

THE ECONOMIC BENEFITS AND COSTS OF HOMEOWNERSHIP

A CRITICAL ASSESSMENT OF THE RESEARCH



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HOMEOWNERSHIP**

A Critical Assessment of the Research

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SUMMARY AND IMPLICATIONS: THE INSTITUTE PERSPECTIVE

Policymakers, nonprofit leaders, and housing experts see homeownership as key to wealth accumulation for most American families. Many argue that homeownership drives not only families' financial prosperity, but also the health of neighborhoods and, nationally, other major markets for credit, labor, and finance. What is the evidence for these claims? This literature survey addresses that question. It is the second installment of the Research Institute for Housing America's effort to establish what we know and do not know about the benefits and costs of homeownership (see the companion publication, *The Social Benefits and Costs of Homeownership*, Working Paper No. 00-01).

Assessing the literature, McCarthy, Van Zandt, and Rohe argue that homeownership increases "housing security" to families. Research surveyed shows that homeownership gives more control to owners over their physical surroundings and tenure, lowers real monthly payments over time, protects against unanticipated changes in rental costs, and helps build wealth. Homeownership also provides a ready mechanism for families to borrow money and get credit to, for instance, improve their home, make purchases, or invest in education or the financial markets.

Most of these benefits are available to all homeowners regardless of economic status. The authors, however, identify a very practical problem low-income families have in obtaining the most visible economic benefit of owning a home: homeowner tax preferences, most notably the mortgage interest deduction. Opinion research cited demonstrates the pervasive belief that the mortgage interest deduction is critical to homeownership. However, this popular belief belies the reality that most low-income homeowners do not realize the benefit of most homeowner tax preferences.

The value of the standard deduction makes itemizing mortgage interest and property taxes a losing proposition for most low-income households, thus reducing the economic benefits of homeownership. For this reason, McCarthy et al. conclude that the United States has created a housing finance system that makes the direct benefits of owning a home most favorable for high-income families and least favorable for low-income families.

McCarthy et al.'s review also suggests that many of the costs of homeownership hit lower-income households the hardest. For instance, lower-income households typically own older homes requiring substantially higher maintenance expenditures than new homes. These families are the most likely to have difficulty paying for this maintenance, particularly if they are already in a highly leveraged affordable mortgage. In addition, transaction costs are more of a barrier to housing affordability for lower-income households. Many closing costs are typically a flat fee, a higher relative burden the poorer the buyer. The authors also find evidence that lower-income households tend to overinvest in housing, have highly leveraged mortgages, and live in neighborhoods that have more volatile house prices.

In particular, the lack of asset diversification is a problem for low-income families. Today's economy has broken the previous compact between employer and employee of job security in return for loyalty. Thus, today's workforce has to be far more mobile to follow available jobs. The authors cite evidence that labor mobility, rather than wage adjustment, is how markets

adjust to changes in employment. Owning a home greatly reduces the mobility of households, just when they need it most to move to areas where the economy is growing and the households' skill sets are in demand.

In addition, the authors examine the economic benefits and costs of homeownership on a broader societal basis. Due to its perceived stabilizing effect, professionals and elected officials often view increasing homeownership as a central strategy for successful economic development. This strategy assumes that one homeownership neighbor will have a positive influence on the behavior of another, developing a web of mutually reinforcing relationships and expectations that contribute to the health and vitality of communities. In practical terms, homeownership establishes common economic interest: If my neighbor does not paint her house or mow her lawn, the value of my home is likely to decrease.

In fact, the authors find evidence in the literature that as homes are abandoned (measured by tax delinquencies), neighborhood house prices go down. Conversely, increasing homeownership increases the value of all homes in the area. Thus, homeownership can help to stabilize a neighborhood and start a self-fulfilling cycle of improvement and wealth creation.

For this stabilizing pattern to emerge, the new homeowners must be successful—they must make their mortgage payments on time and have enough money to properly maintain their home. Homeownership must be sustainable. If the new homeowner fails, then nearby home prices will decline and the neighborhood is likely to decline.

In sum, the authors highlight two critical concerns for both business and public policy. First, the interplay between current homeownership tax breaks and the standard deduction denies the most visible, and perhaps the most important, financial benefit of homeownership to low-income households. Decades of deficit politics have often turned this fact, combined with our nation's underinvestment in affordable rental housing, into a call to cut the mortgage interest deduction to pay for meeting the housing needs of poorer families. Perhaps the current budgetary environment is more favorable to fairly extending the economic benefits of homeownership without having to cannibalize other housing benefits.

The second critical concern raised by this study is the sustainability of homeownership. McCarthy et al. clearly point out that unsustainable homeownership is in no one's interest. Many of the recent gains in low-income and minority homeownership hinge on highly leveraged mortgage products. A slowing economy elevates the importance of post-purchase counseling and innovative servicing technology and techniques to preserve these gains. In addition, more innovation and awareness of affordable rehabilitation financing products can help reduce the cost of maintaining homes—and homeownership.

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ABSTRACT

Both the American public and U.S. policymakers believe that homeownership provides significant economic benefits for families and the country. We take a careful look at the economic benefits of homeownership through a study of the academic literature, industry reports, and recent data to assess the expected benefits and costs of homeownership to individuals and society. We find that while homeownership brings considerable economic benefits for families and the country, these benefits are not evenly distributed across income groups. Low- and moderate-income families are likely to gain less and risk more through homeownership.

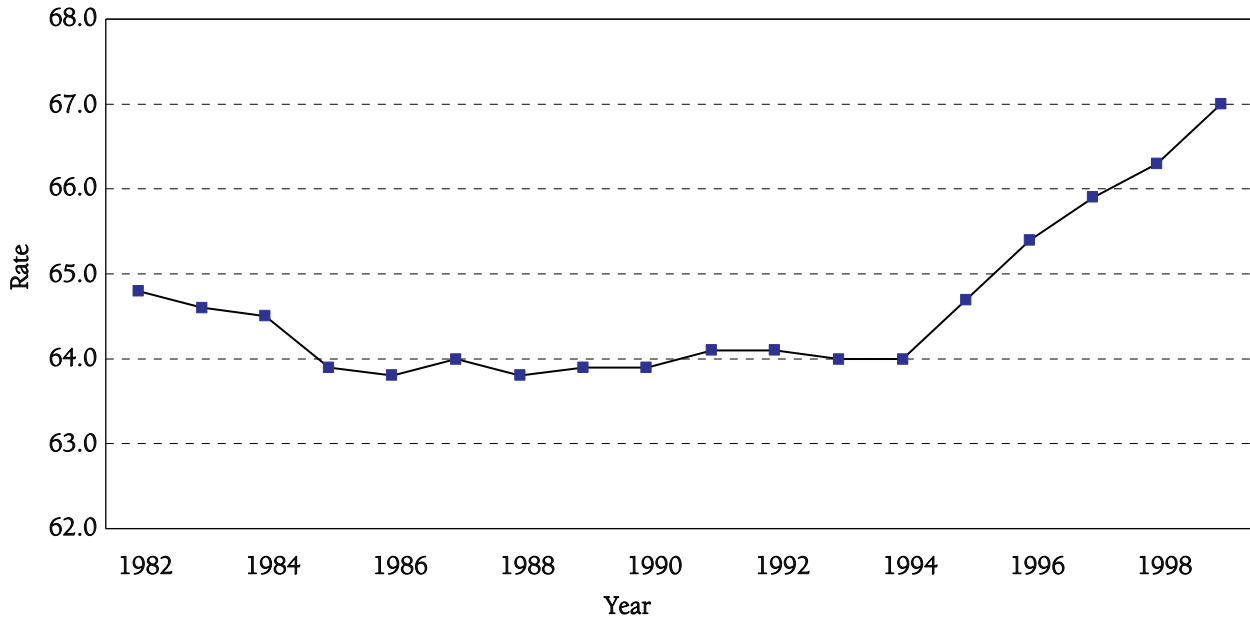
I. INTRODUCTION

Historically, support of homeownership for American families has been a major goal of public policy. Middle- and upper-income homeowners have enjoyed generous tax benefits at the state and federal levels through the mortgage interest tax deduction, property tax deductions, and untaxed capital gains. Other state and federal programs have expanded access to homeownership through loan guarantees and low-cost mortgage insurance, increased liquidity in housing finance markets, and direct provision of below-market interest rate mortgage loans for millions of Americans.

Homeownership rates rose steadily as a result of the public-private partnership. From the end of the Great Depression until the early 1980s homeownership rates rose from 43.6 percent in 1940 to 65.8 percent in the third quarter of 1980. Limits to homeownership promotion were revealed in the 1980s as homeownership rates stagnated, falling below 64 percent and remaining there from the third quarter of 1985 until the beginning of the 1990s (see figure 1). During the decade, attention was also paid to differential rates of homeownership across areas and among socioeconomic, racial, and ethnic strata. In the 1990s public policies continued to promote homeownership, with a special focus on addressing homeownership disparities among “underserved” households: low- and moderate-income families; families headed by minorities, women, or recent migrants; and central city dwellers.

Efforts to promote homeownership, with special attention to the underserved, continued through the 1990s. For example, the Clinton administration unveiled the National Homeownership Strategy with its stated goal of 67.5 percent homeownership by the year 2001. A major plank of the strategy includes a specific focus on outreach and affordable lending services to promote homeownership among the underserved. Several other major federal initiatives, like the Neighborhood Reinvestment Corporation’s NeighborWorks® Campaign for Homeownership, Fannie Mae’s Trillion Dollar Commitment, and the Ford Foundation’s \$50 million commitment to establishing a

Figure 1. National Homeownership Rates



Source: U.S. Census Bureau.

secondary market for “affordable” mortgages, illustrate the depth and breadth of the commitment to increasing homeownership rates. In combination with a healthy economy, these programs seem to be increasing the homeownership rate in the country. Homeownership rose steadily during the unprecedented decade-long economic expansion of the 1990s. National homeownership rates reached an all-time high of 67.0 percent at the end of the third quarter of 1999 (U.S. Census Bureau 2000).

The federal commitment to and subsidy of homeownership has often been justified by claims that it has a variety of economic benefits to individuals and to the society as a whole. The purported economic benefits of homeownership are illustrated in the introduction to the National Homeownership Strategy:

Most scholars, public policy makers, industry analysts, and civic and community leaders agree that supporting homeownership is good for America, and will generate [these] fundamental benefits:

Homeownership is a commitment to personal financial security. Through homeownership a family acquires a place to live and raise children and invests in an asset that can grow in value and provide the capital needed to start a small business, finance college tuition, and generate financial security for retirement....

Homeownership is a commitment to economic growth. Homeownership helps generate jobs and stimulate economic growth. The design, construction, and rehabilitation of homes employ local labor and use a vast array of American-made products and services. Homebuilding has often led the economic recovery from national recessions due to its strong job multiplier effect and because increased housing starts and home sales represent renewed economic confidence....

Homeownership creates economic prosperity for families and communities and acts as a dynamic generator of economic growth. Every new home creates 2.1 jobs directly related to construction, and many more jobs through increased demand for household goods and services (HUD 1995).

What evidence is there for these claims? Are they based on conventional wisdom or sound empirical research? How about the costs of homeownership? Is there a downside to homeownership that is ignored in the rush to support it? Do all households benefit equally from homeownership? Specifically, can the underserved households targeted by recent policy initiatives expect to benefit from homeownership in the same way as their well-served counterparts? This report addresses these questions.

Economic analysis of homeownership is plagued by adherence to narrowly specified economic models of markets. Unrealistic perfect-market assumptions form the foundation of these models. The validity of the results of these models must be accepted with caution.¹ The perfect-market models generate well-known results that are often invoked to explain behavior. Yet these well-known properties result only when the perfect market assumptions are met. Policies are often predicated on these market models, and they frequently go awry. For instance, federal attempts during the 1960s to address shortages of affordable housing by supplying low-income housing did not result in the predicted decline in housing prices on the low end of the market. Ironically, it is market imperfections and seemingly *irrational* behavior that often seem to govern housing market activities.

Colloquial wisdom is also flawed. Many assume that all homeowners benefit from the mortgage interest tax deduction. Tax reforms beginning in 1986, however, raised the standard deduction and lowered the benefits of itemizing deductions for households in tax brackets with lower marginal rates. This negated the tax advantages of ownership for most lower- and moderate-income households (Capone 1994, Follain and Ling 1991). Nevertheless, Fannie Mae reported in 1995 that 55 percent of renters felt that repeal of the mortgage interest deduction would make it difficult or impossible to pay a mortgage. Further, 26 percent said it would make it financially impossible to pay a mortgage (Fannie Mae 1995). In the same year, the Department of Housing and Urban Development (HUD) reported that more than 83 percent of renter households had family incomes less than 120 percent (the HUD cutoff for low- and moderate-income households) of area median incomes, and more than 66 percent of renter households earned less than the area median income (HUD 1997). The vast majority of these households would gain a negligible tax advantage from the mortgage interest deduction. Clearly, a large proportion of the population of renters is misinformed about the tax advantages of owning.

One cannot dismiss all housing economic studies, however, merely because perfect market conditions do not apply to housing markets. Nor can one dismiss all colloquial wisdom. The goal of this report is to present the current state of knowledge regarding

the economic benefits of homeownership through a review of the research literature on homeownership and presentation of the most recent housing data available.

Purposes of the Report

In this report we seek to accomplish several objectives. First, we provide a critical review of the literature regarding homeownership's purported economic impacts on individual families. Second, we review the literature on macroeconomic impacts of increasing homeownership rates, particularly on labor, finance, and credit markets and on international trade. Third, we present empirical evidence, based on the most recently available data, to illustrate the relative benefits of homeownership. Finally, we assess the state of the knowledge for each of the benefits and costs and suggest avenues for future research. A companion report, "The Social Benefits and Costs of Homeownership: A Critical Review of the Research," examines the social impacts of homeownership for families and society as a whole (Rohe, Van Zandt, and McCarthy 2000).

Organization of the Report

In the following sections we review the research literature on the economic benefits and costs of homeownership. In the literature review, we attempt to maintain a consistent focus on the *ex post* impact of homeownership. Much of homeownership literature is devoted to understanding the behavior of homeowners and potential owners; e.g., studying tenure choice and behavior after purchase. Our intent is to consider the effect of choosing homeownership on the lives and economic well-being of families. This literature is considerably more sparse than the behavioral literature. Where the literature is particularly sparse, we look at the most recent data available to illustrate the economic benefits and costs of ownership.

In reviewing the research literature and data on these topics, we assess whether a research consensus emerges to support the purported impact. We pay special attention to the conditions under which particular benefits and costs have been found and whether the benefits and costs accrue equally across socioeconomic strata.

In the first section we focus on benefits and costs that accrue to individual families. We then turn our attention to benefits and costs that accrue to society as a whole. Each section begins by identifying the theoretical basis of relevant benefits and costs that are associated with homeownership. Each category of benefits and costs is discussed. Where appropriate, empirical research on their existence is presented and critiqued. We conclude each section with an assessment of the overall weight of the evidence for each of the benefits and costs discussed and the need for additional research on the topic.

To conclude the report, we discuss policy implications and develop an agenda for future research on the economic benefits and costs of homeownership. We 1) develop a general framework to guide the design of future research and 2) identify specific research topics that deserve additional attention.

II. INDIVIDUAL ECONOMIC IMPACTS

By choosing to own a home, families reap potential financial benefits in the form of housing security and financial security. Homeowners enjoy better housing security than renters when they live in safer, better-appointed dwellings and have a low risk of being displaced from their dwellings because of events outside their control. Owners are more financially secure if their net worth is increased by owning. Further, their financial security is enhanced if their anticipated housing cost burden is expected to fall. The benefits of housing and financial security are tempered by additional costs homeowners bear. These include higher maintenance costs as well as the costs associated with the risk of financial loss or the loss of a home.

Ownership offers better housing security than renting in three ways. First, because owners control their dwellings, they are free to customize their homes to suit their tastes and needs. Second, owners enjoy higher-quality dwellings than renters. Homeowners usually have larger units, private yards, and private parking, for example. Further, homeowners are less likely to suffer from a variety of housing problems. Often, the particular configuration of housing amenities owners enjoy is not even available on the rental market. Third, homeowners usually enjoy diminishing housing costs over time. Not only are homeowners protected from unanticipated rent increases, but real housing costs usually fall because mortgage payments remain constant while income increases. Rents, on the other hand, usually rise at rates close to or above the general rate of price inflation. Further, renters can lose their dwellings if they are sold, demolished, or converted to non-rental status.

Homeowners enjoy increased financial security through wealth accumulation—the main economic benefit of ownership to individuals or families cited by proponents of homeownership. The literature helps us to determine the extent to which homeowners accumulate wealth, the importance of housing wealth in household portfolios, and the quality of housing as an economic investment. The economic value of homes is often the single most important component of family net worth. It is not clear that housing investment is done efficiently.

Homeowners generally benefit from price appreciation of their homes. Unlike other durable goods such as cars or refrigerators, the value of homes typically increases over time, offering a financial return much like stocks or bonds. As with other investment instruments, homes do not always appreciate in value. However, housing prices are

usually highly correlated with other prices. This makes housing a good investment hedge against inflation; while the value of other instruments such as stocks or bonds is eroded by inflation, houses tend to maintain their value in an inflationary environment. Because most homeowners are highly leveraged—having borrowed a large portion of the purchase price—house price appreciation and depreciation have an amplified impact on the rate return on housing investment. In contrast to strictly financial investments, the return on homeownership is directly affected by the behavior of the owner and other nearby owners.

