

American Dream or American Obsession?*

The Economic Benefits and Costs of Homeownership

BY WENLI LI AND FANG YANG

Homeownership is an integral part of the American culture. Over the past 70 years, the U.S. government has devoted significant public resources to encouraging and promoting homeownership. The recent financial crisis has prompted the government to spend even more on preserving homeownership, despite the fact that the financial crisis itself was led by the meltdown of the U.S. housing market. Now, an increasing number of academicians and media reporters are questioning the previously unquestionable: Has the American dream turned into an American obsession? In this article, Wenli Li and Fang Yang analyze the economic benefits and costs associated with owning one's residence. They re-examine a variety of rationales that have been put forward in support of homeownership and examine the evidence for an economic cost associated with homeownership.

live in housing units they own has risen from around 40 percent before World War II to close to 70 percent today. The financial crisis that started in 2008 has prompted the government to spend even more on preserving homeownership, despite the fact that the financial crisis itself was led by the meltdown of the U.S. housing market. In light of these developments, an increasing number of academicians and media reporters are now questioning the previously unquestionable: Has the American dream turned into an American obsession?¹

In this article, we analyze the economic benefits and costs associated with owning one's residence. We re-examine a variety of rationales that have been put forward in support of homeownership, namely, housing as a means of saving and a means

The strength of the nation lies in the homes of its people. — Abraham Lincoln

A nation of homeowners is unconquerable. — Franklin D. Roosevelt



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Homeownership, like baseball and hotdogs, is an integral part of the American culture. Over the past 70 years, the U.S. government has devoted significant public resources to encouraging and promoting homeownership. (See *Housing Policies That Promote Homeownership* for a summary of the various programs.) The percentage of households that

*The views expressed here are those of the authors and do not necessarily represent the views of the Federal Reserve Bank of Philadelphia or the Federal Reserve System.

¹For media reports, see, among many others, "Shelter, or Burden?" (*The Economist*, April 16, 2009); "Building Castles of Sand" (*The Economist*, June 18, 2009); National Public Radio reporter Kai Ryssdal's interview with 2006 Nobel Prize winner Edmund Phelps (March 26, 2009); columnist Robert Samuelson's "The Homeownership Obsession" (*Washington Post*, July 30, 2008); and the 2008 Nobel Prize winner Paul Krugman's column in the *New York Times* ("Home Not-So-Sweet Home," June 23, 2008).

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Housing Policies That Promote Homeownership

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large variety of government programs have served over the years to increase homeownership

in the United States. Most of these policies work by reducing the cost of homeownership or by increasing the flow of capital to the housing market.

The oldest and perhaps most powerful of these policy tools lies in the federal income tax code formed in 1913. Homeowners can deduct interest on mortgages of up to \$1 million on their taxes; they can also deduct local property taxes. Profits (capital gains) from house sales are also shielded from taxation for up to \$250,000 (\$500,000 for a married couple filing jointly) if the owner used the property as a primary residence for two of the five years before the date of sale.

Finally, as Satyajit Chatterjee explained in his 1996 *Business Review* article, if we lease our housing unit to another household, our rental income as a landlord would be taxed. However, if we own the house we live in, we are effectively paying ourselves rent, and the associated rental income is not taxed, according to the current tax law. In 2008, according to the Office of Management and Budget, these tax breaks are both about \$145 billion. Note that this

calculation does not count the possible taxation of rental income in an owner-occupied unit.

The government also funnels cheap credit into government housing agencies, including the Federal Home Loan Banks and Fannie Mae and Freddie Mac.^a These agencies borrow at preferential rates and were long perceived as backed by the U.S. Treasury. In July 2008, right before the Federal Housing Finance Agency (FHFA) was formed, Fannie Mae and Freddie Mac held or guaranteed \$5.2 trillion worth of mortgages, two-fifths of the national total.^b

The Federal Housing Administration (FHA) insures mortgages for low- and moderate-income families that require only a 3 percent down payment. Created by the National Housing Act of 1934, the FHA insures private mortgage lenders against borrower default on residential real estate loans. These are the borrowers who typically have no credit history, a history of credit problems, or not enough cash to cover the down payment and closing costs and who almost certainly wouldn't qualify for a conventional home mortgage. The FHA has quadrupled its insurance guarantees on mortgages in just the last three years. Currently, the FHA insures \$560 billion of mortgages.

of investment. We argue that both rationales are no longer valid. We also examine the evidence for an economic cost associated with homeownership, that is, the reduced mobility rate. In a nutshell, while owning one's own residence carries economic benefits for many households, it is not for everyone, at least not on economic grounds. As the quotes from Lincoln and Roosevelt suggest, not all arguments for supporting homeownership are economic in nature. We do not explore in detail some of the noneconomic arguments that have been offered as reasons to subsidize homeownership. These noneconomic benefits are typically termed social benefits. (See *The Social Benefits of Homeownership*.)

HOMEOWNERSHIP AND SAVING

The main economic argument for homeownership is that it is the most important way in which the majority of families accumulate wealth, since houses give households a means of saving as they pay off their mortgages and increase their home equity. This mechanism effectively forces households to save more than they otherwise would. While there have been some historical merits to this argument,² the changing economic environment has rendered it flawed.

^a According to its website, the FHFA was "formed by a legislative merger of the Office of Federal Housing Enterprise Oversight (OFHEO), the Federal Housing Finance Board (FHFB), and the U.S. Department of Housing and Urban Development (HUD) government-sponsored enterprise mission team. The FHFA regulates Fannie Mae, Freddie Mac, and the 12 Federal Home Loan Banks."

^b Office of Federal Housing Oversight 2008 Annual Report to Congress.

