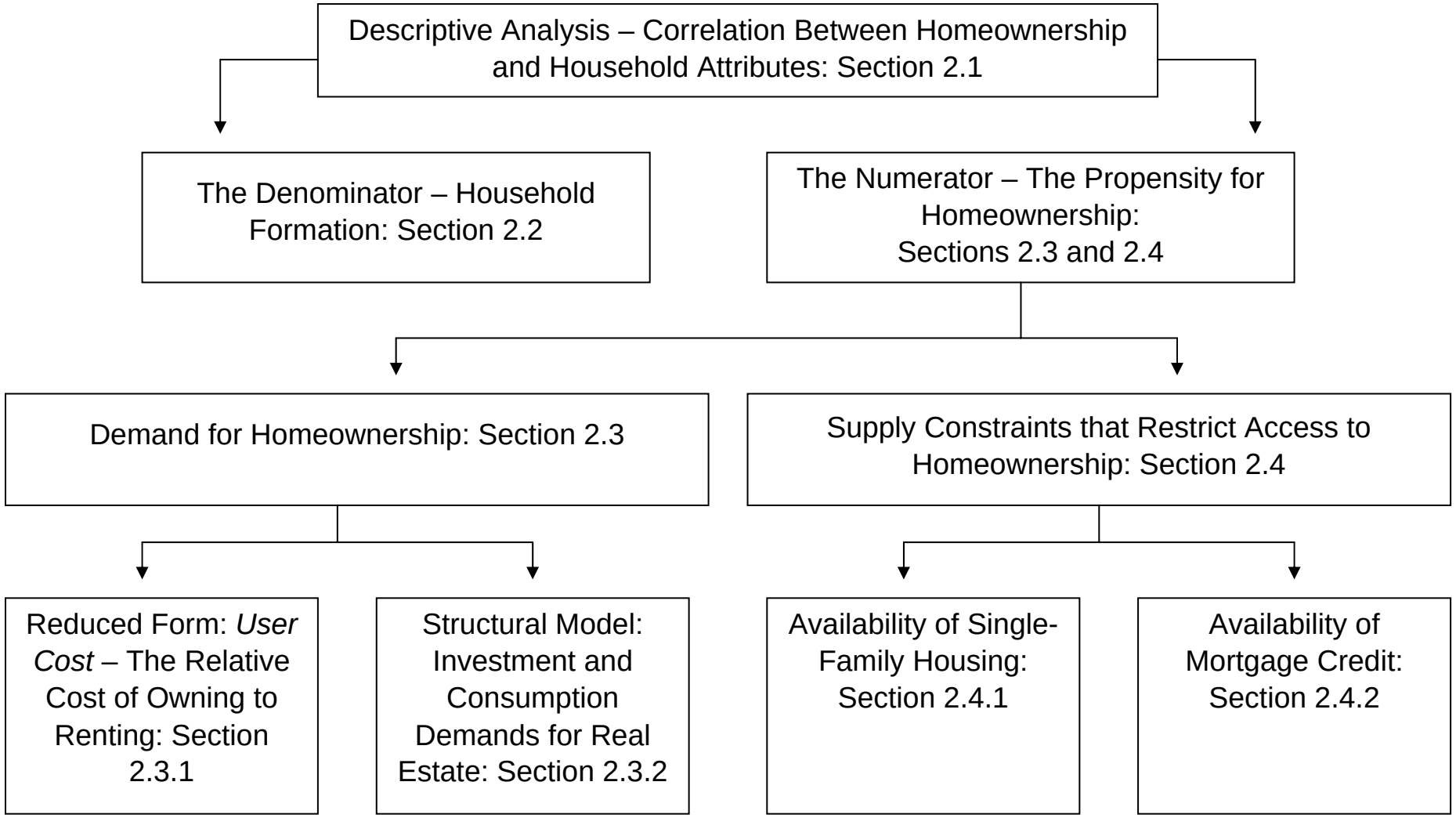

Exhibit 2-2
Ordinary Least Squares Regressions of Probability of Homeownership By Race and Ethnicity Without and With Controls for Household Attributes[a]
(t-ratios in parentheses)

Variables	Excluding Controls for Household Attributes	Including Controls for Household Attributes
Black	-0.248 (-19.03)	-0.079 (-6.57)
Hispanic	-0.269 (-16.68)	-0.121 (-8.02)
Other	-0.190 (-8.34)	-0.136 (-6.61)
Constant	0.710 (173.9)	-0.166 (-5.56)
Observations	4,267	4,267
R-squared	0.047	0.292
Root MSE	0.464	0.399

Source: Estimated using 1998 Survey of Consumer Finance weighted to be representative of the U.S.
Notes:
[a]Non-race controls for the household head's attributes include the following: (1) education status: more than college degree, college degree, some college, or less than college degree, (2) marital status, (3) divorce status, (4) age spline, (5) number of people in household, (6) gender, (7) race and ethnicity: white, black, Hispanic, or other, (8) health status: whether the head is in bad health, whether the spouse is in bad health, (9) income: total family income and total family income squared, (10) inheritances: whether the Head has received an inheritance or settlement in the past, whether an inheritance is expected in the future, (11) employment status: whether the head works full time, the spouse works full time, the spouse works part time, (12) the number of full-time jobs the head has held for more than one year, (13) density of development in the neighborhood: whether homes in the neighborhood are less than 21 feet apart, 21 to 100 feet apart, or more than 100 feet apart, (14) whether the Head knows next year's income, (15) whether income is expected to rise in the next five years, (16) dummy variables for Northeast, North Central, South, and West of the U.S.

Column two presents results from an expanded regression that includes a host of family demographic and financial attributes recently used in a study of homeownership rates by Rosenthal (2002). To facilitate comparison to the first model, only the race and ethnicity-related coefficients and constant are presented in the exhibit. Note that controlling for family demographic, financial, and other attributes dramatically reduces the coefficient on African-American status, to roughly 8 percentage points. Analogous results are obtained for the other race and ethnicity variables.[1] This confirms that controlling for differences in demographic, financial, and other traits between white and non-white

[1] Since Asians account for a large share of the "Other" race, the large, unexplained difference between white and Other homeownership rates is in contrast to findings from more detailed studies such as Painter, Yang, and Yu (2002) which find that there is little or no difference in white and Asian homeownership rates once immigrant and citizenship status are controlled for. "Other" includes Native Americans as wells as Asians and lacks any measures for immigrant status.

families accounts for much of the observed difference in homeownership rates between the two groups. The question still remains, however, as to *why* age, income, wealth and other family attributes are such important predictors of homeownership gaps?

To address that question, we first revisit a well-known but often overlooked feature of homeownership rates: homeownership rates are, by definition, equal to the number of households residing in owner-occupied housing divided by the total number of households. Accordingly, differences in homeownership rates among populations (e.g., white versus Black) can arise from differences in the *numerator* – the propensity to own conditional on having formed a household – differences in the *denominator* – the propensity to form a household – or both. Although mathematically clear, the idea that homeownership gaps may arise because of differences in household formation rates has largely been ignored in the literature. Nevertheless, to the extent that household formation rates differ across groups in the population (e.g., white versus non-white), understanding the determinants of household formation is essential to understanding homeownership gaps between such groups.

While little research has examined the interrelationship between head of household status and homeownership rates, there is a vast literature that has examined the decision to own versus rent the primary home conditional on having already formed a household. What factors drive these decisions? To address that question we organize our discussion along two distinct lines, demand side factors and supply side factors. On the demand side, two different but related approaches have been used to examine the propensity for homeownership. The more common approach is the "user-cost" method. In this approach the relative cost of owning compared to renting is calculated and used as a key explanatory variable in a model of housing tenure choice (conditional on household formation). Relative cost can be interpreted as the cost to an owner-occupier of one dollar's worth of housing in the rental market. For many owner-occupiers that cost is less than one because of expected home price appreciation and a variety of local and federal tax policies that implicitly favor homeownership. When the relative cost of owning is low relative to renting – holding constant the quality of the housing unit – households are more likely to become owner-occupiers. We characterize this method as a *reduced form* model because user cost studies typically do not distinguish between consumption motives for owning real estate versus investment-portfolio motives for owning the primary home. Early examples of this approach include studies by Laidler (1969), Aaron (1971), and Rosen (1979).

An alternative though less common approach to analyzing household tenure decisions takes consumption versus investment motives for owner-occupied housing explicitly into account. Consumption demand arises from the need for shelter and increases, presumably, with such things as family size, income, and the like. Investment demand arises from financial goals related to portfolio balance and the household's taste for investing in risky versus safe assets. In keeping with the literature in this area, we argue that if a household desires more housing for consumption needs than would be wise from an investment perspective, the family is likely to rent. Conversely, when investment demand exceeds consumption demand the household is likely to own.[2] Because of the

[2] For example, imagine a large family that also expects to move in the near future because of employment opportunities or some other unspecified reason. Because the family is large, it desires to live in a large home with many bedrooms. Because the family expects to move soon, it anticipates incurring moving costs in the near future. Under these circumstances, the consumption demand for housing is large. However, the investment demand for owning the primary home is very small owing to the anticipated

added structure associated with this model, we characterize the investment-consumption method as a *structural* approach. Examples of studies based on this approach include theoretical work by Henderson and Ioannides (1983) and Brueckner (1997), and follow-up empirical studies by Ioannides and Rosenthal (1994), Arrondel and Lefebvre (2001), and Howe (2002).

Of course, demand for owner-occupancy is not always realized. Instead, constraints imposed by mortgage lenders may prevent some households from owning their residence when they would otherwise become owner-occupiers. Examples of these studies include work by Zorn (1989), Linneman and Wachter (1989), Duca and Rosenthal (1991, 1994a), and Haurin, Hendershott, and Wachter (1997). In addition, influential studies of discrimination in mortgage markets by Munnell et al. (1996), Berkovec et al. (2000), and others have focused attention on the degree to which discrimination in mortgage markets may impede access to homeownership.

A different supply-side constraint originally suggested by Kain and Quigley (1973) and reexamined by Herbert (1997) concerns the availability of single-family housing stock in central city neighborhoods. Suppose that homeownership and single-family housing are viewed as complementary goods by households. Or, alternatively, suppose that the administrative costs of organizing housing units into owner-occupancy status are substantially higher for multifamily units than for single-family housing.[3] Then constraints on the supply of single-family housing in central city neighborhoods may restrict homeownership in those areas. Moreover, if economic and other forces (e.g., discrimination) disproportionately restrict some households to the central cities – as has historically often been the case for low-income and minority families – then restricted access to single-family housing could contribute to homeownership gaps. But apart from the original work by Kain and Quigley (1973) and follow-up research by Herbert (1997), this idea has largely not been considered in the literature.

Summarizing, as outlined in Exhibit 2-1, our plan for the remainder of the chapter is as follows. We first examine household formation since this affects the denominator of the homeownership rate. Next we consider the propensity for homeownership conditional on having formed a household – the numerator of the homeownership rate. This part of the discussion is organized around demand side arguments for why households want to become owner-occupiers, with the next section discussing supply-side constraints that limit access to owner-occupied housing for some families. Following this discussion, we provide a brief summary of the principal ideas and findings developed in the chapter.

2.2 Household Formation

As noted earlier, homeownership rates equal the number of households occupying their own homes divided by the total number of households in the population. As such, both the propensity of an existing household to become an owner-occupier and the propensity of individuals to form a household can affect homeownership rates. Although the idea is conceptually clear, the potential role that household formation and living arrangements play in explaining homeownership gaps and

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moving costs that would be far higher from owner-occupied housing than from a rental unit. For these reasons, the family is likely to rent.

[3] This could arise, for example, because of the need to reach a common agreement for how to maintain and regulate use of semi-public areas in multifamily buildings.

changes in gaps over time has generally been overlooked in the literature. The HUD-sponsored study by Haurin and Rosenthal (2003) described in Chapter 1 provides the only real in-depth study of this issue. Accordingly, in this section we describe the influence of household formation on the rate of homeownership.

We begin with some definitions. A housing unit is counted as owner-occupied if the owner lives in the dwelling unit. If the owner is absent and the unit is occupied, then the unit is counted as renter-occupied.[4] By definition, the number of households equals the total number of occupied housing units. A household includes all individuals living in a housing unit. Thus, a household may consist of an individual, a family, a group of unrelated individuals, multiple families, or mixtures of families and individuals living in the same housing unit. A housing unit is a separate living quarters with direct access to the outside through common halls. Group living units excluded from the count of housing units include institutionalized individuals in group quarters (nursing homes, prisons, mental hospitals) and non-institutionalized individuals in group quarters (students in a dormitory, military quarters, religious quarters). Thus, individuals living in census defined group quarters are excluded from the count of households.

Under these definitions, comparisons of homeownership rates among racial and ethnic groups and changes in ownership rates must be interpreted with care. For example, an increase in the homeownership rate occurs if the number of owners remains constant but the number of households shrinks. The number of households shrinks if two individuals living apart marry and live in a single dwelling, or if two individuals living apart double-up and share a single dwelling unit. If both households were renting prior to the move this change boosts the homeownership rate even if the new couple lives in a rental unit. If the couple chooses to own, the ownership rate is further increased. Differences in the rate of homeownership among various income or racial and ethnic groups could be explained, in part, by differences in the amount of doubling-up, marriage, divorce/separation, and living with parents or other relatives, or by the share of the population living in group quarters.

With these ideas as a backdrop, this section proceeds as follows. First, we briefly describe the theory underlying household formations. Next, we review empirical studies of household formation with an emphasis on low-income and minority households. Following that, we consider the possible empirical importance of household formation by presenting a hypothetical example pertinent to the manner in which household formation of low-income and minority households can affect the homeownership rates of these groups. In addition, results from the recent work on this topic by Rosenthal and Haurin are described.

2.2.1 Theoretical Perspectives

Theoretical insights about household formation are derived from both economic and sociological perspectives. Recent literature has focused on the question of when do youths leave their parental home, but the insights gained from this literature are applicable to the question of when households form in all age categories. We first review the home-leaving literature and then comment on the general application to all households.

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[4] For example, a two-family home (duplex) occupied in one unit by the owner and in the other by a renter has one owned unit and one rental unit.

Sociologists argue that youths' home-leaving is influenced by demographic and social factors, also recognizing that economic factors are important. Included among the demographic factors believed to have an independent effect and encourage home-leaving and household formation are greater age, marriage, and the presence of children in the youth's family (Goldscheider and DaVanzo 1989, Goldscheider et al. 1993a, 1993b; Haurin et al. 1997). Explanations include arguing that social norms encourage U.S. youths to leave home in their early 20s, and that married couples and youths with children demand greater privacy. Another influential social factor is a youth's family structure, specifically whether the youth lives with a single parent or stepparent, both leading to early exit from the parental household. There are divergent opinions about the impact of additional education, in part because of the definitional problem of whether a college student has left home. Certainly attaining a college education leads to home-leaving, but often youths in college are not economically independent and frequently they live in dormitories.[5]

Nearly all studies of home-leaving include indicator variables for a youth's race and ethnicity. In general, the race and ethnicity variables simply control for differences in home-leaving tendencies not captured by the other explanatory variables. Theoretically, Garasky et al. (2001) argue that blacks and Hispanics face discrimination in the housing market, limiting their choice of dwellings. Relative to white youths, this limitation may delay minority youth home-leaving and increase the likelihood that minority youths live in groups after leaving the parents' home.

Economic explanations of household formation are found in Haurin et al. (1994, 1996), Ermisch and DiSalvo (1997), and Ermisch (1999). Haurin et al. (1994) argue that the cost of independent living is an important determinant of whether a youth leaves the parental home, where this cost is measured by the cost of both renting and home purchase in the locality. They also argue that the likelihood of a youth forming a household depends upon a youth's ability to earn income as measured by his or her potential wage or income.[6]

Ermisch and DiSalvo (1997) and Ermisch (1999) argue that the decision to form a household depends on the well-being or utility a youth could achieve living independently compared with living in the parents' home. In their framework, relative utility levels associated with independent living versus the parents' home are sensitive to the space, privacy, and monetary gifts from parents that youths would enjoy in each state of the world. As a result, parents play an influential role in the household formation of youths because parents choose whether to offer monetary gifts and space in their home to their children.[7]

Local housing costs affect both a youth's housing that could be consumed if he or she lived independently and the amount of housing that the parents consume. In a formal model, Ermisch shows that given empirically reasonable assumptions about the price elasticity of demand for housing,

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[5] The income enhancing effect of education will be captured in the influence of earnings to be discussed shortly. In addition, as will be outlined later in the discussion, dorms are not counted in the number of dwelling units; thus, youths leaving home for college dorms do not influence the homeownership rate.

[6] Haurin et al. (1994) distinguish potential earnings from actual earnings because a youth's actual earnings depend on labor supply, a choice variable influenced by the living arrangement that is selected.

[7] For example, among youths living in the parents' home, monetary gifts from the parents might be used primarily to increase their consumption of non-housing goods. For youths living independently, monetary gifts are more likely to be used for both housing payments and non-housing goods.

higher housing costs will lead youths to remain longer with their parents. Garasky et al. (2001) extend this model to examine the type of living arrangement youths select if they leave home, in this case, grouping-up versus living alone. They argue that the greater is a youth's income and the lower are housing prices, the higher the proportion of youths who will choose to live alone. These arguments suggest that youths with low earnings ability and youths living in high housing cost localities will tend to remain longer in their parents' home, and when they exit the parental home, will be more likely to live in groups. Both factors tend to reduce the headship rate for low-income and minority youths, where the headship rate is defined as the ratio of household heads to the total population.[8]

Another factor driving differences in headship rates are differences over time or among groups in the rates of marriage, partnering (defined as unmarried couples living together), and remarriage for a population of a given total size. Divorce, for example, creates two households from one, unless one of the individuals selects to live with an existing household (e.g., relatives, friends, or another partner). Marriage, in contrast, merges two households into a single unit.

When analyzing a change in the homeownership rate for a specific group of the U.S. population, the above discussion suggests that the researcher must consider whether the cause of the change is household formation (or dissolution) rather than renters becoming owners (or vice versa). For example, compare two groups that begin with equal ownership rates and assume that a booming economy increases the potential earnings of members of group A more so than group B. We expect that more members of group A will leave groups (including living with parents, relatives, and friends) and set up independent households. If these new households are predominantly renters, then the ownership rate of group A will fall relative to that for group B even though both groups' ownership rates might rise as the strong economy induces other renter households to become owners. In this case, an ownership gap has been created, but it is not one that would necessarily be of particular public concern. More generally, changes over time in a racial, ethnic or income group's average age of home-leaving, marriage/partnering/remarriage rate, or divorce rate will likely affect the group's homeownership rate.

A related factor concerns the definition of which individuals are included in the count of households as alluded to earlier. Individuals living in census designated "group living arrangements" are excluded from the count of households and thus from the calculation of the homeownership rate. If individuals move from living alone to a college dorm, military housing, or prison, the count of households falls. The homeownership rate will be affected unless the individuals happened to be drawn from the populations of owners and renters in exactly the same proportion as the ownership rate. This is highly unlikely as young adults are most likely to be drawn from the renter population.

In a similar vein, it is important to recognize that high rates of male incarceration–characteristic of the Black population–have multiple effects. The males are likely drawn from the renter population, tending to raise the reported homeownership rate. But, incarceration of men also reduces the pool of

[8] Differences among groups in the average age of home-leaving also affect both the headship rate of the group and the propensity for homeownership. Earlier home-leaving by youths, for example, likely implies more renters, depressing the group's ownership rate. But earlier home-leaving may also lead to a higher incidence of grouping-up which would mitigate the impact of early home-leaving on the number of households associated with a given portion of the population.

potential male partners, which likely elevates the single female-headed household rate (unless female youths remain with their parents). As a result, high male incarceration rates lower household income and lower the likelihood of homeownership for females. This issue will be revisited shortly when data are presented on marriage and incarceration rates of minorities relative to white households.

2.2.2 Empirical Studies

Among the many studies of household formation and youth home-leaving, there is a reasonable consensus about the separate effects of economic, demographic, and social variables. The most consistent effects are found for demographic and social variables; for example, increased age increases the likelihood of a youth living apart from parents. Youths leaving home at young ages tend to live in large groups (Garasky et al. 2001). Youths who are married or have children tend to live apart from parents (Haurin et al. 1994) and live alone (Haurin et al. 1997). Youths from single-parent families or who have a stepparent at home tend to leave home earlier (Garasky et al. 2001).

Empirical studies examining racial and ethnic differences in household formation propensities have come to different conclusions depending upon the types of other explanatory variables that were included in the analysis. In a study with a large number of controls for economic, social, and demographic factors, Garasky et al. (2001) found that black youths are more likely to live with their parents than are white youths, but unexpectedly black youths are less likely to live in large groups if they live apart from parents. These two effects have offsetting impacts on the black headship rate. In general, studies of household formation do not find substantial difference between whites and Hispanics in household formation tendencies.