One cost of enjoying added amenities and better housing security is more costly maintenance or, in the absence of maintenance, higher depreciation. Balancing amenities with maintenance and repair costs poses a challenge to homeowners. Maintenance costs vary with the value and, particularly, with the age of homes. Older homes depreciate at a faster rate, requiring more frequent and costly maintenance. Because lower-income owners tend to own older homes, their costs of ownership are likely to be higher than those of wealthier households. The economic benefits of owning a home are often determined by contextual factors such as the age, structure size, type, and location of a home.

Homeownership and Housing Security

The Theory

Housing purchase is a complicated constrained-optimization exercise in which households try to satisfy two quite different criteria: finding an optimal housing package to match their current and future demand for housing services (characteristics such as size, location, or neighborhood amenities) and finding the housing package that provides an optimal return on investment. It is not clear that households can maximize both goals simultaneously (Henderson and Ioannides 1987). Housing purchases are large relative to most households' income and asset stocks. Most households must choose between investment and consumption goods and subsequently purchase housing to meet their consumption desires. In most cases they purchase more housing than is optimal with regard to investment (Flavin and Yamashita 1998).

To the extent that one finds the assumptions of consumer choice models palpable, these models can be used to evaluate whether consumers over- or underhouse themselves. According to these theories, homeowners reveal more “housing-intensive” preferences than renters through the act of buying homes. Because homeowners value housing and housing amenities more highly than renters, they consequently purchase larger, higher-quality units. The downside of these housing choices, however, is that more frequent maintenance may be required to protect the homeowner's investment. More housing-intensive preferences might be revealed in more frequent maintenance of dwellings by homeowners, as well (Rothenberg et al. 1991, Galster 1987).

In theory, housing is allocated among several linked price-quality submarkets. Potential buyers of homes sort themselves first into their desired submarket and then choose among homes in that submarket. Housing is organized spatially to correspond to these price-quality submarkets. In other words, most homes in a given neighborhood will belong in the same submarket. To the extent that the value of a home is determined by the value and condition of housing in the neighborhood, owners rely on others to help maintain their position in the price-quality submarket.²

While homes are immobile in space, they have some mobility among markets. As homes age, the cost of routine maintenance increases at an increasing rate. This increases the probability that a home will filter downward in price and/or quality over time. To keep their homes from filtering down the price gradient, owners incur higher maintenance costs over time and are often required to improve their dwellings more frequently than renters (or landlords). Most housing developments have homes of similar age and amenity configurations. Because owners have similar incentives to maintain the investment values of their dwellings, owners prefer to be surrounded by other owners (Rothenberg et al. 1991).

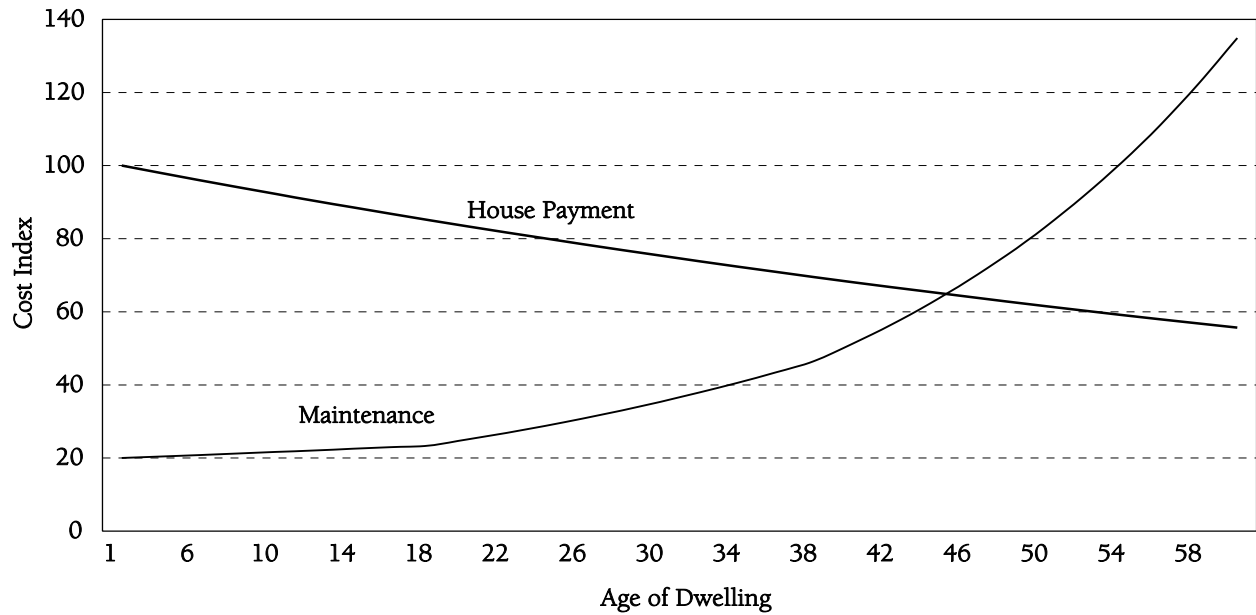
The majority of homeowners, who purchase housing with long-term financial instruments like the thirty-year fixed-rate self-amortizing mortgage, have the additional security that their housing costs remain relatively constant in nominal terms, and fall in real terms, throughout the life of the mortgage. Because incomes usually rise over time, most families experience falling housing cost-to-income burdens over the life of the mortgage. In most metropolitan markets, rental price inflation exceeds increases in other consumer prices and often exceeds the rate of income growth. This situation imposes increasing housing cost burdens for renters over time. The housing security offered through falling real housing cost burdens might well be the most important economic benefit of owning.

Falling cost burdens over time are balanced off, to some extent, by rising maintenance and upkeep costs. Figure 2 illustrates the theoretical relationship between real housing costs and maintenance costs as housing ages. In theory, upkeep and maintenance costs increase at an increasing rate with the age of the dwelling, while other costs fall. Families buying existing homes begin further along the upkeep curve, meaning that their financial benefits of owning will be lower relative to families purchasing new housing. As we will see, low- and moderate-income families tend to purchase older homes and will reap lower financial benefits of owning as a result.

The Evidence

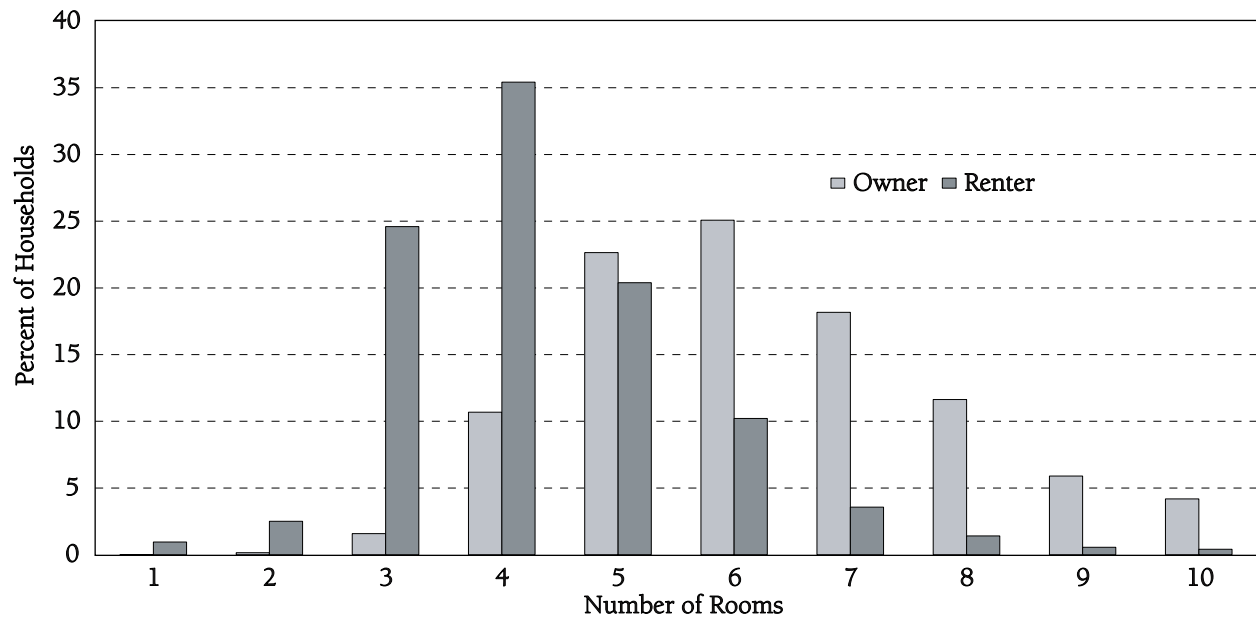
Homeownership and Housing Quality—The housing-intensive preferences of homeowners are supported by recent data. Homeowners typically live in larger units, of higher quality, with more amenities than renters. In 1997, the average owner-occupied dwelling had 6.3 rooms with 1,966 square feet of living space compared with 4.3 rooms

Figure 2. Real Housing and Maintenance Costs and Age of Dwelling, in Theory



Source: Author calculations.

Figure 3. Number of Rooms: Owning versus Renting



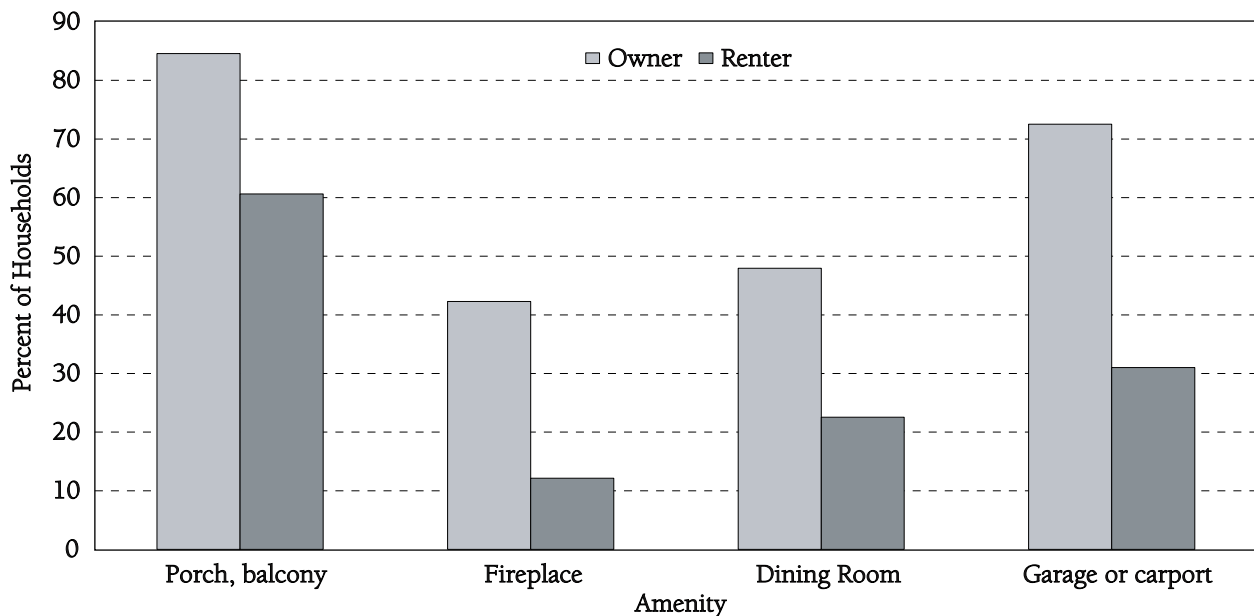
Source: 1997 American Housing Survey.

and 1,325 square feet for rental units (see figure 3). Two-thirds of owner-occupied units had more than one bathroom, while three-quarters of rental units had one or fewer baths. Owners are 50 percent more likely to have a porch, deck, or patio; twice as likely to have a separate living or dining room; three times as likely to have a working fireplace; twice as likely to have a washer and dryer; and twice as likely to have a garage or carport (see figure 4).

The typical condition of owner-occupied units is also better than rental units. Renters are twice as likely to suffer from rodents; holes in walls, ceilings, and floors; wiring deficiencies; and water leaks. Renters were three times more likely to live in crowded conditions—more than one person per room (AHS 1997 and authors’ calculations, HUD 2000).

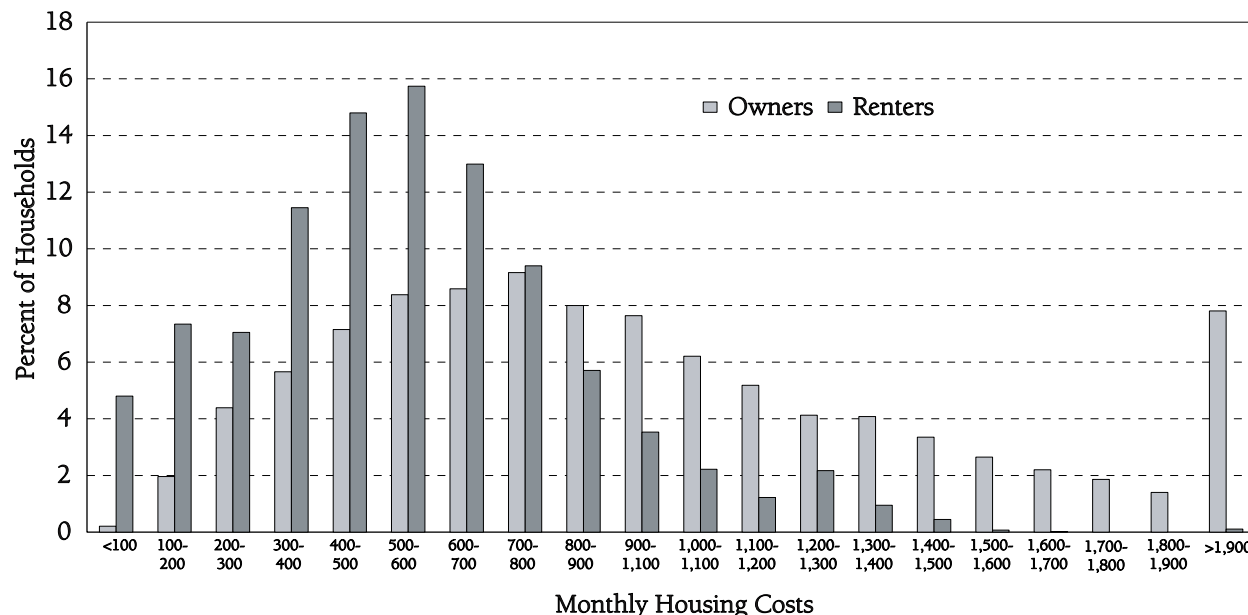
In spite of the fact that the quality of residences is significantly better for owners, average housing costs barely reflect that difference. Median pretax monthly housing costs³ were remarkably similar across tenure groups—\$563 per month for owners and \$523 per month for renters. However, if we control for the fact that almost 40 percent of homeowners do not carry mortgages, median monthly housing costs for owners with mortgages is significantly higher than for renters—\$857 per month for owners with mortgages versus \$527 per month for renters. Figure 5 shows the relative distribution of mortgaged owner-occupied and rental dwellings based on monthly housing costs.

Figure 4. Housing Amenities: Owning versus Renting



Source: 1997 American Housing Survey.

Figure 5. Monthly Housing Costs: Renters and Owners with Mortgages



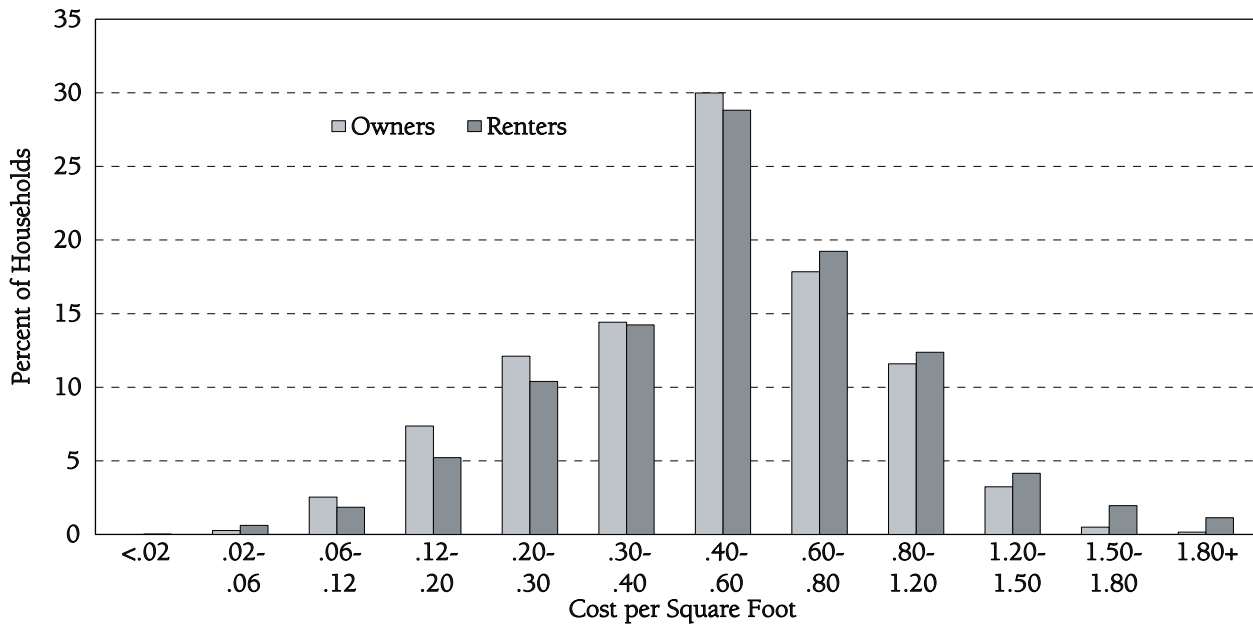
Source: 1997 American Housing Survey.

