Understanding and Mitigating Rental Risk

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Abstract:

The decision of whether to rent or own a place to live should involve an evaluation of the relative risks of the two options, as well as their relative costs. It is often assumed that renting is less risky than home owning, but that is not always the case. For some sources of risk, and for some households, renting is more risky than home owning and, for other sources of risk, or for other types of households, the converse is true.

This paper provides a framework for understanding the sources of risk for renters. It outlines the most important determinants of risk: volatility in the total cost of obtaining housing, changes in housing costs after a move, and the correlation of rents with incomes. It characterizes the magnitudes of those risks and discusses how the impact of the risks varies across types of renters and across U.S. metropolitan areas. In addition, it shows that renters spend less of their cash flow on housing than do otherwise equivalent owners and thus are better able to absorb housing cost risk.

Finally, potential policy approaches to avoid increasing the risk of renting are discussed. A simple way to maintain renters' capacity to absorb rent risk is to avoid subsidies that result in an incentive to consume a larger quantity of rental housing on the margin. Targeting rental subsidies to more mobile households or those who live in low-volatility cities, since renting is less risky for them, should be considered. Long-term leases would provide an intermediate position between renting annually and owning but currently are rare.

Much of the discussion about government subsidies to home ownership or renting focuses on their relative costs. For example: How much do tax subsidies to home ownership lower the cost of owning? Is housing affordable, and do rental subsidies lower housing costs for low-income families? Are rents higher because renting is less economically efficient than owning due to the misaligned incentives for renters and landlords?

However, much more differs between renting and owning than just the cost. One important distinction is risk. Both renters and home owners face financial uncertainty in regard to their housing spending. How that uncertainty is manifested depends on a household's choice of tenure mode. Renters do not have large amounts of housing capital at stake and thus are not affected by house price swings in their current market. However, they face uncertainty over how much rent will cost over their lifetimes and also are subject to high-frequency rent volatility. In addition, renters do not automatically have an investment position in the housing market, so they are more susceptible to volatility in the future cost of housing, both locally or in other cities.

In this note, I argue that any discussion of whether owning or renting is "better" for households should account for risk as well as cost. When we evaluate housing policy, we should consider not only how it distorts households away from the optimal dollar amount of housing consumption, for example, but also how it encourages or discourages taking appropriate financial risks.

Since these risks are not necessarily universally bad, just inappropriate for some households and more appropriate for others, in this note I encourage policy to consider risk in several ways. First, be cognizant that policy might have unintended consequences for risk. Renting exposes a household to housing market volatility, with the magnitude depending on the geographical market. Second, higher housing spending raises risk, so policies that encourage or

discourage renting as a tenure mode should avoid incentivizing renters to spend larger portions of their incomes on rent. Third, tailor policy to encourage renting – or cease to encourage home owning – for just those types of households for whom renting is relatively less risky. For example, some housing markets are inherently less volatile and renters there face little uncertainty. Fourth, recognize that financial products that could enable long-term renters to mitigate risk, such as long-term leases, exist but are not popular. The reason that the take-up of such products is low is unknown, but a possibility is that subsidies to home ownership simply make owning a cheaper way to obtain many of the same benefits.

This note is motivated in part by the recognition that rental subsidies need not be targeted solely to low-income households. Home ownership subsidies are available throughout the income spectrum (Poterba and Sinai (2010)) and one could imagine a policy discussion that considers a parallel program for renting. When policy moves beyond considerations such as using rental subsidies as a way of targeting income transfers to needy households, or as a way of ensuring a minimum standard of quality of rental housing, policy makers need to be aware of potential consequences of a broad-based shift to renting.

Ironically, despite the common perception that home owning is risky, encouraging renting would induce many households to take on more risk. In the next section, I describe the sources of financial uncertainty for renters and home owners. In section 2, I detail how housing uncertainty morphs into risk and I explain how the riskiness of renting can vary over geographic space as well as types of households. Next, I review some evidence that finds that renters are keen enough to avoid that risk that they are often willing to pay a premium over the rental cost to become home owners. In section 4, I explain how some households can absorb risk with fewer

consequences. The implications of rent risk for policies toward rental housing are considered in section 5.