Among the economic variables, relatively high local shelter costs tend to increase the likelihood of youths living with their parents (Haurin et al. 1994, 1996; Whittington and Peters 1996, Ermisch 1997). High housing costs also encourage youths to live in groups (Haurin et al. 1997), but not necessarily large groups (Garasky et al. 2001). Nearly all studies find that higher potential wages or income raises the probability of youths living outside the parental home (Haurin et al. 1994, 1996), and living alone (Haurin et al. 1997). Thus, youths with low potential earnings and living in relatively high cost areas (such as minorities living in central cities) are more likely to live with their parents and are less likely to live alone, thus reducing the number of households. Given that these youths likely would have rented, the lack of household formation tends to, perhaps surprisingly, increase the reported homeownership rate for these groups.

Investigating the question of household formation in the broader population, Masnick (2001a) agrees that influential factors include the age structure of the population (particularly the baby boom and its echo), and the rates of home-leaving, marriage/partnering, divorce, and remarriage. Masnick argues that inter-temporal changes in these factors in recent decades have increased the headship rate. For example, the share of households comprised of a single individual increased from 13.3 percent in 1960 to 25.8 percent in 2000. Between 1970 and 1980, the ratio of divorces to marriages doubled, thereafter remaining constant, while the rate of remarriage has fallen over time. However, the amount of partnering has doubled since 1960, partly offsetting the decline in the percentage of the population that has never married.

Other factors not frequently considered in existing discussions of homeownership may contribute to changes in ownership rates or gaps between groups. Included in this category is the set of individuals

living in census defined group quarters such as prison inmates and college students in dorms. Data compiled by the Bureau of Justice Statistics (Beck and Harrison 2001) indicates that the rate of individuals serving a sentence of one or more years in a Federal or State Prison increased by 79 percent between 1990 and 2000. The rate of incarceration per 100,000 population increased by 63 percent.

The rate of incarceration of male prisoners by racial and ethnic group in 2000 is shown in Exhibit 2-3:

Exhibit 2-3
Male Incarceration Rates By Age and Race in 2000

Age Cohort	White	Black	Hispanic
20-24	0.9%	7.3%	2.5%
25-29	1.1%	9.7%	2.9%
30-34	1.2%	8.7%	2.7%
35-39	0.9%	7.5%	2.1%

Source: Beck and Harrison (2001).

The rate of incarceration is much higher for black males compared with white and Hispanic males, approaching 10 percent of the population for those ages 25 to 29. The racial and ethnic pattern for females is similar, but the rates are about $1/15^{th}$ as high. During the 1990s, the number of inmates increased 85 percent for blacks, 79 percent for whites, and 68 percent for Hispanics.

Two micro data based papers study the joint choice of household type and tenure choice (Borsch-Supan 1986; Haurin, Hendershott and Kim 1994). An important contribution of these studies is to control for possible sample selection bias in the estimation of tenure choice; that is, they simultaneously account for the choice of household structure and tenure choice. However, neither study addresses the question we pose here: what is the aggregate effect of differences in household formation and types among racial and ethnic groups on the homeownership gap.

Hendershott (1988) studies the impact of household formation on the homeownership rate in the 1960-85 period. He reports that headship rates increased for all age categories. Also, there have been substantial changes in the age distribution due to the baby boom and subsequent baby bust that have impacted the overall headship rate. From 1960 to 1985, the headship rate increased by 25 percent, of which 46 percent was due to social factors including increasing divorce rates and a lower likelihood of marriage. The remaining 54 percent was due to changes in the age distribution of the population. The impact of this change in headship on the homeownership rate was large. If age and the ownership rates of specific household types had remained constant from 1960 to 1985, the ownership rate would have fallen from 0.623 to 0.570. Instead, the observed ownership rate rose from 0.623 to 0.638 because of the substantial increase in average age and changes in the homeownership tendencies of specific household types (e.g., married couples).

Hendershott does not analyze homeownership or headship rates by race, ethnicity, or income level, thus he sheds no light on our topic. Nor does he account for the impact of changes in the tendency of individuals to reside in group quarters. However, his finding that the changes in household formation

had an impact on the homeownership rate of 6.8 percentage points, holding constant the tendency to own a home for a family of given characteristics, shows the dramatic impact that changes in headship rates can have.

Masnick (2001b) discusses the role of demographic differences in determining the homeownership gap between groups and he emphasizes the importance of accounting for specific age cohorts. This observation is critical because the age structure of the population comparing white with black or Hispanic households is different; there are more young black and Hispanic adults relative to their population size compared with whites. Because there are great differences in ownership rates comparing young to older adults, the impact of differences in age structures among groups on the ownership gap could be substantial. Further, differences in age structures will affect the evolution of the homeownership gap even if other influential factors do not change.

In Exhibit 2-4 below we list a few key socio-demographic factors related to the determination of headship rates by race and ethnicity. The rate of never married black individuals is higher than for any other group, and their rates of divorce and widowhood are also high. These observations suggest that the headship rate for blacks will be high, and the exhibit shows that it is substantially greater than that for Asians or Hispanics. Somewhat surprisingly, the headship rate for white and black households is nearly identical. Offsetting these demographic factors for black individuals is the relatively high rate of black individuals living in group quarters, which is two to three times the rate for other groups. Other offsetting factors include relatively low median household income and a higher tendency to live in areas with high constant-quality house prices (e.g., central cities).

A simple numerical example illustrates the manner by which differences in household formation across racial groups can affect observed homeownership rates. Suppose that 80 percent of married/partnered households own their homes while 40 percent of single-person headed households own regardless of race. In addition, for each race suppose there are equal numbers of adult men and women, but that while 75 percent of white men (and women) are married/partnered, only 50 percent of black men (and women) are married/partnered. Finally, suppose there are 1,000 of both white and black adults.

Exhibit 2-4
Census Data for 2000: Headship and Demographic Characteristics of the Population

	Whites*	Blacks*	Hispanics	Asians*
Headship Rate: Age >18 (percent)	52	53	40	42
Households (millions)	78.8	12.5	9.3	3.3
In Census Defined Group Quarters > Age 18 (millions)	4.9	1.6	0.6	0.2
Percent of Population in Group Quarters to Population > Age 18	3	7	3	2
Married Rate: Age 15+	56.9	38.8	55.8	58.6
Never Married Rate: Age 15+	24.5	43.6	33.2	33.1
Divorced & Separated Rate: Age 15+	9.6	10.9	7.1	4.3
Widowed Rate: Age 15+	6.8	6.7	3.9	4.0
Median Household Income ($000)	45.9	30.4	33.4	55.5
Percent of Own Race in Central City (high cost housing)	21.2	53.1	46.4	---
Percent of Parents in Family Households who are Single Parents	22.4	56.2	28.9	---

Source: U.S. Census Bureau, 2000 Decennial Census, Summary File 1.
*Non-Hispanic

The first two rows of Exhibit 2-5 below describe the number of single-headed households, married households, rate of married households, and owner-occupancy rate for the white and black populations. The third row recalculates those values under the assumption that ten percent of black males live in group quarters and would otherwise have been in single person households.[9] These individuals are removed from the population for which headship and homeownership rates are calculated.

Exhibit 2-5
Hypothetical Household Formation and Homeownership Rates

Race	Total Adults	Single Households	Married Households	Total Households	Married Household Rate	Homeowner-ship Rate
White	1,000	250	375	625	60.0%	64.0%
Black	1,000	500	250	750	33.3%	53.3%
Black-with 10% of men in group quarters	1,000	450	250	700	35.7%	54.3%

[9] The assumption that incarcerated males come out of single person households is based on the fact that incarcerated males are concentrated in younger age groups.

It should be emphasized that the numbers in this exhibit are fictitious and are intended purely for illustration. Conditional on the demographic traits of the individual households – including race – homeownership rates are assumed identical in this example. But, marriage rates differ by race. These differences affect the rate of household formation and, in this stylized hypothetical example, give rise to substantial differences in predicted owner-occupancy rates between white and black households.

Comparing the first two rows of Exhibit 2-5, it is evident that lower marriage rates among adults lowers the homeownership rate among households. Conversely, comparing the second and third rows reveals that higher incarceration rates raise the homeownership rates among households. However, this result is in part based on the assumption that all incarcerated males were in single person households. If instead it were assumed that they come out of the population generally, lowering the single person and married households proportionally, the result would be a slightly lower homeownership rate of 52.4 percent.[10] As reported above, the marriage rate among white adults is similar to that of Hispanic adults, but much higher than the rate for black adults. Even in a world where homeownership propensities are identical for households conditional on their demographic traits, differences in marital status rates would elevate the homeownership rate of white and Hispanic households over black households.

In the third row, the higher rate of living in group quarters for black men reduces the number of households. The implication for homeownership is that the rate for blacks rises compared with the case where the rate of living in group quarters is the same for blacks and whites (row 2). Thus, the homeownership gap between black and white households is reduced by 1.0 percentage points in the example. Over time, higher rates of group quarters residence by blacks, as might be due to an increasing rate of incarceration in the 1990s, would tend to "cause" the ownership gap to decrease – though that would offer very little cause for satisfaction.

Although the example outlined above is stylized and hypothetical, it highlights the fact that differences in household formation have the potential to contribute to disparities in homeownership rates across subgroups within the population. In practice, recent HUD-sponsored work by Haurin and Rosenthal (2003) finds that this effect, though present, is modest in magnitude. As summarized in Chapter 1, findings from Haurin and Rosenthal (2003) tend to suggest that where changes in headship behavior since 1970 affected homeownership rates, lower headship rates reduced homeownership. This occurred because with lower headship rates some prospective households do not form, and many of these prospective households would have been owner-occupants. This pattern is strongest for individuals in their early and mid-20s for whom reductions in headship rates between 1970 and 2000 served to depress homeownership rates by 3 to 5 percentage points. As noted earlier, that effect accounts for much of the observed decline in homeownership for this group over the 1970 to 2000 period.

With regard to racial differences in homeownership, Haurin and Rosenthal (2003) find that black homeownership rates in 2000 would be roughly 3 to 5 percentage points higher if African Americans formed households as do white families, especially for individuals in their 20s and 30s. For Hispanic families the opposite holds: Hispanic homeownership rates would be 2 to 4 percentage points lower if

[10] If the more restrictive assumption were made that all incarcerated males were both single persons *and* renters, the homeownership rate would drop to 50 percent.

Hispanic families formed households in a manner comparable to that of white families, especially again for individuals in their 20s and 30s. Thus, controlling for headship behavior, white-black homeownership gaps are somewhat more severe than previously recognized, while the reverse is true for white-Hispanic gaps in homeownership, but these effects are modest relative to the size of the overall gaps and pertain primarily to individuals in their 20s and 30s.

2.3 Demand for Homeownership

2.3.1 User Cost and The Relative Cost of Owning to Renting

The "User Cost" approach to modeling the decision to own or rent the primary residence emphasizes the relative cost of owning versus renting a given home taking a myriad of cost factors into account. That relative cost – defined as the cost to an owner-occupier of one dollar's worth of housing in the rental market – differs across families for a variety of reasons, including differences in marginal income tax rates that affect the sensitivity of the family to favorable tax treatment of homeownership, expected length of stay in the home which affects the discounted transactions cost of buying and selling real estate, and expected appreciation on the home. Each of these factors is considered briefly below.

Beginning with Laidler (1969) and Aaron (1970), researchers have considered how the tax code affects the cost of owner-occupied housing relative to rental housing. In the United States, homeowners are not taxed on imputed rent[11] and are allowed to deduct mortgage interest and property tax payments, but are not allowed to deduct maintenance expenditures. In contrast, landlords are taxed on their cash rent but are allowed deductions for mortgage interest, property taxes, and maintenance. Assuming competitive rental markets, tax provisions that favor landlords are passed on to tenants while owner-occupiers benefit directly from the favorable tax treatment of homeownership. On balance, Rosen (1979), King (1980), and others have shown that the net effect of these tax provisions is to subsidize the cost of homeownership relative to rental housing for many families. Using data from the 1981 American Housing Survey, Hoyt and Rosenthal (1994) estimate that the average cost to a U.S. owner-occupier of "one dollar" of housing is roughly 73.5 cents. Moreover, because the value of the favorable tax treatment of homeownership increases with the family's marginal income tax rate, this figure differs across households.[12]

A second source of variation in the user cost of housing is the expected capital gain on the home. Historically, house price movements have been quite variable across regions. However, in the long run, efficiency in the real estate market would impose some discipline on these house price movements and ensure that risk adjusted rates of return would be similar across locations. But, over a shorter time horizon, it is likely that expected capital gains on housing differ across regions and cities.

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[11] "Imputed rent" is the market value of the housing services consumed by the owner-occupant. It is imputed since obviously the owner does not make any explicit payments for these services.

[12] Hoyt and Rosenthal (1992) assume that all owner-occupiers itemize and take advantage of deductions for mortgage interest and property tax payments. However, Follain and Ling (1991) show that many owner-occupiers do not itemize but instead take the standard deduction. For these households, owner-occupied housing is less heavily subsidized than the estimate reported above would suggest but likely is still less expensive than rental housing because of the failure to tax imputed rent.

This would give rise to regional differences in the user cost of owner-occupied housing.[13] In principle, of course, capital gains benefit both landlords and, by extension, renters, as well as owner-occupiers. However, historically the tax code has treated capital gains more generously for owner-occupiers than for landlords.[14] As a result, higher expected capital gains likely reduce the user cost of owner-occupied housing, especially for families in higher tax brackets.

The above argument depends implicitly on the time horizon of the prospective owner-occupant, a horizon that in turn is sensitive to the anticipated length of stay in the home. Length of stay in the home also has a direct and powerful effect on the relative cost of owning to renting. Owner-occupiers incur substantial transactions costs when buying and selling their homes that are not incurred by renters. Realtors, for example, typically charge six percent of house value for their services. Add to this substantial legal fees, administrative costs, and taxes, and Linneman (1986) estimates that the cost of buying and selling a home is roughly 12 percent of property value. The discounted value of these transactions costs decline with length of stay in the home. Rosenthal (1988) formally incorporates these transactions costs into a user cost measure of owner-occupied housing and finds evidence consistent with the idea that transactions costs and tax-related costs have a similar influence on homeownership decisions.[15]

A number of other variations and modifications to the user cost of owner-occupied housing are present in the literature. All such studies, however, share certain features. First, they rely heavily on the tax code to generate variation across households in the relative cost of owning to renting. Second, investment motives for owning real estate are rarely taken explicitly into account. Some studies do incorporate investment aspects in the user cost measure by including the opportunity cost of housing equity as the foregone return on alternative financial investments, but related dimensions of risk and uncertainty are largely ignored. Instead, most user cost studies implicitly portray households as seeking the least expensive quality adjusted price for housing services, and in that respect, implicitly

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[13] Studies by Case and Shiller (1989), Masse and Wallace (1997), and Rosenthal (1999) all find evidence consistent with the idea that over a short time horizon the possibility for arbitrage opportunities may exist in real estate markets, but over a longer time horizon such opportunities appear to disappear.

[14] Prior to 1986 homeowner capital gains were taxed at a rate equal to 40 percent of the family's marginal income tax rate. In addition, families were allowed a one-time exemption from capital gains tax if they were over age 55 (up to fairly generous capital gain). After 1986 homeowner capital gains were taxed at a rate equal to the family's marginal income tax rate but marginal income tax rates were also lowered. The net effect however was a substantial increase in the typical tax rate on homeowner capital gains (see Hoyt and Rosenthal (1994)). Finally, beginning in 1998, the U.S. government effectively did away with the capital gains tax on homeowners of all ages for gains up to $250,000 for single filers and $500,000 for married couples filing joint returns.

[15] A number of studies have also assumed various values for the transaction costs of owners including Goodman (1995) – 5 to 10 percent of current income; Cunningham and Hendershott (1984) – 12 percent of house value; and Rosenthal (1988) – 7 percent of future house value, discounted to the present. Malatesta and Hess (1986) used a small sample to estimate that the average transaction cost of a relocating homeowner equals about 12 percent of house value. Haurin and Gill (2002) used a sample of military members and found that the transaction cost of selling a home is the sum of 3 percent of house value and 4 percent of household earnings. In addition, Shelton (1968) suggested that because of these transactions costs homeownership should be avoided if a household's planned length of stay in a dwelling is less than 3.5 years.

treat housing as a pure consumption good. A different approach to modeling the decision to own or rent the home is provided below.

2.3.2 Investment and Consumption Demands for Real Estate

Henderson and Ioannides (1983) first suggested that in the absence of taxes, transactions costs, and borrowing constraints, the decision to own a home is driven by the divergence between two quite different motives for owning real estate: investment versus consumption demand [see also Fu (1991)].[16] Investment demand (H_I) is determined by portfolio balance as households attempt to equate risk-adjusted rates of return across assets, including real estate. Consumption demand (H_C) is determined by preferences for housing services such as space for family members, the desire to stay warm and dry, school quality, and other attributes of the home and neighborhood that directly affect a family's well-being. For a given family, if a family's consumption demand is large relative to investment demand, for example when family size is large but the family believes house prices will decline, purchasing a home sufficient to satisfy the consumption needs of the family would constitute a bad investment. In this case the family is financially better off if it satisfies its consumption demand by choosing to rent its principal residence. Alternatively, if housing is a great investment for the family and the family's housing consumption needs are modest, then owner-occupying the primary residence would be a good investment. Under these conditions, the family could either purchase a home equal to their desired investment demand (H_I) and then rent out that portion of the home not wanted for personal use (e.g., a basement suite), or purchase a primary home equal to their consumption demand (H_C) along with a second investment property equal to the difference between these amounts ($H_I - H_C$).[17]

Exhibit 2-6 describes a modification of this model that is useful for our purposes and which has been examined by Ioannides and Rosenthal (1994). The determinants of investment and consumption demand (H_I and H_C) are shown on the horizontal axis and are referred to as X in the discussion to follow. The attributes of X include household attributes such as wealth and income and are defined such that an increase in X leads to an increase in the investment and consumption demands for housing. The vertical axis of Exhibit 2-6 indicates the level of housing stock occupied by the family.[18]

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[16] Despite intuitive appeal, the investment-consumption demand model of housing tenure choice has been little used in previous studies of housing demand and tenure choice, although recent exceptions include work by Ioannides and Rosenthal (1994), Brueckner (1997), Arrondel and Lefebvre (2001), and Howe (2002). Possibly this omission is because the original Henderson-Ioannides presentation of the model was developed in a somewhat abstract setting devoid of many of the policy considerations that have motivated public debate about homeownership in recent years. However, in the discussion to follow, we will show that the model provides clear predictions about many of the homeownership gaps that have been the focus of recent policy discussions.

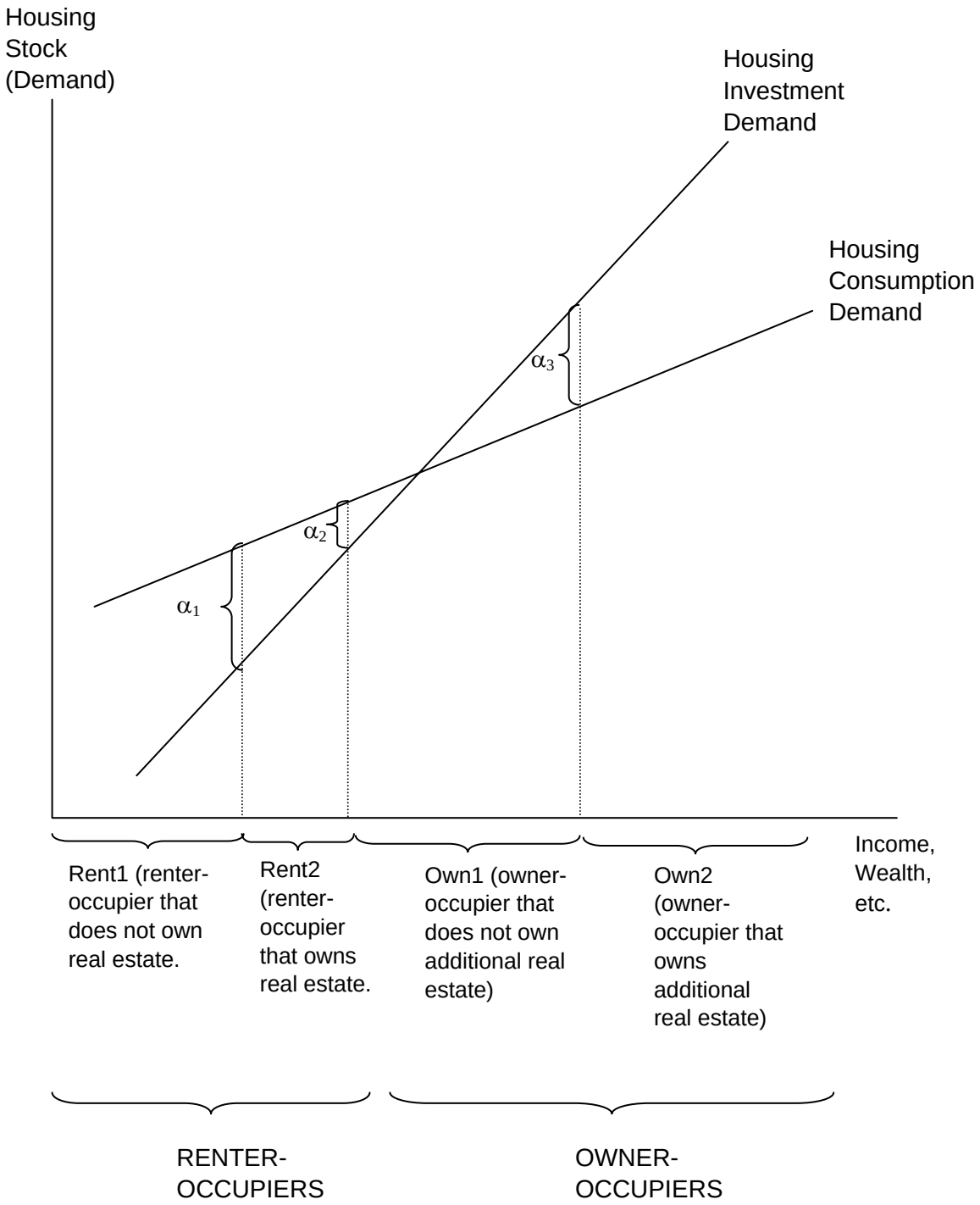
[17] Henderson and Ioannides also emphasize that if H_C exceeds H_I by only a small amount, families that are good at maintaining their property may distort their investment demand and own H_C. This would occur to the extent that landlords charge rents that reflect average maintenance costs across potential tenants, causing tenants who have a predisposition to maintain their home to pay rents that exceed the marginal costs they impose on landlords.