The cost distribution of mortgaged owner-occupied units is distinctly different from the cost distribution of renter-occupied units. Rental housing has a slightly skewed cost distribution with a mode between \$500 and \$600. The owner-occupied cost distribution is more skewed toward the upper tail. Its modal value is between \$600 and \$700 per month. The supply of owner-occupied housing in price ranges above \$800 per month substantially exceeds the supply of rental housing. The two distributions suggest that rental housing does not directly substitute for (or compete with) owner-occupied housing. Rather, the distribution of rental housing complements owner-occupied housing by filling gaps in lower price ranges.

A more sophisticated comparison of relative costs controls for differences in unit sizes. When we account for the size differences between owner-occupied and rented dwellings, relative cost differences disappear. For example, the average monthly cost per square foot of living space is higher for renters (\$0.51) than for mortgaged owners (\$0.48). The cost per room for renters and mortgaged owners is also remarkably similar—\$134 per month per room for renters and \$137 per month per room for owners. The cost distributions are shown in figures 6 and 7.

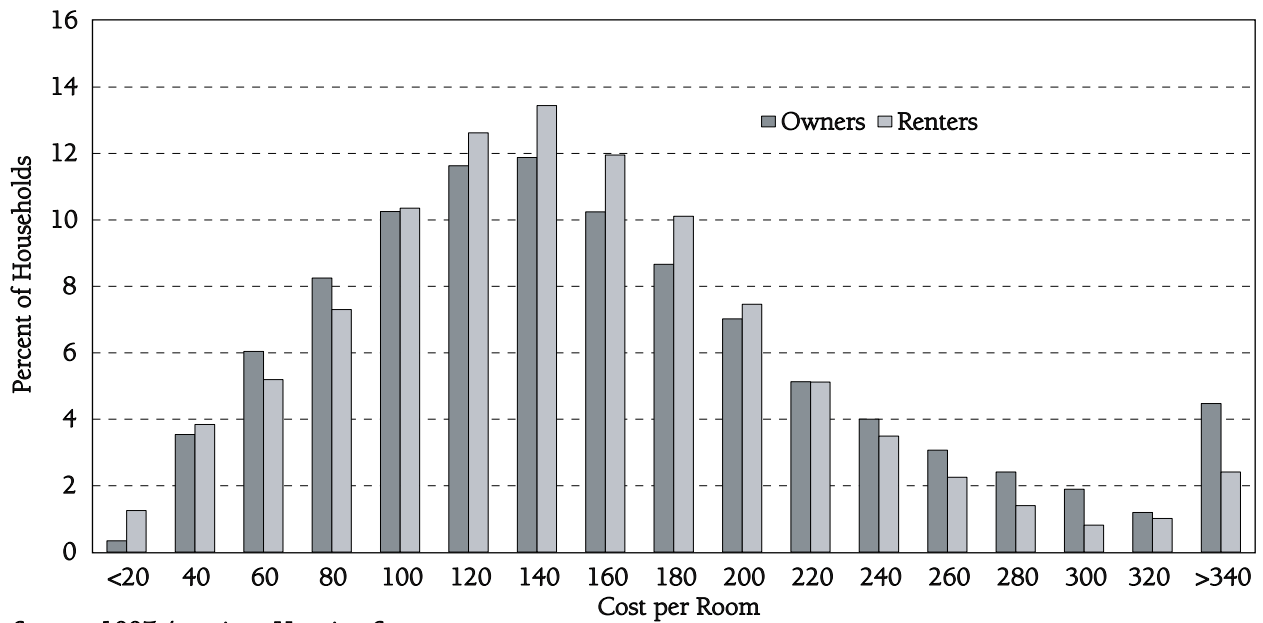
Housing cost burdens illustrate the relative share of income a household devotes to shelter costs. Policymakers consider housing cost burdens below 30 percent of income to be reasonable. Costs burdens above 50 percent of pretax income are considered severe and thought to be unsustainable in the long run. The median mortgaged homeowner devoted 20.2 percent of his or her pretax income to housing in 1997. The

Figure 6. Cost per Square Foot of Living Space: Renters versus Owners with Mortgages



Source: 1997 American Housing Survey.

Figure 7. Cost per Room: Renters versus Owners with Mortgages



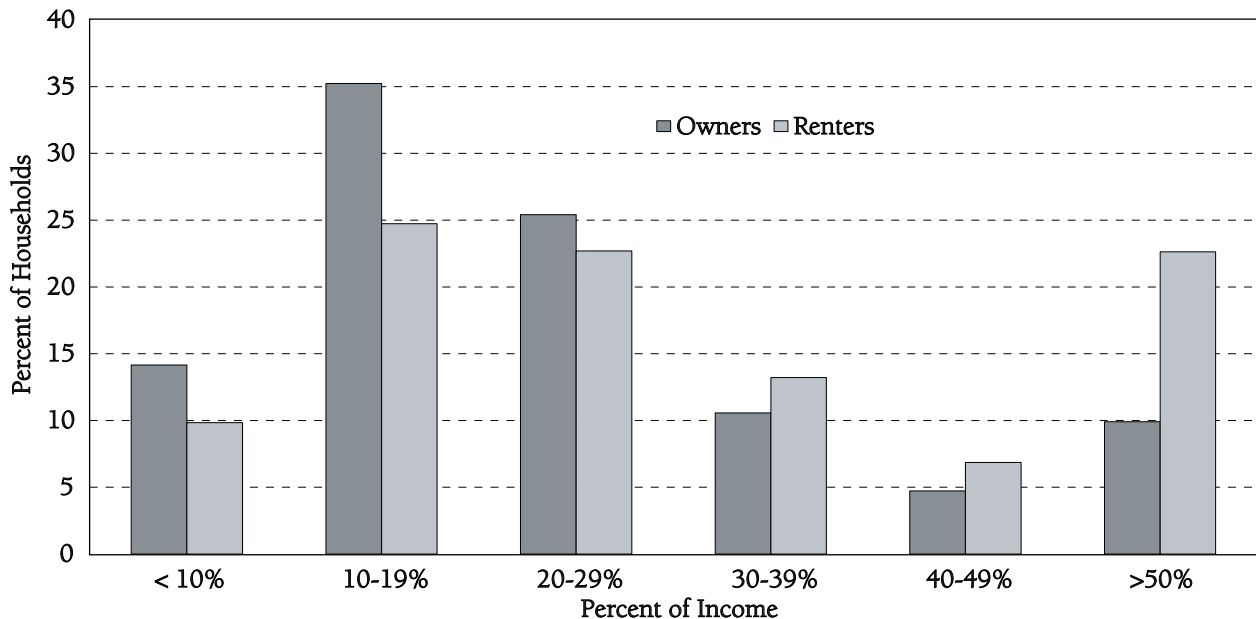
Source: 1997 American Housing Survey.

median renter spent 27.4 percent of pretax income for housing (authors' calculations based on the 1997 American Housing Survey, HUD 1999).

HUD (2000) reported that in 1997, 8 percent of homeowners had housing cost burdens higher than 50 percent of income compared with 20 percent of unassisted renters. Further, 13 percent of owners had housing costs between 31 percent and 50 percent of pretax income compared with 20 percent of unassisted renters. In figure 8 the housing cost burdens for all renters and homeowners with mortgages are displayed. Renters have a much higher incidence of moderate to severe housing cost burdens than owners. Higher housing cost burdens reflect both the lower incomes and the lack of affordable housing available for low-income households. However, affordability problems have been creeping up the income scale. In many localities, both homeowners and renters face severe shortages of affordable housing and suffer concomitant high cost burdens (Stegman, Quercia, and McCarthy 2000).

Many homeowners enjoy tax advantages from owning their home, in effect reducing their housing costs. These include the tax deductions for mortgage interest and property taxes, as well as tax-exempt capital gains from the resale of the home. Since 62 percent of owners carry one or more mortgages on their residence, tax benefits can be substantial. However, beginning with the Tax Reform Act of 1986, increases in the standard deductions made it less advantageous for low- and moderate-income households to itemize deductions and claim the mortgage interest tax deduction. Capone (1995) thoroughly evaluates the tax benefits of homeownership for low- and moderate-income households. He shows that since standard deductions were raised in

Figure 8. Housing Cost-to-Income Ratio: Renters and Owners with Mortgages



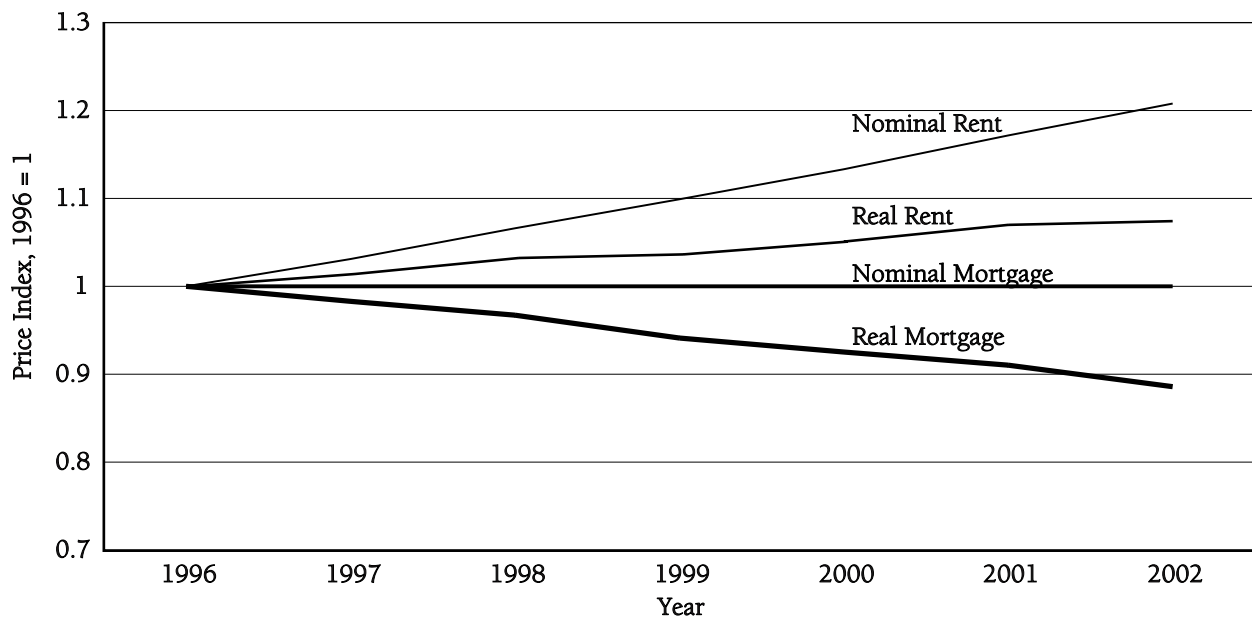
Source: 1997 American Housing Survey.

1986, “the homeowner tax subsidy from interest, discount points, and property taxes is worth less than \$50 the first year [of ownership] and zero after that” (p. 341). This confirms the assertion by Follain and Ling (1991) that the removal of tax benefits would have no effect on owner-occupied housing demand for low- and moderate-income households.⁴

One cannot determine whether homeowners are choosing optimal housing from the distribution of housing costs. Given that the distributions of per-unit costs for owner- and renter-occupied housing are about the same, the fact that owners choose larger dwellings reveals their more housing-intensive preferences. Of course, the investment value of the home also informs their optimal housing choice. As we will see, homeowners tend to overinvest in housing, suggesting that homeowners hold a higher preference for monthly housing services than investment return. Their consumption choices then impose a constraint on their portfolio choices.

Homeownership and Future Housing Security—Purchasing a home offers an owner control of his or her living space indefinitely. If the home is purchased using a long-term financial instrument such as a thirty-year fixed-rate mortgage, an owner also locks in a major component of housing expenditure at a constant nominal payment for the life of the mortgage. If nominal household income rises and property taxes do not rise at extraordinary rates, a homeowner can expect the ratio of housing cost to income to fall for the duration of ownership. Because rents generally rise over time, the long-term cost savings of owning can be substantial.

Figure 9. Average Mortgage and Rent Payments: Actual 1996-99 and Projected 2000-02



Source: HUD (2000), author calculations.

Figure 9 illustrates the potential cost advantages of owning versus renting as a fixed-rate mortgage seasons. Using the national average rate of rent increases and consumer price indices from 1997 through 1999 as a guide, an index of nominal and real rents and mortgage payments is projected.⁵ Nominal mortgage payments remain the same for the life of the mortgage so the index remains constant. The purchasing power of the dollar decreases with inflation; similarly, the real mortgage cost index falls. By the end of year three (1999) the mortgage payment declines 3.3 percent in real terms; by year six it has fallen by 11.5 percent. Rents, on the other hand, increase at about one and one-half times the rate of inflation from 1997 through 1999. Thus, both nominal and real rent indices rise over the period. By the third year, nominal rents rise by 10 percent while real rents rise by 3.6 percent. After six years, nominal rents rise by 21 percent and real rents by 7.4 percent.

Two families might be indifferent between the choice of purchasing of a \$83,000 home or renting an apartment for \$600 per month because the rent and mortgage payments would be the same.⁶ If one chooses to rent and prices followed national averages, the family would be facing a \$660 rent payment after three years and a \$725 rent by year six. The owner family would pay \$600 per month for the mortgage throughout the contract. Over six years, the renter family will pay \$5,100 more in rent than the owner family pays for its mortgage. The owner family would also have accumulated a small amount of equity through the amortization of the mortgage plus any increases in the value of the home during the holding period.

For the purposes of this example, we have assumed away transaction costs, the opportunity cost of a required down payment, and the risk associated with house price depreciation. However, as we will see, houses usually appreciate in price over time, and rents often increase at substantially higher rates than the national average in many urban markets (HUD 2000). As long as homebuyers do not choose to move frequently, the financial security of constant mortgage payments is a considerable benefit.

Homeownership and Home Maintenance and Repair—Homeowners incur costs not borne directly by renters. The most prominent of these is maintenance costs. The early housing economics literature suggested that the quality differences between owner-occupied and rental units are attributable to better maintenance performed by owner-occupants (Grigsby 1963, Petersen et al. 1973, Schafer 1977).

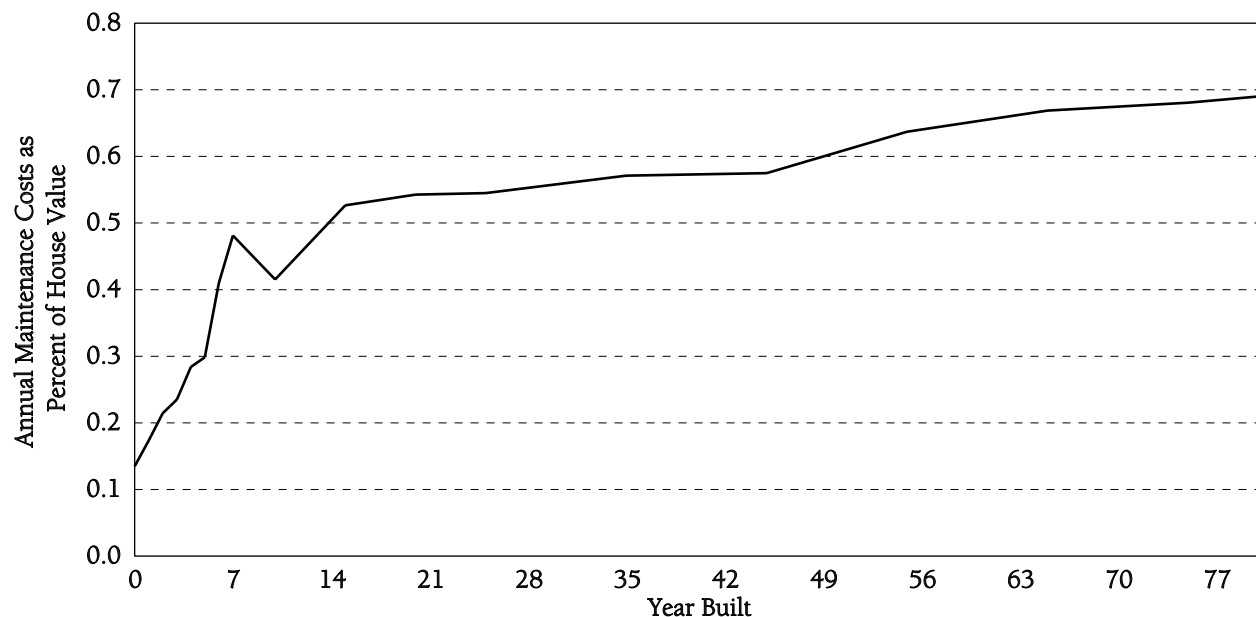
Yet research since then has been inconclusive. Ozanne and Struyk (1976) showed that once controls for dwelling quality, neighborhood quality, and some occupant characteristics are introduced, the higher homeowner-maintenance effect disappears. However, Galster (1983) responded by including additional controls for occupant characteristics and showed that owner-occupants not only purchase housing of initially higher quality, but also perform more intensive maintenance while they own. More recent work by Gatzlaff, Green, and Ling (1998) shows no significant difference in appreciation rates between owner- and renter-occupied dwellings. This finding suggests

that landlords and homeowners maintain dwellings in a similar fashion regarding investment return. However, the measured quality differences between owner-occupied and rental units illustrated above suggest that unit maintenance does not fully explain the similarity of return on investment for the two tenure classes.