² The study by Donald Haurin, Patric Hendershott, and Susan Wachter explores the wealth accumulation and housing choices of young households and confirms the joint nature of the decision of house tenure and wealth accumulation. On the one hand, homeownership is an important component of total wealth. On the other hand, households need a minimum amount of wealth to purchase their first house. Other authors, including Louise Schreier and Gary Engelhardt, have analyzed savings in response to differentiating housing prices. Although results in some studies are contradictory, in general, young households in more expensive areas tend to save more.

Why Don't People Save

Enough? The idea of using housing as a commitment to save rests on the observation that people lack self-control. The typical real-life examples of this behavioral problem include people postponing their decision to go on a diet, to exercise, or to quit smoking. In the case of economic decisions, numerous surveys have found that households often report that they ought to be saving at a higher rate than they are actually doing now. Therefore, it is not surprising that households will not achieve their desired level of “targeted” saving, since short-run preferences for instant gratification undermine their efforts to implement long-run plans that require patience.³

Economists have formalized this lack of self-control using the idea of *hyperbolic discounting*. A household with hyperbolic preferences would say the following: “Next Christmas, I will buy modest gifts and use the savings for my retirement. But this Christmas, I’ll splurge.” Of course, when next Christmas comes around, the household splurges again! In effect, the household is really two households: a patient household when it thinks about its long-term preferences and an impatient household whenever it actually confronts an immediate choice.⁴ These preferences induce what economists call a *dynamic inconsistency*.

A direct implication of the hyperbolic discounting model is that households with these types of preferences will try to pre-commit themselves to a scheme that will be

³ Richard Thaler’s article was one of the first to point out several “anomalies” in households’ saving behavior.

⁴ The article by George-Marios Angeletos, David Laibson, Andrea Repetto, Jeremy Tobacman, and Stephen Weinberg provides a good review of this literature.

costly to break. In our earlier examples, that amounts to going on a for-fee diet plan, buying a health club membership, or buying cigarettes by the pack instead of by the carton because having a carton of cigarettes at hand increases the temptation to smoke more, even though buying cigarettes by the carton costs less.⁵ In the case of savings decisions, households will hold their wealth in an illiquid form, such as housing, since such assets are

⁵ Not all attempts to pre-commit are successful, as Stefano DellaVigna and Ulrike Malmendier show in their study of individuals who take out expensive long-term gym memberships, but seldom go to the gym.

costly to liquidate and thus relatively better protected from splurges on consumption.

Does Owning a House Help Households Save More? The effectiveness of using one’s house as a means of forced savings has weakened substantially in recent years. For the majority of households, housing is indeed the most important asset in their portfolio. With the exception of the stock market boom in the late 1990s, housing as a share of total household assets has been trending up for the past four decades (Figure 1).

Unfortunately, households are not necessarily accumulating more wealth by buying up more housing assets.

The Social Benefits of Homeownership

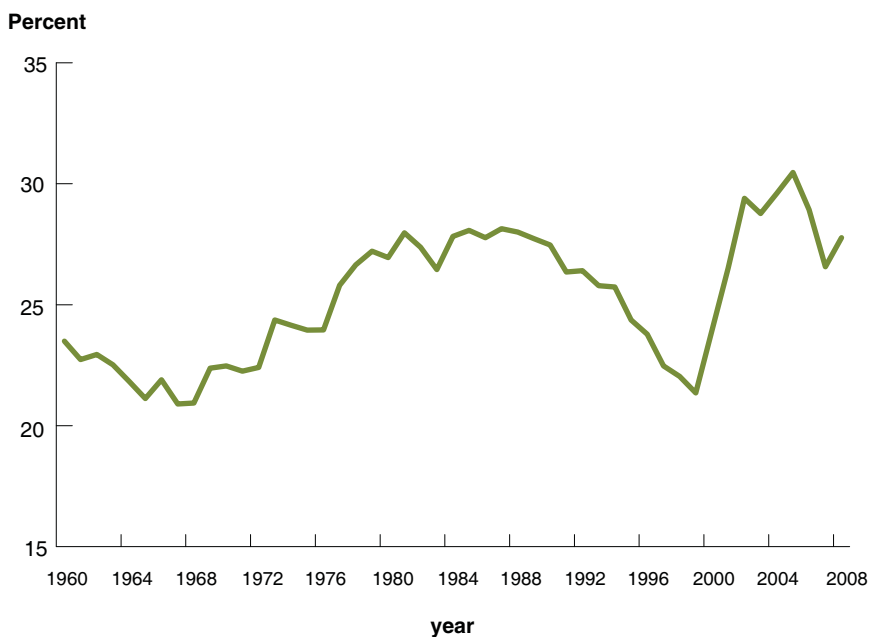
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here is no hard and fast distinction between economic and social benefits. In this article, we call the benefits of homeownership that accrue to the individual household “economic.” But homeowners may also confer benefits on their neighbors and communities, or on the nation; we

term these benefits “social.” The basic argument for the social benefits of homeownership is that homeownership improves homeowners’ incentives in a number of ways. Because of transaction costs, homeowners are less likely to move and hence remain more embedded in their communities for a longer time. This may promote civic involvement. Homeowners are also residual claimants of their property: When it comes time to sell, they reap the profits and suffer the losses. Thus, they tend to maintain their properties and are better neighbors than renters.

According to Edward Coulson’s *Business Review*, the empirical evidence for the social benefits of homeownership includes the following. First, owner-occupants maintain their dwellings to a greater extent than renters (or landlords) maintain theirs: More money is spent on maintaining owner-occupied housing than is spent on maintaining rental property; homeowners spend more time gardening than renters; and rental property depreciates faster than owner-occupied property. Second, homeowners’ children are more successful, measured by such factors as lower teenage pregnancy rates and higher educational attainment, than kids from non-owner-occupied dwellings. Third, homeowners socialize more with their neighbors.*

* However, in a recent study, Grace Wong Bucchianeri finds little evidence that homeowners are happier by any of the following measures: life satisfaction, overall mood, overall feeling, and general moment-to-moment emotions.