[18] A precise algebraic description of the arguments above is provided in Appendix A to this chapter.

The model in Exhibit 2-6 takes into account that as investment demand (H_I) increases the preferred level of investment in real estate goes up, irrespective of the preferred housing tenure. Accordingly, in region Rent1, not only does consumption demand (H_C) exceed investment demand (H_I), but it is also assumed that investment demand is sufficiently low that families do not want to hold any real estate in portfolio. The household, therefore, rents an amount equal to consumption demand (H_C) and holds no housing for investment purposes. In contrast, in region Rent2, the household still prefers to rent their primary residence but investment demand (H_I) is now large enough that the family holds some real estate in portfolio. In the region Own1, households prefer to owner-occupy their primary homes but investment demand (H_I) does not sufficiently exceed consumption demand (H_C) to warrant holding additional real estate. Finally, as investment demand continues to rise up above consumption demand, households owner-occupy housing equal to consumption demand, H_C, and hold additional housing stock in portfolio equal to the difference between H_I and H_C.[19]

[19] Define the difference between H_I and H_C as J, and let α_1, α_2, and α_3 as the set of critical values for J that determine transition from Rent1 to Rent2, Rent2 to Own1, and Own1 to Own2, respectively, as shown in Figure 2.3-1. Observe that $\alpha_1 < \alpha_2 < \alpha_3$ (consistent with arguments above). This says that as the difference between the investment and consumption demands for housing increases, households switch successively from housing tenure Rent1 to Own2. In addition, if households rent only when H_C exceeds H_I, α_1 and α_2 would be negative, while α_3 would be positive if families own only when H_I is greater than or equal to H_C. These principles have been used to test the model in Figure 2.3-1 by Ioannides and Rosenthal (1994), Arrondel and Lefebvre (2001), and Howe (2002). The manner in which these tests have been carried out is outlined in Appendix A to this chapter.

Exhibit 2-6
Housing Tenure and the Investment and Consumption Demand for Real Estate



This four-part characterization of housing tenure arises naturally out of the distinction between investment and consumption demands for housing. The relative magnitudes of these groups, however, have only rarely been noted. But in the context of policy discussions regarding homeownership gaps, it may well be desirable to treat Rent2 households differently from other renters. To put this in perspective, Exhibit 2-7 below reports the distribution of U.S. households belonging to each of these four sub-tenure categories for 1983 and 1998 based on data from the Survey of Consumer Finances.[20]

Exhibit 2-7
Percentage of U.S. Households By Housing Tenure in 1983 and 1998

	Rent Primary Home			Own Primary Home		
	Rent1[a]	Rent2[a]	All Renters	Own1[a]	Own2[a]	All Owners
1998	31.3%	2.5%	32.8%	50.1%	16.1%	66.2%
1983	31.6%	2.9%	34.5%	50.3%	15.2%	65.5%

Sources: Estimates from 1983 are taken from Ioannides and Rosenthal (1994) and were obtained from the representative portion of the 1983 Survey of Consumer Finances (SCF). Estimates from 1998 are tabulations by the authors using the 1998 SCF using sampling weights to ensure that they are representative of the United States.

[a] Rent1 households rent their primary residence and do not own real estate. Rent2 households are renters who do own real estate. Own1 households own their primary residence but do not receive rental income or own other real estate. Own2 households own their primary residence and do receive rental income and/or own other real estate. In addition, in 1998 ownership of real estate included all forms of real estate except burial plots and garages.

Note that the exhibit shows that overall homeownership rate rose 0.7 percentage points over the 1983 to 1998 period, consistent with estimates reported elsewhere in this report.[21] Moreover, in both years renters who own real estate accounted for an important percentage of renters: 8.4 percent in 1983 (equal to 2.9/34.5) and 7.6 percent in 1998 (equal to 2.5/32.8). Because these families have demonstrated an ability to purchase real estate, their decision to rent their primary homes is presumably largely a function of their preferences as opposed to constraints imposed by others (e.g., mortgage lenders). To the extent that public policy is less concerned about the rental status of such families, then the effective rate of *real estate ownership* as opposed to homeownership is actually somewhat higher than has previously been appreciated.

A final feature of the model in Exhibit 2-6 that has bearing on the discussion to follow concerns identification of the investment and consumption demand functions. Observe that for Own2 households it is possible to measure their investment demand based on the total value of their real estate holdings. Similarly, consumption demand for Own2 households can be measured based on the

[20] Some earlier years of the American Housing Survey (AHS) also identify whether families own additional real estate besides their primary home. In addition, all years of the AHS indicate whether the family receives rental income. Those variables are being used by Howe (2002) in his Ph.D. dissertation.

[21] As shown in Exhibit 3-3, data from the Current Population Survey indicates that homeownership rates rose by 1.4 percentage points over this period.

value of their primary residence. Thus, using Own2 households one can separately estimate the determinants of the two different types of housing demand. In addition, the "traditional" housing demand function – equivalent to the demand function estimated in a multitude of housing demand studies in the literature – can be estimated based on the primary home of all owner-occupiers (Own1 + Own2 households). Findings from Ioannides and Rosenthal (1994) indicate that the consumption demand and the traditional demand functions are quite similar. This suggests that the value of the principal residence of owner-occupiers is determined primarily by their consumption demand for housing. That, in turn, implies that the very large number of housing demand studies based on the primary residence of owner-occupiers provide considerable information on housing consumption demand as opposed to investment demand. Moreover, in comparing the two demand functions, Ioannides and Rosenthal (1994) find that investment demand is more sensitive to wealth and income than is consumption demand, while consumption demand is more sensitive to demographic variables and proximity to urban suburbs.[22] These last findings have particular implications for use of the model to explain gaps in homeownership rates as will become apparent below.

2.3.3 Determinants of Demand for Homeownership and Homeownership Gaps

Can the models above be used to explain several well-known stylized facts regarding gaps in homeownership rates? The answer is yes. Consider for example, the following differences in homeownership rates that have been emphasized in recent research and policy discussions.

(i) Low-income family (household income in the first quartile) homeownership rates were 32 percentage points below those of families with higher incomes in 1998 (Rosenthal (2002)).

(ii) Black homeownership rates were 25.7 percentage points lower than those of white households in 4th quarter 2001 (Source: HUD User Tables).[23]

(iii) Married household without children homeownership rates were 19.9 percentage points higher than single-person headed households in the 4th quarter of 2001. (Source: HUD User Tables)[24]

(iv) Age 65 and older household homeownership rates were 80.7 percent in the 4th quarter of 2001, a rate that some have characterized as surprisingly high. (Source: HUD User Tables)[25]

(v) Age 25 to 30 and age 30 to 35 household homeownership rates were 40.8 and 55.0 percent, respectively, in the 4th quarter of 2001, far below those of older families. (Source: HUD User Tables)[26]

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[22] This differs from Arrondel and Lefebvre (2001) who find little difference in the determinants of the housing investment and consumption demand functions for France.

[23] Source: http://www.huduser.org/periodicals/ushmc/winter2001/histdat29.htm.

[24] Source: http://www.huduser.org/periodicals/ushmc/winter2001/histdat30.htm.

[25] Source: http://www.huduser.org/periodicals/ushmc/winter2001/histdat27.htm.

[26] Source: http://www.huduser.org/periodicals/ushmc/winter2001/histdat27.htm.

Focus first on low-income families. Because the tax advantages of homeownership increase with the marginal income tax rate, the cost of owner-occupying a home is higher for low-income families, *ceteris paribus.* Accordingly, the user cost model predicts that low-income families should be less likely to own their homes. In addition, both housing consumption and investment demand increase with income, the former because housing services are a normal good and the later because higher-income families are more willing to take on risky assets. Recall, also, that investment demand is more sensitive to wealth and income than is consumption demand (Ioannides and Rosenthal (1994)). It follows, therefore, that investment demand likely is initially below consumption demand but rises at a faster rate with increases in income, exceeding the former at some point. Accordingly, the investment-consumption demand model also predicts that lower-income families should be less likely to own their homes.[27]

African-American families are known to have markedly lower income. For reasons just noted, we should therefore expect that blacks will be less likely to be owner-occupiers. In addition, blacks are known to have less job security. Although that difference does not have a ready place in the user cost model, reduced job security likely reduces a family's willingness to invest in risky assets, and as a result, reduces investment demand for housing. That in turn, further reduces the likelihood that blacks would want to become homeowners.[28]

Married households are less mobile than single-headed households (Quigley (1987)). Lower mobility implies that the transactions costs of owning a home can be spread out over a longer period. In the user cost framework, lower mobility thus reduces the per annum relative cost of owning compared to renting, increasing the likelihood that married households own their homes. Similarly, lower per annum transactions costs increase the rate of return on investing in owner-occupied housing, which in turn increases investment demand in Exhibit 2-6. Accordingly, the investment-consumption model also predicts that due to their lower mobility rates, married families should have higher homeownership rates.[29]

Elderly households have been occasionally described as having "surprisingly" high homeownership rates (see, for example, Venti and Wise (1990) and Megbolugbe, Sa-Aadu, and Shilling (1997)). That perception may reflect awareness that elderly families have lower marginal income tax rates and, as a result, benefit less from the favorable tax treatment of homeownership. In addition, elderly households likely have a shorter investment horizon and rely more heavily on various sources of

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[27] Moreover, in the context of the investment-consumption model, if income were the *only* determinant of homeownership, low-income families would likely *all* prefer to rent, and their homeownership rate would be zero. In practice, of course, many other factors affect demand for housing, which accounts for the positive homeownership rates among low-income households.

[28] Similarly, African Americans are known to be less wealthy. Wealth, however, typically has no role in user cost models of homeownership. On the other hand, since wealth likely increases both investment and consumption demand for real estate, it seems likely that among low-wealth families consumption demand exceeds investment demand. Accordingly, the investment-consumption model predicts that low-wealth families are less likely to own their homes.

[29] Household mobility likely has a much larger effect on investment demand for owner-occupied housing relative to other real estate since moving implies significant transactions costs primarily for the principal residence. That difference is not directly captured by the model.

unearned income, both of which would tend to reduce the willingness to invest in a risky asset such as real estate. These characteristics would be expected to reduce homeownership rates among elderly families, *ceteris paribus*. On the other hand, elderly families have smaller family sizes, which reduces their consumption demand for housing. Hence, it appears likely that both investment and consumption demand for real estate may be lower for elderly families than for younger households. If the decline in consumption demand more than offsets the decline in investment demand (so that investment demand still exceeds consumption demand), this could account for the relatively high rates of homeownership among older households.[30]

Finally, younger households are known to have lower income, less job security, less wealth, and they are more mobile. For all of the reasons discussed above, the various features of both the user cost and the investment-consumption demand models suggest that younger families should be less likely to want to own their primary homes.

The remainder of this section systematically reviews in more detail the manner in which various determinants of the demand for homeownership contribute to homeownership gaps as implied by the models discussed in the previous sections. As will become apparent, in some instances demand factors have natural roles in both the user cost and investment-consumption models, while in other cases they affect only the investment-consumption model.

Household Mobility and Transaction Costs

As emphasized above, differences in household mobility and related transaction costs of buying and selling real estate could be an important factor in the analysis of gaps in homeownership rates between various racial, ethnic, and income groups. This is because an important determinant of the expected annualized cost of homeownership is the planned length of stay in a dwelling. Haurin and Gill (2002) show the dramatic influence of planned mobility on the annualized transaction cost of owning. Using as a baseline an eight percent mortgage and four year planned length of stay, they demonstrate that a household holding the same mortgage but staying only one year would generate a user cost of owning equivalent to a four year stay and a 21 percent mortgage interest rate. Additional detail is listed in their table, reproduced in Exhibit 2-8 below. They conclude that households with high expected mobility rates will be much less likely to select to own a home.[31]

What impacts do differential mobility rates have on the gap in ownership rates comparing racial, ethnic, and income groups? There are no published studies of the differences in transaction costs of

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[30] It is also true that, in fact, the elderly do not move to smaller housing units as often as would be expected. In part this may be attributable to the high transaction costs of moving. In addition, elderly households may have a strong preference for their existing home because of emotional attachments to this property and the surrounding neighborhood.

[31] Care is needed in interpreting the data because of the possibility of reverse causality; that is, tenure choice influences mobility rates (Boehm 1981). This occurs because once a household becomes an owner-occupier, relocation typically involves selling the home. To avoid this cost, a household may decide to stay even if the quantity of housing is nonoptimal, while a renter would move. Alternatively, a household might decide to improve the property if its housing demand rises or let the property depreciate if its demand falls. In all of these cases ownership encourages a longer duration of stay. In addition, Genesove and Mayer (2001) show that tenure can influence mobility rates because owners in a down market often delay selling in order to avoid nominal losses.

owner-occupiers by race-ethnicity and income. However, mobility rates do differ by race, ethnicity, and income and thus influence annualized transaction costs. Consider, for example, the patterns displayed in Exhibit 2-9 from Haurin and Gill (2002). That exhibit describes the percentage of households that moved in the one-year period between 1998 and 1999, breaking out these measures by income category and age.

Exhibit 2-8
Length of Stay and Mortgage Interest Equivalent Cost

Planned Length of Stay (Years)	Mortgage Interest Equivalent (Rates)	Planned Length of Stay (Years)	Mortgage Interest Equivalent (Rates)
0.5	39.1%	4.0	8.0%
1.0	21.3%	5.0	7.1%
1.5	15.4%	7.0	6.1%
2.0	12.5%	10.0	5.3%
2.5	10.7%	15.0	4.8%
3.0	9.5%	20.0	4.5%
3.5	8.6%		

Source: Haurin and Gill (2002).

Exhibit 2-9
Percent of Households Moving Between 1998 and 1999

By Income		By Age	
Less than $5,000	26%	20 to 24 years	33%
$5,000 to $9,999	18	25 to 29 years	32
$10,000 to $14,999	18	30 to 44 years	17
$15,000 to $24,999	18	45 to 64 years	8
$25,000 to $34,999	17	65 to 74 years	5
$35,000 to $49,999	15	75 to 84 years	4
$50,000 to $69,999	14	85 years and over	4
$70,000 and over	11		

Source: Haurin and Gill (2002).

Observe also that the percent of households between ages 25 and 60 that moved in the last five years is listed in Exhibit 2-10. These values are derived from the 1990 IPUMS 1 percent sample and are weighted using the household weights in order to be representative of the United States in 1990. Both exhibits report actual mobility, not the planned length of stay, but it is clear that mobility is greater for the young and for low-income households. Thus, the investment return on owner-occupied housing is lower for low-income households and young adults, implying lower homeownership rates.

Exhibit 2-10
Percentage of Households Between Ages 25 to 60 that Moved in the Last Five Years

	Percent of Households that Moved in the Last 5 Years
Tenure Status	
Own	45.3%
Rent	78.1
Age	
25-30	87.9
30-40	66.6
40-60	35.9
Total Family Income	
1st Quartile	63.8
2nd Quartile	59.6
3rd and 4th Quartiles	49.6

Source: Authors' tabulations of IPUMS 1990 1-percent sample of the decennial census.

The one-year mobility rates from Haurin and Gill (2002) by race and ethnicity are listed in Exhibit 2-11 for 1999-2000.

Exhibit 2-11
Percent of Households Moving Between 1999 and 2000

Race	Percent Moving
White (non-Hispanic)	14.4%
Black	19.1
Hispanic	21.0
Asian	20.4

Source: Haurin and Gill (2002).

However, the five-year mobility data from the weighted 1990 PUMS in Exhibit 2-12 show a somewhat different pattern. In both cases, the mobility rate for white households is the lowest (or nearly so), and that for Asians and Hispanics is higher. The rate for black households is high relative to white households for one-year mobility rates, but it is nearly identical to that for white families for five-year rates.

Exhibit 2-12
Percent of Households Moving Between 1985 and 1990

Race	Percent Moving
White (non-Hispanic)	54.9%
Black	54.3
Hispanic	64.1
Asian	73.6

Source: Authors' tabulations of IPUMS 1990 1-percent sample of the decennial census.

This difference in mobility rates for blacks could reflect the difference in sample years or could arise from the difference in focus, 1-year versus 5-year mobility rates.

Using the 1990 IPUMS we also estimated a simple linear probability (ordinary least squares) regression in which five-year mobility rates are regressed on a household's race, ethnicity, age, and income quartile. As above, the data were weighted to ensure that the results are representative of U.S. households in 1990. Results are listed below in Exhibit 2-13 where separate regressions are reported for owner-occupiers and renters. The estimates confirm that young families are the most mobile and that mobility is greater for Asian households.[32] However, after controlling for age and income, it is clear that black households are less mobile than comparable white families, both for renters and for owner-occupiers. In addition, note that low-income renters are relatively mobile, but low-income owners are less mobile. This difference may reflect that low-income owners include elderly homeowners who are likely very immobile.

Exhibit 2-13
OLS Regressions of Whether Family Moved In the Last Five Years[a]

	Renters		Owners	
	Coefficient	**t statistic**	**Coefficient**	**t statistic**
Black	-0.1141	-40.04	-0.0660	-22.32
Asian	0.0537	9.27	0.1714	25.83
Hispanic	-0.0180	-4.95	0.0195	4.60
Age 25-30	0.2770	113.96	0.5602	274.3
Age 30-40	0.1758	66.05	0.3144	172.6
Total Family Income in 1st Quartile	0.0338	13.06	-0.0231	-10.16
Total Family Income in 2nd Quartile	0.0153	5.49	-0.0170	-9.92
Constant	0.6367	232.4	0.2898	239.7
Number of Observations		156,491		338,218
R^2		0.0916		0.1741
Root Mean Squared Error		0.3942		0.4524

Source: Authors' estimates based on IPUMS 1990 1-percent sample of the decennial census.

[a] Omitted race category is white. Omitted age category is age 40 through 59. Omitted income category is the upper half of the family income distribution.

Summarizing, we know that the annualized transactions cost of buying and selling a home are far higher for mobile families than for more stationary households. Those differences must contribute to differences in the rate of return on investing in homeownership. For that reason, for many mobile families homeownership may be a risky investment at best, and homeownership rates among such families would be expected to be correspondingly low. Such effects could potentially explain part of the gap in homeownership rates across racial, ethnic, and income groups. The above evidence that low-income renter households are relatively mobile is compelling in that regard. The above evidence

[32] We do not account for the sample selection bias that likely occurs due to estimating separate regressions for owners and renters since expected mobility affects the tenure choice.

regarding the influence of race and ethnicity on mobility is less clear. After controlling for income and age Asians are more mobile than whites, both among renters and among owner-occupiers. This implies lower Asian homeownership rates. Among Hispanics the evidence above is mixed, with lower mobility rates among renters and higher rates among owner-occupiers after controlling for age and income. Finally, blacks are less mobile than whites after controlling for income and age for both renters and owner-occupiers – implying *higher* homeownership rates. This finding suggests that other factors in addition to mobility likely play an important role in determining white-black gaps in homeownership rates. More generally, the influence of mobility on homeownership rates and gaps is something that warrants further study.