National expenditures for home maintenance and improvements account for about one-half of expenditures for new construction (Mendelsohn 1977). In 1999, owner-occupants spent over \$93 billion for maintenance repairs and improvements (Joint Center for Housing 1999). Sixty percent of improvement expenditures are used to replace major systems or for general maintenance or repairs, amounting to an average outlay of \$1,181 per year per household, or about \$100 per month (U.S. Census Bureau 1998). Expenditures for home improvement increase with household income, but fewer wealthier households accumulate “sweat equity” by making improvements themselves. Nonetheless, homeowners perform more than half of home repairs and improvements themselves (Mendelsohn 1977).

Figure 10 illustrates annual routine maintenance expenditures for owner-occupied housing by the year the house was built.⁷ Routine maintenance expenditures increase with the age of homes. Homeowners with houses built before 1920 pay around 0.7 percent of the house value in routine maintenance outlays, while owners of houses built after 1994 pay less than 0.2 percent of the house value. Routine maintenance alone will not always protect an owner’s housing investment. As housing ages it can filter down into lower-priced submarkets because of a mismatch between supply and

**Figure 10. Annual Maintenance Costs and Age of Dwelling: Owner-Occupied Units
Costs as a Percentage of House Value**



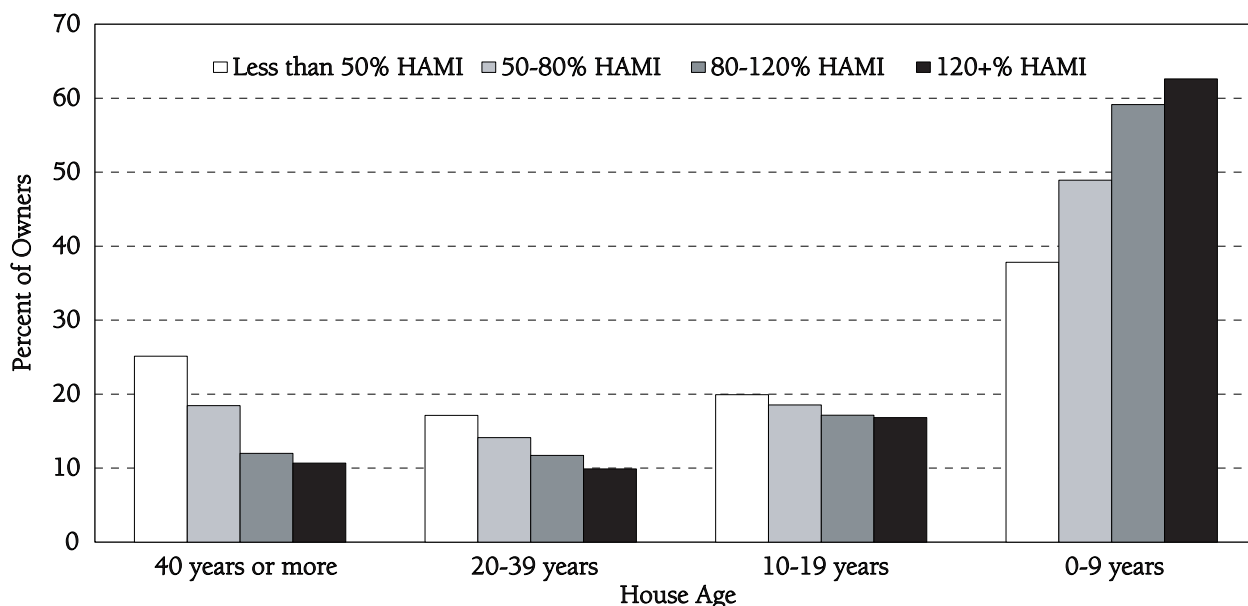
Source: 1997 American Housing Survey.

demand for specific amenities. For this reason, investment in improvements is sometimes required to keep a home within the same price-quality submarket (Rothenberg et al. 1991). In this sense, maintenance, and even some improvements, should not be considered discretionary expenditures. Routine maintenance and upgrading of household systems are required to sustain resale values.

Because housing is both a consumption and an investment good, maintenance behavior is regulated by both the expected return of future housing services and investment returns. Rothenberg and his colleagues (1991) show that investment in housing maintenance and improvements is the result of an “extremely complex, multifaceted decision process.” Their empirical work shows that investments in repair and improvements are consistent with return-maximizing behavior predicted by models. Galster (1987), however, shows that in some cases, maintenance and upgrading behavior of homeowners is not always governed by “rational,” profit-maximizing behavior. Homeowners in the lowest-priced submarkets will often overinvest in maintenance and improvements, especially to keep their neighborhood and housing from slipping into disrepair and decay.⁸

Lower- and moderate-income households purchase a disproportionately larger share of older housing than wealthier households. The distribution of owner-occupied housing by the age of the housing and the income of homeowners is illustrated in figure 11. The higher maintenance and upkeep costs of these older homes will diminish the financial benefits of owning for these households.

Figure 11. Age of House and Income of Owners as a Percentage of HUD-Adjusted Area Median Income (HAMI)



Source: 1997 American Housing Survey.

Overall Assessment

From the point of view of housing security, homeownership makes a lot of sense. For essentially the same price per room or square foot as renting, an owner-occupier can live in a better dwelling and have the added security of knowing that his or her mortgage cost burden will diminish over time. Renters can usually look forward to rent increases and the uncertainty that their dwellings will be sold out from under them.

The cost savings between renting and owning can be substantial, amounting to more than \$5,000 in a six-year period for owners who purchase an \$80,000 home, compared with renting similar housing. Much of this cost savings, however, is depleted by transaction costs, maintenance costs, and other costs.

Transaction costs include mortgage fees and other closing costs. Many of the transaction costs are flat fees, representing a larger percentage of the sale price of less-expensive homes—thereby taking a larger relative share of the benefits of owning less-expensive dwellings. Homeowners must also provide some down payment at the time of purchase, incurring the lost opportunity of investing that amount. Further, households that purchase with less than 20 percent down payment will typically pay private mortgage insurance. “Affordable” mortgage products used to promote homeownership among lower- and moderate- income households usually require small down payments. This requires that many of these households will pay private mortgage insurance. At the time of sale, homeowners will incur other transaction costs including Realtor fees that average 5 to 6 percent of the sales price.

To protect the investment value of their homes, however, homeowners incur substantial costs that renters may not bear. Owners are required to perform more intensive maintenance and repair behavior than renters and incur higher maintenance costs (not included in monthly housing costs) that amount to about 1 percent of GDP, or about \$100 per month for the average homeowner. Much of the maintenance and even improvement expenditure helps to preserve a home’s investment value and keep the home from filtering down into lower-price submarkets. Because maintenance costs rise at an increasing rate with the age of a dwelling, owners who choose to buy older dwellings run the risk of substantially increased maintenance costs.

Lower- and moderate-income households are significantly more likely to own older homes with higher expected maintenance burdens. This means that they are also more likely to experience large unanticipated maintenance expenditures. This increases the uncertainty associated with realizing the financial benefits of homeownership for these households. In sum, lower- and moderate-income households should expect lower relative financial gains from homeownership than wealthier households.

One important point must be kept in mind before we turn our attention to the direct financial benefits of homeownership. In the comparison between homeowners’ and

renters' housing costs, we have not capitalized any return on investment for homeowners that will, in general, decrease their housing costs. Similarly, when we consider the performance of housing as an investment, we generally ignore the stream of housing services provided by the investment. In other words, if we were to consider housing strictly as a financial investment, it returns more than the difference between the original and final sales prices (less transaction costs). It also returns a stream of dividends equal to the rental value of the home. Homeowners are not taxed on this dividend stream, while renters pay their rent out of posttax earnings. Homeownership can make financial sense *even if the owner loses money on the housing investment*.

Homeownership and Financial Security

In its 1995 study, cited earlier, Fannie Mae reports that 83 percent of all adults believe that owning a home is a good investment. The 1992 *Survey of Homeowners and Renters* by the National Association of Realtors (NAR) reports that 87 percent of homeowners and 72 percent of renters consider homeownership a good investment. Only 6 percent of owners and 16 percent of renters considered housing a bad or risky investment. The NAR notes that there are no significant differences in responses across age, race, or income of households. Yet, as we will see in the following section, homeownership may not always be a good investment, particularly for low-income and minority owners. We will also see that households often overinvest in housing because of market imperfections.

Homeowners are “forced” to save through the repayment of their mortgages. It is not clear, however, whether homeownership influences other savings and investment behavior. Renter households intent on purchasing homes might increase savings rates in order to accumulate a down payment. After purchase, homeowners might accumulate more precautionary savings—in case of unforeseen maintenance expenses or job loss.

Homeowners have better access to capital than renters. This applies both to secured debt in the form of second mortgages, home-equity lines of credit, or senior annuity mortgages, and unsecured debt in the form of credit cards or consumer loans. Access to credit gives homeowners more financial flexibility and allows them to access available housing equity to pay for large expenses like college tuition, medical bills, or home improvements. The downside of accessing credit, however, is an increased debt burden, with an associated higher default risk. Regardless of whether one is a homeowner or renter, the ability to service a debt burden is regulated by a steady income flow.

Financial security through better access to capital, therefore, concomitantly erodes housing security because it increases default risk (Elmer and Seelig 1998). This statistic is of particular importance for low- and moderate-income households, which are often the targets of predatory lenders.

The Theory

Asset accumulation is considered one of the main financial benefits of homeownership. Indeed, it is because housing is a good investment that long-term financing is possible. Homeowners accumulate assets through homeownership in two ways. First, homeowners reap the full return (or loss) associated with house price appreciation. Second, as their mortgage is amortized through repayment, a household builds equity—the difference between the value of the home and what is owed on it. This latter form of asset accumulation is often referred to as “forced savings” because it is a requirement of the loan agreement. In recent years, second mortgages and home-equity lines of credit have improved access to home equity.

Evaluation of the investment return on housing typically uses the conventional measure of return on investment at risk. This measure assumes that the full purchase price of the investment is at risk and the return on investment should be measured relative to this price. Investment return, however, does not usually include the “imputed rent” dividend mentioned above. No other financial investment includes free housing as a monthly dividend.⁹

There are other important issues to consider when comparing the return on housing investment with other investments. First, housing is illiquid compared with most other investments. If one wants to realize capital gains (or losses) on strictly financial investments, the investment can be sold instantly at the market price. Often, housing sales require lengthy time on market before gains or losses can be realized. Second, sellers of housing incur significant transaction costs, typically 5 to 10 percent of the sale price, to realize capital gains. This is considerably higher than transaction costs on other investments. Third, the size of the minimum housing purchase is very large relative to investor income. This *requires* that most investors borrow to finance purchase. If the service to this debt is higher than the rate of price appreciation, it reduces the return on investment.

The cost of borrowing varies with the borrower’s creditworthiness. Most mortgages are underwritten as prime credit risks and receive favorable borrowing terms. However, subprime lending and mortgages based on risk-based pricing have a growing share of mortgage markets in recent years. Subprime mortgages are underwritten at higher interest rates and, in effect, redistribute investment returns on housing from homebuyers to financiers. In extreme cases of subprime lending, predatory lenders target high-risk households with difficult or impossible-to-service loans with the intent of foreclosing and taking possession of their homes.

The investment return on homeownership is determined by house price appreciation. House price appreciation also maintains collateral values and minimizes the risk of mortgage default. Unlike strictly financial assets, however, the investment return on housing is related directly to the behavior of the owner and other owners. For example,

an owner can affect the collateral value of a home through maintenance (or undermaintenance) or remodeling. The investment value of housing is also affected by the maintenance behavior of nearby homeowners. Further, the investment return on housing is linked to movements in other markets. Housing prices are particularly correlated to changes in local and regional labor markets and other financial markets (Federal Reserve Bank of Cleveland 1995, D'Arista 1999).

In theory, capital mobility should drive the return on housing to equilibrium with the return on other investments. If housing returns rise above other investments, investment would move to the housing market and drive down the return. Similarly, capital mobility should equilibrate returns across housing markets and submarkets. If the return is higher in one market, investment money should be attracted to that market and drive down yields. It is not clear, however, how long it might take for housing markets to equilibrate. Market adjustments can occur through changes in the quantity or prices of goods. Because supply responses are slow, taking one to three years, equilibration of housing returns will not occur swiftly through quantity changes. The proportion of housing sales relative to the supply of units is also quite small; usually fewer than 10 percent of a submarket is transacted in a year. Therefore, unequal investment returns can persist for long periods in housing markets (Rothenberg et al. 1991). Whether returns differ systematically between price-quality submarkets remains to be seen; however, if the cost of borrowing is higher for low- or moderate-income households, their returns will be commensurately lower than for higher-income owners.

Homes are both consumption and investment goods. At the time of purchase, owners make two different decisions simultaneously. They choose the quantity and configuration of amenities—e.g., the number of bedrooms, baths, square footage, as well as the quality of local schools and other amenities—while at the same time attempting to maximize their expected financial return. Because one cannot separate the investment value from the service flow, owners are likely to make suboptimal choices in one or both realms. In the portfolio choice literature, this is often referred to as the “housing constraint” in portfolio allocation (Flavin and Yamashita 1998, Fratantoni 1998). The housing constraint is more likely to affect the choices of low- and moderate-income households because their income levels allow less flexibility in portfolio management and housing purchases.

There is good reason to hold housing as an investment, but how much should be held? General consensus exists in the financial literature that holding too large a portfolio share of any single asset, including housing, increases portfolio risk. Early literature on optimal portfolio allocation suggests that real estate should compose 10 to 20 percent of a mixed asset portfolio (Fogler 1984; Firstenberg, Ross, and Zisler 1988; Ennis and Burik 1991). These studies failed to incorporate market imperfections related to real estate—in particular, nondivisibility of real estate assets. Kallberg, Liu, and Greig (1996) take these imperfections into account and conclude that the optimal mixed portfolio would include about 9 percent real estate. Flavin and Yamashita (1998) note that real

estate portfolio shares have a life-cycle pattern related to the extent of the housing constraint. As households age, the housing constraint becomes less binding and the share of housing in portfolio wealth declines.

The Evidence

Housing in Portfolio Wealth—Housing equity is a major component of the wealth of American households. In 1993, housing equity represented 45.2 percent of net worth of the average homeowner, but the percentage varied among households by race, age, and overall household wealth. Housing equity is a more significant share of the wealth of minorities. Net equity in homes accounted for 44.5 percent of total household net worth of whites. For blacks net equity accounted for 61.1 percent of household net worth, and for Hispanics 60.7 percent of household net worth. The share of housing equity in total household assets diminishes with age. For example, housing equity represents 48.6 percent of total household net worth for householders ages 35 to 44 and 41.9 percent of net worth for householders ages 55 to 64 (U.S. Census Bureau 1998, Shear et al. 1995).

As household wealth increases, the portfolio share of housing decreases. In 1992, home equity accounted for only 7 percent of the net worth of the richest 1 percent of households and 15 percent of net worth of the wealthiest 10 percent. For the median household (based on net worth), home equity accounted for 25.6 percent of net worth. In contrast, fewer than 8 percent of households in the bottom quintile of net worth owned their homes (Weicher 1997a,b). It is noteworthy that the wealthiest Americans—households least likely to be faced with the housing constraint—hold a proportion of portfolio wealth that roughly corresponds with the 9 percent share suggested in the recent portfolio allocation literature.

Homeownership is associated with higher nonhousing wealth. Mean net worth of homeowners was \$297,900 in 1995, and median net worth was \$101,400. The mean net worth of renters was one-seventh of homeowners' at \$43,500, while median net worth was less than one-twentieth of homeowners' at \$4,500 (U.S. Census Bureau 1998, table 767). The median value of housing equity for owners was \$89,000, and the mean was \$68,933.

Although housing wealth accounts for a large proportion of the difference in net worth between owners and renters, a larger proportion is in nonhousing wealth. This finding suggests that homeowners save more than renters, independent of housing wealth. At the macroeconomic level, however, a consistently negative relationship has been shown between increased housing wealth and savings behavior (Bhatia 1987, Skinner 1989), suggesting that increased housing wealth offsets nonhousing savings. Similarly, when observed at the microeconomic level, the measured relationship appears to be an artifact of the age and income differences between owners and renters. When one controls for head of household age and income, the average difference between asset values for

homeowners and renters is almost all housing equity (Weicher 2000). This suggests that homeownership has no effect on nonhousing saving. Nonhousing savings behavior does seem to vary with house prices and house price appreciation.

Although there is no difference in nonhousing savings of owners and renters when measured at the mean, differences emerge when one looks across house price levels. Krumm and Kelly (1989) show that “even though homeownership status does not induce a substantial difference in overall savings for owner-occupied housing valued at its mean level, the results indicate a rather substantial increase in non-housing savings accumulation as a result of increases in the house value chosen” (p. 293). This means that owners of higher-priced housing (presumably, higher-income households) have higher-than-average increases in nonhousing savings relative to similar renters. Nonhousing savings rates were lower than average for households that purchased lower-valued housing.

Engelhardt (1995) shows that there is a positive correlation between house price appreciation rates and consumption behavior. In particular, he shows that the marginal propensity to consume out of housing gains is 0.14. This means that homeowners will consume, on average, about one-seventh of the gains associated with increased house values. The effect is not symmetric for gainers and losers. Households that experience house price declines react far more dramatically than those who gain. These households reduce consumption to offset house price depreciation at a rate of one additional dollar for every three dollars of lost house value (marginal propensity to consume = 0.35). Engelhardt attributes this behavior to attempts by these households to avoid being “trapped” in their houses—saving to afford a down payment for another house should they need to move.