I. The volatility of renting and owning

Before we get to the topic of risk, it is important to recognize that we can divorce the choice of how much housing to consume from the question of how to pay for it. Many peoples' perceptions of the differences between renting and owning are colored by the fact that the residences that people tend to rent typically are quite different from the residences that people tend to buy. Rental residences are more likely to be in multifamily units, smaller, and less expensive within a given market. Thus the difference between renting and owning is often perceived as a decision about the quantity, the location, or the price point of housing to consume.

There is no conceptual reason that any given housing unit could not be either purchased *or* rented – at some price or rent. The fact that the owned and rented housing stocks currently are somewhat distinct also should not deter us from considering the implications for household risk of choosing one tenure mode or another. Indeed, if the U.S. were to shift away from its long history of subsidizing home owning to something more akin to a level playing field or even a net subsidy to renting, the types of households that currently tend to own could easily choose to rent instead and housing units that currently tend to be owned could conceivably enter the rental stock. Of course, the implied annual cost of renting or owning the same unit can differ for a host of reasons, including differential tax treatment as an owner than as a landlord or renter, as well as the lower efficiency with which a landlord can monitor his rental property, especially if it is a single-family detached dwelling.

Holding the housing unit and its annual cost the same across owning and renting, the financial difference between the two tenure modes comes down to the manner in which the service flow from that housing unit is paid for. Renters pay the flow cost of housing services as rent. By contrast, owners pay an up-front price to purchase a house. (In addition, home owners are responsible for property taxes and the cost of maintenance, whereas for residential leases maintenance costs typically are included in the rent.) Unlike renters, however, owners receive money back when they sell their houses, taking either a capital gain or loss.

Another way to think about this is that renters simply pay the spot price of housing services (the rent) whereas owners purchase an asset (the house) that pays a dividend exactly equal to the rent. In effect, owners use the yield from their housing asset to pay rent, with the two exactly netting out. By contrast, renters pay rent each year out of their pockets. However, since renters do not purchase a house up-front, they can use the money they would have used to buy a house to invest in other assets instead.

In this way of thinking about the world, both renters and owners start life with the same implicit future liability: They have to pay the market cost of obtaining housing every year for the rest of their lives. Beyond that, they make different portfolio decisions. Owners invest in houses whereas renters invest in some other set of assets. The usual equilibrium assumption, for example in Hendershott and Slemrod (1983) and Poterba (1984), is that both portfolio positions should deliver the same risk-adjusted return in expectation. Therefore, renters and owners in this example are equivalently wealthy and have comparable expected incomes. In other words, the only way a marginal household could expect to retain more income net of housing costs by being a renter rather than an owner is either by consuming a lower quantity or quality level of housing as a renter or by taking more risk. If in equilibrium owning and renting costs were not equal,

after adjusting for differences in risk, then households would change tenure mode until the relative costs of owning and renting became equal. For example, if everyone perceived renting to be cheaper than owning, then homeowners would sell their houses and become renters until rents rose and house prices fell enough to make the difference in cost disappear. Of course, this equivalence in rental and ownership costs holds only for some marginal home buyer, leaving perhaps many households strictly favoring one tenure mode or the other. Ownership and rental clienteles can be driven by differences in tax treatment, fixed costs of buying a house combined with the expected length of stay in the residence, underlying taste for home ownership, or any of a host of other possibilities.

These differences in how renters and owners pay for their housing lead to different sources of volatility. Renters, for example, do not know in advance how much their housing is going to cost them. It is up to the market. If rents in their cities rise faster than they expected, their total costs will be higher than anticipated. If rent growth unexpectedly stalls out, their total costs will be lower. In either case, the total lifetime cost of obtaining a place to live is uncertain.

Owners, on the other hand, know exactly how much their house will cost them: It's in the purchase-and-sale agreement. Of course, that assumes that owners never move out and thus never have to sell their houses. But for a home owner who stays put for a long time, that sale price is relatively inconsequential. It takes place so far in the future that, unless average house price growth is substantial, the sale price is small in present value terms. It's almost as if the household never had to sell its house.

When moving does arise, owners face selling their house, which potentially has a volatile asset value. By contrast, renters presumably invested their wealth in a more diversified portfolio

of assets, and so have less volatility in their wealth upon moving. Whether volatility in wealth at the time of a move is detrimental to the household is something we will turn to later.