House Price Levels

House price levels may also influence homeownership gaps but the causality is often misunderstood. The user cost model, for example, emphasizes that homeownership decisions are sensitive to the relative cost of owning to renting, not to house price levels per se. In that regard, it is important to recognize that regional and even local differences in the quality-adjusted price of housing do not necessarily contribute to regional differences in homeownership rates. The reason is because house rents (quality adjusted) could vary across locations in a manner comparable to house prices, leaving the relative cost of owning to renting unchanged.[33]

On the other hand, basic theory suggests that with efficient asset markets, house prices reflect the discounted stream of rents net of maintenance costs, tax considerations, and adjustments for expected capital gains. In that regard, *current* rents are determined by the supply and demand for housing in the current period, but house prices are sensitive to both current and expected future demand and supply. In the short run, excess supply or demand for housing can certainly arise in different degrees in different localities. Although markets presumably adjust to such pressures given sufficient time, in the short run, the relative cost of owning to renting could vary substantially across regions in any given year. Nevertheless, there is little evidence in the literature to suggest whether such effects contribute to systematic differences in the demand for homeownership and homeownership gaps.[34]

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[33] For example, theoretical work by Bailey (1959) suggests that supply and demand forces combine with prejudice by whites against minorities to result in an equilibrium solution whereby minority households pay less than whites for the same quality housing. The exception is households living at the black-white border who pay the same for housing. Bailey's theory is based on the assumption that black-white borders are flexible over time. Others theorized that borders between racial and ethnic groups are fixed, leading to a housing submarket approach and the conclusion that minorities could pay either more or less for the same quality housing depending on the supply and demand conditions in both submarkets. Empirical results are mixed, some studies find constant-quality house prices are greater the higher is the percentage of households in the neighborhood that are white (King and Mieszkowski 1973), some find the opposite (Schnare 1976), while some find it depends on the particular city (Kiel and Zabel 1996). On balance, there appears to be little consensus about whether minorities pay more or less for similar quality housing relative to white households. Moreover, in all of these studies findings do not necessarily have implications for differential homeownership rates for white and black households since Bailey's model applies both to house price levels and rents.

[34] On the other hand, higher house price levels may increase the degree to which downpayment constraints restrict access to owner-occupied housing. That possibility is considered in Section 2.4 where supply constraints are discussed.

House-Price Appreciation and Capital Gains

Both the user cost and investment-consumption models discussed earlier suggest that expected house-price appreciation and capital gains should influence the likelihood of homeownership. From the user cost perspective, higher expected appreciation reduces the relative cost of owning to renting given the more favorable tax treatment of capital gains enjoyed by owner-occupiers relative to landlords. From the investment-consumption perspective, higher expected capital gains increase the investment demand for real estate without directly affecting consumption demand: this also increases the propensity for homeownership. To the extent that expectations of house-price appreciation differ across locations and groups – for example between white and non-white households – this would certainly contribute to differences in the demand for homeownership and gaps in homeownership rates. Nevertheless, although the empirical literature about house-price appreciation is relatively well developed, few articles specifically focus on racial and ethnic differences in appreciation rates.

The limited attention to racial and ethnic differences in house-price appreciation presumably reflects implicit assumptions that house-price appreciation rates are similar for white and non-white households. But in a discriminatory environment this may not be the case. Suppose, for example, that in-movement of minority families contributes to "white flight" from the local neighborhood because of discriminatory attitudes. Under these conditions, the arrival of minority households would reduce demand for housing in the neighborhood resulting in a decline in property values, *ceteris paribus*. In this manner, minority households could be exposed to persistent and systematically lower house-price appreciation by virtue of their presence in a neighborhood.

McCarthy, Van Zandt, and Rohe (2001) report nominal house-price appreciation of 40 percent among suburban houses and 35 percent among central city houses between 1987 and 1997. OFHEO's repeat sales price index approximately doubled between 1975 and 1985, and doubled again by 2000 (Office of Policy Development and Research 2001). However, there are substantial variations in the growth rates of house prices across space. The data in Exhibit 2-14 show the ratio of constant-quality house prices in 2001 to 1975 by census division.

Exhibit 2-14
The Ratio of Constant-Quality House Prices in 2001 Relative to 1975 By Division

East North Central	4.0
East South Central	3.3
Middle Atlantic	4.6
Mountain	4.5
New England	6.0
Pacific	7.0
South Atlantic	3.6
West North Central	3.6
West South Central	3.0

Pollakowski, Stegman, and Rohe (1991), Babcock (1989), and Kiel and Carson (1990) find that low- and high-value homes have similar appreciation rates, with both higher than mid-valued houses. Li and Rosenblatt (1997) argue that appreciation rates are likely to vary if the housing market is

segmented, as may be true comparing housing in predominately white areas with other areas. Smith and Tesarek (1991), Delaney, Seward, and Smith (1992), Mayer (1993), and Smith and Ho (1996) find that property appreciation rates depend on the local economic climate. Smith and Tesarek find high value homes appreciate faster during periods of growth and depreciate faster during recession. Delaney, Seward, and Smith also find that high-price homes appreciate faster during booms, but appreciation rates are otherwise similar. Mayer argues that high-price homes appreciate faster on average, but they also are more volatile. Smith and Ho (1996) find that lower-price houses are more likely to appreciate as interest rates fall and income and employment rise. Belsky and Duda (2000) study the period 1982-1998 and find that low-priced homes in Boston, Chicago, Denver, and Philadelphia had higher appreciation rates than middle- or high-priced homes. In summary, there appears to be no consensus in the above studies about whether house prices rise at the same rate for all homeowners. Also, these articles do not focus on differences in house-price appreciation experienced by racial and ethnic groups.

There are only a few studies that focus on racial and ethnic differences in house-price appreciation. Coates and Vanderhoff (1993) find that the appreciation rates are similar for white and black households, controlling for MSA level variables such as population and real income growth rates. They use AHS data for 1974 to 1983, but they measure house-price appreciation only in two and three year periods because of data limitations. Their measure of house prices is the owner's estimate. While the bias in the level of house price is known (Goodman and Ittner 1992), biases in owner's estimates of house-price appreciation are not known. Also, their house prices are derived from categorical variables likely resulting in measurement error of short run appreciation rates. Kiel and Zabel (1996) also use AHS observations in three cities from 1975 to 1991 to study neighborhood level house-price appreciation. Comparing appreciation rates of black and white households, they find the results for Chicago, Philadelphia, and Denver differ greatly.

Kim (2000) studies Milwaukee and uses 36,000 observations of property prices to measure house-price appreciation for 111 neighborhoods. Kim uses the standard hedonic house price model to estimate appreciation rates from 1971 through 1993, including house characteristics and a series of year of sale dummy variables as independent variables. Indicators of neighborhood quality are omitted, thus the year of sale variables pick up changes in house prices resulting from changes in neighborhood characteristics such as school quality as well as "pure" appreciation. Kim found wide variation in the annual appreciation rates among neighborhoods ranging from -0.82 percent to 8.75 percent. The study then tests whether annual appreciation rates are related to the change in a neighborhood's median income, percent minority households, crime, and population. Kim finds a non-linear relationship between percent minority and house-price appreciation, and in general, the greater is a neighborhood's minority population, the lower is its annual appreciation. The range is from 5.7 percent in an all white neighborhood (holding constant other factors at their mean values) to 1.5 percent in an all minority neighborhood. Kim also finds that annual house-price appreciation in the poorest neighborhood was 2.6 percentage points less than in the richest neighborhood. There is no breakout of the minority household category among blacks, Hispanics, and others.

Both of Kim's major findings are relevant for our review. If minority and low-income households' homes appreciate at lower rates than other groups' homes, then their return on housing is relatively lower and their incentive to invest in owner-occupied homes is lower. This finding would suggest that at least part of the gap in homeownership is explained by a rational investment decision. The primary drawback of Kim's study is that it is specific to one metro area and the findings cannot be

generalized to the national population. What is missing from the literature is an analysis of a national sample of house price changes at the neighborhood level for a multi-decade period. This analysis is needed to determine whether differing appreciation rates contribute to differing investment returns for owner-occupied housing by income or race-ethnicity. The current empirical literature suggests that black, Hispanic, and white households in particular cities should expect different rates of house-price appreciation, but the expectations are likely city and time-period specific.

Risk

Although risk is typically ignored in user cost studies of homeownership, it has a clear and compelling role in the investment-consumption model. To be specific, investment demand for housing is sensitive to risk associated with house-price fluctuations and this can certainly contribute both to differences in the demand for homeownership across groups and to homeownership gaps. Meyer and Wieand (1996) and Brueckner (1997), for example, both present theoretical models that show that high equity homeowners are exposed to more risk because their portfolio is not diversified. Flavin and Yamashita (2000) report that the ratio of housing equity to other wealth is greatest for young households. For homeowning households age 18 to 30 in 1989, the ratio of house value to net worth was 3.5; thus, the exposure to risk from variations in house prices was substantial. Because young renters have less wealth than young homeowners, their exposure to house price risk would be even greater if they owned. Flavin and Yamashita (2000) use the PSID to calculate the real after-tax return to owner-occupied housing and they find that between 1968 and 1992, the mean return to homeowning was 6.6 percent compared with a mean return to stocks of 8.4 percent. However, the variance of the return to housing was less than half as large as the variance of return to stocks. Thus, while housing is a good investment and should be a significant part of many households' portfolios, low-wealth households are exposed to substantial risk if they own, tempering their investment demand for housing.

Yao and Zhang (2001) develop a model of tax-advantaged ownership and they allow households to choose between renting and owning. In their model, ownership requires a downpayment and houses are costly to sell. Household income, stock market, and housing returns are stochastic. Yao and Zhang's results confirm those of other studies in that they too find that young households seek to become owners because of the tax advantage and that the overall exposure to risk of these owners is higher than that of a comparable renter. In contrast to other studies, they argue that because the returns to stocks and housing have a low correlation, that households will gain a diversification benefit if they hold both housing equity and stocks, thus increasing the overall share of risky assets in their portfolio. They do not separately consider minority or low-income households in their analysis.

Belsky and Duda (2000) find the standard deviation of appreciation rates for low-priced homes is about 2.5 times greater than for high-priced homes in a study of four cities. They also find that a substantial number of households sell at a loss during the first eight years of owner-occupation, once transaction costs are included in the calculation. In a one-year period, the percentage of households selling for a nominal loss ranged from 6 percent in Chicago to 22 percent in Boston. This behavior occurs in spite of the option that a household has to not sell, thus avoiding a nominal loss. Belsky and Duda's study suggests that low-price homes may be a particularly risky investment. This finding is relevant for our review because low-priced homes are the likely entry to the housing market by low-income and minority households.

Davidoff (2002), as part of his Ph.D. dissertation work, uses a mean-variance model to explore differences in homeownership rates between different employment categories. He starts by developing a theoretical framework in which systematic co-variation between the returns to labor and the returns to housing increase the financial risk to which a household is exposed. This risk should make it less likely for someone whose labor earnings vary pro-cyclically with the housing market to own his or her home. For example, real estate agents exhibit variation in income that moves pro-cyclically with house prices. Empirical evidence developed by Davidoff using Survey of Consumer Finances data confirms the theoretical results. In the context of Exhibit 2-6, this implies that individuals whose earnings vary pro-cyclically with real estate values will have downward-shifted housing investment demand functions and, therefore, will be more likely to rent.

Sinai and Souleles (2001) study a related phenomenon that yields the opposite outcome. They suggest that owner-occupied housing provides implicit insurance against housing rent appreciation. Thus, in cities prone to bursts of housing rent appreciation – such as large cities with land supply constraints – a benefit of owner-occupied housing is the protection one gains against such effects. Sinai and Souleles (2001) find evidence to support the idea that cities subject to historically higher levels of housing rent volatility have higher homeownership rates. In addition, they provide compelling evidence that these factors are especially salient for elderly households based primarily on the following broad characterization of their work.

Sinai and Souleles divide households into those that live in cities subject to historically high rates of housing rent volatility and those that live in cities with lower rates of rent volatility. Among families under roughly age 40 there is no evidence of differences in homeownership rates in the two groups. However, beginning at about age 38, families living in high-volatility cities become increasingly likely to own relative to the low-volatility group, with the difference peaking at about 5 percentage points at age 68. Thereafter, differences diminish and disappear altogether by age 80. In the context of Exhibit 2-6, rent risk could be viewed as reducing the relative risk of homeownership in a portfolio context. As such, rent risk shifts upward the household's investment demand function and increases homeownership.

In summary, investing in housing is not without risks. There is limited evidence that the variance of house-price appreciation is greater for low-valued houses, which are most likely occupied by relatively low-income and minority households. Also, low-income and minority households have low-wealth and thus are more sensitive to downturns in house prices. These observations suggest there is greater risk in investing in housing for these households; however, the empirical evidence is not conclusive. Greater risk for minorities provides a reason why their investment demand for housing could be relatively low and it may explain part of the gap in homeownership. More generally, the work by Davidoff (2002) and Sinai and Souleles (2001) underscores that the risk associated with homeownership differs across families and that such differences may help to explain gaps in homeownership rates.

Depreciation and Home Maintenance

The rate of return to investments in housing depends on the depreciation rate of the dwelling. Clapp and Giaccotto (1998) argue that properties depreciate with increased age for two reasons: obsolescence of the components of the structure and increased amounts of maintenance needed to keep property quality constant. An example of obsolescence is electrical wiring becoming insufficient to carry the load imposed by modern households. While the actual rate of wear on

structural items such as the roof may be constant, replacement is lumpy and new homes tend to require less maintenance. In theory, obsolescence should increase at an increasing rate with property age, implying a rising rate of depreciation with property age. This principle also underlies the literature on urban redevelopment (e.g., Helsley and Rosenthal (1993), Wheaton (1982)).

There have been many studies of home maintenance but most compare the maintenance rate of owner-occupied units to rental units (Gatzlaff, Green, and Ling 1998). One exception is Heywood (1997) who uses data from the English House Condition Survey and finds that low-income owner-occupiers maintain their homes less well than do high-income owner-occupiers. Emrath (1995, 1997) uses American Housing Survey data to show that maintenance expenses per square foot of housing and as a percentage of house value rise with house age. The rates are shown in Exhibit 2-15 below.

Exhibit 2-15
Maintenance and Repair Costs of Houses by Year Built

	Year Built				
Type of Cost	**Before 1960**	**1960-69**	**1970-79**	**1980-89**	**1990-95**
Routine Maintenance and Repairs per Sq. Ft.	$0.25	$0.26	$0.24	$0.23	$0.14
Routine Maintenance, Repairs, and Replacement per Sq. Ft.	$0.33	$0.35	$0.33	$0.28	$0.15
Routine Maintenance, Repairs, and Major Replacement per Sq. Ft.[1]	$0.52	$0.52	$0.48	$0.35	$0.19
Routine Maintenance and Repairs as Percent of House Value	0.62%	0.48%	0.47%	0.39%	0.21%
Routine Maintenance, Repairs, and Replacement as Percent of House Value	0.82%	0.66%	0.65%	0.49%	0.22%
Routine Maintenance, Repairs, and Major Replacement as Percent of House Value [1]	1.25%	1.09%	0.98%	0.61%	0.26%

Source: Emrath (1995, 1997).
[1]The data for this row are through only 1991.

The first three rows report maintenance costs per square foot, the next three report maintenance costs as a percentage of house value. Routine maintenance and repair costs per square foot rise with age, but the largest effect occurs soon after the home is built. If replacement costs are included, the rate of increase is more than double the cost for houses that were over 35 years old compared with recently built homes. Finally, adding in major replacements such as siding or a new roof further increases the strength of the positive relationship between house age and maintenance costs. Since older homes tend to have lower values, these differences are magnified if maintenance costs are expressed as a percentage of house value.

If black and Hispanic households tend to reside in older housing, depreciation rates of their properties will be greater. The question is whether the higher rate of depreciation affects the investment demand for the property. If the depreciation rate is known to be higher, then this attribute will be capitalized in the market price, and the net-of-maintenance rate of return will not be affected. However, households with an aversion to do-it-yourself home maintenance will either rent or choose a newer

dwelling. While this aversion to home maintenance is likely distributed throughout the population, it is probably higher than average among households with single-parent heads. The reason is that single parents have less time available for home maintenance activities. As noted previously, black households in particular have a high rate of single-parent families, perhaps contributing to a lower desire for owning older dwellings.

It is reasonable to speculate that there is a greater chance of significant and costly repairs for older homes. While these repairs are expected to occur in the future, their actual incidence is unknown until the event happens. Many types of major repairs require immediate attention (water or natural gas line breaks, failure of a furnace in winter). In addition, major repairs require either access to credit or to wealth. The mortgage market is introducing new programs to lessen the required downpayment and thus lessen the minimal household wealth needed to purchase a home. However, a household also considers the need for wealth to maintain a home. In particular, a low-wealth household is likely to be averse to owning an asset where there is a nontrivial chance of a catastrophic repair event. Instead, a low-wealth household may rationally decide to rent if its choice of properties is primarily composed of older and highly depreciated or deteriorated homes. This decision could contribute to part of the explanation for the ownership gap between black, Hispanic, and white households.

Taxation

The tax treatment of housing has been thoroughly discussed in the literature and was also discussed earlier in this chapter. In this section, we highlight selective aspects of the tax code that are most relevant to the discussion of homeownership gaps.

As noted earlier, owner-occupied housing is tax-advantaged in the U.S. (Rosen 1979, 1983). The imputed rent (market value of renting the dwelling) of owner-occupiers is not taxable income and mortgage interest and property tax payments are deductible if a household chooses to itemize deductions on its Federal taxes. It is also well known that the households gaining the greatest tax advantage are the ones with the highest tax rates, and thus highest income. Moreover, the tax advantages of homeownership are far greater among households that itemize as this allows such families to benefit from deductions for mortgage interest and property tax payments (Hendershott and Slemrod 1983). But Follain and Ling (1991) show that many homeowners choose not to itemize but instead take the standard deduction. In addition, because the propensity to itemize increases with the size of the mortgage and property tax payment, low-income households seeking lesser-valued housing are more likely to take the standard deduction in comparison to higher-income families. Thus, the tax code increases the investment return to owner-occupied housing for high-income households relative to low-income families.[35]

Compounding this issue, Follain and Ling (1991) show that the 1986 U.S. Tax Act substantially increased the standard deduction. Given that black and Hispanic households have lower incomes than white households, the increase in the standard deduction is likely to have reduced itemization among black and Hispanic households more so than among white families. Accordingly, changes in the tax

[35] Bourassa and Grigsby (2000) summarize recent views regarding the impact of the mortgage interest deduction on homeownership.

code could have contributed to a widening of the gap in homeownership following 1986 even in the absence of a change in household endowments.[36]

Another aspect of the tax code that affects the investment return to housing is the treatment of housing capital gains. Prior to 1997, capital gains on housing were taxed at the standard capital gains tax rate with two exceptions: a one-time exemption of $125,000 for households at least age 55 and a rollover (tax deferral) provision if another dwelling was purchased within a two-year window following sale of the previous home. Thus, capital gains taxes on owner-occupied housing were easily avoided by continuously purchasing a higher priced home. The result was a rule of thumb: "once a homeowner, always a homeowner." In 1995, only five percent of all sellers reported a capital gain on owner-occupied housing to the IRS, thus tax avoidance behavior was significant.[37]

In 1997, the U.S. tax law changed, eliminating the rollover provision, but enacting a capital gains exemption of $500,000 for married couples, renewable if the household lived in the property for two of the prior five years. In theory, we should now see more changes from owning to renting if owning was previously selected in order to avoid capital gains taxation. Although the impact is likely to be negligible in size, the change in law could impact white households more so than minorities, reducing the size of the gap.

In summary, the tax code substantially increases the investment return on homeownership among families in higher marginal income tax brackets, especially for families that choose to itemize. Because blacks, Hispanics, and other minorities have lower incomes than white households, this reduces the investment appeal of homeownership among minorities relative to whites. A similar situation exists when comparing young to middle-aged households, since young households have less income. These effects contribute to observed differences in homeownership rates across race, ethnicity, and income groups. In addition, these issues help to explain why homeownership studies – especially ones that do not directly control for the influence of the tax code – find that household income is a very important predictor of homeownership status and related gaps in homeownership rates.

Non-financial Returns

Households may also choose to invest in homeownership because of non-financial returns to investing in the primary home. These investment returns could influence the likelihood of homeownership and as a result, influence the size of homeownership gaps comparing income, racial, or ethnic groups. Recent research suggests that one such spillover benefit may be to the children of owner-occupiers, although this research is not without controversy. We also discuss the evidence supporting the argument that homeownership results in better health of the residents.

Green and White (1997) note that homeowners possess a financial interest in their property values and in those of their neighborhood. Hence they are more willing than renters to monitor the socially

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[36] As noted in a number of studies about homeownership gaps that are discussed later in this review, black households tend to use the conventional mortgage market less so than whites: there is more use of "rent to own" and seller financing. Thus, although we know of no studies that quantify this claim, it is possible that that the amount of formal mortgage interest paid by black households is lower than whites, ceteris paribus. The implication is that their tax advantage is lower, explaining part of the gap in ownership.