Household savings rates have fallen steadily since 1981. A large portion of savings is held in retirement savings plans with limited liquidity. Tax deductibility of mortgage interest induces homeowners to remain highly leveraged in their homes. Highly leveraged households are more susceptible to income shocks that lead to mortgage default or bankruptcy.

Housing as an Investment—In the United States, housing performs reasonably well as an investment. The “riskless” return on Treasury bills averages about 4 percent per year. From 1971 to 1985, house prices in Atlanta, Chicago, Dallas, and San Francisco appreciated at an average rate of 8.6 percent per year. During the same period, the Standard and Poors (S&P) 500 composite stock index rose 12.1 percent per year (Wasserman 1998). From 1982 to 1998, annual returns on housing in Boston, Chicago, and Los Angeles averaged about 6.5 percent, or about half of the average return for the S&P 500 stock index (Eichholtz and Huisman 1998).

The standard deviation of monthly returns was about one-quarter of the standard deviation of stock returns, indicating less risk for housing investment (Eichholtz and

Huisman 1998). Eichholtz and Huisman (1998), however, note the troubling fact that returns on housing are “thick-tailed” relative to stock market returns. This suggests that housing markets are subject to more extreme events than the stock market, which amplifies relative risk. Karolyi and Sanders (1998) show that conventional asset pricing models do not perform well in predicting risk premiums for real estate investment, suggesting that a different structure underpins real estate returns relative to stocks and bonds—possibly linked to the extreme events noted by Eichholtz and Huisman.

The return on housing is also related to the amount owed on a home. High leverage decreases the liquidity of housing assets. Genesove and Mayer (1997) show that time on market increased for condominiums with higher loan-to-value ratios (LTVs). Units with 100 percent LTVs spent 15 percent more time on market than units with 80 percent LTVs. The more highly leveraged units sold at prices 4 percent higher than the lower leveraged units. Genesove and Mayer suggest that more highly leveraged households are more likely to target a sales price and wait to meet it in order to avoid financial losses and have the necessary funds to finance a down payment on another unit.

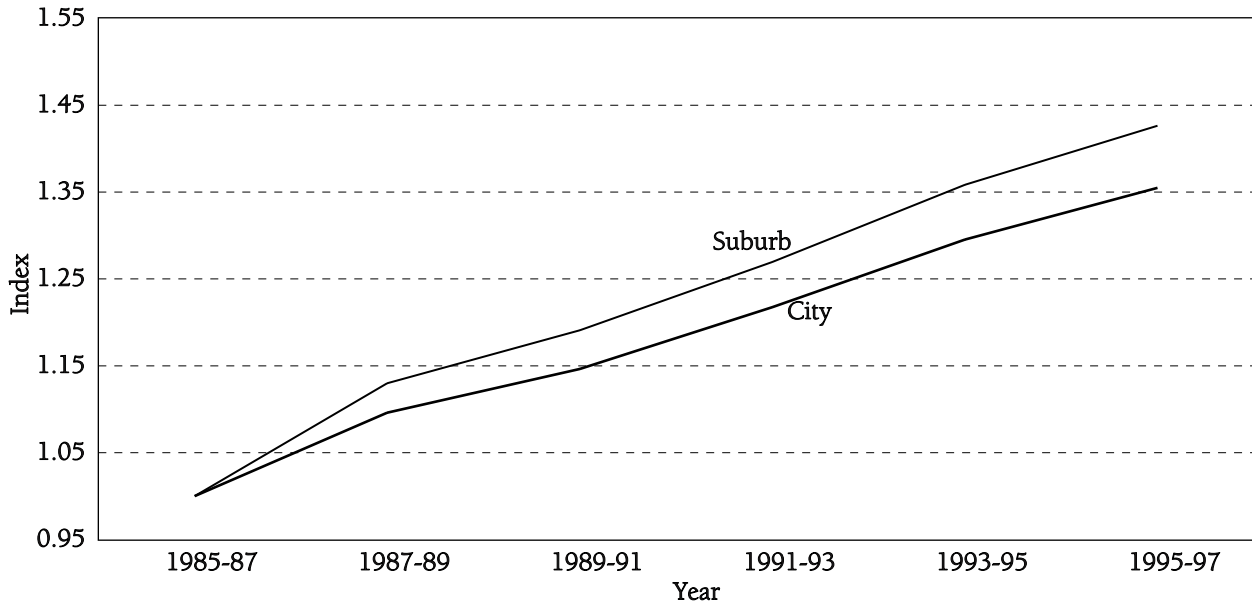
Highly leveraged households have less flexibility vis-à-vis refinancing and prepayment decisions. Caplin, Freeman, and Tracy (1997) show that regional recessions with associated decreases in house prices lead to decreases in refinancing behavior. Constrained owners in these markets are unable to take advantage of lower market interest rates through refinancing.

Archer, Ling, and McGill (1996) show that refinancing behavior is significantly different for households with collateral or income constraints than for nonconstrained households. Constrained households are less likely to exercise in-the-money prepayment options than unconstrained households. Households with LTVs of 90 percent were 40 percent less likely to refinance than “average” households with LTVs around 50 percent. Similarly, households with earnings insufficient to set payment-to-income ratios below 28 percent were 55 percent less likely to refinance than households with sufficient earnings.

Lower- and moderate-income households financing ownership with “affordable” loans are less able to make optimal financing decisions because the mortgage terms make it more likely that they will experience income or collateral constraints. As we will see, there is some evidence that they are more likely to experience dramatic downturns in house prices during recessions as well.

House Price Appreciation—Houses usually appreciate in price over time. Figure 12 shows price indices for urban and suburban housing from 1987 through 1997. On average, a suburban homeowner enjoyed a 40 percent increase in house price over the decade. A city-based owner enjoyed a 35 percent increase in house price over the same period.

Figure 12. House Price Appreciation: Index of House Prices, U.S. Cities and Suburbs, 1987-97



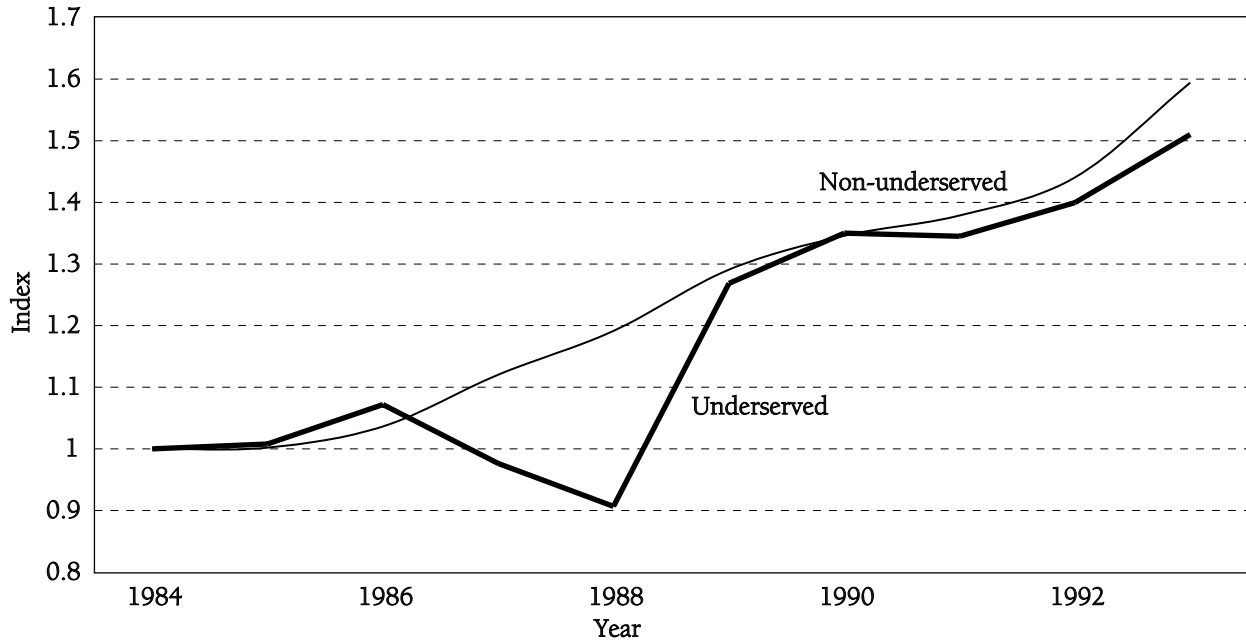
Source: HUD (2000), [1987 = 1].

However, housing does not always appreciate. Appreciation rates show significant variation over time, between areas, and across groups of owners. Local episodes of price depreciation can be long and extreme. From 1983 to 1994, twenty-five metropolitan areas experienced nominal price declines lasting from two to seven years. During these declines, prices fell at annual rates of 2.2 to 10 percent. In many of these episodes, nominal house prices fell more than 20 percent. For example, from 1983 to 1987 house prices in Houston fell 27.2 percent. From 1989 to 1995 house prices in Hartford, Connecticut, fell 20.8 percent. Prices in Los Angeles fell 21.5 percent from 1990 through 1995 (Engelhardt 1998).

Between 1975 and 1998, fifteen large metropolitan areas experienced nominal price depreciation over three-year periods. Prices fell by 5.1 percent to 19.0 percent across these areas. Twelve metropolitan areas experienced more than one three-year period with a price decline; six experienced three or more. Hartford, Connecticut, led all areas with five separate three-year periods of price declines (Joint Center for Housing 1999).

Even in areas with generally increasing house prices, some owners experience significant house price declines. Within metropolitan areas, the investment return on housing can vary dramatically across neighborhoods. Figure 13 shows house price indices for “underserved” tracts and “non-underserved” tracts in Dade County, Florida, from 1984 to 1993.¹⁰ Because of extreme price depreciation in 1987 and 1988, the price index fell

Figure 13. Annual House Price Index: Dade County, Florida, 1984-93, Underserved versus Non-underserved Tracts



Source: Quercia et al. (2000).

below unity, indicating that homeowners in underserved areas who purchased in 1984 would lose almost 10 percent of the house price if they sold in 1988. Note that housing in non-underserved tracts appreciated, albeit at varying rates, throughout the decade with the price index never falling below unity. Housing in underserved areas usually offered lower returns than other tracts, although housing held for the duration of the period shown would still have appreciated by about 50 percent or more on average.

House price appreciation has received considerable attention in the literature. Studies include seminal pieces by Goodman (1988), Case and Shiller (1989), and Case and Quigley (1991). These early studies primarily estimate price appreciation across markets and compare them nationally. The Case-Shiller index is most often cited as the standard for estimation of house appreciation in metropolitan areas. The focus of the literature has recently shifted, however. Several recent studies of house appreciation attempt to differentiate appreciation rates for different populations of homeowners based on location, race, or socioeconomic status. Typically, the recent literature identifies submarkets based on house values and neighborhood demographics to explain the variation in price appreciation. Appreciation rates for low- and moderate-priced housing and housing in high-minority density neighborhoods have received special attention. We identified six studies that examined the dynamics of house appreciation for low-income and minority populations.

In the first study of its kind, Pollakowski, Stegman, and Rohe (1991) examined American Housing Survey data to see whether low- and moderately priced homes had different rates of price appreciation than higher-valued dwellings. They find that, on average, lower-valued dwellings (bottom 20 percent) appreciated at least as much as higher-valued (top 20 percent) ones. In one area, Baltimore, the lower-valued units appreciated over 12 percent more than their higher-valued counterparts. The authors conclude that modest owner-occupied housing is as good an investment as higher-valued homes. The study, however, did not account for the spatial correlation of housing prices.

The importance of location is beyond dispute in all accounts of returns on housing. Until recently, data and empirical methods have not been available to account for locational aspects of house price appreciation—particularly the spatial correlation of house prices with the prices of nearby housing. With the widespread use of geographical information systems (GIS) to organize and analyze housing data, more recent empirical work has added controls for spatial correlation to models of house price appreciation.

Accounting for spatial correlation of house prices, Smith and Ho (1996) find that distinct submarkets exist based on house values. Further, they find that relative price differentials between high- and low-priced houses are driven by separate macroeconomic influences. Specifically, they find that houses in the upper end of the price distribution have higher rates of price appreciation during inflation-driven economic expansions, while lower-priced houses have higher appreciation rates during employment- and income-driven expansions.

Li and Rosenblatt (1997) find that appreciation rates do not differ consistently across neighborhood types. Their estimation of house price appreciation for three California metropolitan statistical areas (MSAs) from 1986 to 1994 showed that housing in higher-priced areas appreciated faster during the first half of the period and more slowly during the second half. The authors identify distinct submarkets within MSA markets, presumably driven by different dynamics.

When Horne, Li, and Rosenblatt (1996) add controls for local income levels, house values, unemployment, and poverty rates, the higher price appreciation estimated for areas with high concentrations of African-Americans disappears. The authors conclude that the evidence suggests the existence of distinct housing submarkets within the cities—each with its own supply-demand dynamics.

The high spatial and intertemporal variation in price appreciation in Miami—a city with steadily rising house prices—is demonstrated in two different studies. Archer, Gatzlaff, and Ling (1996) find that incorporating census tract characteristics slightly improves the explanatory power of the price appreciation model. More than half of the census tracts in their sample exhibited statistically significant different appreciation patterns than the metropolitan area as a whole. Increased distance from the central

business district, higher median house values, higher median house age, and increases in minority concentrations reduce house price appreciation rates.

Quercia, McCarthy, Ryznar, and Can (2000) show that once spatial correlation of house prices is accounted for, housing in Miami's low-income and high-minority tracts have lower-than-average appreciation rates. They show that annual appreciation rates are far more volatile over time in low-income and high-minority tracts, and price volatility tends to follow macroeconomic swings. In many of the low-income and minority tracts, nominal prices fell while prices in the metropolitan area as a whole rose.

Falling house prices are often linked to local or regional recessions. The collapse of oil markets led to widespread price declines in the oil states of Texas, Oklahoma, and Louisiana during the 1980s. Regional job loss due to declines in high-technology industries during the early 1990s led to house price declines in the Northeast and California (U.S. Census Bureau 1997).

The link between labor and housing markets is important, especially for highly leveraged homeowners. Job loss coupled with collateral loss can be disastrous—making it difficult for homeowners to move from declining areas to take advantage of job opportunities elsewhere. Price declines erode the equity position of households and often make it difficult or impossible to refinance mortgages at more favorable terms (Caplin, Freeman, and Tracy 1997). There are numerous anecdotal and popular press accounts of households that were trapped in declining areas due to house price declines. The resulting equity loss makes it impossible to sell and move without defaulting on their mortgage or making large cash outlays to cover the shortfalls (Engelhardt 1998).

Homeownership and Access to Credit—Home-equity lines of credit (HELs) often finance home improvements and repairs. In a recent study of those taking out HELs, 54 percent of owners said the loan would be used to make additions, repairs, or improvements to their homes (U.S. Census Bureau 1995). A large portion of HELs is used to finance consumption, however. Of homeowners with an HEL, 21 percent intended to use it to consolidate other debt, and another 10 percent needed it to make a consumer purchase directly. Only 6 percent of HELs were used to pay large bills like medical expenses or to finance education.

Recently, predatory lending practices have gotten closer scrutiny by policymakers. Anecdotal information regarding predatory lending to low-income homeowners has led housing advocates to seek public intervention. Loans are made with extremely high fees and at high interest rates to families without the means to repay them. Further loans at usurious rates are made when the original loan becomes delinquent—ostensibly to help cover missed payments and fees. Ultimately, the family risks losing its home because of the family's inability to work out of the deeper and deeper credit hole. A major concern associated with the increased use of HELs and the accumulation of debt by homeowners relates to rising foreclosure rates. Elmer and Seelig (1998) show that

the increased risk posture of households plays a significant explanatory role in their empirical analysis of long-term foreclosure rates.

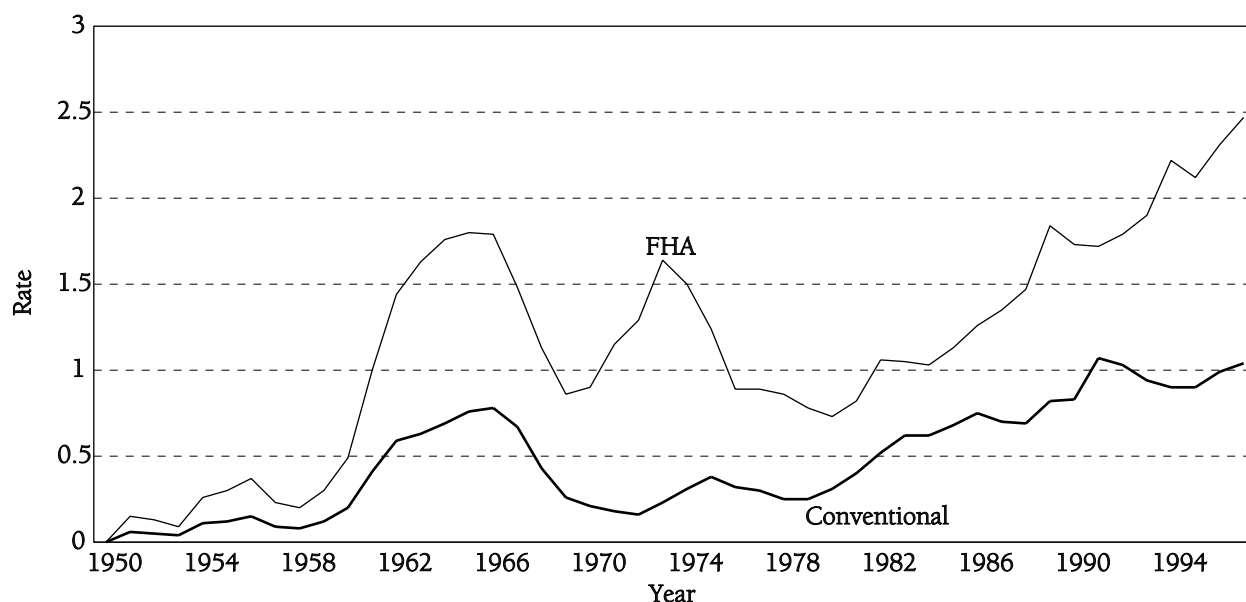
Default Risk—The concern over house price appreciation of low- or moderate-income households and those living in high-minority areas is twofold. First, because these households and areas have historically low homeownership rates, they are primary targets for policies designed to raise homeownership rates, like Clinton’s National Homeownership Strategy discussed earlier. Enticing these households to purchase homes that are risky investments puts them and their financial future in harm’s way.

