

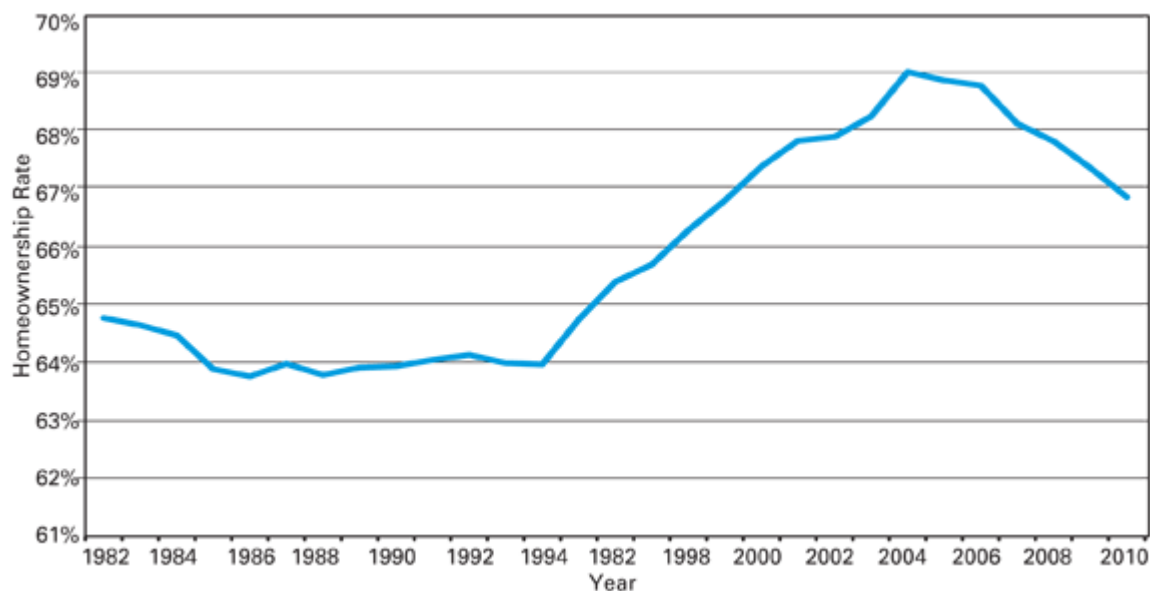
Safety in Renting

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It should come as no surprise that most people dislike taking significant financial risks, unless it is a small risk with a large potential payout, like buying a lottery ticket. However, people will also take risks when they don't understand the odds or the consequences. For example, people have difficulty comprehending the low odds of extreme events such as earthquakes or floods. On the other hand, confronted with the riskiness of their behavior, most people will tend to do it less—even if the behavior was something they regularly enjoyed.

Over the last four years, American households have experienced the riskiness of homeownership, and they have responded by demonstrating an increasing reluctance to own a home. The national homeownership rate (Figure 1) has fallen from a peak of 69 percent in 2004 to 66.9 percent in 2011, undoing about half the run-up from 1994 to 2004. Does this decline portend a major shift from owning to renting? While it is possible that the recent turmoil in the housing market will instill a fear of homeownership that will permanently scar an entire generation, it is equally possible that as the memory fades, so will the memory of the risks of ownership.

Figure 1: U.S. homeownership rate



Source: U.S. Census Bureau.

But renting can be risky, too, for the simple reason that tenants do not control the cost of real estate. Several well-publicized examples of families being priced out of their apartments or rental houses might whipsaw households back to homeownership. This is an example of the fallacy of "relative safety." If owning is risky, the fallacy goes, renting (since it is the absence of owning) must be safe; conversely, if people view renting as risky, then owning must be safe.

These assumptions are usually wrong because *both* owning and renting are inherently risky. For some households, renting is more appropriate; for others, the risks of owning provide a better match.

The decline in homeownership rates since 2004 has been due to households recognizing that homeownership is inappropriate for them, and switching to renting. But it is possible that some households for whom owning is more appropriate are currently renting. In either case, it is important for landlords to understand the residential real estate risks that households wish to avoid, and how those risks differ across households. Perhaps as landlords appreciate how homeowners reduce the level of risk they face, landlords can provide greater safety in renting.