[37] See Hoyt and Rosenthal (1990, 1992) for further discussion of these effects.

deviant behavior of their children. Haurin, Parcel, and Haurin (2002a) argue that homeowners are more willing than renters to invest in their home environment and thus create a better environment for rearing their children. Haurin, Parcel, and Haurin (2002b) also argue that the linkage between homeownership and positive child cognitive and social outcomes could be tied to physical investments in home: for example, if homeowners are more likely than landlords to invest in lead-based paint abatement. If less likely to be addressed in rental housing, these factors may have negative effects on children's cognitive development and their behaviors.[38]

Green and White (1997) use data from the Panel Study of Income Dynamics and find that homeownership exerts a direct influence on reducing the likelihood of teenage pregnancy and completing high school, and they find the effect is largest for low-income families. Aaronson (2000) uses the same data to study the graduation rate of youths. He argues that some of the beneficial effect of ownership may be due to their greater residential stability and he finds that high mobility damages a child's probability of graduating from high school but that homeownership retains a positive impact. Haurin, Parcel, and Haurin (2002b) use data from the National Longitudinal Survey of Youth and find, even when many household characteristics are held constant, that math and reading scores are higher for children of homeowners and child behavior problems are lower. They also find the effects are similar for black and white homeowners.

Boehm and Schlottmann (1999) find a large positive effect of homeownership on the educational outcomes of homeowners' children. They also find that the children of homeowners have higher future incomes and are more likely to become homeowners themselves, controlling for many household characteristics. This study suggests an interesting hypothesis that there is intergenerational transmission of information about the benefits of homeownership and information about how to navigate the real estate brokerage and mortgage markets. It hints that there may be inertia in the homeownership gaps between whites and minorities. Also, it suggests that policies that close the gap may have long-term positive effects because of the intergenerational transmission of the tendency to own a home. However, further study is clearly needed.

The relationship between housing tenure status and the residents' physical health has been studied frequently, but the existing empirical studies are, in general, poorly done. The theoretical linkages between homeowning and health could occur as a result of homeowners better maintaining their properties, including minimizing the negative impact of poor quality water, lead-based paints, or structural hazards. Many of the empirical studies use British samples (Fogelman, Fox, and Power 1989; Lewis et al. 1998), but the controls for other household characteristics are poor. Uniformly, they find that homeowners tend to be healthier, both physically and psychologically. Macintyre et al. (1998) uses Scottish data to find a significant positive correlation between good physical health and homeownership, controlling for income. There are no studies of racial and ethnic differences in the impact of homeownership on the occupants' health.

A general caveat pertinent to all of the studies discussed in this sub-section concerns identification. Homeownership is more difficult to attain than rental housing, requiring the accumulation of savings for downpayment, navigation of mortgage finance options, and a host of related responsibilities that

[38] Also, renters in high-rise dwellings are known to be more likely to exhibit signs of stress and social isolation, holding constant other household characteristics.

do not arise with rental housing. Families with a particular set of characteristics, such as an unobserved tendency to invest, will be more capable of overcoming these hurdles. This suggests that a deep-seated endogenous relationship may confound efforts to identify whether homeownership creates non-financial benefits for the individual homeowners. To be precise, the possibility remains that homeowners may exhibit better health, enhanced child school performance and the like, because these selective families not only attain homeownership but also do well in other dimensions of life.

Authors of the studies noted above are cognizant of this issue and have attempted to deal with it in a variety of ways. Nevertheless, at one level, the question of whether homeownership creates non-financial benefits for homeowners remains an open question. On the other hand, to the extent that some families seek out homeownership even when the financial gains are likely to be limited (as with very mobile families), a revealed preference argument suggests the opposite. In this case, presumably families choose homeownership because homeownership enters directly into the household welfare function, enhancing the lives of owner-occupants through a variety of mechanisms including but not limited to those outlined above.

Consumption Demand for Housing

As noted earlier, Ioannides and Rosenthal (1994) found that the consumption demand function estimated using only Own2 households was very similar to a "traditional" housing demand function based on the value of the primary residence and estimated using all owner-occupiers. This suggests that the many housing demand studies in the literature that have estimated housing demand using the primary residence of *all* owner-occupiers approximate the consumption demand for housing. Provided one is comfortable with this approximation, there is a wealth of empirical evidence on the determinants of the consumption demand for housing.

Bearing this approximation in mind, both Rosen (1985) and Olsen (1988) have excellent reviews on housing demand in which estimates from many studies of the price and income elasticities of consumption demand for housing are presented. Drawing on studies prior to 1985, Rosen (1985) suggests that the price elasticity is likely about 0.95 while the income elasticity is close to 0.7. More recent studies have reported price and income elasticities below those cited by Rosen. On balance, there appears to be widespread evidence for at least two important "stylized facts." First, that consumption demand for housing is both price inelastic and income inelastic, and second, that housing demand is more responsive to price than to changes in income.

These stylized "facts" have important implications for possible gaps in homeownership rates by income, race and ethnicity, and age of the household. Inelastic housing demand implies that the family's preferred share of their budget spent on housing – from a consumption perspective – decreases with income. But there is little reason to expect that investment demand for housing would be similarly income and price inelastic. Thus, as suggested earlier, it is likely that consumption demand declines relative to investment demand with an increase in income. Since minorities and younger families are of lower income, the Investment-Consumption model discussed earlier in conjunction with evidence on the nature of the consumption demand for housing predict gaps in the homeownership rates.

2.4 Supply Factors

In contrast to the issues discussed in the previous sections, both the user cost and investment-consumption models appear less suitable for analyzing the influence of possible spatial mismatch between the location of prospective homeowners and housing stock that has appeal to homeowners, or of the influence of mortgage finance constraints. The reason that these factors are not well accounted for by the models in Section 2.3 is that they are primarily sensitive to supply-side characteristics of various markets, such as the supply of credit and the supply of different types of existing housing in different neighborhoods. In contrast, the conceptual framework laid out thus far has focused primarily on demand side factors. Accordingly, we now turn our attention to supply side issues that affect access to homeownership and gaps in homeownership rates.

2.4.1 Availability of "Suitable" Housing Stock for Homeownership

In 1975, Kain and Quigley suggested that by concentrating blacks in inner-city neighborhoods, residential segregation constrained the type of housing stock available to African-American households and thus might serve to limit homeownership among inner-city minorities. This idea rests on the implicit and quite realistic premise that different neighborhoods are filled with different types of housing stock. Thus, restrictions on the type of neighborhoods available to minorities is in large measure equivalent to restrictions on the type of housing stock available to minority households.

In part, Kain and Quigley motivated the idea of supply constraints by drawing an analogy to the then recently developed notion of an employment spatial mismatch in which suburbanization of manufacturing jobs coupled with suburban housing market discrimination reduces employment opportunities for black households. In the context of homeownership, Kain and Quigley argued that single-family detached housing stock is more conducive to homeownership. Thus, if discrimination restricts access to single-family suburban neighborhoods, blacks will disproportionately locate in central cities. Because central city areas have higher levels of multifamily housing relative to the suburbs, restrictions on access to suburban neighborhoods limits homeownership rates among minorities. Kain and Quigley provide support for this idea by demonstrating that differences between African-American and white homeownership rates are higher in metropolitan areas in which the central cities have a lower share of single-family housing stock. They also show that the share of black households living in the suburbs further reduces white-black gaps in homeownership rates, although this effect appears to not be as strong as the influence of the availability of central city single-family housing stock.

Both the original work by Kain and Quigley (1975) and more recent work by Herbert (1997) focus on a potentially provocative but also relatively little studied idea: constraints on access to the supply of different types of housing (e.g., single-family versus multifamily) might contribute to reduced minority homeownership rates. The purpose of this section is to review the conceptual foundation for these ideas and to provide some descriptive statistics that shed light on these issues. The outline of our approach is as follows. First, we will review well-established arguments for why low-income families would be expected to concentrate in the central cities regardless of race or ethnicity. Next, we recognize that central cities exhibit higher land prices and as a result, a greater frequency of high-density residential and non-residential buildings. Discrimination and the historically low-income status of minorities together ensure that minority households will be segregated in central city locations, reducing proximity to single-family housing. The question then arises as to why this would

necessarily reduce minority homeownership rates. Although it is beyond the scope of this study to answer that question, we speculate about some possible answers in the discussion to follow.

Stratification of Households by Income

A well-established principle in urban theory concerns the tradeoff between proximity to employment and house price. In the simplest economic model, all employment is located in the central city and residential locations differ only in their distance to the downtown. Assuming that households dislike long commutes, with competitive markets house prices fall to compensate for longer commutes and a spatial equilibrium is attained. In practice, this implies that the price per unit of housing is lower in the suburbs.[39] As has been demonstrated for many years in various texts on urban economics (e.g., O'Sullivan (2000)), the rate at which quality adjusted house prices decline with reduced proximity to employment centers is driven by the cost of commuting relative to housing demand.

Absent further consideration, it is tempting to assume that high-income families would live in the central cities and low-income families in the suburbs where the unit price of housing is reduced. In practice, of course, we know that the opposite is the norm in the U.S. The model just described provides one explanation for this seeming puzzle. As incomes increase, if housing demand rises more quickly than commuting costs, high-income families will outbid low-income families for suburban sites suitable for larger homes with larger lots. Such homes would be prohibitively expensive in many downtown locations, even for the wealthy. On the other hand, grouping lower-income families together in multifamily structures, developers of high-density low-income housing can outbid high-income families for central city sites, even though such sites are close to the dominant employment center. In so doing, of course, the implicit consumption of land per family in the multifamily dwelling is reduced.

Glaeser and Kahn (2001) recently reexamined the idea that tradeoffs between commuting costs and housing demand lead to stratification of high- and low-income families into predominantly suburban and central-city locations. Using the American Housing Survey they present evidence that the income elasticity of demand for lot size is actually quite low. Unless the income elasticity of commuting costs is similarly low, they argue that some other phenomena must account for the concentration of low-income families in the central cities. Upon further investigation, they argue that low-income families concentrate in the central cities at least in part to take advantage of public transportation essential for families with limited access to automobiles. Glaeser and Kahn (2001) also present evidence that central city services for the poor are more generous than services provided by suburban communities.

Both sets of arguments above – the traditional commute-housing demand hypothesis and more recent arguments related to the importance of central city services – share an important feature. Low-income families choose to live in the central city of their own accord. That premise is markedly different from suggestions that housing market discrimination accounts for at least an important share of the minority population that concentrates in the downtown. Recent studies continue to find evidence of differences in access to suburban neighborhoods. For example, evidence suggests that minority households face discrimination in the housing search process (Turner et al. 2002b). In

[39] More generally, employment can occur anywhere in the metropolitan area, but the principle still holds that with competitive markets land prices adjust to compensate for differential proximity to employment centers.

addition, there is some evidence that white and minority home-seekers differ in their likelihood of using realtor services (Farley (1996), Newburger (1995), and Turner and Wienk (1993). Given the low-income status of many urban minorities, in practice, it seems virtually certain that all three explanations help account for the continued concentration of low-income minority households in the central cities.

Central Cities, Multifamily Housing, and Homeownership Rates

The idea that differences in housing demand, commuting costs, central city services, and discrimination all contribute to spatial concentration of low-income minority households in the central cities is not controversial. In addition, the idea that central city developers subject to higher land prices would favor high-rise and multifamily buildings over lower density development is also not controversial: as land rents increase, profit maximizing developers in competitive markets would naturally substitute capital for land. It is this substitution that gives us city skylines dominated by tall buildings.

Less clear, however, is whether the concentration of minority households in the central cities restricts minority homeownership rates. The "supply constraint" hypothesis posited by Kain and Quigley (1975) and Herbert (1997) argues that reduced minority access to single family detached housing lowers minority homeownership rates because homeownership and single-family housing are complements. On the other hand, given the low-income status of many minorities, it is entirely possible that central city minority households disproportionately rent because they prefer to do so. This is certainly implied by the tenure choice model outlined earlier in this chapter: low-income households are more risk averse, housing is a risky asset, and low-income families may therefore sensibly prefer not to own.

Distinguishing between whether the supply of single-family housing stock available to minority households constrains minority home purchase, or whether low-income central city minorities simply prefer to rent is a difficult question and goes beyond what we can do in this report. However, some summary measures from the 1999 American Housing Survey are suggestive that these issues warrant further examination.

Exhibits 2-16 through 2-23 present summary measures based on unweighted data from the 1999 American Housing Survey.[40] There are two exhibits for each of three broad income groups: greater than $60,000 (Exhibits 2-16 and 2-17), $30,000 to $60,000 (Exhibits 2-18 and 2-19), and less than $30,000 (Exhibits 2-20 and 2-21). In addition, there are two exhibits for all income groups combined (Exhibits 2-22 and 2-23). For each income classification, the first exhibit reports the percentage distribution of where individuals live by race and ethnicity, location, and housing type. The second exhibit reports homeownership rates for each of these groups. In all of these exhibits, locations are separated into three categories: central city, urban suburb of metropolitan areas, and rural portions of metropolitan areas and non-metropolitan areas. Structure types are divided into single-family detached, single-family attached, multifamily, and mobile homes.

Several striking patterns are apparent in the exhibits. First, in Exhibit 2-22, as is well known, minorities are disproportionately concentrated in the central cities. Second, in Exhibit 2-23, as is also

[40] The results are almost identical if the data are weighted, with only minor differences in the homeownership rates among minority occupants of mobile homes.

well known, homeownership rates among minorities are considerably lower than for white households. These broad characterizations are largely present even after controlling for differences in income in Exhibits 2-16 through 2-21.

Much less well known, however, are the racial and ethnic patterns in homeownership rates after controlling for location, structure type, and income. Note that among high-income families (Exhibits 2-16 and 2-17), there is almost no difference in homeownership rates by race and ethnicity among single-family detached dwellers regardless of location. Nevertheless, the *overall* homeownership rate for high-income white households is nearly ten percentage points higher than for black and other minority high-income households. That difference is clearly driven by differences in the propensity to live in single-family detached housing, and more generally, to live in neighborhoods in which single-family detached housing is found.

Among middle-income families (Exhibits 2-18 and 2-19), racial and ethnic differences in homeownership are also quite modest after controlling for structure type and location, though not as small as for higher-income households. Among low-income families there are substantial racial and ethnic differences in homeownership rates across the board regardless of location and housing type.

Differences in Homeownership by Race, Location, and Building Type

The patterns above suggest that the factors contributing to racial and ethnic gaps in homeownership rates differ substantially for middle- and upper-income households versus low-income families. Among families who might be "expected" to own homes – middle and higher-income families – racial and ethnic differences in homeownership rates appear to be largely driven primarily by the location and, more precisely, the neighborhood chosen by the household. This is especially true when one considers that most neighborhoods are filled with a single type of housing, single-family detached, single-family attached, or multifamily units. For middle- and upper-income families, therefore, the question of why racial and ethnic gaps in homeownership rates exist is largely equivalent to asking why higher-income minorities are more likely to locate in multifamily central city housing.

Among low-income families, location and the type of structures in the neighborhood also have a role to play. However, for these families, it is clear (in Exhibits 2-20 and 2-21) that even after holding constant location and structure type, large racial and ethnic disparities in homeownership rates remain. For these families, a more complicated process may lie behind the racial and ethnic disparities in homeownership rates.

What could be driving the patterns observed in these exhibits? Especially for middle- and high-income households, segregation may be a factor. As argued above, powerful economic forces ensure that low-income families will be disproportionately concentrated in the central cities while higher-income families will concentrate in the suburbs. Overlay on this pattern a history of racial and ethnic discrimination in the housing market. Then one would expect that higher-income minorities would disproportionately live in central cities in close proximity to lower-income families. Alba et al. (2002), for example, report that " … middle-income suburban blacks live with many more whites than do poor inner-city blacks. But their neighborhoods are not the same as those of whites with the same socioeconomic characteristics … middle class blacks tend to live with neighbors who are less affluent than they are …"

Suppose now that lower-income inner-city neighborhoods are more subject to crime and other social ills. Such neighborhoods would likely be viewed as riskier places in which to invest in owner-occupied housing. Unless such risks were offset by sufficiently high expected returns, we would expect higher-income residents of such neighborhoods to exhibit lower homeownership rates than families of comparably high income in middle- and upper-income neighborhoods. Thus, neighborhoods accessible to middle and higher-income inner-city minorities might be higher risk environments in which to invest in homeownership relative to neighborhoods available to white families of similar income. Returning to the tenure choice model earlier in this report, everything else equal, increased risk pushes down the housing investment demand function and reduces the likelihood that families would choose to become homeowners.

A related possible issue is the process governing the organization of units within a multifamily building into a condominium arrangement. Suppose, for example, that there are administrative costs associated with the organization of multifamily buildings into condominiums. Consider also the role of within building neighborhood externalities and suppose that crime and noisy behavior is more prevalent in lower-income buildings than in higher-income buildings. Then owners of low-income rental units may prefer to own entire buildings rather than just single units. This would give property owners the ability to evict noisy or dangerous tenants. In contrast, in a multifamily condominium arrangement, owners of individual units would have less ability to police disruptive behavior within the building. This might lower demand for the site and reduce the return to property owners because of lower rents. But if crime and noise were less prevalent among occupants of middle- and higher-income multifamily buildings, then one would expect such buildings to be organized into condominiums at a higher rate.

Evaluating the viability of this argument is difficult because lower-income families are less likely to desire to own their homes for reasons discussed earlier in this chapter. However, the summary measures in Exhibits 2-17 and 2-21 still shed some light on this issue. Suppose the homeownership rate for single-family detached structures reflects the underlying tendency of a given income group to become homeowners in the absence of administrative costs associated with within building externalities. Consider now the difference in homeownership rates between occupants of single-family detached and multifamily housing. In Exhibit 2-17, for high-income households that difference is 63.2 percentage points (.954 - .322). In Exhibit 2-21, for low-income families that difference is 73.3 percentage points (.818 - .085), ten percentage points higher. These patterns are suggestive that the administrative costs of organizing low-income multifamily buildings into condominiums may be larger than for high-income buildings. To our knowledge, this issue has never been carefully researched but warrants further attention.

Exhibit 2-16
1999 Population Distribution for Families with Household Income Above $60,000
By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 13,155)

Location	Percent Of U.S. Population				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total[a]**
Single family detached	.1510	.2676	.1923	.2402	.1659
Single family attached	.0183	.0633	.0332	.0214	.0219
Multifamily	.0477	.1254	.1136	.0868	.0587
Mobile Home	.0012	.0000	.0000	.0012	.0011
Sub-Total for Location	.2182	.4564	.3392	.3500	.2476
MSA Urban suburb					
Single family detached	.5402	.3716	.4703	.4685	.5210
Single family attached	.0377	.0418	.0577	.0333	.0383
Multifamily	.0413	.0621	.1154	.0951	.0498
Mobile Home	.0076	.0060	.0000	.0071	.0071
Sub-Total for Location	.6268	.4815	.6434	.6040	.6164
Non-MSA and MSA-rural					
Single family detached	.1422	.0526	.0140	.0416	.1242
Single family attached	.0025	.0036	.0017	.0000	.0024
Multifamily	.0036	.0012	.0000	.0012	.0031
Mobile Home	.0068	.0048	.0017	.0036	.0062
Sub-Total for Location	.1551	.0621	.0175	.0464	.1360
All Locations					
Single family detached	.8334	.6918	.6766	.7503	.8113
Single family attached	.0584	.1087	.0927	.0547	.0626
Multifamily	.0926	.1888	.2290	.1831	.1117
Mobile Home	.0156	.0108	.0017	.0119	.0144
Total for All Locations	1.000	1.000	1.000	1.000	1.000
Percent of Population	.8195	.0636	.0435	.0639	1.000

[a] Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason

Exhibit 2-17
1999 Homeownership Rates for Families with Household Income Above $60,000
By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 13,155)

Location	Homeownership Rate				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total[a]**
Single family detached	.9379	.9241	.9454	.9158	.9345
Single family attached	.7716	.6792	.7368	.7222	.7500
Multifamily	.3716	.2667	.3231	.1918	.3329
Mobile Home	1.000	--	--	1.000	1.000
Average for Location	.8006	.7094	.7165	.7245	.7759
MSA Urban suburb					
Single family detached	.9646	.9421	.9554	.9137	.9599
Single family attached	.7709	.6571	.6969	.7143	.7544
Multifamily	.3348	.2308	.2424	.2375	.3049
Mobile Home	.9512	1.000	--	.8333	.9362
Average for Location	.9114	.8263	.8043	.7953	.8938
Non-MSA and MSA-rural					
Single family detached	.9583	.9318	.8750	.9429	.9547
Single family attached	.7407	.3333	1.000	--	.7097
Multifamily	.4103	.0000	--	.0000	.3902
Mobile Home	.9041	1.000	1.000	1.000	.9146
Average for Location	.9396	.8846	.9000	.9231	.9357
All Locations					
Single family detached	.9587	.9343	.9509	.9160	.9539
Single family attached	.7698	.6593	.7170	.7174	.7512
Multifamily	.3567	.2532	.2824	.2143	.3220
Mobile Home	.9345	1.000	1.000	.9000	.9316
Average for all Locations	.8916	.7766	.7762	.7765	.8703

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

Exhibit 2-18
1999 Population Distribution for Families with Household Income $30,000 to $60,000 By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 14,389)