Second, the regulation of lenders and the secondary market require financial institutions to increase lending for underserved populations. The Community Reinvestment Act (CRA) requires regulated lenders to do regular business in their service areas. The Federal Housing Enterprise Financial Safety and Soundness Act allows HUD to set affordable housing goals for the government-sponsored enterprises (GSEs)—Freddie Mac and Fannie Mae. Beginning in 1992, HUD established lending mandates to require the GSEs to perform a large proportion of their lending in underserved areas.

“Affordable” mortgage products with relaxed underwriting criteria are the main instruments used to manifest these policies. These products require low or heavily subsidized down payments and accept nontraditional verification of creditworthiness. GSE affordable mortgages require as little as 3 percent down payment, and many lenders offer portfolio products with LTV ratios that are as high or higher. Nominal price declines exceeding 3 to 5 percent within the first five years of purchase push households into negative equity positions where the debt on their homes exceeds potential sale value. If these households suffer any shock to their regular income, the results can be disastrous for households and other stakeholders. A cash-strapped household might need to come up with more than 10 percent of the value of the home just to make up the shortfall if they sell the home to extinguish the mortgage. If these homeowners have had difficulty making monthly mortgage payments, they are unlikely to have that kind of cash on hand.

Elmer and Seelig (1998) cite higher household risk postures to explain the recent rise in mortgage default and foreclosure rates. They point out that the recent upward trend in mortgage default has been matched by an increase in personal bankruptcy. Indeed, 53 percent of households that file for bankruptcy are homeowners. However, controlling for various categories of debt, the amount of debt, household demographics, and bankruptcy alternatives, homeowners are still less likely to file for bankruptcy than renters (Domowitz and Sartain 1999).

Foreclosure rates have risen to record levels during the economic expansion of the last decade. Figure 14 shows foreclosure rates for both FHA and conventional mortgages from 1950 through 1997. Rates were close to zero during the 1950s. For example, in 1952 foreclosure rates were 0.05 percent for conventional mortgages and 0.09 percent

Figure 14. Foreclosure Rates: FHA and Conventional Mortgages

Source: MBA, from Elmer and Seelig (1998).

for FHA-insured mortgages. They rose through the early 1960s and then fell until 1972. They have risen fairly steadily since then. In 1997, foreclosure rates stood at 1.04 percent for conventional mortgages and 2.47 percent for FHA-insured mortgages (Mortgage Bankers Association, from Elmer and Seelig 1998). The FHA rate has always exceeded the rate for conventional mortgages, although the relative rates have varied.

There are abundant studies of the determinants of mortgage default and foreclosure. The main approach taken is the “option-based” model of default in which households are theorized to exercise the default option when negative mortgage equity exceeds other direct and psychic costs of default (Kau and Keenan 1995; Vandell 1995; Elmer 1997; Archer, Ling, and McGill 1996; Yang, Buist, and Megbolugbe 1998; see Quercia and Stegman 1992 for a review of earlier studies).

A more recent vintage of default studies stresses the role of “trigger” events to explain default (Quigley and Van Order 1995; Case and Shiller 1996; Capozza, Kazarian, and Thompson 1997; Elmer and Seelig 1998; a discussion of earlier studies can be found in Quercia and Stegman 1992). In these models, random events like job loss, marital disruption, and health problems, coupled with negative equity, trigger households to default. Trigger events are assumed to interrupt income flow or increase budget outlays, making it difficult or impossible for a family to remain current on the mortgage. The household assesses the equity position to determine whether to sell and move or default.

Very little has been written about the impact of default and foreclosure on households and other stakeholders. In our search of the literature, we encountered only two studies

that examined foreclosure *ex post*. Giliberto and Houston (1989) discuss lost job opportunities, fewer future housing options, and limited mobility as individual costs of default and foreclosure. They do not, however, quantify these effects of default on households. Moreno (1995) provides a comprehensive study of default and foreclosure with a thorough enumeration of the costs of foreclosure to all stakeholders. The following discussion relies almost exclusively on Moreno's work.

Entities at seven different levels have a stake in the foreclosure process: homeowners; lenders; loan servicers; mortgage insurers; GSEs; the city, county, or township; and neighborhoods. Homeowners stand to lose any accumulated equity and all costs associated with the acquisition of the home. Second, they lose access to stable housing of decent quality. Damage to their credit rating makes it difficult for these households to buy, or even rent, other dwellings. Other dwellings of similar size are often more costly on a monthly basis than the foreclosed property. Moreno (1995) estimates that the average monthly housing payment for persons receiving foreclosure prevention counseling in two Minneapolis-St. Paul programs was \$554. Average monthly rents for local apartments of comparable size exceeded \$700. Third, foreclosed homeowners not only lose any tax advantages of homeownership, but inherit a potential tax burden. Any forgiven indebtedness (the mortgage principal balance and any accrued interest) that results from foreclosure is treated as income by the IRS. Moreno (1995) estimates average family losses of \$7,200 through foreclosure.

On insured loans, lenders lose non-reimbursable expenses such as interest payments advanced to investors or the expenses of holding and maintaining properties. On portfolio loans, lenders stand to lose the full amount associated with foreclosure—legal fees, maintenance, and broker fees for resale, etc. Mortgage servicers lose the income stream from their servicing fees, with losses averaging five years at an estimated \$225 per year by the Mortgage Bankers Association (from Moreno 1994). Moreno estimates losses of \$1,500 (FHA) to \$2,300 (conventional) on insured loans for lenders and \$1,125 for servicers per foreclosure.

Mortgage insurers (FHA, VA, and private mortgage insurers) lose the difference between the sale price of the foreclosed property and the sum of outstanding debt and all costs associated with resale (unpaid taxes, legal fees, holding costs, broker fees, etc.) up to their maximum guaranty. In 1997, HUD and the Veterans Administration reported average foreclosure losses of \$28,000 for FHA loans and \$10,600 for VA loans; United Guaranty Corporation reported average losses of \$17,300 on foreclosures of conventionally insured loans.

The GSEs (Fannie Mae, Freddie Mac, and Ginnie Mae) suffer losses on foreclosed properties with mortgages sold on the secondary market. Based on the scant evidence available from the GSEs, Moreno estimates their average losses between \$6,400 and \$8,000 per foreclosure.

Foreclosure losses that accrue to towns, cities, counties, and neighborhoods are indirect and associated most often with foreclosures on FHA properties. Cities, counties, and school districts lose tax revenue from abandoned homes. Unrecovered rehabilitation expenses or demolition costs are borne by the locality to make a property marketable. Nearby properties suffer resale value losses, increased vandalism, and other social problems associated with building abandonment. Moreno (1995) estimates average city expenses of \$27,000 and neighborhood expenses of \$10,000 for FHA foreclosures. In a separate study, Simons, Quercia, and Maric (1998) estimate that average sales prices fall \$788 for each 1 percent increase in tax delinquencies in a one- to two-block area of a residence.

In sum, conservative estimates of total losses to all stakeholders average \$73,300 for foreclosures on FHA-insured mortgages and \$26,600 for foreclosures on conventional mortgages. Many “affordable” mortgage products offered by private lenders are held as portfolio loans. Foreclosures on these loans will be even more costly.

Overall Assessment

Through homeownership, most homeowners can increase their wealth. For homeowners, housing equity accounts for almost half of all household wealth. At first blush, homeownership appears to bring financial security for families as an added benefit to the housing security established above. However, the financial benefits of homeownership do not accrue evenly to homeowners in all income brackets. In sum, it appears that homeownership offers much better financial security for wealthy owners than for low- and moderate-income and minority owners. Several factors contribute to the lower financial security offered to these households:

- Lower-income households accumulate lower-than-average nonhousing savings.
- Lower-income and minority households hold more housing than is optimal in portfolio wealth, exposing them to higher risk.
- Lower-income households borrow more against their equity and more expensively than higher-income households, eroding the wealth accumulated through house price appreciation.
- Houses in low- and moderate-income tracts have more volatile and generally lower price appreciation than in middle- and upper-income tracts.

On average, homeowners do not tend to save more—in excess of the wealth associated with housing equity—than renters. As house prices increase, however, homeowners show higher-than-average accumulation of savings. This suggests that low- and moderate-income households save at a lower-than-average rate. If this is true, these households will have lower cash reserves to help them weather an interruption in income or unforeseen expenses related to higher maintenance costs.

Because the housing purchase decision involves both consumption and investment concerns, most homeowners invest in more housing than is optimal. While optimal portfolio allocations have about 10 percent devoted to housing investment, the average homeowner holds more than 40 percent of net worth in housing. Low-income and minority homeowners are particularly overinvested—holding more than 60 percent of their assets in housing.

Housing is a relatively good investment. It brings a return that is lower than riskier stock market investments and higher than lower-risk bonds and bills. However, housing is characterized by a higher probability of extreme events. These extreme events seem to be associated with regional economic decline. Low-income and minority homeowners also experience higher volatility of returns on housing, even in good housing markets.

Households balance the risk of high housing investment by holding lower-risk instruments in the balance of their portfolios. Even so, the risk profile of households has increased over the last two decades, spurred by increased access to housing equity through second mortgages and HELs, as well as the built-in incentive of federal tax policy. Higher household risk has increased the rate of mortgage foreclosure to record levels in the last three years.

Mortgage default is costly for families and numerous other stakeholders. Each averted default can save upwards of \$26,000 when costs to all stakeholders are taken into account. The higher risk and lower and less certain returns on housing investment for these households put them at greater risk of foreclosure and its associated economic impacts. The linkages between housing and labor markets increase the probability that local job losses will be coupled with house price declines. If lower-income or minority households are more likely to suffer job loss, and if house prices in low-priced markets are more sensitive to employment-related cycles as suggested by Smith and Ho (1996), then affordable lending efforts might be exposing these households to higher default risk.

Homeowners have better access to credit. Although proponents identify access to home equity as a way to help pay for college tuition or medical bills, only 6 percent of HELs are used this way. The majority of HELs finance consumption expenditure or substitute housing debt for other debt—no doubt to take advantage of the mortgage interest deduction. The increased risk exposure of households has been linked to the rapidly increasing foreclosure rates of the 1990s.

III. SOCIETAL ECONOMIC IMPACTS

Conventional wisdom has it that homeownership fosters widespread economic benefits through job creation and other economic stimuli. In this section, we look at the relative importance of the housing sector in the macroeconomy as well as the importance of

housing markets for local and regional economies. We consider the trade-offs between the benefits of a vibrant housing sector for the national economy versus the efficiency costs of rooting large portions of the working population in place. We also examine the relationship between housing and other markets—both domestic and international—with a particular look at the role of securitization in increasing liquidity in housing markets.

Homeownership, Housing Market Activity, and the National Economy

From the societal perspective, the economic impacts of homeownership are related to forward and backward linkages of the housing sector to the rest of the economy. With the exception of the labor market, which itself is linked directly to the housing market, the housing market is the most important single market in the economy. It accounts for a huge portion of production activity, with backward linkages to land markets, building materials, tools, durable goods, and labor markets. Housing markets have significant forward linkages with financial markets. Mortgage debt accounts for a large proportion of household debt and, through secondary markets and securitization, undergirds domestic and international financial markets. Housing markets are routinely looked at as an important leading indicator of overall macroeconomic activity.

The Theory

Benefits or costs of homeownership accrue at two levels—directly to the individuals involved in the purchase and sale of homes and indirectly to other individuals or societal institutions. Benefits (or costs) that accrue to individuals or institutions not directly involved in the exchange of a good are considered “externalities” to economists because the value of these benefits (or costs) is not priced into the sale contract. The existence of significant positive externalities of increased homeownership is the justification for most market interventions that promote homeownership. Most of the identified social benefits are qualitative rather than quantitative, although there have been attempts to quantify some externalities.

The presence of external economies, or diseconomies, in markets is considered a type of market failure.¹¹ Markets in which externalities are significant will not trade at optimal levels. One role of public policy—some economists have argued, the *only* role for public policy—is to intervene in markets with significant external economies to move market activity closer to socially optimal levels. Inducements are usually accomplished with taxes or subsidies—designed, in theory, to redistribute resources from those who experience the externality to those who create the externality (see Malpezzi 1996 for a full explication of externalities and the housing market).

One class of external benefits involves the value of the personal transition individuals make once they become homeowners. For example, homeowners are alleged to become better citizens since they have a direct stake in the fortunes of their neighborhoods and local areas (see Rohe, Van Zandt, and McCarthy 2000). They are expected to play a more active role than renters in shaping the future of their locales by voting, participating in local organizations, or lobbying public officials to improve local conditions. But what is the value of better citizens? Better citizenship is a public good, and its benefits are diffuse. If we allow the market to operate freely, it will not produce a socially optimal quantity of housing because market prices do not reflect the external benefit of good citizenship. Prices are higher than optimal, and consequently housing will be wider produced as will the concomitant benefit of good citizenship. Public intervention is necessary to induce the market to produce more housing so that we all may enjoy the benefit of having more good citizens.

A second class of putative benefits (or costs) of increased homeownership accrues directly to society in general. These include job creation, the stabilization of national and regional economies, and the promotion of economic growth without harming the balance of payments. Homeownership accounts for a large share of national employment—directly through the production, maintenance, and modification of housing, and indirectly through realty, insurance, and financial industries. Housing equity also accounts for the lion's share of household and national wealth.

It is at the macroeconomic level that the trade-offs between the societal benefits and costs of homeownership are articulated. Each class of benefits has associated costs. The same process that leads to better citizenship roots households and families in place. Increased mobility costs are imposed on families that make the transition from renting to owning—based mostly on the high transaction costs associated with buying a home. Homeowners lose the easy ability to move to better employment or other opportunities. Widespread homeownership makes the national economy inflexible—unable to respond quickly or efficiently to changing scenarios in the world economy.

While a vibrant housing sector might lead the national economy out of financial doldrums, instability in the housing sector can have devastating regional and local impacts. Bubbles—extreme events—in housing markets can distort local economies much like boom-and-bust cycles of energy markets. The linkage between housing markets and labor markets can make it doubly difficult for families to move to help reequilibrate booming and stagnating regions. Housing value losses associated with job loss can put families in the untenable position of needing to sell to move, but being unable to sell because of negative equity.

Housing finance markets exert strong influences on other financial markets. Because housing equity represents such a large portion of their portfolio wealth, homeowners adjust their other investment behavior to temper portfolio risk. This reduces yields on less risky financial instruments and decreases the demand for riskier instruments.

Policies that promote homeownership (like the mortgage interest tax deduction) encourage homeowners to stay highly leveraged in their homes. This increases household risk profiles that lead to rising default rates. Higher default rates increase the cost of credit for homeowners and other investors and might even drive up national interest rates. Markets with more highly leveraged owners will also have less price flexibility and slower convergence to supply-and-demand equilibrium.

The importance of the housing sector to the national economy is incontrovertible. However, it must be remembered that homeownership per se might have only a marginal impact on the economy. If a large majority of the population were renters, housing the population would still require a sizable commitment of national resources. It is largely a matter of conjecture, but the housing sector might be considerably smaller if homeownership and rental rates were reversed.¹²

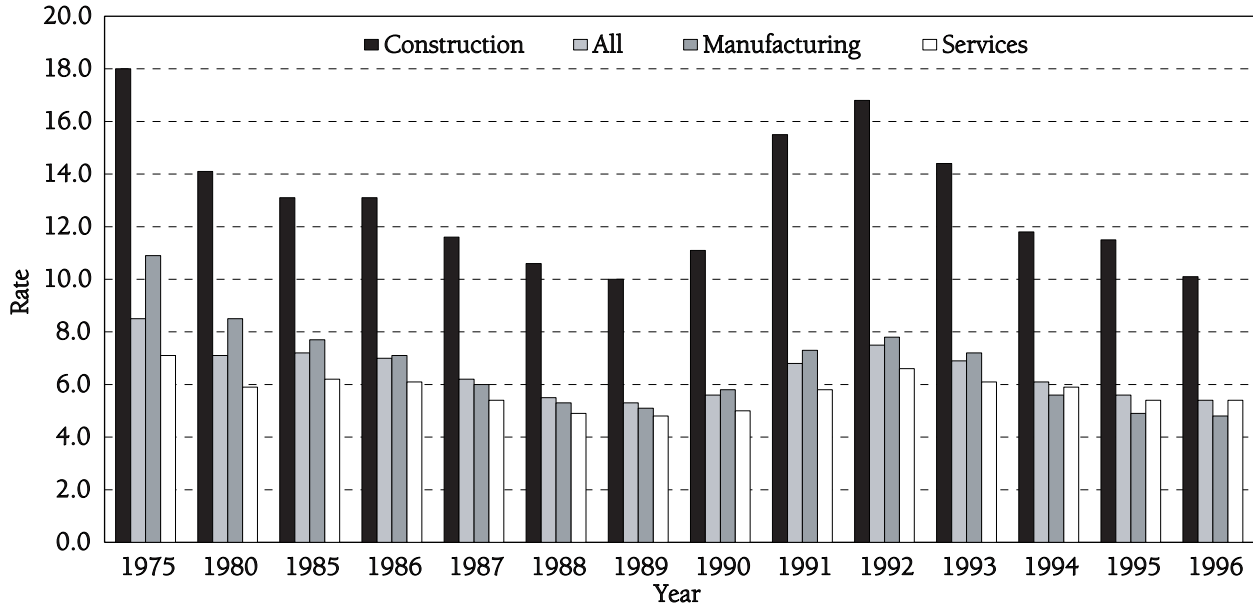
The Evidence

It is an open question whether the size of the housing sector is good for the economy as a whole. Declines in housing investment usually precede national recessions. Employment in housing markets moves closely with housing investment. Given that owner-occupied homes account for more than two-thirds of the value share of the housing sector, to understand the macroeconomic effect of homeownership it is useful to consider the share of the housing sector in the national economy.