It is important to keep in mind that owners still have some uncertainty about their total cost. Property taxes and maintenance costs, for example, are paid by homeowners, are not guaranteed in advance, and are not insurable. These two cost components can be quite sizeable – property taxes average just over 1 percent of house value and maintenance costs are widely believed to be on the order of 2.5 percent of house value – and, given today's low interest rates, together add up to about half of the annual rental value of the property. We don't know how volatile these particular components of home owning costs are; it is difficult to collect data on changes in local property taxes and, since maintenance can be deferred, it is hard to ascertain the true arrival rate of problems that need to be fixed or updated. It is worth just keeping these factors in mind and recognizing that when we compare the risk of renting and owning, we are implicitly considering the volatility of rents less the volatility of annual ownership costs.

Volatility in rents presumably is due to shocks to housing demand or supply in a location. Housing demand shocks are usually attributed to changes in the local economy or migration. New housing construction typically follows demand shocks, but is limited in some areas due to regulation or topographical constraints. (Saiz (2010)) Sinai (2009) presents some rough evidence that rent volatility is most pronounced in areas with more volatile underlying demand and relatively inelastic supply. Using a cross-section of MSAs, he shows that MSAs with less elastic supply and more volatile employment experience more variable apartment rents. These sources of volatility would affect annual rents and current house prices, but not the annual costs of already-purchased homes. Those latter costs are locked in at the time of the home purchase,

with the exception of the sale price of the house, which responds to the demand and supply conditions in the market.

Another potential source of volatility for owners is financing costs. Empirically, it is rare for households to buy their houses with cash. In the 2007 Survey of Consumer Finances, 33 percent of home owners had no mortgage debt. Those who had debt averaged 53 percent loan-to-value. However, fixed-rate mortgages are common in the U.S., so any household who wishes to avoid interest rate volatility can do so.

The risk in housing costs for renters and owners can come in two forms. First, there is volatility in the total cost of obtaining housing services over some period, such as the duration of stay in a residence, or over one's lifetime. This is a pretty fundamental source of risk; simply put, one does not know in advance how much a given quantity of housing will cost. There is a large difference between renters and owners in this regard. Renters who are going to remain in their houses a long time face considerable risk since their total rents depend on the market. By contrast, owners who are going to remain in their houses a long time face little risk since the purchase price of a house is known and the sale price is so far in the future as to be inconsequential (or the household will have died by then).

Economists tend to focus on the volatility of total housing costs, but that assumes that households can borrow easily (and inexpensively). That is, a year of high rent followed by a year of low rent doesn't matter to a household if it can borrow to cover rent in expensive years and pay the loan back when rent is cheap, or has sufficient liquid assets to tap to smooth the volatility. Such a household worries only about total housing costs. However, if access to that kind of borrowing or asset base is limited – that is, households face liquidity constraints – the year-to-year volatility in rent generates additional risk for renter households. This is less true for

owner households since their non-discretionary cash outflow for the house has less volatility. While liquidity-constrained owners have to find a way to borrow to purchase a house in the first place, once they have done so the year-to-year volatility is significantly reduced.

All renters and all owners are not equally exposed to housing cost risk. Volatility can vary considerably across housing markets, so renters in a volatile market have less certainty about their total housing costs than do renters in a less volatile market. Likewise, owners in a volatile market are less sure about their sale prices than owners elsewhere. The differences in volatility can be seen in Figure 1. On the x-axis, the standard deviations in annualized growth in real rents over a five year period are plotted. Each dot corresponds to a Metropolitan Statistical Area, or MSA. Rents come from a survey by REIS of high-quality apartment buildings in 38 major markets over the 1980 through 2009 period. The standard deviation ranges from 0.005 to 0.04. At the bottom end of the range, an apartment that rented for $12,000 per year that experienced a one standard deviation excess real growth in rent would rent for $12,550 five years later.[1] At the top end of the range of rent volatility, if that same apartment experienced a one standard deviation higher growth rate of rents, it would rent for $14,883 after five years. In the former case, renters are not exposed to much uncertainty. In the latter case, rent uncertainty is considerably higher. Thus, Figure 1 shows that the significance of rent uncertainty depends on the housing market. (Sinai (2009) breaks down rent volatility for each MSA.)