Location	Percent of U.S. Population				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total**[a]
Single family detached	.1297	.2707	.1771	.2295	.1560
Single family attached	.0246	.0789	.0423	.0344	.0328
Multifamily	.0851	.2072	.2374	.2077	.1168
Mobile Home	.0029	.0020	.0060	.0014	.0028
Sub-Total for Location	.2423	.5588	.4628	.4730	.3077
MSA Urban suburb					
Single family detached	.3537	.2005	.2616	.2681	.3246
Single family attached	.0426	.0381	.0684	.0463	.0432
Multifamily	.0935	.1003	.1811	.1270	.1006
Mobile Home	.0287	.0074	.0060	.0204	.0247
Sub-Total for Location	.5185	.3463	.5171	.4618	.4930
Non-MSA and MSA-rural					
Single family detached	.1919	.0695	.0161	.0526	.1588
Single family attached	.0044	.0027	.0000	.0014	.0037
Multifamily	.0177	.0067	.0020	.0042	.0149
Mobile Home	.0253	.0160	.0020	.0070	.0219
Sub-Total for Location	.2393	.0949	.0201	.0653	.1993
All Locations					
Single family detached	.6753	.5408	.4547	.5501	.6393
Single family attached	.0715	.1197	.1107	.0821	.0791
Multifamily	.1963	.3142	.4205	.3389	.2323
Mobile Home	.0569	.0254	.0141	.0288	.0493
Total for all Locations	1.000	1.000	1.000	1.000	1.000
Percent of Population	.7493	.1040	.0345	.0990	1.000

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

Exhibit 2-19
1999 Homeownership Rates for Families with Household Income $30,000 to $60,000 By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 14,389)

Location	Homeownership Rate				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total[a]**
Single family detached	.8491	.8049	.7614	.7798	.8262
Single family attached	.5321	.6017	.6190	.2245	.5184
Multifamily	.1612	.1032	.1356	.1216	.1405
Mobile Home	.9355	1.000	.6667	1.000	.9250
Average for Location	.5762	.5167	.4261	.4510	.5347
MSA Urban suburb					
Single family detached	.9098	.8700	.8000	.7958	.8938
Single family attached	.5991	.4737	.4706	.3788	.5539
Multifamily	.1925	.1400	.0778	.0994	.1671
Mobile Home	.8803	.9091	.3333	.7931	.8704
Average for Location	.7533	.6158	.4981	.5623	.7145
Non-MSA and MSA-rural					
Single family detached	.8966	.8558	.8750	.7867	.8871
Single family attached	.4255	.0000	--	.0000	.3773
Multifamily	.1780	.0000	.0000	.0000	.1628
Mobile Home	.8791	.9167	1.000	.6000	.8730
Average for Location	.8329	.7817	.8000	.6989	.8218
All Locations					
Single family detached	.8944	.8356	.7876	.7883	.8756
Single family attached	.5654	.5475	.5273	.3077	.5312
Multifamily	.1776	.1128	.1100	.1118	.1535
Mobile Home	.8825	.9211	.5714	.7561	.8746
Average for all Locations	.7295	.5762	.4708	.5186	.6806

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

Exhibit 2-20
1999 Population Distribution for Families with Household Income Below $30,000
By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 18,222)

Location	Percent of U.S. Population				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total**[a]
Single family detached	.1054	.2106	.1080	.1395	.1284
Single family attached	.0246	.0901	.0620	.0601	.0421
Multifamily	.1234	.3063	.3880	.3323	.1898
Mobile Home	.0047	.0019	.0020	.0067	.0046
Sub-Total for Location	.2582	.6089	.5600	.5386	.3648
MSA Urban suburb					
Single family detached	.2553	.0976	.1660	.1561	.2106
Single family attached	.0323	.0313	.0640	.0417	.0342
Multifamily	.1154	.0967	.1760	.1498	.1183
Mobile Home	.0414	.0075	.0040	.0247	.0320
Sub-Total for Location	.4445	.2331	.4100	.3722	.3952
Non-MSA and MSA-rural					
Single family detached	.1984	.0885	.0160	.0511	.1558
Single family attached	.0076	.0075	.0000	.0027	.0067
Multifamily	.0480	.0313	.0140	.0184	.0408
Mobile Home	.0433	.0307	.0000	.0170	.0367
Sub-Total for Location	.2973	.1580	.0300	.0892	.2400
All Locations					
Single family detached	.5591	.3967	.2900	.3466	.4948
Single family attached	.0645	.1289	.1260	.1045	.0830
Multifamily	.2869	.4343	.5780	.5004	.3489
Mobile Home	.0895	.0400	.0060	.0484	.0733
Total for all Locations	1.000	1.000	1.000	1.000	1.000
Percent of Population	.6594	.1754	.0274	.1224	1.000

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

Exhibit 2-21
1999 Homeownership Rates for Families with Household Income Below $30,000
By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 18,222)

Location	Homeownership Rate				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total[a]**
Single family detached	.8278	.6672	.6296	.6109	.7443
Single family attached	.4899	.3403	.2581	.2090	.3703
Multifamily	.0944	.0521	.0670	.0472	.0694
Mobile Home	.7895	.1667	1.000	.5333	.6905
Average for Location	.4442	.3078	.2000	.2173	.3494
MSA Urban suburb					
Single family detached	.8924	.7179	.7229	.6667	.8533
Single family attached	.5000	.2100	.3125	.1290	.3868
Multifamily	.1665	.0388	.0682	.0359	.1215
Mobile Home	.8514	.7917	1.000	.6363	.8305
Average for Location	.6716	.3705	.3805	.3506	.5920
Non-MSA and MSA-rural					
Single family detached	.8565	.7279	.7500	.7456	.8327
Single family attached	.3956	.0833	--	.0000	.3115
Multifamily	.0589	.0000	.0000	.0488	.0497
Mobile Home	.8019	.8061	--	.7895	.7964
Average for Location	.7080	.5683	.4000	.5879	.6794
All Locations					
Single family detached	.8675	.6932	.6897	.6559	.8185
Single family attached	.4839	.2937	.2857	.1717	.3724
Multifamily	.1175	.0454	.0657	.0439	.0848
Mobile Home	.8242	.7734	1.000	.6759	.8046
Average for all Locations	.6237	.3636	.2800	.3000	.5245

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

Exhibit 2-22
1999 Population Distribution for All Families
By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 45,766)

Location	Percent Of U.S. Population				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total**[a]
Single family detached	.1278	.2355	.1606	.1868	.1478
Single family attached	.0226	.0830	.0452	.0447	.0332
Multifamily	.0868	.2521	.2403	.2469	.1291
Mobile Home	.0030	.0061	.0025	.0040	.0030
Sub-Total for Location	.2402	.5722	.4487	.4824	.3132
MSA Urban suburb					
Single family detached	.3784	.1669	.3072	.2500	.3357
Single family attached	.0373	.0347	.0631	.0416	.0382
Multifamily	.0846	.0924	.1555	.1323	.0931
Mobile Home	.0265	.0072	.0032	.0200	.0226
Sub-Total for Location	.5268	.3013	.5290	.4440	.4895
Non-MSA and MSA-rural					
Single family detached	.1783	.0780	.0153	.0498	.1477
Single family attached	.0049	.0056	.0006	.0178	.0045
Multifamily	.0240	.0200	.0051	.0107	.0219
Mobile Home	.0258	.0228	.0013	.0113	.0233
Sub-Total for Location	.2330	.1264	.0223	.0736	.1937
All Locations					
Single family detached	.6845	.4804	.4831	.4867	.6312
Single family attached	.0648	.1233	.1090	.0881	.0759
Multifamily	.1954	.3646	.4009	.3899	.2441
Mobile Home	.0553	.0317	.0070	.0353	.0489
Sub-Total for Location	1.000	1.000	1.000	1.000	1.000
Percent of Population	.7337	.1208	.0342	.0982	1.000

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

Exhibit 2-23
1999 Homeownership Rates for All Families
By Structure Type, Location and Race
(All values are based on un-weighted AHS data. Sample Size 45,766)

Location	Homeownership Rate				
MSA Central City	**White**	**Black**	**Asian**	**Hispanic**	**Total**[a]
Single family detached	.8765	.7542	.8135	.7500	.8328
Single family attached	.5778	.4466	.4930	.2587	.4875
Multifamily	.1643	.0796	.1326	.0766	.1240
Mobile Home	.8614	.4444	.7500	.6111	.7899
Average for Location	.5909	.4115	.4162	.3587	.5036
MSA Urban suburb					
Single family detached	.9307	.8429	.8734	.7972	.9132
Single family attached	.6241	.3698	.4949	.3048	.5523
Multifamily	.2021	.0881	.1189	.0824	.1653
Mobile Home	.8706	.8500	.6000	.7000	.8538
Average for Location	.7890	.5570	.6048	.5336	.7400
Non-MSA and MSA-rural					
Single family detached	.8964	.7796	.8333	.7902	.8806
Single family attached	.4606	.0968	1.000	.0000	.3883
Multifamily	.1041	.0000	.0000	.0417	.0880
Mobile Home	.8349	.8333	1.000	.7647	.8282
Average for Location	.7987	.6352	.6571	.6586	.7754
All Locations					
Single family detached	.9117	.7892	.8522	.7783	.8867
Single family attached	.5956	.4091	.4971	.2753	.5143
Multifamily	.1733	.0774	.1256	.0776	.1365
Mobile Home	.8534	.8171	.7273	.7107	.8376
Average for all Locations	.7437	.4836	.5214	.4584	.6730

[a]Total column reflects the combined influences of white, black, Asian, Hispanic, and Other race. Other race is a small fraction of the population and is not tabled out for that reason.

2.4.2 Mortgage Finance Constraints

Credit Barriers and Fair Lending Initiatives

In most transactions familiar to consumers, price is the single factor used by sellers to determine who can obtain their product: if a consumer is willing to pay the price, the item is purchased. This is a fundamental tenet upon which market economies are based. But in competitive loan markets, even if a consumer is willing to borrow at market interest rates, lenders may refuse to issue a loan if the borrower does not satisfy other "non-rate" terms of the loan contract such as downpayment and payment-to-income standards. The application of non-rate terms in loan markets has the potential to restrict access to owner-occupied housing even among individuals willing to borrow at market rates. To the extent that such constraints affect different groups of people to different degrees, credit barriers may contribute to homeownership gaps.

The use of non-rate terms in credit markets has been the subject of a number of theoretical studies (e.g., Jaffee and Russell (1976), Stiglitz and Weiss (1981), and Williamson (1986)). But as recently as the late 1980s, whether or not non-rate terms affected household behavior – such as the decision to own a home – was a source of debate. Riley (1987), for example, argued that lenders would likely offer higher interest rates to loan applicants posing greater default risk, and that such rate sorting would mitigate the extent to which non-rate terms in the loan contract restrict access to credit. Riley based his argument, in part, on the redlining model of Stiglitz and Weiss (1981), in which a market equilibrium with credit rationing and multiple loan rates can arise if lenders are able to group loan applicants on the basis of observable differences in credit risk. Although Riley's arguments may well apply to much of the commercial and industrial loan market, an increasing number of studies have found evidence that non-rate terms in the loan contract create barriers that reduce access to mortgage credit for some families and, in so doing, reduce homeownership rates.[41]

On the surface, it is natural to wonder why lenders would not simply set higher interest rates rather than turn customers away. But Stiglitz and Weiss (1981) clarify that three things happen when lenders set higher interest rates: one of which is good for lenders, but the other two are potentially costly. First, higher interest rates clearly increase the rate of return on a loan *provided* that the borrower pays the loan back in a timely manner. But with higher interest rates, borrowers with a strong predisposition to make timely loan payments will likely drop out of the pool of prospective loan applicants as they become concerned about their ability to pay the loan back. Borrowers more comfortable with the possibility of making late loan payments or even defaulting will remain. This adverse selection reduces the quality of the pool of prospective loan applicants. But with limited information, it may be difficult or even impossible for lenders to distinguish "good" from "bad" loan applicants.

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[41] Flavin (1981), Hall and Mishkin (1982), Hayashi (1985), Wilcox (1989), and Zeldes (1989), for example, find evidence that some implications of the life-cycle hypothesis that current consumption ought to reflect expected life-time income are violated for subsets of the population that are believed to face binding borrowing constraints. Similarly, Cox and Jappelli (1993), Perraudin and Sorenson (1992), and Duca and Rosenthal (1993, 1994a) find that non-rate terms in the loan contract affect both the level of debt held by households and housing tenure status for an important subset of the population. A number of studies have also characterized the extent to which the investment behavior of small firms differs from that of large firms (e.g., Calomiris and Hubbard (1990) and Fazzari, Hubbard, and Petersen (1988)).

In addition, with higher loan rates, higher expected capital gains must be earned to justify homeownership from an investment perspective. But asset market theory and related empirical studies provide compelling evidence that higher expected returns are accompanied by increased price volatility and risk. As a result, with high loan rates loan applicants have an incentive to invest in riskier housing knowing that their potential losses are truncated by their option to default. In this regard, higher interest rates contribute to borrower behavior that is costly to lenders, a phenomenon that is typically referred to as moral hazard.

Because of adverse selection and moral hazard, it is likely that as loan rates increase, at some point the increased return on loan payments made in a timely manner will be offset by higher overall rates of late payments and default. For these reasons, Stiglitz and Weiss (1981) argue that lenders may set loan rates below market clearing levels and use non-rate terms to ration the supply of credit in the face of excess demand for loanable funds.

But what if lenders have sufficient information to group loan applicants at least partially on the basis of observable differences in credit risk? For example, suppose that lenders are able to distinguish between those loan applicants with a history of problems in paying their credit card bills on time versus those that have a clean credit history. Stiglitz and Weiss (1981) suggest that in this case lenders will charge higher interest rates to the less credit worthy group, in effect, pricing the perceived difference in risk directly through the interest rate. Certainly, this is in keeping with common practice in the market for commercial and industrial loans where "low-risk" borrowers are offered the prime rate but small businesses pay higher rates.

At least for the mortgage market, however, Duca and Rosenthal (1994b) argue that Fair Lending Laws and the threat of costly litigation create strong incentives for a given lender to offer similar loan rates to observationally distinguishable borrowers. This would be especially true in cases where lenders felt that credit risk was correlated with politically sensitive characteristics such as race and ethnicity, sex, and age.[42] Under these conditions, one might expect a sorting equilibrium to emerge in which different lenders specialize in loan applicants of different credit risk. Then, although lenders specializing in a given risk classification would offer similar loan rates to all prospective applicants meeting those lenders' credit standards, the credit market as a whole would offer loan rates that differed across borrowers on the basis of default risk.

But other considerations may preclude such a sorting equilibrium. As an illustration, suppose that non-white loan applicants, on average, pose a higher degree of default risk than white applicants owing to differences in wealth, income, and credit history. If the sorting equilibrium above prevailed, some lenders would offer lower interest rates to a largely white pool of borrowers while other lenders would offer higher interest rates to a disproportionately non-white pool of borrowers. The political and legal obstacles to such differences in the racial and ethnic composition of borrowers across lenders could be large (Rehm (1992a, 1992b)). For example, in response to bad press and community

[42] For example, suppose that racial and ethnic discrimination in labor markets increases the probability that non-whites would be laid off relative to that of comparable white workers. Then lenders might view non-white loan applicants as more risky. Similarly, if young households and immigrants have limited credit histories then lenders would view such loan applicants as more risky than older households with established and favorable credit histories. Nevertheless, it is easy to imagine that lenders would be subject to frequent litigation if they posted higher interest rates for either non-white, immigrant, or younger borrowers.

pressure in the early 1990s, Bank of America, Chemical Bank and NationsBank announced plans to increase lending to non-whites in the midst of gaining approval for mergers with other banks. Moreover, Bank of America's merger was approved by the Federal Reserve Board conditional on meeting lending goals in poor neighborhoods (Thomas (1992), pg. A6).[43]

To analyze how lenders might respond to these conditions, Duca and Rosenthal (1994b) assume that credit risk increases with loan size, *ceteris paribus*, since the lenders' potential losses are larger with larger loans. In addition, suppose that it is relatively difficult for regulators to examine the manner in which lenders vary loan qualification standards across borrowers, particularly in comparison to the manner in which lenders vary loan rates across borrowers. Then lenders are likely to increase the extent to which non-rate terms are used to impose binding loan limits on high-risk borrowers.[44]

Duca and Rosenthal (1994b) provide indirect evidence for these arguments. Using the 1983 Survey of Consumer Finances they find that the only variable that significantly explains variation in the loan rate offered to borrowers is the lender's cost of funds. Demographic, financial, and, most importantly, credit history do not affect the offered loan rate, on average. This finding is consistent with the idea that lenders are reticent to charge different interest rates to loan applicants with observationally different risk attributes. It follows, therefore, that lenders would likely seek alternative ways to implicitly price the perceived differences in risk across loan applicants, such as the imposition of different underwriting standards.

Statistical Discrimination Versus a "Taste" for Discrimination

The discussion above is predicated on the idea that lenders treat observationally distinguishable borrowers differently in order to earn higher expected returns. In that regard, the above discussion satisfies definitions of "statistical" discrimination. Statistical discrimination occurs when lenders treat loan applicants less favorably on the basis of observable demographic attributes such as race and ethnicity or gender in situations where such traits are potential predictors of higher expected rates of late payments and default. As noted by Ladd (1998), in the mortgage and consumer loan market, statistical discrimination is illegal even though the expected return on pools of loans issued to two groups that differ on the basis of race and ethnicity or gender may differ.[45]

A very different form of discrimination arises when lenders have a "taste" for discrimination. In this instance, lenders forgo profit-making opportunities in order to avoid doing business with a particular group of individuals, for example, minority loan applicants. This form of discrimination is also certainly illegal and has also been the subject of study. Becker (1971), for example, argued forcefully over 30 years ago that in a competitive market entrepreneurs with a taste for discrimination would be competed out of business. This occurs because individuals that do not harbor discriminatory tastes

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[43] For a discussion of related issues in the subprime mortgage market see Bunce, Gruenstein, Herbert, and Scheessele (2000).

[44] A more complete presentation of the Stiglitz-Weiss model as modified by Duca and Rosenthal (1994b) is presented in Appendix B to this chapter.

[45] In contrast, in the commercial and industrial loan market, different types of prospective borrowers are typically charged different interest rates and such activity is legal provided that the loan rates are determined based on the characteristics of the business and not the individuals per se. For example, General Motors would typically be charged a lower rate than a small business because the likelihood that GM would file for bankruptcy and default is much lower.

are able to earn higher expected rates of return while operating at lower cost relative to discriminatory establishments that forgo profitable transactions.

Evidence for Statistical Discrimination in Mortgage Lending

A large literature has sought to provide empirical evidence on the prevalence of statistical discrimination in mortgage lending. Much of that literature is discussed in detail in a variety of recent review papers (e.g., Ladd (1998), Yinger (1998)), and most thoroughly, in Ross and Yinger (2003). The most prominent approach used by previous studies in this area is to examine the accept-reject decisions on mortgage loan applications as a function of the characteristics of the loan applicants, including race and ethnicity. Munnell et al. (1996) is the most influential and well known of these studies. Using HMDA data augmented with additional information on the attributes of the loan applicants, they found that after controlling for loan applicant characteristics, black mortgage applicants in Boston in the late 1980s were 8 percentage points more likely to have their loan applications rejected relative to comparable white loan applicants.

The Munnell et al. (1996) study has been subject to numerous critiques. In response, the authors made their data available to other researchers and subsequent exhaustive examination confirmed the essential features of their results (see Carr and Megbolugbe (1993) or Ladd (1998), for example). The broad consensus emerging from these efforts is that discrimination has been present in mortgage lending at least through the 1980s and is likely still present today (Yinger (1998)).

A very different approach to examining evidence of discrimination in mortgage lending has been taken by Berkovec et al. (1998). This study found evidence that African-American mortgage default rates were higher than white default rates after controlling for a variety of household attributes. Using Becker-type arguments, the authors argued that this result was consistent with an environment in which lenders apply *less* restrictive credit standards to blacks and more restrictive standards to whites. In addition, the authors also took care to note that omitted variables could potentially account for their results. In fact, a study by Cotterman (2002) that replicates Berkovic et al.'s analysis but incorporates credit score measures finds that the inclusion of this variable generally renders the race effect statistically insignificant. Nevertheless, controversy stemming from the Berkovec et al. (1998) work became sufficiently energetic that an entire issue of the HUD journal *CityScape* (1997) was devoted to comments on the work and responses by Berkovec and his co-authors. At the core of the debate were concerns about how omitted variables possibly would confound interpretation of the outcome from default studies. Ladd (1998) summarizes the central issues in this debate well when she writes…

> "… Working in one direction, the presence of the unobservable factors disproportionately increases the likelihood of blacks defaulting on any approved loan. Working in the other direction, taste-based or profit-motivated discrimination decreases the likelihood of default for blacks because fewer loans are approved to that group."

In other words, omitted factors related to discrimination could serve to either increase or decrease African-American default rates relative to those of comparable white borrowers. For that reason, Ladd (1998) concludes that default studies are hampered by identification problems that are less severe in the context of accept-reject studies of mortgage applications such as Munnell et al. (1996).