FIGURE 1**Housing Asset as a Share of Households' Total Assets**

Data source: Federal Reserve Board, Flow of Funds (annual); last point plotted: 2008

Thanks to financial developments over the past several decades, more and more households with limited means are able to borrow, and those who are borrowing are also increasingly borrowing more. During the housing boom years, it was not uncommon for many households to purchase their houses with less than 20 percent down or even a zero down payment. For example, combo loans have been used to reduce the down payment requirement while avoiding mortgage insurance. The “80-20” combo loan program corresponds to the traditional loan-to-value ratio of 80 percent, using a second loan for the 20 percent down payment. The “80-15-5” program requires a 5 percent down payment provided by the homebuyer with the remaining 15 percent coming from a second loan.

There are many other new mortgage products, such as interest-only mortgage contracts, that allow households to pay only the interest part of the payment for a number of years. The result is that households don’t accumulate any home equity during those years.

Even after households have accumulated some home equity, because of the declining cost of mortgage refinancing or home equity lines of credit, many households are now so easily able to tap their home equity to pay pressing bills that they simply do not accumulate wealth.⁶ A popular

⁶ We have seen a continued decline in average points and fees on conventional loans closed — from 2.5 percent of the average loan amount in 1983 to around 1 percent at the end of 1995 and 0.5 percent in 2004. (See Wenli Li’s 2005 *Business Review* articles for more details.)

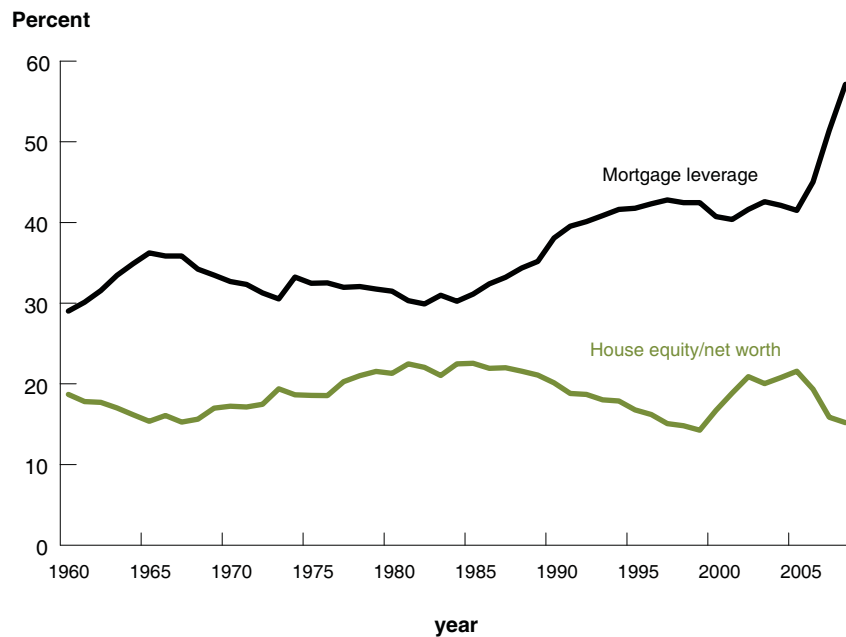
phrase used to describe this phenomenon during the housing boom years was “treating the house as an ATM.” Economists have estimated that households’ marginal propensity to consume out of increased housing wealth ranges from 3 to 4 cents on a dollar to over 10 cents, comparable to or even exceeding the marginal propensity to consume out of increases in financial wealth.⁷ In other words, for every dollar of house-price appreciation, homeowners take out 3, 4, or even 10 cents of their home equity for other consumption purposes, such as making home improvements, buying new cars or appliances, or even taking vacations.⁸ Owning a house is no more a means of forced savings than putting money into stock mutual funds is. Back in 1997, David Laibson pointed out that financial innovation may have reduced households’ savings rate by providing too much “liquidity,” weakening forced savings in previously illiquid assets.

Indeed, economic data show that the mortgage leverage ratio has been consistently rising since the mid 1980s. Home equity as a share of households’ net worth has not changed much and even declined from the mid 1980s to the late 1990s and during the current crisis (Figure 2). The increase in the mortgage leverage ratio — the ratio of the amount of the mortgage to the value of the house — is prevalent among homeowners of all ages.⁹ The cash-out mortgage refinancing rate

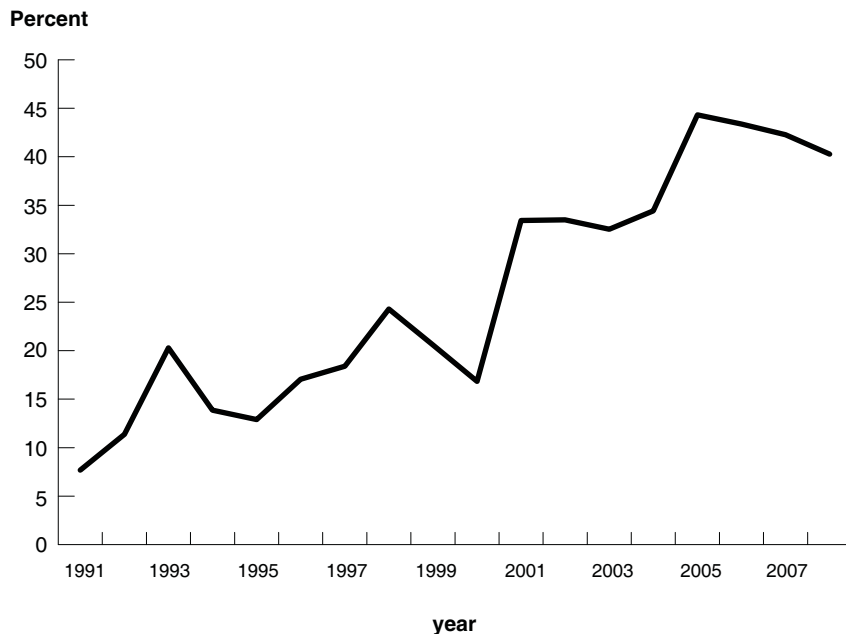
⁷ See the article by Wenli Li and Rui Yao.