Residential Real Estate Market Risk

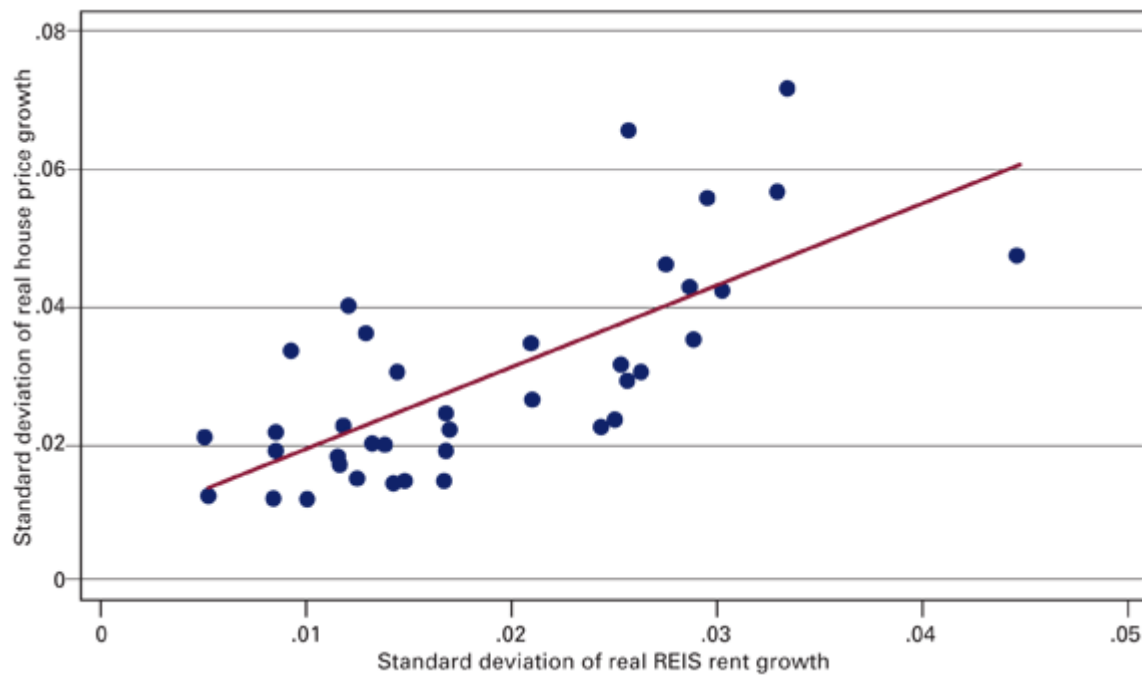
There are two sources of uncertainty when occupying a home, whether it is rented or owned: how much will it cost to live there, and how much would it cost to move?

The cost to live in a place is uncertain whether one rents or owns, since both rents and house prices fluctuate. When a homeowner sells, she faces an uncertain sale price. If she realizes a windfall, she is delighted, but the sales may not meet expectations. On the other hand, while owning, the homeowner faces low volatility in housing costs, as she is locked in the cost of housing at the time of purchase, and she faces little uncertainty about housing costs other than unexpected changes in property taxes or unanticipated maintenance.

By contrast, tenants have financial uncertainty while they occupy a home, but none when they move. Because nearly all renters in the United States sign leases with a one-year term, they are exposed to annual rent fluctuations. For example, a renter who plans to stay in an apartment a long time signs a series of one-year leases and faces considerable uncertainty about her total housing costs, which is the opposite of an owner's position.

It is tempting to infer that households can avoid risk by renting if they live in areas where rents are relatively flat, and owning if, instead, house prices are stable. However, this is not an option because the same areas that exhibit high rent volatility generally also have high house price volatility. The only way to reduce residential real estate volatility is to consume less housing; that is, to live in a less expensive house or an apartment with lower rent, or to move to a less volatile metropolitan area.