However, in a recent follow-up paper, Deng and Gabriel (2002) estimate a competing risk model of mortgage default and mortgage prepayment. Once more they find that African-American default rates are high relative to comparable white borrowers, but they also find strong evidence that African-American refinance rates are low. The interpretation offered by the authors is that banks may well be happy to offer credit to potentially risky black loan applicants given evidence that blacks are much less likely than white borrowers to exercise valuable prepayment options.

Household Wealth and Downpayment Constraints

A household's wealth plays multiple roles when considering the investment demand for housing. Wealth affects consumption demand for shelter (housing) and also the family's willingness to take on financial risk. In addition, wealth is needed to overcome mortgage lender-imposed downpayment constraints arising from equilibrium and discriminatory credit rationing. In this section we discuss the literature on recent trends in downpayments and the relationship of wealth to the required downpayment on owner-occupied housing. This is followed by a discussion of differences in wealth comparing black and white households.

Mortgage lenders have traditionally required the buyer to contribute to the purchase of a home. The purpose of the downpayment is to have the buyer share the risk of price fluctuations, to ensure that buyers have an incentive to maintain the property and to avoid the cost of a foreclosure. Masnick (2001) reports that loan-to-value ratios (LTVs) were relatively low in the early part of the 20th century, typically 50 percent in the late 1920s. In the 1930s, government-backed mortgages were developed and Fannie Mae came into existence. The percentage of house value required for a downpayment began a decline that has continued to the present day. In the 1970s, the standard downpayment was expected to be 20 percent of the purchase price, with selected exceptions. Throughout the 1990s, the minimal required downpayment continued to fall. Freddie Mac introduced the Affordable Gold programs in 1992, consisting of a 5 percent downpayment program and a "3/2" program under which the required downpayment from the borrower's funds is 3 percent with 2 percent in the form of gifts, sweat equity, grants or unsecured loans from government or nonprofit agencies. In the 3/2 program the borrower's income cannot exceed 100 percent of the area's median income. The 5 percent downpayment program is targeted at minority borrowers who are wealth constrained. The 3/2 program is targeted at severely wealth-constrained households. Following the introduction of these programs, Freddie Mac introduced the Affordable Gold 97 program, which further reduced the downpayment to 3 percent. Innovation in this area continues, the apparent goal being to reduce the required downpayment to zero. In 1997 a small program was started, the 103 Combo Loan, that combines a 97 percent loan with a 15-year second mortgage at a 10 percent rate to cover financing costs. Eligibility is restricted to households with income less than 125 percent of the county's median income. In 1998, the Alt 97 program was started, generally similar to Affordable Gold 97, but now extended to manufactured homes and reducing the mortgage insurance cost of the loan. Fannie Mae has a comparable set of low downpayment programs.

These low downpayment loans are a small but growing segment of the market. According to data from the Federal Housing Finance Board, mortgages with loan-to-value ratios of 90 percent or more made up less than 10 percent of the market during the period 1989-1991, but by 2001 this share had climbed to 21 percent. Information on loan purchases by Fannie Mae and Freddie Mac show a similar trend, with the share of loans purchased by these agencies with loan-to-value ratios of 95

percent or more increasing from 2.5 percent in 1997 to 6.5 percent in 2002.[46] The implication of these trends is that the wealth needed to become a homeowner is decreasing over time. This particular barrier to ownership is being lowered, likely impacting the racial and ethnic homeownership gaps. The reason for the impact is that there are substantial differences in household wealth by race and ethnicity as discussed below.

To become a homeowner, wealth is needed at the time of purchase for the closing costs and the amount of the downpayment. Formal models of homeownership that include the downpayment constraint include Artle and Variaya (1978) and Brueckner (1986). The empirical literature about the relationship of household wealth and homeownership presents convincing evidence that the lack of wealth reduces the likelihood of attaining homeownership even if it is rational to make the investment (Linneman and Wachter 1989; Zorn 1989; Haurin, Hendershott, and Wachter 1997). Engelhardt (1994) uses a multi-period model to show that a renting household (or one living with parents or friends) may adjust its behavior to increase wealth accumulation in order to secure the tax advantage of homeownership. Changed household behaviors may include increased savings and labor supply or decreased consumption. Additional behavioral changes are reviewed in Haurin and Dietz (2002).

There is substantial supportive empirical evidence that households change their behaviors while attempting to attain homeownership. Engelhardt (1996) finds that food consumption falls while a household is saving for the downpayment. Yoshikawa and Ohtake (1989) use Japanese data and find that renters in areas with low land prices are more likely to save to become homeowners, but those in high cost areas are more likely to give up trying to become an owner. Engelhardt (1994) finds some evidence that high house prices discourage renters from participating in a Canadian tax-advantaged plan designed to encourage households to save for their downpayments. Haurin, Hendershott, and Wachter (2001) find that as constant-quality house prices rise, renters' savings initially rise, but fall when house prices become very high. The reason for the reversal is that when house prices rise to high levels, renters' expectations of becoming homeowners fall.

The above studies could be relevant for the study of gaps in homeownership between white and minority households. To the extent that minorities tend to disproportionately reside in the largest central cities relative to white households, they are likely to pay a higher price for the same quality housing. This occurs because of the premium associated with proximity to the central business district and because house prices are positively correlated with metro area population. These higher prices make it more difficult to accumulate the needed downpayment and thus discourage renters from becoming homeowners.

In general, the wealth of black and Hispanic households is lower than that for whites. Altonji and Doraszelski (2001) review the extensive literature about wealth differences by race, concluding that this literature argues that income and demographic factors explain some, but far from all, of the observed differences in wealth. They analyze data from the Panel Study of Income Dynamics and find that among white households differences in wealth are fully explained by differences in income and demographic variables. However, among blacks, wealth differences are poorly explained by income and demographic variables, as are differences in wealth *between* white and black households.

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[46] For a thorough discussion of trends in loan to value ratios see HUD's proposed housing goals for the GSEs at 24 CFR Part 81 published in the Federal Register, Volume 69, Number 85 (May 3, 2004).

For these latter comparisons, they test for the possibility that observed differences in wealth are due to intergenerational transfers of wealth, but they reject this hypothesis. This leads them to speculate that differences in savings rates and/or the rate of return on assets must account for observed differences in wealth levels among blacks and between white and black households. A limitation of the Altonji and Doraszelski study is that they include homeowners and their home equity in their sample. Because wealth is itself influenced by homeownership status, this complicates interpretation of their findings. In particular, it is of interest for the purposes of this review to focus on wealth differences among renters, since it is this group that ultimately is the focus of policy concerns regarding gaps in homeownership rates.

Haurin, Hendershott, and Wachter (1996) use data from the National Longitudinal Survey of Youth-1979 and report average wealth levels for young adults ages 20 to 27 in 1985 to 1990 by race and ethnicity. These estimates are displayed in Exhibit 2-24. Because young adults are more likely to be renters, this sample gets closer to the population of primary interest. Generally, black households' wealth is one-third of that of whites while Hispanics' wealth is roughly 50 percent to 75 percent of that for white households.

Exhibit 2-24
Mean Real Wealth of Renters by Race/Ethnicity and Marital Status for 1985-90 (Dollars)

Year	Black-Married	Black-Single	Hispanic-Married	Hispanic-Single	White-Married	White-Single
1985	5,354	1,787	8,732	3,373	16,448	5,880
1986	4,673	2,331	10,708	3,990	16,934	5,595
1987	9,418	3,027	11,763	7,964	22,320	7,510
1988	10,059	2,658	15,562	6,269	25,630	9,563
1989	10,231	2,658	15,596	7,150	30,125	10,354
1990	12,848	2,814	21,189	5,882	34,558	11,881

Source: Haurin, Hendershott, and Wachter (1996) based on the National Longitudinal Survey of Youth-1979.

Similarly, Lusardi, Cossa, and Krupka (2000) use data from the NLSY-1997 and find that 50 percent of black and Hispanic households in the age range of 30-45 report no financial assets, whereas the comparable value for white households is just 25 percent. This adds to the body of evidence that black and Hispanic renters have lower wealth than white households.

Finally, in Exhibit 2-25 we present summary measures of wealth based on the 1998 Survey of Consumer Finances (SCF) data weighted to be representative of the United States. Note that values are provided in 1998 dollars and are reported for three points in the wealth distribution for a given group of households: the 25th percentile, the 50th percentile, and the 75th percentile. Observe also that these measures are reported separately for all households, homeowners, and renters, and for each of these categories, for white, black, Hispanic, other races/ethnicities, and all households combined. In reviewing the measures in Exhibit 2-25 several stark conclusions emerge. Most important, among black and Hispanic renters, the level of wealth at the 50th percentile is just $1,523 and $2,556,

respectively.[47] In contrast, among white renters the 50th percentile level of wealth is $9,908. The extremely low levels of wealth among the bottom half of the black and Hispanic renters underscores the challenges faced by policy makers and business leaders seeking to elevate minority homeownership rates – a very large share of black and Hispanic renters have so little wealth that effectively the only type of mortgage that would permit such families to become homeowners is a zero downpayment loan. Of course, even to the extent that such loans become available, the discussions earlier in this chapter provide a multitude of reasons for why such families might rationally prefer to rent.

Also apparent in the exhibit is that white renters at the 50th percentile have a level of wealth roughly comparable to that of black and Hispanic renters at the 75th percentile – approximately $10,000. Moreover, white renters at the 75th percentile have just under $66,000 in wealth, more than enough for many of these families to seriously contemplate homeownership.

Exhibit 2-25
Net Worth[a] of Homeowners and Renters in 1998 (Dollars)

Panel A: All Households

	White	Black	Hispanic	Other	Total
25th percentile	32,639	230	1,172	7,395	16,615
50th percentile	151,364	11,367	12,294	61,878	116,074
75th percentile	400,846	87,099	87,499	329,812	351,756

Panel B: Homeowners

	White	Black	Hispanic	Other	Total
25th percentile	80,220	41,959	35,455	68,216	73,738
50th percentile	221,521	119,592	92,484	221,804	207,115
75 percentile	489,420	265,096	236,270	483,204	465,683

Panel C: Renters

	White	Black	Hispanic	Other	Total
25th percentile	607	0	0	1,379	47
50th percentile	9,909	1,524	2,556	9,617	5,955
75 percentile	65,932	10,754	8,478	33,127	36,874

Source: Authors' tabulations of the 1998 Survey of Consumer Finance (SCF), weighted to be representative of U.S. population.

[a] Net Worth is defined as in the program in the 1998 SCF codebook titled, "SAS Code to Define Net Worth: One Possible Definition."

[47] Observe also, that among black and Hispanic renters the level of wealth at the 25th percentile is zero. Close inspection of the data found that for both African-American and Hispanic renters, households from roughly the 18th to the 33rd percentiles of the wealth distribution have zero reported wealth. The possibility exists, of course, that this pattern reflects reporting errors in the data – possibly some of the zero wealth households have small assets that they neglected to report (e.g. an old car). Even if this is the case, however, the overriding conclusion from the table that a large share of minority renters have very little wealth appears robust.

Viewing the patterns in Exhibit 2-25 in conjunction with various other factors discussed in this chapter, it is clear that there are clear and compelling factors that contribute to gaps in homeownership rates between white and black households. We will return to these issues in the chapters to follow.

2.5 Chapter Summary

As noted at the outset of this chapter, by the end of 2000, white homeownership rates were just above 70 percent while African-American and Hispanic homeownership rates remained below 50 percent and Asian rates neared 54 percent. At the same time households with very low income had homeownership rates that were 36 percentage points below the rates for high-income households. This chapter has reviewed a variety of conceptual arguments and stylized facts that help us understand what might be driving these and other very substantial gaps in homeownership rates. As a starting point, we showed that by controlling for a variety of household attributes, white-minority racial and ethnic gaps in homeownership rates were reduced from roughly 25 percentage points to 8 percentage points based on data that are representative of the United States in 1998. Why is it that household characteristics other than race and ethnicity play such an important role in determining homeownership, and how should these facts be interpreted?

This chapter offers several answers to this question. First, we emphasize that not all individuals form their own households. But homeownership *rates* are by definition equal to the number of owner-occupying households in the population divided by the total number of households present. Thus, the propensity to form a household could contribute to racial and ethnic (and income related) gaps in homeownership rates, but in a complicated manner. For example, we know that black marital rates are far lower than white marital rates. That difference serves to increase the number of black households relative to white households. But because single-headed households are typically more likely to rent, lower black marriage rates likely have a less than proportionate impact on the number of black homeowning families. Because black marital status likely increases the numerator in the homeownership rate calculation by less than the denominator, the influence of marital status on household formation likely lowers black homeownership rates relative to those of white households. But in contrast, the opposite argument exists with regard to the effect of very high incarceration rates among young black males. These are individuals who would likely rent but are otherwise not counted by Census among households used in calculating homeownership rates. Thus, higher than average incarceration rates of young black males likely has the effect of raising reported black homeownership rates. More generally, our knowledge of the influence of household formation on homeownership gaps is in its infancy and requires further study.

But, once a household is formed, what drives the decision to own versus rent a home? This question has been studied extensively in the literature. As a broad characterization, two conditions must both be met in order for a household to become an owner-occupier. The family must *want* to own their home given their current financial and social status, and the family must be *able* to own a home.

Consider first the demand side. Because housing is a durable asset, demand for homeownership is sensitive to investment considerations and, therefore, is subject to all of the considerations and factors that influence a family's preferred portfolio. In that regard, families sensitive to financial risk such as low-income households are less likely to want to own a home, everything else equal. In addition, the

return on homeownership is especially sensitive to household mobility given the very high transactions costs of selling an owner-occupied home relative to moving from a rental unit. Evidence reported in this chapter suggests that among renters, lower-income families are more mobile. This further implies that lower-income families will be less likely to want to own their homes. Additionally, the Federal tax code provides generous subsidies to homeowners by failing to tax imputed rent and allowing deductions for mortgage interest and property tax payments. But the benefits from such favorable tax treatment accrue disproportionately to higher-income households with higher marginal income tax rates and a greater propensity to itemize. The tax code too, therefore, contributes to higher homeownership rates among high-income households relative to lower-income families. Because minorities are typically of lower income relative to white households, these considerations contribute to racial and ethnic gaps in homeownership rates as well.

On the other hand, credible arguments and evidence in the literature suggests that constraints beyond the control of individual families may restrict access to homeownership for some households. Such "supply" constraints could arise in two different but related markets. First, in the housing market, a small number of studies have suggested that single-family housing is more conducive to homeownership. This could arise because of preferences for such housing among prospective homebuyers – single-family housing and homeownership could be viewed by households as complementary goods. In addition, single-family housing does not typically entail common property issues. In contrast, in a multifamily building management of common space and controls for noise and the like create administrative costs when organizing the units into condos suitable for homeownership. For these reasons, access to single-family housing may foster homeownership. Indeed, evidence presented in this chapter shows that among middle- and higher-income households racial and ethnic gaps in homeownership largely disappear after controlling for central city status and the type of structure in which the family resides (e.g. single family versus multifamily). On the other hand, minorities of all income levels are more likely to live in high density central city housing relative to comparable white households causing minority homeownership rates to lag behind those of the white population. To the extent that discrimination and related segregation in the housing market restricts minority access to single family neighborhoods, then segregation contributes to racial and ethnic gaps in homeownership. By the same token, although the evidence presented in this chapter is suggestive of such effects it is not conclusive and further study of this issue is needed.

Restricted access to mortgage credit is a second explanation for why some families ready to become homeowners remain renters. As discussed earlier in this chapter, lenders may restrict access to credit for reasons that are motivated by considerations that do not directly depend on the loan applicant's race or ethnicity. Instead, the nature of the loan contract exposes lenders to default and late-payment risk. Under certain market conditions, previous studies have shown that lenders may respond by offering credit at below market clearing rates and then using credit scores and the like to ration out loanable funds to the lowest risk borrowers. Because minorities often are of lower income and wealth, and have less secure employment, they may be subject to statistical discrimination in loan markets to the extent that lenders use race and ethnicity as predictors of hard-to-observe risk attributes. Such behavior, of course, is illegal in the mortgage market. Nevertheless, a number of studies have provided evidence of discrimination in mortgage markets, most prominently, a study of the Boston mortgage market in the 1980s conducted by members of the Boston Federal Reserve Bank (Munnell et al, (1996)). Regardless of whether the underlying discriminatory behavior is based on

statistical discrimination or outright bigotry, it undoubtedly serves to reduce minority homeownership rates.

Partly in response to concerns about minority access to mortgage credit, beginning in the early 1990s a variety of very low-downpayment mortgage products became available through conventional lenders. On the surface, these loan products offer the possibility of raising minority homeownership rates and reducing white-minority gaps in homeownership. On a qualitative basis this must be the case. But the degree to which such innovative loan products will affect minority access to homeownership is uncertain. Of particular concern is the very low level of wealth among minority renters. Evidence reported in this chapter indicates that half of black and Hispanic renters in 1998 had close to zero net wealth. For these families, even very low-downpayment mortgages will likely not be sufficient to make homeownership financially feasible. Moreover, such families may rationally prefer to rent rather than subject themselves to the financial risks that go along with homeownership. But, on a more optimistic note, black and Hispanic renters in the top quartile of their wealth distributions have $10,000 or more in net wealth. For these families homeownership may be attainable.

Chapter Three
Homeownership Differences by Race and Income: Size, Trends and Contributing Factors

3.1 Introduction

This chapter presents descriptive information on the magnitude of homeownership differences by race and income and how these differences have varied over time and by key demographic characteristics. While there is a variety of literature touching upon these trends, much of the information presented in this chapter was undertaken specifically for this study in order to provide consistent and comprehensive measures of homeownership trends. There were three principal data sources used in this analysis. The Current Population Survey (CPS) provides annual estimates of homeownership that allow for identification of key turning points in homeownership rates and analysis of the factors associated with these recent trends. We also analyze data from the decennial census to provide insights into longer-run trends in homeownership and to provide more detail on the homeownership experience of immigrants.[48] Finally, the American Housing Survey (AHS) is used to provide information on trends in homeownership across geographic locations and on the characteristics of first-time homebuyers and how this group has changed over time. Unless otherwise noted, the racial groupings used are non-Hispanic whites, non-Hispanic blacks, and non-Hispanic Asians, and Hispanics of any race.

The first section of the chapter examines trends in homeownership by race and income. The second section then shows how several key demographic determinants of housing demand—age, household type, and education—are related to homeownership levels generally, to differences in homeownership by race and income, and how changes in these factors contributed to the rise in homeownership since the early 1990s. The third section then discusses geographic variations in homeownership rates and how differences in the geographic location of households by race and ethnicity contribute to homeownership gaps. The fourth section addresses issues associated with the attainment of homeownership by immigrants, while the fifth section examines the characteristics of first-time buyers and how this group has changed over time. We then summarize available information on household projections and the likely impact of demographic trends on homeownership rates over the next two decades. The chapter concludes with a summary of findings.

[48] Tabulations of the decennial census micro data are based on the Integrated Public Use Microdata Series (IPUMS) developed by Ruggles and Sobek (1997) of the University of Minnesota (see www.ipums.org for complete information on this data series).

3.2 Homeownership by Race and Income

3.2.1 Homeownership by Race

In order to place recent homeownership trends in context, it is helpful first to examine changes in homeownership over a longer time period. Exhibit 3-1 presents homeownership rates by race for ten-year intervals beginning in 1940.[49] Over the two decades following 1940 the nation saw an unprecedented rise in homeownership rates, with the overall homeownership rate rising by more than 18 percentage points, from 43.6 percent to 61.9 percent. All racial groups contributed to this rise as the white homeownership rate rose by 17.7 points (from 45.6 percent to 64.3 percent), the black rate rose by 15.3 points (from 22.8 percent to 38.1 percent), and the Asian rate rose by 27.8 points (from 16.3 percent to 44.1 percent).[50] Homeownership rates generally continued to rise between 1960 and1980, but at a more modest pace. During this period gains among minorities generally outpaced gains among whites. The white rate increased by 4.2 points, while the black rate rose by 7.2 points and the Asian rate rose by 7.9 points.

The 1980s were notable as a period when the post-War boom in homeownership came to an end. Over the decade the overall homeownership rate actually declined by 0.2 points. This overall decline was composed of a small rise in the white homeownership rate of 0.5 points coupled with declines among all minority groups: 1.4 points among blacks, 1.0 points among Hispanics, and 0.1 points among Asians. The gains made in homeownership during the 1990s seemed all the more dramatic against this recent history of stagnating and declining homeownership rates. Between 1990 and 2000 the overall homeownership rate increased by 2.0 percentage points, including increases of 3.3 points for whites, 2.4 points for blacks, 2.2 points for Asians, and 3.0 points for Hispanics.