A similar range can be seen in the standard deviation of real house price growth (again, annualized over five years), which is plotted on the y-axis. It ranges from about 1 percent to 7 percent and is constructed using the FHFA repeat sales index, adjusted for inflation. An MSA with the bottom-of-the-range house price volatility that saw real house price growth that was one

[1] The average growth rate in rents is approximately 0.4 percent annualized over five years. $(1+0.005+0.004)^5 \times 12{,}000 = 12{,}550$

standard deviation above average would experience real price growth of a $120,000 house to $126,120 after five years. At the top of the range, a one standard deviation higher house price growth would cause a $120,000 house to appreciate to $168,306. While home owners might be sanguine about house price increases, a parallel decline in house prices would yield a $114,175 real sale price in the low volatility MSA after five years and $85,558 in the high volatility MSA. Once again, some housing markets are relatively stable and others are much more uncertain. (See Sinai (2009) for a breakdown by MSA.)

While both renters and owners face volatility in any given housing market, there is little evidence that renters in a volatile market are exposed to more or less inherent housing market uncertainty than are owners in the same market. In any given city, house prices and rents generally track each other. This empirical fact is consistent with theory which, with varying degrees of complication, notes that asset market equilibrium requires that house prices be equal to the present value of expected future rents plus an adjustment for differences in risk. [Meese and Wallace (1994); Sinai and Souleles (2005); Ortalo-Magné and Prat (2010)] Sinai (2009) shows that, over the 1990 to 2002 period, the correlation in the standard deviations of detrended real rents and detrended real house prices was 0.87. In Figure 1, the correlation in the real five year (annualized) growth rate for these 38 MSAs is 0.39. The reason for the lower correlation is twofold. First, Figure 1 encompasses the housing boom-bust period of the late 2000s, which was a low-correlation period. Second, growth rates, being a short difference, tend to have lower correlations than do deviations from a trend, which are a long difference. Figure 2 restricts the time period to end in 2002, which leaves out the recent boom/bust period for housing. The correlation in the standard deviation of rent growth and price growth is 0.73 over the 1980-2002 period. The MSA points in Figure 2 also lie closer to the bivariate regression line than they do in

Figure 1, suggesting that the 2002-2009 period added noise to the historical relationship between rent volatility and house price volatility. Because of the usual high correlation in rent and house price volatility, differences in risk between owners and renters within a given housing market are largely due to how housing services are funded, not any difference in the inherent volatility of the two housing sectors.

It is worth noting that while the fact that house prices and rents are correlated within a market is consistent with the asset pricing notion that a shock to either the rental or owner-occupied market should be reflected in the other sector, it is not proof. Instead, a shock that is common to both the rental and owner-occupied sectors, such as a demand shock, could be generating correlated price responses.

Many households do not have the luxury of staying in one house virtually forever, even leaving aside the nasty complication of death. They might need to move for a job, for a different school system, or for a larger house or apartment. Such forced moving creates another source of financial uncertainty and another distinction between renters and owners. Renters are uncertain about whether rental costs of future houses will be higher or lower than what they expect. Owners are uncertain about how much they can sell their current house for. In addition, like renters, they are uncertain about how much they will have to pay for their next house. Once again, the degree of uncertainty depends on where the household lives currently and where it might move. In the earlier example, if a renter in the lowest-volatility MSA moved to the higher volatility MSA after five years, and both MSAs experienced a one standard deviation positive shock, the renter would be moving from a $12,550 per year rental unit to one that cost $14,883 per year. A similarly situated owner would be moving from a market where he paid $120,000

for his house to one where he would have to pay $168,306. And that is assuming that initial rents or prices were the same in both housing markets.[2]

II. Getting from volatility to risk

It is important to recognize that volatility is not necessarily the same as risk. If volatility in the cost of housing services were to lead to volatility in housing and non-housing consumption, we expect that households would dislike it. But volatility in housing costs can reduce volatility in housing and non-housing consumption if changes in housing costs undo volatility in other dimensions, such as income or the cost of other consumption. We are apt to label such helpful volatility a 'hedge', and the volatility that households dislike, 'risk.'