⁸ In some instances, homeowners use cashed-out funds for home improvements, which potentially raise the value of the house and thus can be viewed as wealth building. We do not have updated statistics on the extent of such activity, but early studies by the Federal Reserve Board indicate that about 40 percent of homeowners who took out cash claimed to have used part of their cashed-out funds for home improvements during refinancing in 1998 and early 1999.

⁹ See Wenli Li’s 2005 *Business Review* article.

FIGURE 2**Mortgage Leverage and Home Equity Share**

Data source: Federal Reserve Board, Flow of Funds (annual); last point plotted: 2008

FIGURE 3**Share of Cash-Out Mortgage Refinance in Total Refinances (number of loans)**

Data source: Federal Housing Finance Agency (annual); last point plotted: 2008

— the share of mortgage refinancings (number of loans) in which borrowers took out larger loans than they owed in relation to total mortgage refinancings — also trended up from as early as 1991 until 2006 (Figure 3).

Second Homes and Investment Properties. Not all housing combines consumption and investment decisions; vacation homes and investment properties have become increasingly important. According to Home Mortgage Disclosure Act data (HMDA), after a drop from the early 1990s to the late 1990s, the percent of mortgage loan applications for non-owner-occupied dwellings started to increase in 1999 and reached a peak of 13 percent in 2006 (Figure 4) that exceeded its previous peak in 1993. More recent data from LPS Analytics indicate a similar pattern. Starting from January 2005, the share of second homes and investment properties in all mortgages has been consistently increasing, flattening out in 2007, while the share of loans for primary residences has been declining (Figure 5).¹⁰ In 2009, about 8 percent of total mortgages in the LPS database are for second homes and investment properties. The increasing share in investment properties is especially noticeable.

While combining a consumption good and an investment good tends to increase saving (at some cost, e.g., illiquidity, lack of diversification), vacation homes, compared with primary residences, generate much less consumption value to owners, on average, especially for working families.¹¹ In most cases, investment properties have

¹⁰ Notice the discrepancy between the charts derived from HMDA data and those derived from LPS data. This discrepancy arises because the HMDA chart is based on all mortgage applications, while the LPS chart is based on approved loans.

¹¹ A working individual typically starts with two weeks of vacation time annually.

no consumption value to their owners. Furthermore, owners often expect to flip investment properties fairly quickly. This makes the purchase of investment properties more of a short- to medium-term investment strategy, similar to buying stocks. Therefore, buying second and investment homes is more susceptible to fluctuations in income and house prices than buying primary residences. In other words, owners are more likely to be constrained or have more incentives to walk away from their investment properties in times of difficulty, and this further weakens the argument that second and investment homes force households to save. Not surprisingly, during the current crisis, the foreclosure rates of investment properties have risen at a much faster rate than that of loans for primary residences. Even for second homes, foreclosure rates have also exceeded those for primary homes in recent months (Figure 6).

Nonetheless, second homes or vacation homes enjoy tax benefits similar to those for primary homes, provided that households stay in their second homes at least 14 days a year or that for at least 10 percent of the time the property is rented out. Investment property owners can deduct their operating losses, repair expenses, and depreciation from their income taxes. Taken together, all of the government programs to subsidize housing also increase investment in second homes and flipping (investment properties).

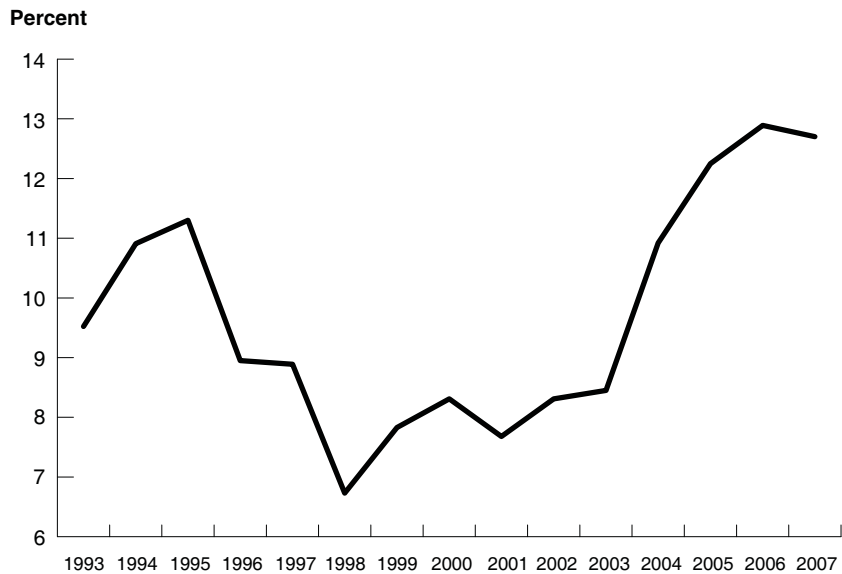
HOMEOWNERSHIP AND INVESTMENT

Another argument for homeownership often heard is that housing is a relatively safe asset that pays off in the long run. This argument turns out to be a myth as well.