Figure 2: Relationship of house price growth volatility to rent growth volatility, five-year growth, 1980 to 2009. Correlation coefficient=.729 (38 observations)

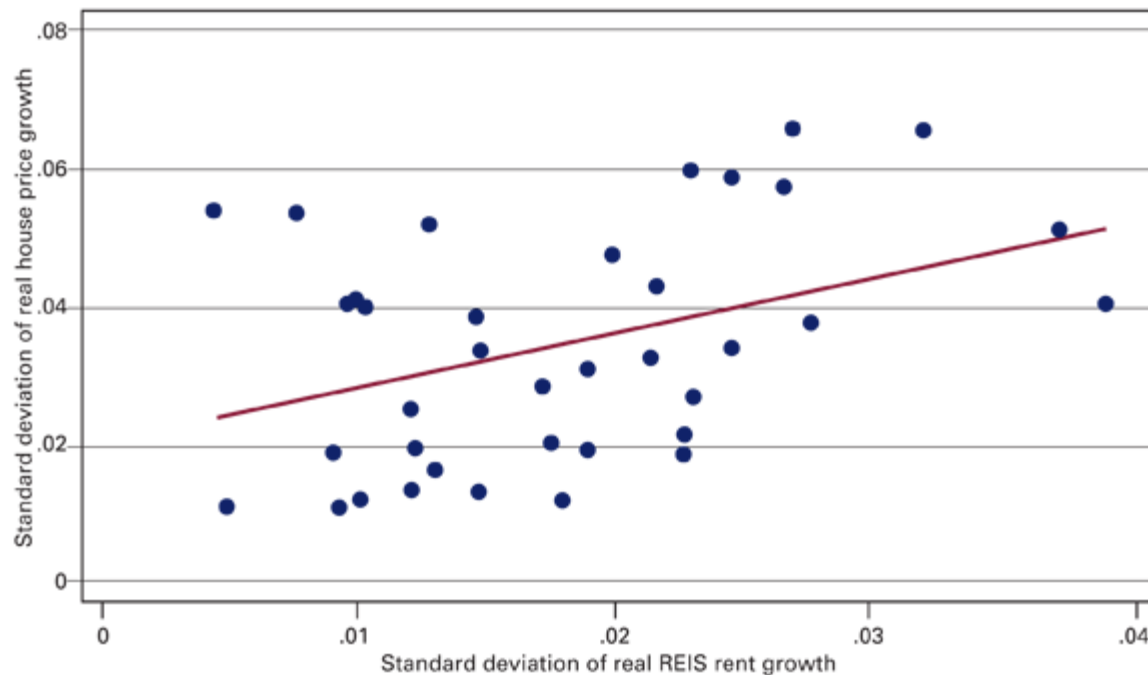


Rent volatility and house price volatility track each other, as seen in Figure 2, where each point corresponds to one of 38 metropolitan areas (MSAs). The MSAs cluster around an upward-sloping line that indicates that rent volatility and house price volatility are positively correlated across MSAs. Rent volatility is computed as the standard deviation of the five-year growth in real effective rent, and house price volatility is computed the same way for real house price growth. The effective rent data comes from REIS' survey of Class A apartments, and the house price data comes from the Federal Housing Finance Agency's (FHFA) repeat-sales index of houses with conforming mortgages. These data probably overstate the differences in volatility between rents and house prices, since rent changes for an in-place tenant are probably attenuated relative to market rents, so the rent volatility experienced by a tenant is likely to be lower than shown here. The FHFA data is widely believed to underestimate the true amplitude of house price swings, so the house price volatility faced by an owner is probably higher. One still can obtain a reasonable approximation of the economic conditions in various residential real estate. MSAs with low rent and low house price volatility include Charlotte, N.C. (with a rent growth standard deviation of 1.6 percent and a price growth standard deviation of 1.4 percent), Columbus, Ohio (0.8 percent and 1.1 percent, respectively), and Memphis (1.1 percent/1.6 percent). MSAs with high rent price volatility (Figure 2) include San Francisco (3.3 percent/5.6 percent), Los Angeles (2.9 percent/5.5 percent), Denver (3.0 percent/4.2 percent), and Boston (3.3 percent/7.1 percent). That there are no points in the upper left or the lower right of Figure 2 suggests that no metropolitan area has high rent volatility without price volatility.

That residential real estate markets with high house price volatilities also have high rent volatilities is a result of the fundamental economics of the residential market. In a normal market, when rents increase the value of a house should rise since a household's willingness to pay for a house should equal the present value of the rents they save by not renting (plus adjustments for differences in risk and the character of housing between owned houses and rental units). During a housing bubble, the prices of houses are out of line with the rents. Thus, a housing bubble can induce volatility in house prices without commensurate volatility in rents. This explains why, during the early 2000s, some areas of the United States experienced sizeable increases in house prices not matched by increased rents. Figure 3 depicts the rent volatility/house price volatility relationship during the most recent housing cycle. The positive rent volatility/house price volatility relationship is less steep than in Figure 2. The MSAs shown near the upper-left

quadrant of Figure 3 include the South Florida "bubble" markets of Fort Lauderdale, Miami, Orlando, Palm Beach, and Tampa, all of which had high home price volatility and low rental volatility.