In a simple sense, just owning a house provides a hedge for housing market risk. Recall that the difference between owners and renters is just the realization of their porfolio returns, since owners own houses and renters invest in other assets. The returns on houses are highly correlated with rental costs, so houses generate a higher return when rental costs are more expensive. By contrast, renters' assets have a lower correlation with rental costs because it is extremely difficult to obtain a set of financial assets that covaries as much with housing costs as a house does. In a housing market where rents are volatile, renters would face risk in their total or annual housing costs because their investment returns may be low when housing costs end up being high, or vice versa. A home owner, by contrast, owns an asset that implicitly pays an annual dividend exactly equal to the rent needed in each year. For homeowners, that implicit rental income offsets the implicit rental expense and leaves them with less risk on net. Since the housing unit is the same whether or not the rental value increases, a household can actually

[2] Although I focus on the differences in financial risk between renting and owning, there are nonfinancial differences that are also important. For example, home owners have control of their houses – when to move, whether to renovate, and so forth – in a way that renters do not.

reduce the volatility of its overall consumption – housing and non-housing – by investing in an asset whose return offsets the preexisting rent liability.[3]

Owning a house also can provide a hedge for the risk households face about housing costs in a future location. If a renter unexpectedly moves to a new city, housing costs may be more or less expensive than she anticipated. An owner faces a double whammy: Not only does she not know what the price of a house in her new city will be, she does not know at the time of purchase how much she will be able to sell her prior house for when it comes time to move. That sell-buy transaction – selling the current house and purchasing a new one – creates risk if the sale price and purchase price are not equal. If so, the sell-purchase pair will either require an infusion of capital (if the new house is more expensive than the old one) or will yield a cash windfall (if the new house is less expensive). Since, according to Sinai and Souleles (2009), 45 percent of families move in a five-year period, and 10 percent move out of their MSA, the potential risk to either a renter or owner from a move to different housing market is quite high.

In this scenario, the renter faces less risk than the owner if housing costs in the origin and destination cities do not move together much. The renter is just exposed to the risk of the total housing costs in the destination city. In addition, the renter, who invested her equity in non-housing assets, has a more diversified portfolio overall than the owner and faces less volatility in her wealth at the time of the move. But if housing costs in the origin and destination cities covary positively, owning a house in the origin city hedges the risk of housing costs in the destination city, a feature the renter does not enjoy. In essence, when house prices in two cities covary together, a home owner is wealthier – she can sell her existing house for more – when

[3] It is not necessarily the case that a household should want to undo all of their housing cost risk by buying a house. A partial hedge could be preferable. That position could be obtained by renting plus holding an asset that pays a dividend that is correlated with rental costs. Likewise, owning and taking the opposite position on the hedge would generate the same position.

housing becomes more expensive in the destination city. Likewise, she is poorer when housing is less expensive. In those cases, the volatility of wealth net of expected housing costs is reduced by owning the house. By contrast, a renter, who is unable to avoid having low covariance between her assets and future housing costs, is likely to experience high portfolio returns when housing becomes less expensive in the destination city and low returns when housing becomes more costly. In first case, the renter can afford more housing than before and in the second case, the renter can't afford as much. That volatility in consumption subsequent to a move is what homeowners moving between two markets with high house price covariance can avoid.

It turns out that for most Americans, the covariance in housing costs between their current housing market and the cities they are likely to move to is remarkably high. [Sinai and Souleles (2009)] The median expected correlation in real house price growth is 0.6, and the 75th percentile expected correlation is about 0.9. A similar, but less interpretable, pattern is evident in expected covariances across MSAs in house price growth. That covariance can be obtained best by investing in a house as the average correlation of house prices with stock or bond prices is much lower. (See, for example, Gyourko and Keim (1992).) In the context of our earlier example, for many home owners, their sale prices tend to be high when the purchase price of their next houses tend to be high. That is, the increase in house value in the high volatility market to $168,000 is not such a windfall if the house in the next market also appreciated to about $160,000. And a decline in value to $88,000, absent leverage, is not so painful if the new house also fell in value to $90,000 or so.

The risk of forgoing the investment position embedded in home owning by renting instead varies critically by geography and type of household. The expected covariance can vary widely across households – some households in some cities have a zero or negative expected

covariance between their house price growth and house price growth in the cities they expect to move to – so this is not a one-size-fits-all statement. In general, houses in markets with little volatility cannot be used as a hedge against volatile house prices elsewhere. In addition, some households in some cities or some industries tend to move to more correlated housing markets than do others. However, one can imagine that owning a house might be a good hedge for any durable consumption item whose cost rises when real estate values go up. Such goods would have land as a significant input factor. Assisted living care, for example, might be affordable to home owners because if house values rise when assisted living costs go up, home owners can sell their houses to pay for assisted living care.