The Returns to Investing in Housing. Similar to returns to individual stocks, the return and volatility

FIGURE 4

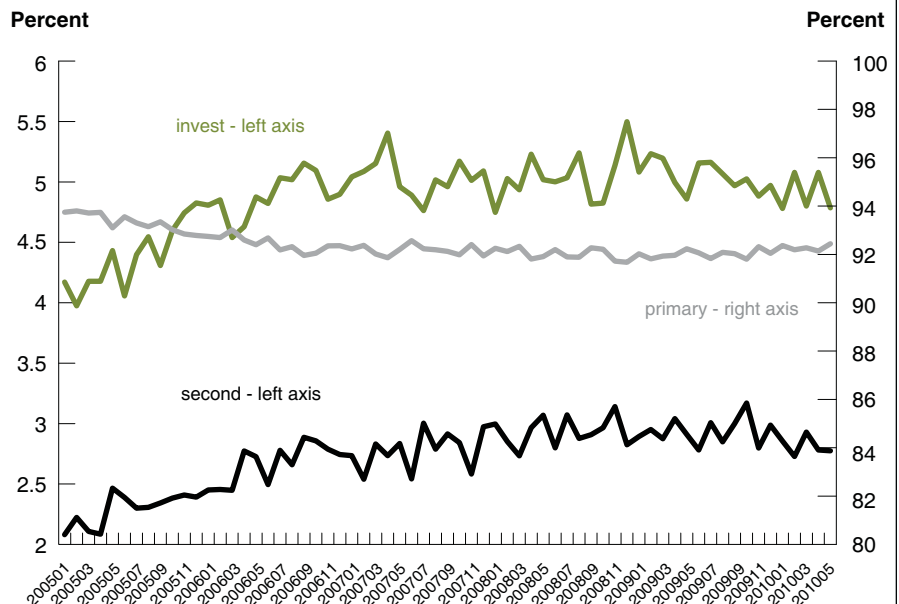
Percent of Non-Owner-Occupied Home Purchases



Data source: Home Mortgage Disclosure Act (HMDA) data (annual); last point plotted: 2008

FIGURE 5

Share of Primary, Second, and Investment Homes



Data source: LPS Applied Analytics, Inc. (monthly); last point plotted: July 2009

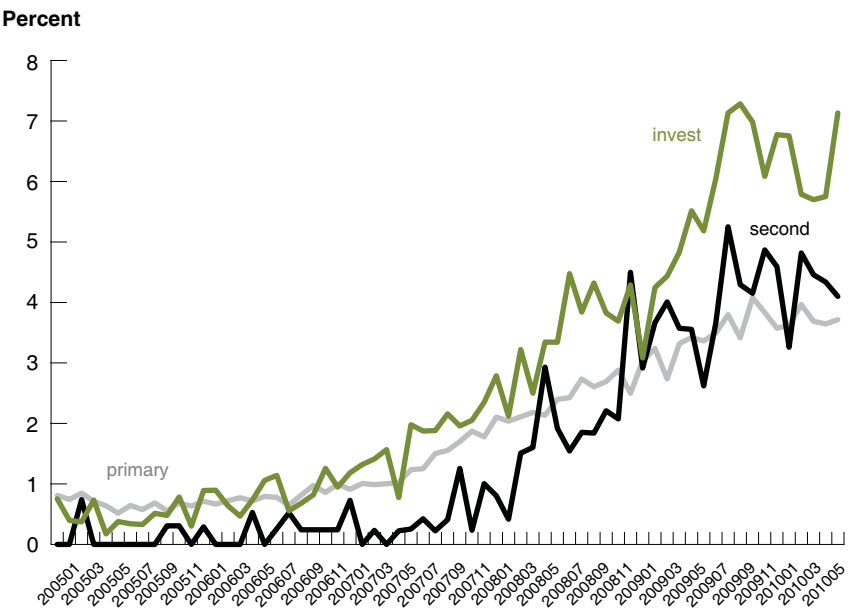
of investing in housing vary across time and depend importantly on market conditions in particular locations. Over the past three decades, in the aggregate, house prices have indeed fluctuated much less than the prices of stocks. Housing overall has also fared better in crises than other assets. Even during this crisis, the S&P/Case-Shiller home price index (Composite 10)¹² adjusted by the consumer price index (shelter) indicates that house prices as of the second quarter of 2009 have fallen to only a tad below their 2004 levels (Figure 7).

But for most people, the volatility of their local housing market is more relevant than the volatility of the national market. And volatility in individual housing markets, like that of individual company stocks, can be a lot larger. For example, the standard deviation of real annual house price changes between 1975 and 2008 was 3.4 for the nation, 1.5 percent or less in Cleveland, Indianapolis, and Louisville, but 11.6 percent in Boston, 9.9 percent in Honolulu, and 9.7 percent in San Jose. This high volatility in local housing markets implies that, like owning individual stocks, households can lose big as well as win big when buying and selling houses. And the opportunities for diversification are fewer in housing markets than in stock markets. While someone can buy individual stocks or an overall stock index such as the S&P 500 market index offered by most mutual fund companies, the market for trading such price indexes for housing at the national and local level remains very thin. (We will talk about this again in the next section.)

¹²The 10 cities are Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco, and Washington, D.C.