Figure 3: Relationship of house price growth volatility to rent growth volatility, five-year growth, 1980 to 2009. Correlation coefficient=.394(38 observations)



This evidence suggests that owning or renting are not inherently more or less risky, but rather that some residential real estate *markets* are fundamentally more volatile. In a high-volatility MSA, a household cannot pick "safety" by choosing renting or owning. In a low-volatility MSA, neither renting nor owning have much uncertainty over total cost; in high-volatility MSAs, both do. In a residential real estate market that does not exhibit much volatility, tenure choice is not determined by concerns about risk. But in riskier markets, mobile households will find it safer to rent and less-mobile households will find it safer to own.

In a series of papers, my Wharton colleague Nicholas Souleles and I found that high-mobility households in risky residential real estate markets are much more likely to be renters than one would otherwise expect, while low-mobility households are much more likely to own. Lu Han of the University of Toronto has found that similar considerations of risk affect households' choices of how much housing to consume. Other researchers have replicated these findings using data from other countries. My research also suggests that the risk differential between renting and owning is capitalized into house prices. This indicates that households are willing to pay up-front for less uncertainty about their future housing costs.

Moving Risk

When mobile households move, they are obliged to acquire new places to live and they don't know in advance how much those places will cost, or what rent levels will be. A reasonable household might ask: How do I protect myself against uncertainty in housing costs in a volatile destination? One answer would be to buy a house in the destination city well in advance of a potential move. That would lock in the cost of housing at the current price. However, few

households have enough liquidity to own two houses, even if they rent their future home. In addition, few mobile households know with certainty where they will be living in the future (the significant exception to this is a retirement home, since both the timing and the location are known).

For many households, owning a house in their current city hedges them against moving risk, because their existing house is worth more when housing costs in their destination are greater, as long as housing prices across areas are positively correlated. Thus their higher future housing costs are to some extent offset by the increase in wealth from selling their prior houses.

But we typically think that returns in residential real estate markets across the United States are uncorrelated, and if housing markets are uncorrelated, how can a household's sale price in an origin city be higher when their house purchase price in their destination city is higher? The answer is that although house prices in residential real estate markets across the United States are relatively uncorrelated *on average*, many real estate markets are highly correlated. For example, Boston and New York exhibit high correlations in house price growth, although Boston and Detroit do not.

Theoretically, if a household expects to move to New York in the near future, it will better hedge its future housing costs by owning a house in Boston rather than owning a house in Detroit, or renting in either city.

A simple calculation reveals whether the hedging benefit of owning a home in case of a future move more than compensates for the sale price risk a home owner faces. Consider a household making a rent/own decision in city A, but who plans eventually to move to city B. If that household rents in A, the uncertainty it faces when it moves to B is that it does not know now what the cost of housing will be in B at the time of the move. Whether owning a house in location A reduces or increases a household's moving risk is specific to the origin/destination city pair. Figure 4 displays the covariance pattern of home value movement for a sample of city pairs. Each row corresponds to an origin city and each column corresponds to a destination. The intersection of the row and column is colored white if ownership reduces risk for a household that moved between that origin/destination pair.

Figure 4: Does owning a home reduce moving risk?

	MOVE TO																																			
MOVE TO	Atlanta GA	Baltimore MD	Boston MA	Boulder CO	Charlotte NC	Chicago IL	Cincinnati OH	Dallas TX	Denver CO	Detroit MI	Houston TX	Indianapolis IN	Kansas City	Las Vegas NV	Los Angeles CA	Memphis TN	Miami FL	Minneapolis MN	Nashville TN	New York NY	Oakland CA	Orlando FL	Philadelphia PA	Phoenix AZ	Portland OR	Richmond VA	Riverside CA	Salt Lake City UT	San Diego CA	San Francisco CA	Seattle WA	Tampa FL	Tulsa OK	Washington DC	Wichita KS	
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For example, a household that lives in Atlanta would on average more than offset the sale price risk from owning a home with the benefit of hedging the housing cost uncertainty of their destination city for most destination cities, with the exceptions being Cincinnati, Indianapolis, Las Vegas, Portland, Salt Lake City, and Seattle. This is because Atlanta has few idiosyncratic house price fluctuations, with house price movements largely correlated with broad-based economic factors. Boston provides an interesting contrast, with house price volatility almost always exceeding the hedging benefit, except for moves to New York. This pattern arises because Boston has a large amount of idiosyncratic house price volatility, so its common house price component with other destinations is relatively small.