Another way owning a home might reduce the impact of housing market uncertainty is that it provides an option to move. Suppose an owner's house price rose more than house prices elsewhere. He would be able to sell his house and move to other places that perhaps were previously unaffordable. If, however, his house price fell by more than house prices elsewhere, the owner would not have to move. Instead, he could stay put and consume just as much housing services as he always has. This one-sided ability to trade up if conditions are right without having to trade down if conditions are poor is an option to move for the owner. Such home owners would prefer house price uncertainty, as long as the uncertainty is relatively uncorrelated with house prices elsewhere. Renters, since they do not own an asset that is tied to their housing, do not hold such an option.

One important factor complicates this analysis. So far, we have implicitly assumed that households' incomes are independent of changes in housing costs. That is, we presumed that incomes do not necessarily go up when rents rise. If incomes and rents tracked each other, renting would look more favorable. [Davidoff (2006)] The uncertainty of rents would be offset

by the uncertainty of incomes and, together, they would reduce the volatility of housing and non-housing consumption. If households had greater incomes when rents were higher, they not only could afford the higher rent, they would still have money left over for non-housing consumption. In a sense, rent volatility could hedge income uncertainty, leading to less volatility in consumption overall. Davidoff (2006) frames this concept in terms of the correlation between total housing cost and lifetime income. In addition, if liquidity constraints are an issue, a positive covariance in annual incomes and rents would reduce the risk of renting relative to owning. Both of these cases can be exemplified by the idea of "one company towns." If demand for a location is driven by the productivity of the local factory, and wages are also driven by that productivity, then rents would be high when incomes were high and being a renter would yield less volatility in both housing and non-housing consumption. By contrast, an owner would have more volatility in non-housing consumption (since housing costs would be constant and income would be variable) and her house value would be lowest precisely when she would want to move away: when the factory was not doing well and she was laid off.

The case of moving to a new city also is complicated by the addition of uncertain incomes. A positive covariance of income subsequent to a move and house prices reduces the risk of moving. For example, if when a household moves to a city where house prices have gone up more than expected, the household will also earn more than expected, that household's wealth is again higher (due to higher human capital wealth) precisely when housing is more expensive. The household need not own a house to obtain the benefit of income as a hedge for future housing costs. Indeed, depending on how much income changes offset changes in housing costs after a move, owning a house too might overcompensate and create too much volatility. That is, if both house prices and incomes rise when a household moves to a location where housing costs

rose more than expected, the household's wealth might have gone up by more than necessary to cover the additional housing costs. One could imagine that the degree to which incomes and house prices might covary would depend on things like the industry of the worker and how large a share of local employment is in that industry. If the industry has a good year, so its employees are paid more, and it is a large local employer, so its employees' good fortune is capitalized into house prices, a high correlation between income and house prices could arise.

I do not know of any direct evidence on the degree of covariance between incomes and house prices subsequent to a move. Paciorek and Sinai (2010) provide indirect evidence that the income hedge does not eliminate housing cost uncertainty and so owning a house further reduces volatility. They show that even after netting out any income relationship, home owners whose houses provide better hedges have lower variability of housing consumption after a move. This result indicates that home owners, on average, are not overcompensating for volatility in future housing costs. If they were, more hedged home owners would experience more housing volatility, not less.

III. Paying for reduced risk

Households seem to recognize that there is value in the reduced risk that accompanies owning. Several recent studies have found that in circumstances where home owning provides a better hedge, households have higher housing demand. Sinai and Souleles (2005) show that the likelihood of home ownership is higher when a household lives in a more volatile housing market and is less likely to move (for exogenous demographic reasons). The logic is that in low-volatility housing markets, neither renting nor owning generates much uncertainty. By contrast,

in high-volatility housing markets, short-horizon owners experience sizeable sale price risk whereas long-horizon renters experience sizeable rent risk. Han (2008) shows that the sale price risk effect reduces the quantity of housing purchased by home owners who are more likely to move out of the local housing market. Sinai and Souleles (2009) find that the reduction in demand for ownership by short-horizon households in high-volatility housing markets is mitigated for households who expect to move between highly-covarying housing markets. For such households, the uncertainty about the sale price if they are owners is a benefit as it reduces the uncertainty of the purchase price of their subsequent house. The benefit can be quite sizeable. Paciorek and Sinai (2010) estimate that, for households that move, the value of the lower variability in subsequent housing consumption is as much as 20 percent of their house price.