FIGURE 6

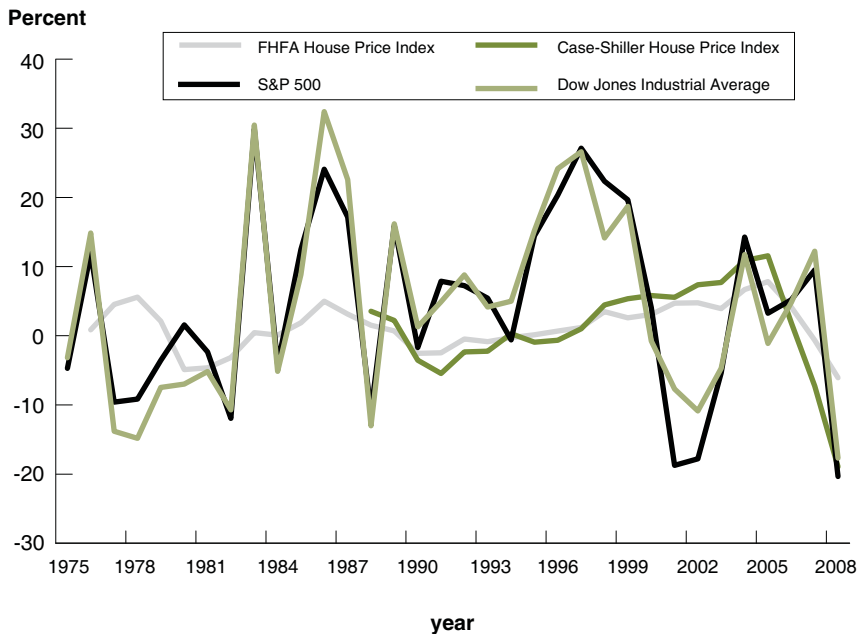
Mortgage Foreclosure Rates



Data source: LPS Applied Analytics, Inc. (monthly); last point plotted: July 2009

FIGURE 7

Real Rate of Return for Housing and Stock Indexes (adjusted by headline consumer price index)



Data source: Federal Housing Finance Agency; S&P; Dow Jones (annual); last point plotted: 2008

Comparing the rate of return on housing with that of other assets such as stocks is a tricky business. Ignoring leverage and tax concerns, it is not obvious that owning housing as an asset pays off in the long run. We construct Sharpe ratios for the 10 cities included in the Case-Shiller house price index and the nation. A Sharpe ratio is a measure of an asset's reward per unit of risk and helps us compare risk-adjusted returns across assets. We find that between 1976 and 2008, of the 10 cities, Denver, Chicago, Los Angeles, and Las Vegas all have much lower Sharpe ratios than the S&P 500 stock index. In other words, in risk-adjusted terms, the return to housing in these areas is lower than the return to holding stocks. The Sharpe ratios for Miami and Washington, D.C. are also a tad below that of the S&P 500. Although the Sharpe ratio for the overall house price index is somewhat higher, as we argued earlier, it is not clear that households have access to this market.

Some Complications in Calculating the Returns to Housing. Of course, this calculation is incomplete because leverage can magnify even modest returns. Given that houses are usually bought with big loans (as a matter of fact, a house is the only asset a family with limited means can buy with a big loan), they can bring in returns much higher than the house-price appreciation rate. Here is an example. Suppose a family bought a house for \$200,000 with a \$40,000 down payment (equity). In one year, the house's price appreciated 2 percent. The rate of return for the family for that year was actually a whopping 10 percent ($= (\$200,000 * 2 \text{ percent}) / \$40,000$). But leverage also increases risk. In that sense, buying houses with a large mortgage loan is similar to buying stocks on margin. It is great in a favorable (bull) market,

but it works against the owner in an unfavorable (bear) market. Let's say that the \$200,000 house a family purchased with a \$160,000 mortgage falls in value to \$150,000. The outstanding debt of \$160,000 exceeds the value of the property. Because the family owes more than it owns, it has negative net worth. Leverage is therefore a double-edged sword.

There are also other complications in calculating the effective rates of return on housing because of additional costs associated with owning one's own residence and the various government subsidies. Homeowners must pay taxes on their properties in addition to maintenance fees. Effective property tax rates range anywhere from 0.17 percent to 2.77 percent of the house value, according to the National Association of Home Builders, and maintenance fees are typically 1 to 2 percent of the house value. Mortgage interest payments and property taxes, however, are deductible from federal income taxes. Assuming an annual depreciation rate of 2.5 percent, a property tax rate of 1.5 percent, a mortgage interest rate of 7 percent, and a marginal income tax rate of 25 percent for a typical taxpayer, the adjusted real rate of return on housing actually falls below zero ($1.3 - 2.5 - 1.5 + 0.25(7 + 1.5) = -0.575$ percent! Remember that 1.3 percent is the real rate of return of the national house-price index between 1975 and 2009.¹³ Meantime, under the 25 percent marginal income tax rate for a typical taxpayer, the rate of return on stocks during the same period falls only to $4.5 * (1 - 0.25) = 3.375$ percent.

It is worth reiterating that the effective rate of return we just calculated

¹³ Note that we didn't take out the mortgage interest from the rate of return on the grounds that a stock bought on margin would have required paying interest on the borrowed funds as well.

is for an average homeowner. For many moderate- to low-income homeowners, the effective rate of return from investing in housing may be smaller. The reason is as follows. Lower-income homeowners benefit less from deductions of property tax and mortgage interest payments because of the progressive nature of the federal income tax and the fact that property tax is calculated solely on the value of the property. To claim the mortgage interest deduction, taxpayers must itemize when filing federal tax returns, rather than taking the standard deduction. Because of the progressive nature of the federal income tax, the value of itemized deductions rises as income rises. Those facing the highest marginal tax rates — high-income taxpayers — receive a much more powerful tax benefit from tax deductions than low-income taxpayers receive. As a result, low-income taxpayers are less likely to itemize, placing the benefits of the home mortgage interest deduction out of reach. In addition, high-income earners tend to have more valuable houses. In general, the greater the house value, the greater the interest payment on the associated mortgage. The table on page 28 illustrates the regressive nature of the deduction for home mortgage interest. Those in lower-income groups claim few deductions, while those earning over \$75,000 in adjusted gross income claim the vast majority.