Owning a home in Atlanta, Charlotte, Cincinnati, Indianapolis, Kansas City, Memphis, and Wichita generally provides a net reduction in moving risk, as these cities have little house price volatility, so even a small degree of house price covariance with other markets generates a net reduction in housing risk. However, the benefit is small, and it is less beneficial to own a house if one plans to move to these cities. This pattern occurs because most origin cities have greater house price volatility than destination cities. The low volatility of housing costs in the destination means that the covariance between the origin and destination will be low, and so owning in the origin will provide little hedge.

Owning a house in a city with a volatile housing market can reduce housing market risk if a household is moving to a similar city. For example, owning a house in San Francisco provides a positive net hedge if the household moves to Boston, Los Angeles, New York, Oakland, Philadelphia, Riverside, Calif., San Diego, or Washington, D.C. All of these metropolitan areas have experienced similar cyclical house price dynamics over the last thirty years. By contrast, Portland, Oregon is a net positive hedge for Boulder, Colo., Denver, Detroit, Houston, Miami, and Salt Lake City.

It is worth noting that the calculations that underlie Figure 4 assume that every house appreciates at the average rate of houses in a metropolitan area. In reality, every house appreciates at a rate comprised of a city-specific component plus an adjustment that is unique to the house. The house-specific component is not likely to be correlated with price changes in any future destination, raising the true sale price variance for a homeowner, and reducing the covariance. For this reason, Figure 4 overstates the risk-mitigation benefit of owning a home. By way of analogy to financial hedges, home owners take on considerable basis risk. However, Figure 4 neglects the likelihood that house prices in a metropolitan area's submarkets may be highly correlated with the house prices of similar submarkets in other metropolitan areas, even if their respective cities do not have very highly correlated house prices on average. This factor, if true, would raise the hedging benefit of home owning. Figure 4 also assumes a five-year stay in the origin city. The results are similar if one considers either a one-year stay or a ten-year stay. However, they are not exactly the same, and differ across cities depending on the cyclical nature of the local housing market.

Table I The average reduction in moving risk from owning a home, by origin

Origin MSA	Percent of destinations where owning in the origin offsets future housing cost volatility	Percent of moves where owning in the origin offsets future housing cost volatility
Atlanta, Ga.	73%	96%
Baltimore, Md.	46%	91%
Boston, Mass.	10%	55%
Boulder, Colo.	26%	47%
Charlotte, N.C.	72%	97%
Chicago, Ill.	67%	87%
Cincinnati, Ohio	83%	97%
Dallas, Texas	35%	43%
Denver, Colo.	21%	27%
Detroit, Mich.	23%	51%
Houston, Texas	36%	24%
Indianapolis, Ind.	81%	97%
Kansas City	77%	97%
Las Vegas, Nev.	34%	35%
Los Angeles, Calif.	30%	62%
Memphis, Tenn.	81%	96%
Miami, Fla.	30%	61%
Minneapolis, Minn.	61%	90%
Nashville, Tenn.	47%	91%
New York, N.Y.	19%	48%
Oakland, Calif.	34%	63%
Orlando, Fla.	47%	87%
Philadelphia, Pa.	36%	43%
Phoenix, Ariz.	50%	80%
Portland, Oregon	19%	11%
Richmond, Va.	61%	94%
Riverside, Calif.	30%	56%
Salt Lake City, Utah	13%	20%
San Diego, Calif.	34%	42%
San Francisco, Calif.	27%	70%
Seattle, Wash.	36%	41%
Tampa, Fla.	48%	83%
Tulsa, Okla.	34%	26%
Washington, D.C.	38%	38%
Wichita, Kansas	62%	96%

Because only a small sample of metropolitan areas are included in Figure 4, it provides an incomplete impression of how owning a house can reduce the volatility of housing costs on subsequent moves. The first column of Table I shows

the percent of 124 metro-area destinations for a subsample of metropolitan areas, for which owning a home in the origin yields a net reduction in moving risk. The range of the percentages is large, varying from 10 percent (Boston) to 83 percent (Cincinnati).