Importantly, households appear willing to pay to avoid the higher volatility that accompanies renting. Sinai and Souleles (2005) provide empirical evidence that house prices capitalize a premium that increases with the amount of rent volatility that is avoided by owning. They find that a one standard deviation increase in the volatility of detrended real rent leads to a 0.18 to 0.62 increase in the price-to-rent ratio, or a 1.1 to 3.9 percent increase in prices (holding rents constant). Those house prices capitalize only the willingness-to-pay of the marginal homebuyer. Within a housing market, then, there are inframarginal households who value avoiding the risk of renting by more than the risk premium embedded in house prices. (And there are households, who rent, who are not willing to pay the premium required to own.)

IV. Capacity for volatility

If renting arguably delivers more risk and households realize that fact (and the evidence that they have a higher demand for home owning when renting is riskier suggests they do) how is it that the conventional wisdom seems to perceive that owning is riskier than renting? One possibility is that renters have a greater capacity to absorb uncertainty in housing costs or incomes. The primary channel by which that happens is that renters spend a smaller fraction of their incomes or net worth on housing than do owners, holding constant age and marital status. This fact can be seen in Table 1 which regresses a measure of annual log housing costs on log income and an indicator variable for a renting household, plus some controls. The first three columns use household-level data from the U.S. Census in 1980, 1990, and 2000. The last two columns use household data from the Survey of Consumer Finances in 2004. Annual housing costs for renters are defined as 12 months of rent.

Estimating annual housing costs for owners is a bit trickier, since we observe a house's price but not its rental value. We impute rental value for owned houses in a couple of ways. First, we construct a hedonic model of rents using the data from the Census. We then apply that hedonic model to predict rental values for each of the home owners. Second, we apply a user cost model, following Poterba and Sinai (2008). The user cost (UC) is the sum of the annual after-tax expenses (including the cost of capital) less the expected capital gain, which is the money the owner gets back by selling the house for more than what he paid, per dollar of house. The two approaches are conceptually related. For a landlord, rent (R) plus the expected capital gain needs to yield the market return on his investment. For an owner, the annual cost plus the expected capital gain needs to deliver the same return. Thus, R should equal UC×P, where P is the price of the house. However, there is an important distinction between them. Rent is a cash

payment to landlords. User cost is a cash cost that is higher than rent but which is reduced by capital gains expected to be received later.

The first column of Table 1 uses the hedonic to impute rents to home owners. It shows that renters, on average, spend about 17 percent less per year on rent (or equivalent) than do owners, holding a number of household characteristics, including income, constant. In the second column, I apply a scaling factor from the user cost model to self-reported house values to obtain the rental equivalent for an owned-house. We see that renters are estimated to spend 17 percent more per year on housing than do owners. The explanation for this finding is evident in column 3, where the user cost scaling factor is modified to exclude the capital gains component and thus deliver a number closer to a cash flow measure of housing spending (without the capital gains offset, which is typically on paper). In that case, renters are estimated to spend 63 percent less on housing than similarly situated owners. Basically, owners are spending more cash on their residences than renters, but they (on average) more than get that difference back on paper in the form of capital gains.

The last two columns repeat the exercise using the Survey of Consumer Finances (SCF) and the user cost imputation. The same gap between the default user cost and the version that excludes the benefit of capital gains can be seen in this data set. Renters are estimated to spend 53 percent less on housing (on a more-or-less cash flow basis) than owners (the last column). When owners are credited with the benefit of the expected capital appreciation, renters are estimated to spend 21 percent less than them on their housing service flow. In results that are not reported here, I find the same pattern when I control for net worth (excluding housing) in the SCF regressions.