In 1997, 1.06 million new single-family units were built, valued at more than \$140 billion (about 2 percent of GDP). An additional \$78 billion (more than 1 percent of GDP) was invested in repairs and improvements (U.S. Census Bureau 1998, tables 1194 and 1197). Sales of existing housing were quadruple the volume of new housing sales—4.6 million, with a median sales price of \$124,000 (table 1206). While the resale of housing is not counted in GDP, transaction costs associated with the sale of existing housing accounted for about 1 percent of GDP.

In 1994, the finance, insurance, and real estate sector of the economy accounted for 18.4 percent of GDP. The real estate industry alone accounted for 11.6 percent of GDP (table 772). About 241,000 real estate establishments employed more than 1.3 million employees and generated a \$31 billion payroll (table 773). In addition, the construction industry employed nearly 5 million workers with a payroll exceeding \$120 billion. More than 107,000 contractors specialized in the construction of single-family housing, employing more than 1.1 million workers with a payroll of almost \$30 billion (table 1176). Housing purchases generated more than \$40 billion in Realtor commissions alone. In 1995, households carried \$5.3 trillion in personal debt. Of this debt, 68.2 percent (or about \$3.5 trillion) were mortgages. Interest payments on these mortgages exceeded \$240 billion, or about 3.5 percent of GDP (tables 779 and 781, authors' calculations).

Figure 15. Unemployment Rates for Selected Industries



Source: U.S. Census Bureau (1998), table 654.

How volatile is housing-related employment? During the Massachusetts housing boom of the late 1980s, construction employment increased by 50,000 jobs in a three-year period (Wasserman 1998). However, in the housing bust that followed, just as many jobs were lost. It is not clear whether employment in the housing market is stabilizing or destabilizing. Figure 15 shows unemployment rates for the construction industry, the manufacturing and service industries, and all industries. As is readily apparent, unemployment rates are considerably higher in construction than in any of the other industries. The swings in unemployment from year to year are also more dramatic. For example, unemployment in construction industries jumped from 11.1 percent in 1990 to 15.5 percent in 1991. The all-industry unemployment rate rose from 5.6 to 6.8 percent in the same period, while rates in manufacturing rose from 5.8 to 7.3 percent and those in service rose from 5.0 to 5.8 percent.

The number of jobs in the real estate sector has grown at a steady pace over the last decade. From 1983 to 1994, the number of jobs grew at an annual rate of 2.2 percent in construction, real estate, insurance, and finance, comparing favorably with the service industry which enjoyed a 2.7 percent annual growth rate. Manufacturing, on the other hand, suffered, with annual losses of 0.2 percent of employment during the same period.

The outlook for employment in the housing industry is fair. The Bureau of Labor Statistics predicts annual growth of 0.6 to 0.9 percent in housing-related employment through 2005. This compares quite favorably with the predicted 1 percent annual employment losses in manufacturing, but lags behind the predicted 1.7 percent annual

growth in services. With the anticipated decline in the manufacturing sector, the relative importance of the housing sector will increase.

Capozza and Seguin (1996) show that house prices are cyclical and overshoot levels suggested by overall income growth. Housing investment is closely related to house prices and will help to feed macroeconomic cycles. Spiegel (1999) suggests that part of the procyclical behavior of housing markets is caused by lenders rationing credit during expansions, a finding supported by the work of Ambrose, Pennington-Cross, and Yezer (1998). Spiegel also shows that shifts in the return on housing and credit rationing influence home maintenance and improvement behavior of homeowners. These shifts in returns contribute to the cyclical behavior of construction, although the timing of the home maintenance cycle lags local economic swings. The more dramatic swing in employment associated with the construction industry and the volatility of housing investment suggest that the housing market has a *de*-stabilizing effect on the economy as a whole.

In 1995, the net stock value of owner-occupied residences was \$5.9 trillion, almost 90 percent of GDP (U.S. Census Bureau 1998, table 1210). As noted above, house price movements translate directly into changes in household wealth. These changes in wealth can be unpredictable and dramatic. Changes in housing wealth have effects on consumption as well as on financial markets. For example, Carruth and Henley (1993) show that regional consumer spending is influenced by changes in housing wealth. Skinner (1989) shows that shifts in housing wealth affect consumption and savings behavior of younger households, suggesting that housing price appreciation influences other prices. Specifically, inflation in house prices leads to inflation in other markets.

At the local and regional levels, house price declines and equity loss make refinancing difficult. Household consumption is reduced, exacerbating the effects of local and regional recessions (Caplin, Freeman, and Tracy 1997). The procyclical relationship between housing wealth and consumption increases macroeconomic instability. During a recession, the wealth effect of declining housing prices dampens consumption; during a boom, price rises help stimulate an overheating economy.

Homeownership also imposes rigidities in the national economy that express themselves in losses of economic efficiency. In particular, housing illiquidity traps large portions of investment capital as fixed investment. This capital is not fungible, nor can it be moved to improve the efficiency of its distribution. Housing appreciates differentially from place to place, which often intensifies regional divergence.

As noted in section II, a majority of homeowners overinvest in housing relative to an efficient portfolio allocation. Overinvestment is particularly common for younger households and those with lower net worth and income. Overinvestment in housing, and the structure of housing investment, exerts influences on the local, regional, and national economies as well. Mills (1987) estimates that housing investment (and the

housing stock) is about 33 percent higher than his two-sector neoclassical growth model suggests as the efficient allocation. As Megbolugbe and Linneman (1993) point out, this misallocation results in reduced economic growth. It also distorts labor and resource markets.

Overinvestment in housing changes the relative composition of household portfolios. Smaller portions of portfolios are devoted to alternative investments. The increased risk of holding high proportions of real estate also distorts the relative proportions of other instruments held in portfolios. If homeowners tend to balance their portfolios with less risky investments, this increases the demand for highly rated bonds and bills, driving up corresponding prices and driving down yields. By holding a smaller relative share of riskier equities, stock prices and returns are bid down. Overinvestment in housing therefore distorts overall investment. In essence, housing investment crowds out other investment; this has secondary effects on other markets and could influence the trade balance.

Record trade imbalances in the last five years have increased concern over the increasing burden of the accumulating foreign debt (Godley and McCarthy 1998). Overinvestment in housing pulls investment away from industries involved in export-related production (or import replacement). To the extent that the size and growth rate of these industries are diminished, the national balance of payments will suffer (Bourassa and Troy 1995). It is not clear, however, that housing production substitutes for the production of export goods. Although housing construction uses domestic materials and labor, the United States has recently become a net importer of important building materials like Portland cement and lumber (U.S. Census Bureau 2000). If these trends continue, it is likely that housing production increases will damage the trade balance.

We could not find a measure of the degree to which housing production substitutes or crowds out other production anywhere in the literature. The further question of whether housing production crowds out production of export-related products is as yet unresolved.

The structure of housing investment exerts a different influence on the national and regional economies. The sensitivity of asset prices to external shocks is directly related to the extent to which people borrow to purchase the asset (Shleifer and Vishny 1992, Kiyotaki and Moore 1997, Stein 1995). In periods of rising asset values, individuals are willing to take greater risks and buy assets on margin—for example, putting down small proportions of their total stake. In periods of falling prices, this practice can lead to price bubbles and price instability in asset markets. One well-known apocalyptic tale of the perils of buying on margin is the stock market crash of 1929. As asset prices fell, margin calls were made, but investors did not have the liquidity to cover their losses.

One artifact of the mortgage interest tax deduction is the high leverage of homeowners' investments in their homes. Because homeowners can write off the full amount of

mortgage interest from their gross income (up to \$1.1 million of interest), it behooves homeowners to carry first and second mortgages that result in very high LTV ratios. It also behooves households to substitute housing debt for other forms of debt—which explains to some extent the high proportion of HELs used to consolidate other debt.

In the United States, the average amount of leverage in housing investment varies considerably from market to market. Lamont and Stein (1999) show that house prices in high-leverage cities react quickly to income shocks while house prices in low-leverage cities react more slowly. Further, their statistical tests indicate that causation runs from leverage to prices. This finding has implications for relative house prices between areas—with the price gap between high- and low-leverage cities widening immediately after an income shock and then closing. It also helps explain the existence of bubbles in housing markets. Highly leveraged markets would be more likely to experience bubbles.

Ironically, overinvestment in housing by families with lower wealth and income can have adverse effects on the distribution of wealth. Housing tends to occupy much of the investment portfolio in households with lower wealth and income. These larger-than-optimal portfolio proportions increase risk, which in turn results in higher default and bankruptcy rates. During recessions, these households stand to lose large shares of their wealth if they default—redistributing wealth away from poorer households. Lower-income and minority households also have higher probabilities of job losses during recessions, increasing the likelihood that they will be faced with default.

Overall Assessment

Research on the macroeconomic importance of housing and homeownership is seriously underdeveloped. Nevertheless, it gets significant attention from policymakers and industry stakeholders. For example, the unsubstantiated claim made in Clinton's National Homeownership Strategy that the employment multiplier is 2.1 construction jobs for each new home built almost certainly is not a net figure—accounting for the employment necessary to produce alternative rental housing. Similarly, because housing starts are a leading indicator of economic activity does not mean that increases in housing starts *make* the economy improve.

Attempts to quantify the societal impacts of homeownership are rare. We encountered two studies that tried to directly measure the value of externalities associated with homeownership and the behavior of homeowners. Rohe and Stewart (1996) show that a higher proportion of homeownership is associated with better neighborhood stability (defined by less turnover) and higher rates of property value appreciation. In their empirical model, a 5 percent increase in homeownership rates yielded a \$4,000 increase in mean single-family property value over a ten-year period. Simons, Quercia, and Maric (1998) measure the negative spillovers associated with residential construction and disinvestment. They show that new building in a neighborhood increases house prices while disinvestment decreases sales prices of other houses. In their study of

Cleveland neighborhoods, neighborhood prices rose an average of \$670 for each new unit built. Using tax delinquency as a proxy for housing disinvestment, they find that each 1 percent increase in tax delinquency results in an average price decline of \$778.

The existence of trade-offs between the external costs and benefits of homeownership suggests that there is an optimal level of ownership for the nation as a whole. To find this optimum, it is necessary to know the relative magnitudes of costs and benefits and their association with homeownership rates.

Homeownership and Market Efficiency

The Theory

Globalization amplifies the strong competitive forces on all the world's economies. Flexibility in labor and capital markets—specifically, the ability to respond quickly to changes in supply and demand—is increasingly important for any economy hoping to remain competitive. Increased homeownership generates inflexibility in both labor and capital markets, having a detrimental effect on the internationally competitive position of the United States.

The Evidence

The main mechanism by which local and regional economies adjust is labor mobility. Mounting evidence indicates that migration of labor rather than wage adjustment is the principal means by which regions equilibrate (Blanchard and Katz 1992, McCarthy 1998). Homeownership is a significant deterrent to migration (McCarthy 1998). The equity position of a household also has a strong negative effect on its mobility. Engelhardt (1998) shows that highly leveraged homeowners have lower mobility rates than those with more equity. This effect, however, diminishes with the distance of the move. Homeowners who move to new metropolitan areas and purchase new homes tend to buy lower-priced houses.

One implication of the deterring effect of homeownership on mobility is that it will exacerbate the spatial mismatch between workers and jobs. The topic of spatial mismatch between low-income families and employment opportunities within metropolitan areas is well developed in the literature (Kasarda 1989, Wilson 1987; for reviews of more recent literature, see Kain 1992, Ihanfeldt and Sjoquist 1998). Less is known about spatial mismatch at the regional level.

Single-family detached dwellings use more resources and take up more space than the compact settlement associated with renting. Low-density housing has serious ecological implications that have only begun to receive serious attention in the last decade or so.

At least part of the rapid growth of homeownership in the 1950s and 1960s has been attributed to the construction of the interstate highway system (Bradford 1979). The highway system opened new suburban areas to development and hastened the decline of inner-city neighborhoods. Movement from the cities to the suburbs and exurbs continued through the 1980s.

This movement generated another kind of spatial mismatch between job locations and the locations of homes. The resulting spatial organization of work and settlement has generated a raft of problems: air pollution, with its associated health problems; time lost commuting; increases in resource uses (including the importation of oil with its concomitant negative impact on the trade balance); and the negative social impact of sprawl. Most policies designed to increase homeownership—with the notable exception of policies targeted at increasing ownership in specific inner-city neighborhoods—are neutral with regard to sprawl. Although there is a burgeoning literature on urban sprawl, we encountered no literature quantifying the economic effect of sprawl.

Homeownership and Financial Markets—The larger-than-optimal share of housing in investment portfolios leads households to choose less risky assets to balance their portfolio. This process, referred to as “temperance,” can have widespread effects on returns of other assets. Fratantoni (1998) shows that when households commit a higher proportion of their income to housing expenditures, expressed in payment-to-income ratios, they hold a smaller share of their nonhousing assets in stocks. Higher rent-to-income ratios for nonowners did not have the same effect. Similarly, households that hold larger shares of their wealth in housing equity are more likely to hold bonds and Treasury bills rather than stocks. Flavin and Yamashita (1998) note that as the baby boomers age and the housing constraint becomes less binding because of life-cycle effects, one would expect to see homeowners move toward riskier investments.

There is good evidence that securitization has fueled increases in housing prices in recent years. This rise in prices has occurred through additional liquidity filtering into U.S. housing finance markets from households and foreign concerns. Recent budget surpluses have led to large-scale retirement of Treasury securities. These have been replaced in household and foreign portfolios with mortgage-backed securities, mainly sold by the GSEs. D’Arista (1999) shows that the sale of instruments backed by federally related mortgage pools jumped in 1999 to a figure 60 percent higher than its previous all-time high in 1994. While the bulk of the securities was purchased by the household sector (\$163 billion), \$92 billion in securities were purchased by the foreign investors. As the United States continues to generate record trade deficits, increasing amounts of mortgage-backed debt are flowing abroad. Most investors assume that the securities have almost no risk because they carry an implicit public guarantee.

Increased liquidity helps maintain high housing prices and minimize risk on these instruments. However, if housing prices turn downward and mortgage defaults become widespread, the implicit guarantee might result in significant public expense. Further,

decreases in demand for mortgage-backed paper will increase the severity of a house price collapse as housing finance liquidity will shrink. All in all, the internationalization of housing finance, fueled in large part by dramatic increases in mortgage borrowing through increased homeownership, has increased both national and international financial fragility.

Overall Assessment

The macroeconomic impact of the housing sector on the economy is a rich and undeveloped research area. And it is absolutely necessary to understand the macroeconomic role of the housing market to formulate efficient policy. Any policy intervention intended to correct for market failure requires a measure of the external costs and benefits associated with market activity in order to formulate a policy of proper magnitude. It is not economically efficient to promote universal homeownership simply because homeownership brings some external benefits. One must also assess the costs. Both external benefits and costs are likely to be nonlinear with regard to homeownership rates. As the structure of the economy changes, so might the optimal homeownership level. It could be argued that we have already surpassed the optimal ownership rate for the United States to remain competitive in the “new” global economy.

Securitization and the internationalization of the housing finance sector has attracted significant amounts of liquidity. Further, good performance of mortgage-backed securities and an implicit government guarantee have made these instruments good substitutes for Treasury debt. However, this increased liquidity has helped maintain high housing prices with the risk of bursting a price bubble when the economy slips into a recession. The implications of increasing financial fragility are not fully understood. Another downside of an increasingly international housing finance system is that it can blunt other policy tools. For example, the Board of Governors of the Federal Reserve (Fed) has recently attempted to contain the growth of the U.S. economy by systematically raising interest rates. This is expected to slow borrowing and consumption and reduce the risk of price inflation because of the extremely tight labor markets. Although short-term interest rates have increased in line with the recent Fed increases, mortgage rates have not. In fact, average mortgage rates fell by 50 basis points from 8.7 percent in mid-May to 8.2 percent in the last week of June 2000. This “suggests just how little control Fed policymakers have over crucial pieces of the economy” (*Sunday Poughkeepsie Journal* 2000).