From the perspective of a household considering whether to rent or own, it is important to consider whether owning a house would increase or decrease moving risk based on where the household expects to move. For example, if a household that is deciding between owning and renting in San Francisco is unlikely to move to Detroit, the fact that owning in San Francisco is a poor hedge for housing costs in Detroit has little effect on its decision. The second column of Table I uses average gross household moves across metropolitan areas—as computed from yearly address changes on U.S. households' tax returns—to calculate the percentage of the average household's *move* that would be to destinations where owning a home would reduce moving risk on net.

For most origin metropolitan areas, weighting by where households typically move makes a major difference. This occurs because households typically move between housing markets with similar house price dynamics, raising the odds that an owner household receives a higher price at sale when the purchase price in the destination is high. Consider a household in Boston, for example. Although the average Boston resident reduces his moving risk by owning only if moving to just 10 percent of the possible destinations, 55 percent of the moves out of Boston are to those destinations. In San Francisco, owning in the origin yields a net beneficial hedge for just 27 percent of the possible destinations, but for 70 percent of the likely moves, as San Francisco residents are much more likely to move to cities with similar house price dynamics—Oakland, Los Angeles, San Diego, and New York.

In some origin metro areas, households almost never move to low-covariance destinations. That means that owning in the origin is extremely likely to reduce moving risk. Cities with more than a 95 percent likelihood of owning reducing moving risk include Atlanta, Charlotte, Cincinnati, Indianapolis, Kansas City, Memphis, and Wichita. However, in other metro areas, house sale prices are so uncertain and the potential hedge is so small that renting is almost always the risk-minimizing option. For example, just 11 percent of moves from Portland, Oregon are to metropolitan areas where the risk of the move would be reduced by owning in Portland. In Salt Lake City, the figure is just 20 percent. Most coastal MSAs—Boston, Los Angeles, Miami, New York, Oakland, Philadelphia, San Diego, Seattle, and San Francisco—are in the 40 percent to 70 percent range.

The calculation reported in Figure 4 and Table I shows whether owning or renting best reduces the risk of a future move, but not by how much. However, recent research with Andrew Paciorek shows that the risk mitigation can be sizeable. We examined the housing consumption of households that moved recently. Home owners who moved between cities where the housing markets moved together exhibited much less variance in their subsequent housing consumption than did households that moved between uncorrelated cities. Households that moved between cities with the most covariance in their house prices obtained the largest reductions in the variance of housing consumption, up to 40 percent relative to households at the median.

Other research shows that households value this risk management. In recent research, Nicholas Souleles and I found that households are more likely to buy a house if they expect that it will provide a better hedge against moving risk, and are more likely to rent if not. We found that households that appear likely to move to a high covariance destination are more likely to own their houses than households that appear likely to move to a low covariance destination, even comparing households that live in the same origin MSA.