Housing as a Hedge Against Other Assets. Although investing in housing may not be as attractive an investment strategy as conventional wisdom claims, owning one's own residence can be used as a hedge against ownership of other assets. Standard portfolio theory predicts that owning one's house, especially the build-up of home equity, helps diversify risks households face that are not positively correlated with house-

TABLE

Home Mortgage Interest Deduction Disproportionately Benefits Upper-Income Taxpayers, 2003

Adjusted Gross Income	Percentage of Returns Claiming Mortgage Interest Deduction	Percentage of All Tax Returns in Income Group	Average Mortgage Interest Deduction per Return
Under \$20,000	4.0%	37.8%	\$278
\$20,000 - \$29,999	13.1%	14.1%	\$910
\$30,000 - \$39,999	24.2%	10.7%	\$1,674
\$40,000 - \$49,999	35.2%	8.0%	\$2,462
\$50,000 - \$74,999	50.9%	13.3%	\$4,068
\$75,000 - \$99,999	69.0%	7.3%	\$6,210
\$100,000 - \$199,999	78.9%	6.8%	\$8,928
\$200,000 and over	75.7%	1.9%	\$14,374

Source: Internal Revenue Service, Tax Foundation calculations.

price movement. For instance, between January 1998 and December 2007, the correlation coefficients of the S&P/Case-Shiller house price index with the Lehman aggregate bond index and the S&P 500 stock index are, respectively, -0.056, and -0.086. This means that when financial assets fall in value, house prices typically rise, and vice versa. Thus, housing potentially can be used to hedge against shocks to investment in stocks, at least during the period in question.¹⁴

¹⁴ Given the low correlation coefficients, we do not wish to emphasize the potential benefits of homeownership as a hedging instrument, especially since only 40 percent of households participate in the stock market, while nearly two-thirds of Americans own their primary residences.

One question naturally arises: Is owning one’s residence the most efficient way to make a portfolio investment in housing? Remember, owning a home subjects a household’s wealth to shocks to local housing markets, which are much more volatile than the housing market as a whole. In principle and ideally, one should be able to take advantage of movements in house prices without having to own one’s residence. Furthermore, one should even be able to hedge against house-price movements in the local market by owning shares of other housing markets. While such markets exist, they are as yet not feasible for most households.

Housing derivatives first appeared in 2006 as futures contracts (S&P/

Case-Shiller house-price index futures and options) on the Chicago Mercantile Exchange. However, in the euphoria of the housing boom of the past decade, they attracted little attention from builders and developers. Investors prefer to make bearish bets via more customized instruments. In June 2009, Karl Case and Robert Shiller, the namesakes of the Case-Shiller house-price index, launched a product called MacroShares to open up the market in order to retain investors. MacroShares are securities that reflect the value of the S&P/Case-Shiller house-price indexes in 10 large urban centers. The securities are issued in pairs: one for investors who wish to bet on the upward movement of house prices, and one for those who think

prices will fall. Unlike actual houses, MacroShares are traded on public exchanges and are therefore liquid. Trading in MacroShares has been light so far, but there are hopes that investors will participate in this market more after their experience during the current crisis.¹⁵

HOMEOWNERSHIP AND MOBILITY

Owning one's home may also have important implications for households' mobility. A mobile society is important for an efficient labor market. If households cannot move to gain access to better jobs in alternative labor markets, the quality of the match in the labor market will suffer. People will be stuck in jobs they hate and for which they are not suited, and employers will have less-productive employees. Furthermore, when local economies decline, unemployed homeowners may find it difficult to search for new jobs. Ten years ago, British economist Andrew Oswald argued that homeownership was positively correlated with unemployment: that is, the higher a country's rate of homeownership, the higher its long-term unemployment rate. This claim is still controversial, but economists have begun to explore the connections between mobility and homeownership more rigorously.

Homeowners may be reluctant to move for several reasons. First, in

¹⁵ Another potential way to diversify housing risk is through the purchase of securitized real estate, or equity real estate investment trusts (EREITs). However, EREITs, especially those on residential housing, remain a very small share of the aggregate real estate investment available. As pointed out in Elul (2008), the most important limit on hedging housing price risk through the use of an aggregate index is that the majority of movements in individual house prices are due to idiosyncratic factors, rather than resulting from aggregate volatility.

addition to a range of social concerns such as schools, friends, and families, homeowners may be reluctant to move because of the added financial burden. Selling and buying a house incurs substantial transaction costs (typically 6 to 8 percent of the house value). Having negative home equity also requires households to put up additional cash beyond standard closing costs to be able to move. Of course, households can also walk away from their houses by defaulting or filing for bankruptcy.¹⁶ But such actions have a derogatory impact on their ability to borrow in the future.

Second, even when households are not financially constrained and have the funds to sell the house and move, they may still be reluctant to move if doing so means selling their house at a loss. Economists have termed this reluctance "an aversion to loss." Using data from downtown Boston in the 1990s, David Genesove and Chris Mayer find that condominium owners are averse to realizing losses. Those owners that have higher loan-to-value ratios (and, thus, are more likely to experience a nominal loss and have to pay the bank) tended to set higher asking prices and were much less likely to sell than other sellers, after controlling for other observables, including owner type (resident owner or investor), estimated price index at the time of entry, estimated value at last sale, and so forth.¹⁷

The United States is generally a mobile society. Around 12 percent of

¹⁶ See Wenli Li's 2009 *Business Review* article.


¹⁷ Despite all the controls, it is still highly likely that leverage ratios proxy for other important household financial characteristics such as income and liquid wealth. Thus, readers should take this argument with a grain of salt.