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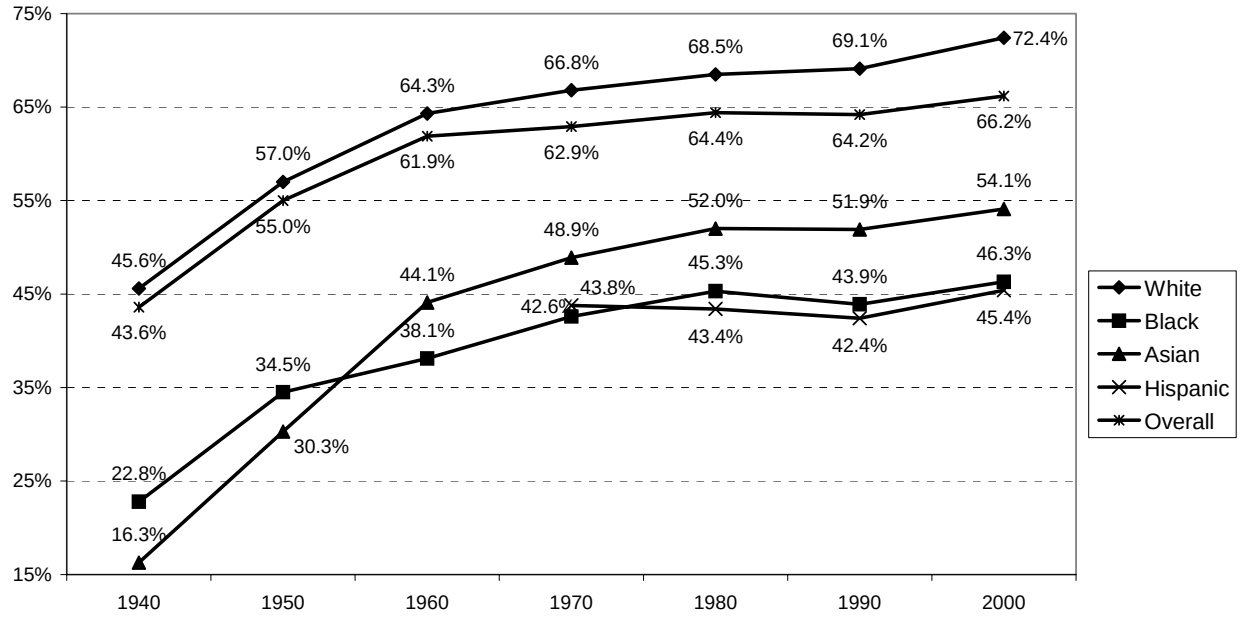
[49] One challenge of presenting data on homeownership trends is that there are several different sources of data on homeownership rates, which present some non-trivial differences in homeownership levels and trends. Most notably, while homeownership rates captured by the decennial censuses of 1990 and 2000 indicate that the difference between white and minority rates grew over this ten-year period, data from the CPS indicates these gaps generally narrowed over the same time period. For a discussion of issues related to differences between the decennial census and CPS population and household counts see Carliner (2001). Masnick, et al (1999) also provides an interesting assessment of changes in CPS methodology on homeownership estimates. Most of the information presented in this Chapter will be derived from the CPS as this data is most commonly used to track on-going changes in homeownership and allows us to examine the key period from 1993 to 2001 when homeownership rates were rising most rapidly. However, in order to present longer-run trends in homeownership, the data shown in Exhibit 3-1 is from the decennial censuses from 1940 through 2000.

[50] Prior to 1970 the census did not gather information on Hispanic origin. Rather, households with a Spanish surname were identified. Since this approach is not consistent with the questions regarding Hispanic origin, rates for Hispanics are not available prior to 1970. Since there were fairly few households with Spanish surname in 1960 and the homeownership rate of this group was fairly high (55.0 percent), there is little bias in the trends for whites and blacks between 1960 and 1970 from not excluding these households.

Exhibit 3-1
Trends in Homeownership Rates by Race and Ethnicity 1940-2000



Notes: White and Black rates for 1970 through 2000 exclude Hispanics. "Asian" rate for 1950 is proxied by non-White, non-Negro urban households, which comprise a large majority of the Asian population. (The comparable rate for 1940 was 15.4 percent compared to the 16.3 percent actual rate.)

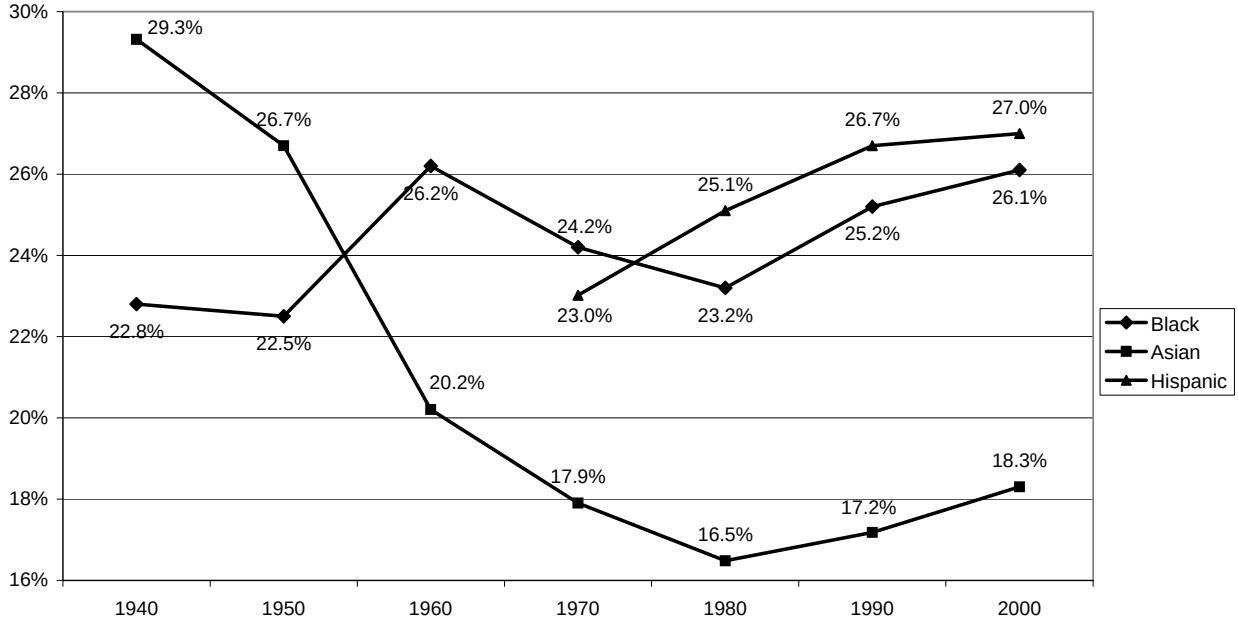
Sources: 1940-1990 from IPUMS microdata for Decennial Censuses 1940-1990. 2000 from U.S. Census Bureau, 2000 Census Summary File 1.

One notable aspect of these long run trends in homeownership is the general similarity across racial and ethnic groups. All groups experienced sharp increases in homeownership between 1940 and 1960, followed by moderate increases between 1960 and 1980, stagnating or declining rates during the 1980s, and then rising rates during the 1990s. This similarity illustrates that homeownership trends among all groups are largely driven by the same broad economic, demographic, and public policy factors. The post-war period of steady economic prosperity, more ready availability of mortgage financing, and great expansion of the supply of affordable housing in suburban areas newly served by an expanded transportation system all helped fuel the homeownership boom of this era for all groups. Nonetheless, there are some important differences in the demographic and economic characteristics of the different groups with implications for homeownership rates, which will be explored in subsequent sections.

One implication of the similarity in broad homeownership trends among racial and ethnic groups is that while there have been large increases in homeownership rates for all minority groups, the white-minority homeownership gaps have remained stubbornly high. Exhibit 3-2 illustrates trends in the homeownership gap relative to whites for each racial and ethnic group. While black rates rose sharply in the post-War period, white rates rose even faster. As a result, the gap between white and black homeownership rates rose by 4.1 percentage points during the 1950s, reaching 26.2 percentage points. While the white-black gap narrowed by 3.0 percentage points between 1960 and 1980, the decline in black homeownership during the 1980s pushed the gap back up to 25.2 percentage points. Despite the gains in black homeownership during the 1990s, data from the decennial census find that

the gap between white and black ownership rates increased by 0.9 percentage points to 26.1 points. As will be discussed more below, other data sources do show that white-black gaps improved during the 1990s. But regardless of the data source used, it is true that after the gains of the 1990s the white-black homeownership gap was near the highest levels of the past 60 years.

Exhibit 3-2
Trends in Homeownership Gaps by Race and Ethnicity 1940-2000



Notes: White and Black rates for 1970 through 2000 exclude Hispanics. "Asian" rate for 1950 is proxied by non-White, non-Negro urban households, which comprise a large majority of the Asian population. (The comparable rate for 1940 was 15.4 percent compared to the 16.3 percent actual rate.)

Sources: Authors' tabulations based on IPUMS microdata for Decennial Censuses 1940-1990 and 2000 Census Summary File 1.

The white-Hispanic homeownership gap has also generally increased over the last few decades, rising from 23.0 percentage points in 1970 to 27.0 points in 2000. A significant factor in this widening gap is the rapid rise in Hispanic immigration, which has served to depress overall Hispanic homeownership rates. In 1980, immigrants accounted for 38 percent of Hispanic households. By 1990, this share had increased to 45 percent. Since the ownership rate among Hispanic immigrants is about 10 percentage points less than the rate among native-born Hispanics, this rising share of immigrants serves to depress Hispanic ownership rates.[51] (Section 3.5 below discusses issues related to homeownership among immigrants in more detail.)

The greatest decrease in the homeownership gap has occurred among Asians. The white-Asian gap dropped from 29.3 percentage points in 1940 to 16.5 percentage points in 1980. Since 1980, however, the white-Asian gap has increased by 2.8 percentage points to 18.3 percentage points. As with Hispanics, this rising gap is in part attributable to the growth in the Asian immigrant population.

[51] Data on the share of immigrants that are Hispanic and Hispanic homeownership rates by immigrant status are based on the authors' tabulations of the decennial census for 1980 and 1990.

In 1980, immigrants headed 66 percent of Asian households. By 1990 this share had risen to 76 percent. Since Asian immigrants have homeownership rates that were about 10 percentage points lower than non-immigrants in 1990, this rising share of immigrants has dampened gains in Asian homeownership rates.

While data from the decennial census provide a long-run context in which to evaluate current trends, the long time periods between censuses masks some significant inter-decadal trends in homeownership rates. Exhibit 3-3 presents data on trends in homeownership by race and ethnicity since 1983 as measured by the CPS.[52] Before turning to an analysis of this data, however, it is important to note that there are significant differences in homeownership trends between those found by the decennial censuses of 1990 and 2000 and those derived from the CPS. Overall, the CPS estimates show a sharper rise in homeownership during the 1990s than the decennial censuses. As shown in Exhibit 3-1, according to the decennial censuses, the overall homeownership rate rose 2.0 percentage points during the 1990s. According to the CPS, the rise was 3.3 percentage points. More importantly, the CPS shows sharper increases in homeownership among minorities compared to whites. As a result, the CPS estimates indicate that white-black and white-Hispanics gaps declined during the 1990s while decennial census data indicate that these gaps actually increased. One explanation for the differences between these data is that the CPS did not accurately reflect the growth in immigrant households over the decade. Carliner (2001) argues that the Census Bureau underestimated household growth by an average of 200,000 households per year, largely as a result of underestimating the annual net inflow of immigrants during the 1990s. This underestimate of immigrants was reflected in the CPS as sample weights used to produce estimates of the overall U.S. population, which in turn are derived from external estimates of the size and characteristics of the total population. Carliner argues that the higher homeownership rate estimated by the CPS reflects the fact that the CPS underestimated the younger and largely immigrant population who are more likely to be renters.

Issues with the decennial census may also contribute to these differences in homeownership trends. The census is known to suffer from an undercount of some segments of the population, particularly low-income and minority households who are more likely to be renters. Simmons (2001) notes that the undercount of minorities and renter households is thought to have declined between 1990 and 2000. Since the 2000 census is thought to have done a better job at capturing these households, this improvement in coverage would have the affect of dampening homeownership increases for minorities.

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[52] Historically, the March demographic supplement of CPS had been used to provide annual estimates of homeownership rates. Since 1994 averages from the 12 monthly CPS have been used to provide annual estimates to smooth out sampling variation. Unfortunately, during the period from 1978 to 1982 respondents with missing information on housing tenure were reported as homeowners. The survey consequently provides biased estimates of homeownership rates for this period. As a result, 1983 is the first year shown in this exhibit.

Exhibit 3-3
Recent Trends in Homeownership Rates by Race and Ethnicity
(Percent)

Year	Total	White	Black	Hispanic	Asian
1983	64.9	69.1	45.6	41.2	NA
1984	64.5	69.0	46.0	40.1	NA
1985	64.3	69.0	44.4	41.1	NA
1986	63.8	68.4	44.8	40.6	NA
1987	64.0	68.7	45.8	40.6	NA
1988	64.0	69.1	42.9	40.6	49.3
1989	64.0	69.3	42.1	41.6	51.6
1990	64.1	69.4	42.6	41.2	49.0
1991	64.0	69.5	42.7	39.0	50.8
1992	64.1	69.6	42.6	39.9	50.9
1993	64.1	70.2	42.0	39.4	52.8
1994	64.0	70.0	42.5	41.2	51.3
1995	64.7	70.9	42.9	42.0	50.8
1996	65.4	71.7	44.5	42.8	50.8
1997	65.7	72.0	45.4	43.3	52.8
1998	66.3	72.6	46.1	44.7	52.6
1999	66.8	73.2	46.7	45.5	53.1
2000	67.4	73.8	47.6	46.3	52.8
2001	67.8	74.3	48.4	47.3	53.9
2002	67.9	74.7	48.2	47.0	54.6
2003	68.3	75.4	48.8	46.7	56.3

Note: Data for Asians are not available for 1983-87 as Asians were not identified separately.
Source: 1983-1993 March Supplement of Current Population Survey; 1994-2003 Housing Vacancy Survey.

Other factors potentially contributing to the higher homeownership rates in the CPS were changes in survey methodology introduced in the early to mid 1990s. As detailed in Masnick et al. (1999), changes to the CPS included the introduction of computer-assisted interviewing, a redesigned survey instrument, and redesign of the sampling frame. Masnick et al. argue that the introduction of these changes over the period from 1994 to 1996 contributed to the sharp rise in the homeownership rate observed over this period. Pitkin (1998) also examined this issue and based on a comparison of homeownership trends found in the AHS and CPS concluded that perhaps half of the increase in homeownership found by the CPS over this period may be attributable to changes in survey methodology. However, since homeownership rates continued to rise even after 1996 these changes in survey methodology were not a factor in the increases found later in the decade and the first years of the new century.

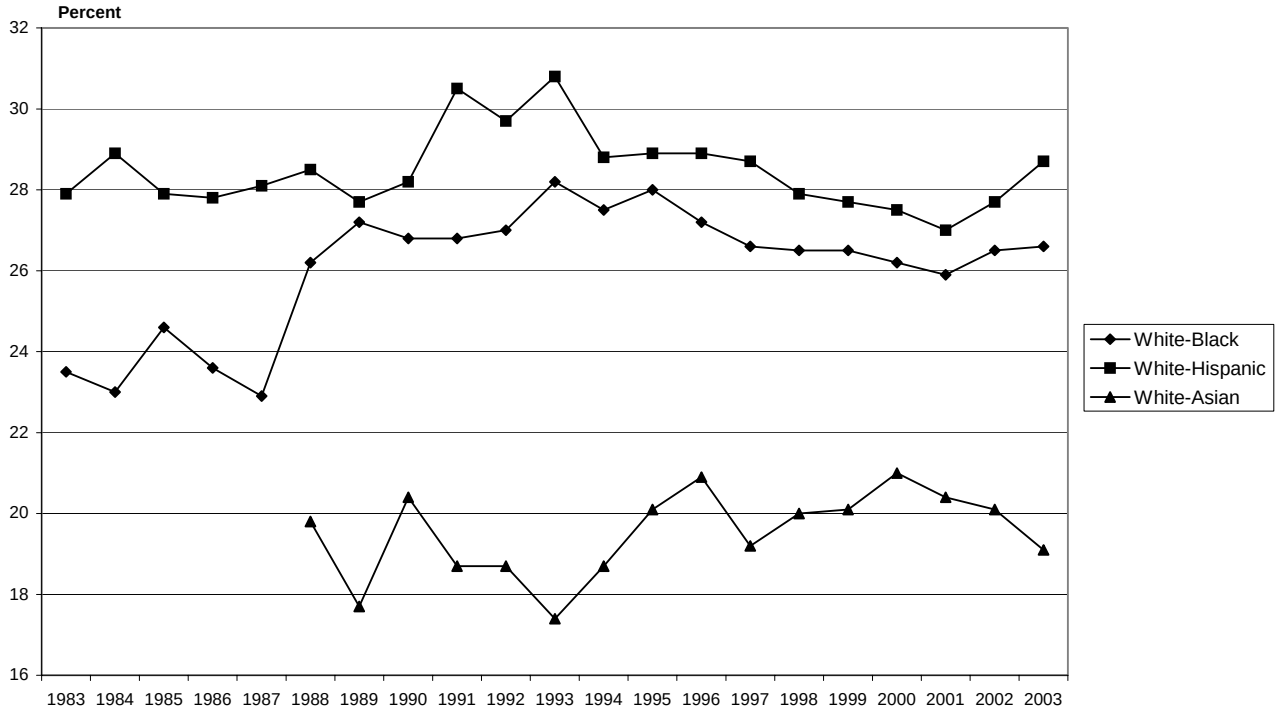
While it is important to bear in mind the potential bias in the CPS estimates, these data are nonetheless an important and widely cited source of information on annual trends in homeownership and so are used extensively in our analysis. Returning to Exhibit 3-3, as shown, from 1983 through

1986 the white homeownership rate suffered annual declines, reaching a low point in 1986 and then began a period of modest gains through 1994. In comparison, while the homeownership rate of both blacks and Hispanics did experience some increases after 1983, they generally declined into the early 1990s, with the black rate reaching a low point in 1993 and the Hispanic rate reaching a low in 1991. Then, beginning in 1994 both black and Hispanic homeownership rates began a period of uninterrupted increases that continued through 2001. Black homeownership rates dipped slightly in 2002 before increasing again in 2003, while Hispanic rates declined in both 2002 and 2003. After a minor dip in 1994, the white homeownership rate began to increase more sharply than it had in recent years, with these increases also continuing through 2001. Based on these three groups, there appears to have been a significant shift in the ability of households to move into homeownership beginning around 1994. Asian rates, however, have not exhibited as consistent a trend. In part, the sharper annual movements in the Asian homeownership rate are due to the small sample size of Asians in the March CPS.[53] But even with this annual sampling variation, Asian homeownership rates have exhibited a different pattern than other racial and ethnic groups. Asian rates generally rose during the early 1990s while other groups were declining or growing only slowly. Then, in the late 1990s, while other groups experienced rapid increases in homeownership, the Asian homeownership rate grew, but more slowly. However, the 2003 CPS data show a sharper increase in homeownership among Asians compared to other groups since 2001.

For both blacks and Hispanics, the difference from white homeownership rates reached a peak in 1993 (Exhibit 3-4). At that point the white-black gap reached 28.2 percentage points while for Hispanics the gap was 30.8 percentage points. These gaps decline almost continuously from that point until 2001, as the gains in black and Hispanic homeownership outpaced the gains among whites. However, the gaps widened somewhat in 2002 and 2003 as the white rate increased more than for blacks while the Hispanic rate actually declined. Asians actually experienced a worsening of the gap with white homeownership rates during the late 1990s, but their gap has narrowed somewhat since 2000. As of 2003, the white-black gap stood at 26.6 percentage points, the white-Hispanic gap was 28.7 percentage points, while the white-Asian gap was 19.1 percentage points. Thus, despite significant gains in homeownership rates among both minorities, the difference between minority and white homeownership rates remains substantial.

[53] The CPS only began identifying Asians as a racial group beginning in 1988. Given the relatively small number of Asian respondents, the sampling error associated with homeownership rates and other characteristics of Asians will be higher than for other racial and ethnic groups.

Exhibit 3-4
Trends in Homeownership Gaps by Race-Ethnicity 1983-2003



Source: Authors' tabulations based on 1983-1993 Current Population Survey, March Demographic Supplement; 1994-2003 Housing Vacancy Survey.

3.2.2 Homeownership by Income

As the discussion in Chapter Two made clear, income is an important determinant of homeownership as the investment demand for ownership increases with income. Exhibit 3-5 illustrates the relationship between income and homeownership by showing the homeownership rate in 2001 by $10,000 increments in household income. The impact of increased income on the probability of homeownership is largest at lower income levels. Among households with income less than $10,000, 42.5 percent own their homes. An additional $10,000 in income is associated with a 10 percentage-point increase in the ownership rate. With each incremental increase of $10,000 up to $80,000, the homeownership rate increases on average by about 5 percentage points. However, above $80,000 the increase in homeownership from higher income is more limited. As income rises from $80,000 to $140,000 the homeownership rate only increases by about 10 percentage points. At $140,000 the homeownership rate reaches a plateau at about 90 percent. In some sense, this homeownership rate of about 90 percent for the highest-income households represents a maximum potential rate absent financial constraints.