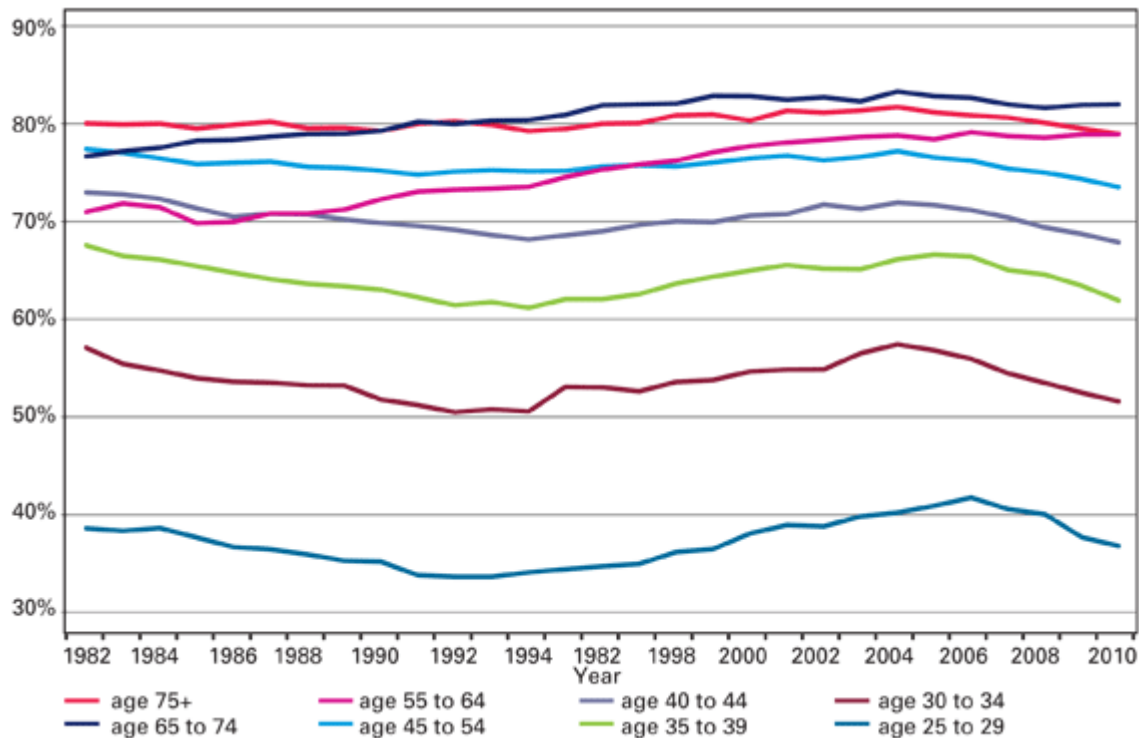
Whether owning a home reduces moving risk does not depend on how far off in time a potential move might be. If owning a home makes a household wealthier, on average, when houses in their destination are more expensive, that is equally true whether the move is five years away or ten. However, the value of the hedge diminishes with the expected

time until a move. A household that expects to move soon would prefer a reduction in moving risk more than one that won't move for decades, simply because a near-term risk is more expensive in present value. Nicholas Souleles and I find that households that appear unlikely to move seem to be not at all influenced by other housing markets.

Who Is Fleeing Home Ownership?

Combining these two dimensions of housing risk—how variable is the total cost of housing when a household is in one location, and the risk in a move—we can describe in broad terms what kinds of households would find renting less risky than owning. Considering only the risk dimension, more mobile households that expect to move to relatively uncorrelated housing markets are best suited for renting. Households that are unlikely to move at all, or mobile households that are likely to move to correlated housing markets, are a better match for owning. Of course, since the transaction costs of buying and selling a house are much larger than for renting, many mobile households find owning prohibitively expensive, irrespective of value correlations. This suggests that if recent collapse of the housing market led households to a more balanced assessment of the risk of owning a house, the most mobile households should have shifted to renting. Stable households are relatively unaffected by house price declines as they still enjoy the use of the same house; it is just worth less on paper.

Figure 5: U.S. Homeownership rate, by age category



Source: U.S. Census Bureau

Mobile households are generally young. Figure 5 plots homeownership rates over time by age category. The largest decreases in the homeownership rate subsequent to the mid-2000s has occurred among the three youngest age groups, each of which has experienced about a 5 percentage point decline, consistent with the notion that mobile households got the idea that falling house prices are risky if they have to sell. However, homeownership rates also fell

by 2 to 3 percentage points among middle-aged households, suggesting that some portion of the movement away from home ownership is due to a widespread recognition of the riskiness of owning, insufficient access to capital, or households just being spooked.

It is interesting that older households—aged 65 and above—have exhibited no decline in their homeownership rate. This might be because they are not mobile; however, households over the age of 75 move to assisted living or nursing homes with some frequency, and they typically use housing to pay for it. Rather, it is likely that these households no longer have the equity they expected for retirement, and moving out of their houses is an option they are choosing not to exercise.

Conclusion

In today's market, renters miss out on the two ways owning a house can potentially reduce risk: locking in the cost of housing for non-movers and hedging the cost of future housing markets for movers. The swing in momentum from owning to renting provides an opportunity for landlords to show off the benefit of renting. The types of households for whom renting with short-term leases is naturally a better fit now recognize how risky owning can be for them. And all households are rediscovering what commercial real estate investors have long understood: if you finance a long-lived volatile asset with lots of leverage with a finite maturity, things do not end well.

Selling the idea of renting to mobile households is straightforward. But, with some creativity, perhaps landlords can find ways to reduce risk both for less-mobile households and for those who might move to a different city. The evidence we have indicates that households are willing to pay for it; the question that remains is whether they remain convinced of the safety in renting.

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