American homeowners typically move in any two-year period, yet families with negative equity are around half as likely to relocate. Those facing higher mortgage rates are 25 percent less likely to move, according to a recent study by Fernando Ferreira, Joseph Gyourko, and Joseph Tracy that used data from the American Housing Survey from 1985 to 2005.

Lower mobility by definition can be observed only over time, so it will take a few years to know how the impact of negative equity will play out in this cycle.

CONCLUSION

Our review of the economic benefits and costs of homeownership suggests that the economic case for subsidizing homeownership has, at the minimum, been oversold. And we have not addressed the offsetting costs. Indeed, economists have found that government subsidies incur a cost to the general economy. For example, in his article, Martin Gervais studied the welfare consequences of the preferential tax treatment of housing capital and found that the current tax structure crowds out business capital and leads to a loss in consumption of over 1 percent. Separately, Karsten Jeske and Dirk Krueger have studied the role of implicit guarantees for government-sponsored enterprises and found that they reduce aggregate welfare, as measured by changes in consumption, by 0.32 percent.

The net dollar value of owning one's home remains a question for economists and policymakers to consider. One thing that is certain is that homeownership is not for everyone, and thus, based on the economic benefits, the case for trying to achieve a nation of homeowners needs to be rethought. 

REFERENCES

- Angeletos, George-Marios, David Laibson, Andrea Repetto, Jeremy Tobacman, and Stephen Weinberg. "The Hyperbolic Consumption Model: Calibration, Simulation, and Empirical Evaluation," *Journal of Economic Perspectives*, 15:3 (2001), pp. 47-68.
- Brady, Peter J., Glenn B. Canner, and Dean M. Maki. "The Effects of Recent Mortgage Refinancing," (2000), *Federal Reserve Bulletin*, pp. 441-50.
- Bucchianeri, Grace W. "The American Dream? The Private and External Benefits of Homeownership," (2009), manuscript, the Wharton School, University of Pennsylvania.
- Chatterjee, Satyajit. "Homeownership, Taxes, and the Allocation of Residential Real Estate Risks," *Federal Reserve Bank of Philadelphia Business Review* (September/October 1996).
- Coulson, N. Edward. "Housing Policy and the Social Benefits of Homeownership," *Federal Reserve Bank of Philadelphia Business Review* (Second Quarter 2002).
- DellaVigna, Stefano, and Ulrike Malmendier. "Paying Not to Go to the Gym," *American Economic Review*, 96:3 (June 2006), pp. 694-719.
- Elul, Ronel. "Collateral, Credit History, and the Financial Decelerator," *Journal of Financial Intermediation*, 17 (2008), pp. 63-88.
- Engelhardt, Gary V. "House Prices and Home Owner Saving Behavior," *Regional Science and Urban Economics*, 26 (1996), pp. 313-16.
- Ferreira, Fernando, Joseph Gyourko, and Joseph Tracy. "Housing Busts and Household Mobility," *Journal of Urban Economics*, 68:1 (July 2010), pp. 34-45.
- Genesove, David, and Christopher Mayer. "Equity and Time to Sale in the Real Estate Market," *American Economic Review*, 87:3 (1997), pp. 255-69.
- Genesove, David, and Christopher Mayer. "Loss-Aversion and Seller Behavior: Evidence from the Housing Market," *Quarterly Journal of Economics*, 116:4 (2001), pp. 1233-60.
- Gervais, Martin. "Housing Taxation and Capital Accumulation," *Journal of Monetary Economics*, 49 (2002), 1461-89.
- Goetzmann, William N., and Mathew Spiegel. "The Policy Implications of Portfolio Choice in Underserved Mortgage Markets," in Nicholas P. Petsinas and Eric S. Belsky, eds., *Low Income Homeownership: Examining the Unexamined*. Brookings Institution, 2002.
- Haurin, Donald R., Patric H. Hendershott, and Susan M. Wachter. "Wealth Accumulation and Housing Choices of Young Households: An Exploratory Investigation," *Journal of Housing Research*, 7 (1996), pp. 33-57.
- Jeske, Karsten, and Dirk Krueger. "Housing and the Macroeconomy: The Role of Implicit Guarantees for Government Sponsored Enterprises," manuscript, University of Pennsylvania (February 2007).
- Laibson, David. "Gold Eggs and Hyperbolic Discounting," *Quarterly Journal of Economics* (May 1997), pp.443-77.
- Li, Wenli. "Moving Up: Trends in Homeownership Rate and Mortgage Indebtedness," *Federal Reserve Bank of Philadelphia Business Review* (Second Quarter 2005).
- Li, Wenli. "Residential Housing and Personal Bankruptcy," *Federal Reserve Bank of Philadelphia Business Review* (Second Quarter 2009).
- Li, Wenli, and Rui Yao. "The Life-Cycle Effects of House Price Changes," *Journal of Money, Credit, and Banking* (2007), pp. 1375-1409.
- Oswald, Andrew. "The Housing Market and Europe's Unemployment: A Non-Technical Paper," manuscript, University of Warwick (1999).
- Quigley, John M. "Interest Rate Variations, Mortgage Prepayments and Households Mobility," *Review of Economics and Statistics*, 69 (1987), pp. 636-43.
- Sheiner, Louise, "Housing Prices and the Savings of Renters," *Journal of Urban Economics*, 38 (1995), 94-125.
- Stein, Jeremy. "Prices and Trading Volume in the Housing Market: A Model with Down-Payment Effects," *Quarterly Journal of Economics*, 110 (1995), pp. 379-406.
- Thaler, Richard H., "Saving, Fungibility, and Mental Accounts," *Journal of Economic Perspectives*, 4:1 (1990), pp. 193-205