Another undeveloped area of the macroeconomic and policy literature is a critical assessment of how efficiently various policy tools achieve stated goals. This research must begin with an accurate and comprehensive understanding of housing markets. For example, a better policy mix might be considered to promote homeownership and, at the same time, abate some of the costs associated with increased ownership. If lower household mobility imposes efficiency losses for the economy, and if lower mobility is tied to high transaction costs, then policy might be enacted to reduce transaction costs.

As it stands, most transaction costs are not set by competitive market forces nor are they regulated. Title fees, Realtor fees, mortgage application fees, legal fees, points charged at origination, and so on, are governed often by custom or institutional forces. Action to limit transaction costs and make home purchase easier will benefit the economy.

IV. CONCLUSION

Summary of Major Findings

There is no question that high levels of homeownership bring significant economic benefits to both the families that choose to be owners and society in general. Homeowners live in larger, higher-quality dwellings. They enjoy a better stream of housing services, with costs that usually fall over time, and stand to gain considerable financial returns if they remain owners for a long time. Strong evidence suggests that the average homeowner accumulates a significant portion of wealth in the form of housing equity. Wealthy homeowners also accumulate more nonhousing wealth than renters, suggesting that they save more.

Housing is an investment that bears a decent investment return, between the higher rates of riskier stock market investments and the lower rates of less risky investments of bonds and bills. Housing investment, however, suffers more extreme events than other assets. This, in addition to the fact that homeowners tend to hold a larger-than-optimal portfolio share in housing, exposes owners to higher overall portfolio risk.

The benefits of homeownership are not distributed equally among homeowners. Lower-income and minority families hold larger portions of their wealth in housing. These same owners are more susceptible to extreme price movements and investment losses in housing. Households that purchase housing using “affordable” mortgage instruments are more highly leveraged than other homeowners and distribute many of the financial benefits of ownership back to the financial sector in the form of interest payments, mortgage insurance, and higher portfolio risk. These households also face higher costs associated with homeownership that erode the financial benefits of owning. In particular, they incur higher maintenance costs because they tend to buy older homes. Lower-income households also face proportionally higher transaction costs.

Evidence regarding the societal economic benefits of homeownership is highly conjectural. The evidence to support the existence of aggregate costs and benefits are usually based on implications or logical extensions of microlevel studies of household behavior other than direct measurement. Few studies quantify the costs and benefits, and none of them uses fully articulated macroeconomic models as their basis.

Housing construction and finance represent a large share of national economic activity. However, if rental housing replaced the stock of owner-occupied housing, it is not clear what the magnitude of the change would be for the economy as a whole. Housing labor and investment markets are highly volatile—more volatile than almost any other market in the economy, suggesting that the housing sector destabilizes the economy rather than the reverse. Housing markets, especially those with highly leveraged owners, lead to regional instability as well. The magnitude of this instability and its effect on the rest of the economy is as yet unknown.

High housing investment distorts prices and returns on other investments. Households temper their portfolio risk by holding less risky nonhousing assets—essentially crowding out stock market investment. Higher household portfolio risk drives up default rates, which drive up interest rates for the economy as a whole.

High homeownership rates fix large portions of the population and capital stock in place. This inflexibility leads to efficiency losses that hurt our international competitiveness. But, once again, without a means to quantify the efficiency losses, it is impossible to measure them against the other purported benefits of homeownership.

The vast literature on the economic benefits of homeownership has a marked unevenness of topical development. In many ways, the development of the literature mirrors the interests of industry stakeholders and policymakers. Specifically, prepurchase studies focus on the determinants of the tenure decision and rarely take a critical stance on whether homeownership is the optimal choice for all households. Similarly, the mortgage default literature explores and articulates the concerns of mortgage industry stakeholders rather than households. These studies help lenders distribute risk, price default risk into mortgage rates, or rate mortgage-backed securities. There is scant literature on how mortgage default affects the lives of the families that lose their homes.

Policy Implications

Public policy that encourages homeownership has often been justified by claims that homeownership has a variety of economic benefits both to individuals and to society. Although most households, including lower- and moderate-income households, benefit through purchase of a home, there has been little research that carefully measures and compares the relative benefits of ownership across socioeconomic groups. Raising national homeownership rates will require significant increases in homeownership among underserved populations. We should have a more accurate assessment of the potential benefits and risks faced by these households before we persuade them to become homeowners.

Our review of the research literature suggests that there is considerable, although not irrefutable, evidence that homeownership is associated with housing and financial security for homeowners and their families. Whether the costs of these policies are reasonable given the anticipated benefits, however, is a separate question beyond the scope of this report.

The research on the impacts of homeownership also suggests that these benefits may not accrue to all homeowners. Those who buy homes in less desirable neighborhoods or in housing markets that experience depreciation may not realize the economic or social benefits of homeownership. Moreover, some homeowners may desire to move, but find themselves stuck in homes they cannot sell. In still other instances, homeowners may have difficulty keeping up with their mortgage payments, and this may lead to economic problems or, in the worst cases, mortgage default.

Although the country has enjoyed the longest continuous economic expansion in its history, mortgage default rates have steadily crept up to record rates. More than 1 percent of conventional mortgages and more than 2.5 percent of FHA mortgages end in default in a given year. Subprime loans, a growing share of financial markets, show even worse performance (MIC 2000).

This amounts to about 1 million households losing their homes during an expansion year. What will happen when the economy slips into recession? Attempts to move the country to higher overall homeownership rates might appear to be a laudable goal. However, if this goal does not include provisions to preserve homeownership, we are doing only half the job. Increasing homeownership requires reaching underserved households—households with the least to gain and the most at risk. If raising the homeownership rate brings widespread economic benefits to communities and society as a whole, then it is probably worth distributing the risks of the policy away from those least able to bear them.

Those involved in promoting homeownership should be careful not to oversell homeownership, particularly among those who are less likely to be successful homeowners. Recent public policy has been focused on making homeownership available to lower-income families. Although this is clearly an important and worthy goal, not everyone can become a successful homeowner. As Rohe and Stewart (1996) note: “Encouraging families with highly variable or even flat income trajectories to purchase dwelling units is counter-productive: They are unlikely to be able to afford them over the long run. Encouraging low-income families to purchase units that they will not be able to maintain at a reasonable standard is also harmful [to the larger community]” (p. 73).

Similarly, it is important to determine whether an area has a reasonable probability of stable or increasing property values and healthy social conditions before encouraging households to purchase homes there. If neighborhood revitalization programs adopt

homeownership as the central element of their revitalization strategy, then preventive measures should be put in place to protect homeowners from collateral loss and/or default. The focus on increasing homeownership rates should be matched by efforts to increase investments in infrastructure and services to make sure that the neighborhood is a desirable place in which to live. In short, promotion of homeownership is a worthy means, so long as it is not the only means, for neighborhood revitalization. Otherwise, homebuyers may not realize either the economic or social benefits of homeownership.

Future Research

Our review of the literature suggests both general and specific recommendations on future homeownership research. The general recommendations mainly address methodological issues on how this research is conducted while the specific recommendations concern particular topics that need additional research.

General Research Recommendations

- ***Future research needs to do a better job of establishing the conditions under which housing is a good investment.***

In particular, everything we know about varying returns to housing is based on disparate local studies. GIS-based research using data sets of national scope needs to be tapped to determine the conditions under which housing prices appreciate. Does housing in all underserved areas have more volatile and/or lower rates of appreciation? Is house price appreciation related to other issues? This is important knowledge that is needed both to inform policy and guide research work.

Most of the existing research on the impacts of homeownership does not recognize that the homeownership experience may not be the same for all types of homebuyers or for those who buy in different neighborhoods or housing markets. Rather, it looks at the average experience of homeowners. The impacts of homeownership may depend on the characteristics of the neighborhood in which a home is bought. In a soft market the residential mobility of homeowners may be restricted as they may have difficulty selling their homes.

- ***Future research needs to determine methods for preserving homeownership rather than just expanding it.***

More research needs to be done on the cost-effectiveness of averting mortgage default and foreclosure. In particular, full-cost accounting needs to be done to determine the overall impact of mortgage default. Such research will allow for the development of alternatives to foreclosure, as well as strategies for sharing the risk of default and foreclosure among all of those who benefit from increasing homeownership rates.

■ ***Future research needs to develop a better understanding of market dynamics.***

Most research on the economics of housing is rooted in cross-sectional empirical models. Little is known about the interplay of supply-and-demand forces over time and how they shape local housing outcomes. Research rooted in longitudinal methods must be brought to bear to understand how both sides of the housing market respond to local, regional, and national shocks. It is important to determine whether market responses are appropriate and where policy interventions are necessary to move the markets to optimal performance.

Several high-quality longitudinal databases are now widely available for housing study. For example, the Panel Study of Income Dynamics has completed the thirtieth year of its panel. It includes extensive information regarding household demographics, employment, and assets and debt. It includes data on housing tenure and limited data on housing characteristics. The National Longitudinal Surveys include three data panels. For the purposes of current studies, the Survey of Youth has tracked a large (around 12,000 person) sample of youth ages 14 to 22 beginning in 1979.

Quasi-longitudinal data sets can be constructed from the American Housing Surveys (AHS). One limitation of the AHS is their choice of dwelling rather than household as the unit of observation. For housing studies, however, the AHS has the most complete data on housing characteristics and occupants.

■ ***Future research needs to do a better job of identifying the mechanisms through which homeownership influences the various economic variables of interest.***

Much of the existing research on the impacts of homeownership finds associations between homeownership and the social and economic variables under study. The authors then go on to infer the process or mechanism through which homeownership produces those impacts. Future research needs to go beyond inferring these processes to actually testing them. The intermediate variables through which homeownership is thought to act on the social and economic variables of concern need to be identified, measured, and included in structural equation models. These models will help determine whether there is evidence for a proposed process and, where there is, provide more convincing evidence for causal relationships.

Specific Research Topics

Our review of the homeownership literature suggests several topics that are in particular need of additional research. These include the following:

■ ***Topic: Differences in the benefits and costs of homeownership between low- and moderate-income homeowners and middle- and upper-income homeowners.***

Most of the research on the benefits of homeownership does not test to see whether any of the benefits found apply to the relatively small group of low- and moderate-income homeowners. Low- and moderate-income homeowners are more likely to own older houses in less desirable neighborhoods. Thus, their homeownership experience may be substantially different from their higher-income counterparts. We know, for example, that many low- and moderate-income homebuyers do not receive the same tax advantages as higher-income buyers because the standard deduction is greater than the amount that they can deduct for mortgage interest payments. In a similar way, many of the other benefits of homeownership may not apply to lower-income homeowners.

Differentiating between impacts on various income groups is a particularly important research topic since recent attempts to increase the homeownership rate have targeted low- and moderate-income households. If we find that many of the benefits of homeownership do not apply to this group, this would be important information. Again it would allow low- and moderate-income buyers to make a more informed decision about buying a home.

■ ***Topic: House price depreciation.***

Although most homes appreciate in value over time, some depreciate in value. In some instances, this is related to weak demand in the larger housing market; in other instances, it is related to weak demand in a particular neighborhood. Moreover, this depreciation can be relatively brief, lasting a year or two, or last over an extended period. Price appreciation of housing is a fundamental component of the asset accumulation often identified as a major benefit of homeownership. While differential house price appreciation has gotten recent attention in the literature, we need to know much more.

For example, it is extremely important to determine whether the slower and more volatile house price appreciation rates for low-income and minority populations characterize other metropolitan areas and time periods than the studies reviewed here. Further, we need to know more about how house price appreciation and depreciation affect homeowners.

We know very little about the social and economic impact of housing depreciation on owners. How does housing value depreciation affect their mobility? How does it affect their consumption of other goods? Answers to these questions would help in developing a more complete understanding of the potential impacts of homeownership.

■ ***Topic: Maintenance performance of owners and price appreciation.***

This report cites several studies of maintenance behavior; however, many questions are as yet unresolved. For example, the similar rates of price appreciation for owner-

occupied and rental properties suggest that all owners behave similarly regarding property maintenance. However, we also know that rental units are in worse repair than owner-occupied units. This disparity could be explained by the fact that rental units are usually in older buildings than owner-occupied units. It might also be that different market forces determine price appreciation in rental and owner-occupied markets.

Affordable mortgages that are underwritten at higher LTVs and with higher payment-to-income ratios might constrain the maintenance behavior of low- and moderate-income owners. Many of these owners might not have the requisite skills to perform major repairs or renovations themselves. Since homeowner maintenance has a strong impact on the investment return on owning, it is important to determine whether budget constraints affect the behavior of low-income households.

■ ***Topic: The economic impacts of mortgage delinquency and default.***

Although mortgage delinquency and default are relatively rare events, they may have serious economic impacts such as loss of savings and problems in obtaining credit for other purchases. At the present time, we know very little about the nature and severity of these impacts. Future research needs to identify samples of homebuyers who are delinquent or who have defaulted on their mortgage loans and see what impacts these conditions have on their economic well-being.

Understanding the potential negative impacts of homeownership would help both homebuyers and homeownership counselors better understand the full set of impacts associated with deciding to purchase a home. Some homeownership counseling programs tend to focus on the many benefits of homeownership while ignoring or downplaying the impacts of mortgage payment stress, delinquency, and default. Homebuyers should understand the full set of potential benefits and costs when making their decision to purchase a home.

■ ***Topic: Measuring the macroeconomic importance and impact of the housing sector.***

Public attempts to increase homeownership rates are often justified by the alleged importance of housing and homeownership to the national and regional economies. Few empirical studies have measured this importance. The few studies that have attempted to establish the importance of homeownership fail to control for the fact that a decline in the owner-occupied housing market will generate a concomitant growth in rental markets. A fully articulated macroeconomic model is required to determine the overall impact of increases in homeownership on labor, resource, and finance markets.

A fully articulated dynamic macroeconomic model is required to determine the impact of housing markets on economic stability. Does housing investment lead or lag economic

performance? How do housing prices respond to changes in the discount rate? Do price changes, in turn, affect housing demand and housing investment? A macroeconomic model disaggregated to the regional level will be required to measure the impact of differentials in homeownership rates, housing investment, and house price appreciation on regional economies.

An open-economy macroeconomic model will be needed to determine the impact of increased homeownership rates on international competitiveness. To understand the efficiency costs associated with increased homeownership and lower labor and capital mobility, it is important to determine whether efficiency losses are indeed nonlinear with respect to homeownership rates. Simulations can be run to determine the impact of reducing transaction costs to minimize these efficiency losses.

The macroeconomics of homeownership and housing markets is, as yet, an undeveloped area of the literature. We will not be able to address policy questions adequately until we can measure and compare the relative costs and benefits of homeownership for the economy as a whole.

A U T H O R S

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N O T E S

1. It is useful to consider the set of necessary and sufficient conditions required for markets to reach competitive equilibrium: 1) perfect information, including perfect foresight—e.g., knowing in advance how much one will enjoy the future consumption of one's housing as well as the investment return on the housing—for all market players; 2) "frictionless" markets—e.g., transactions are costless and take no time or effort; 3) an infinite number of potential buyers and sellers so that nobody can control the price; 4) infinitely divisible goods; 5) homogeneous goods—e.g., a consumer cannot distinguish quality differences between two different houses in the same market. It would be difficult to make the case that housing markets satisfy any of these conditions.
2. Although it goes beyond the scope of this paper, much of an owner's effort toward maintaining a home's value is devoted to motivating others through political activities at the neighborhood or jurisdictional level or through exercising subtle, or not so subtle, social sanctions on others living in the neighborhood.

3. Monthly housing costs include mortgage or rent payments, real estate taxes, fuel and utilities, garbage collection, and property insurance.
4. This assumes that households have full information. In other words, although the tax benefits are minimal for low- and moderate-income homeowners, their perception of the tax benefits might be altogether different. An example of this misperception is revealed in a survey of providers of homebuyer education and counseling (HEC) by McCarthy (1998). A vast majority of HEC providers (87 percent) felt that their target clientele (typically, households with incomes below 80 percent of area median) desired to purchase homes because of tax advantages. Further, 72 percent of HEC providers felt there were significant tax advantages of owning for their clients.
5. To project the years 2000, 2001, and 2002, it is assumed that prices and rents duplicate the three-year pattern exhibited in 1997–1999. There is good reason to expect that both prices and rents will rise at even faster rates in the next few years.
6. For simplicity, it is assumed that the home is fully leveraged with a thirty-year FRM at 8 percent APR and no PMI or closing costs are required.
7. These are direct expenditures that do not include the labor value of repairs and improvements the owners performed.
8. In this case “overinvestment” is defined as investment for which the return is significantly lower than the return on other investments.
9. Another way to measure the investment return on housing is the return on equity. Because homes are typically a leveraged investment—e.g., the investment is bought “on margin” through mortgage borrowing—homebuyers are thought to have only their down payment, or accumulated equity, at stake. Any price appreciation of the home would then be measured as return on the amount at stake. For example, a home that is purchased with a 20 percent down payment might appreciate by 5 percent of its sale price in the first year of ownership. This amounts to a 25 percent return on equity. This also means that house price depreciation results in an amplified loss on equity.
10. In the study, “underserved” tracts were identified based on targeted affordable lending criteria. In the example presented here, underserved tracts have at least 30 percent minority-headed households. Results using underserved definitions based on household income showed similar results.
11. It is important to remember that socially optimal levels of market activities result only when markets meet the assumptions of perfect competition discussed above. An argument can be made that there is a role for public intervention in markets whenever any of the perfect market assumptions are not met.
12. This assumes that housing would be produced in the current configuration of rental and owner-occupied markets, e.g., units would be smaller and development more compact.

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