There are many possible reasons renters spend less on housing, *ceteris paribus*. One might be that they are savvy enough to recognize that they are accepting more housing cost volatility and they intentionally buffer themselves against that volatility by consuming less housing relative to income or net worth. Another is that renters choose to rent in part because they are the types of people, even holding observable characteristics constant, who do not like to consume much housing and the rental stock is typically cheaper than the owned stock. A third possibility is that they are saving for a down payment to buy a house. Fourth, the tax-price elasticity of demand for housing might be greater than one, so that the tax subsidy to housing for owners leads to higher housing spending even net-of-tax. (Glaeser and Gyourko (2006) summarize that elasticities found by the literature range from 0 to 2.)

In either case, the lower spend rate on housing suggests that renters can more easily absorb higher than expected rent growth. In addition, they can better handle declines in their incomes because they have not committed to spending as high of a fraction of their incomes. Sinai and Souleles (2005) provide some evidence that households realize this is the case: Households who live in housing markets that are costly relative to their incomes are more apt to take housing market volatility into account when making their housing decisions than do households for whom housing is a smaller portion of their spending.

I suspect the tendency of owners to spend a larger fraction of their incomes on housing is one of the main reasons that the conventional wisdom views home owning as risky. If renters spent as much of their incomes on housing as owners implicitly do, they would be more likely to be evicted for nonpayment of rent in a downturn. Still, even if renters and owners exhibited comparable housing spending, it is less expensive to be forced to move out of a rental apartment

than to move out of a house, merely because the transaction cost of selling a house is higher than the transaction cost of moving out of an apartment.

One virtue of renting, however, comes in how the time path of rental payments in a market where rents are expected to increase differs from the cash outflow an owner must pay. A renter pays a low initial rent because a landlord expects some capital gain due to the anticipated growth in rental income and thus does not need as high of a cash yield in the form of rent. But because rents go up over time, the expected rent trajectory for renters starts low and rises. Home ownership cash costs are essentially level, especially when one considers the opportunity cost of equity. In addition, they are higher than rents would be because the owner expects to get money back on paper on average via capital gains, but doesn't actually monetize that gain until he sells. For a liquidity-constrained household with a rising expected income, renting matches cash flows better than owning.

Another important reason the conventional wisdom might view renting as less risky than owning is that the use of leverage by home owners magnifies the consequences of a bad shock. Namely, owners can be under water on their mortgages, whereas renters cannot. Negative equity can lead to a host of problems ranging from impaired mobility (Chan (2001), Ferreira, Gyourko, and Tracy (2010)) to foreclosures and risk to the financial system. However, these are risks of using high levels of debt finance to purchase housing, not risks of owning housing itself. If households were able to pay cash for their houses, none of these problems would exist. Indeed, many of the major complications created by the housing bust of 2007 are due to defaults and foreclosures, which are a feature of mortgage finance, not home ownership *per se*.

However, it would be disingenuous to dismiss the risk of mortgage finance since most home owners in the U.S. use mortgages to purchase their houses. According to Sinai and

Souleles (2008), 90 percent of home owners under the age of 45, but less than 20 percent of home owners over the age of 75, have mortgages. Low-income and younger home owners simply do not have the assets to obtain their preferred house without a mortgage. Using data from the 2004 Survey of Consumer Finances, Poterba and Sinai (2010) show that less than 30 percent of aggregate mortgage debt could be replaced with equity from financial assets on households' balance sheets. Young, low-income households in particular could reduce their mortgage debt by no more than 15 percent. Like it or not, using leverage appears to be bundled with home ownership.

A full treatment of the risks of home mortgages is beyond the scope of this paper. In addition, it is already well-understood that financing a volatile asset with high leverage – whether in commercial real estate, houses, or even airlines – is risky. Instead, I will simply emphasize that to enjoy the risk-management aspects of home owning, home owners need to mitigate the risks of leverage. The steps are simple in theory, although more difficult to execute in practice. Use conservative amounts of debt: Households that use less leverage are less likely to find themselves owing more than the house is worth. Do not purchase more house than you can afford: Houses that purchase conservative amounts of housing are less likely to find themselves unable to pay for it. And beware of the risks of refinancing debt, whether explicitly (through a new mortgage) or implicitly (through an adjustment in an option ARM). With typical fully-amortizing mortgages, refinancing is an issue only when a household moves. At that point, a household runs the risk that mortgage rates have risen – and it then becomes an expensive proposition to give up a low-rate mortgage to switch houses – or that financing criteria have become more conservative and they cannot borrow enough to afford a new house. This is a difficult dilemma eased either by households saving to accumulate enough assets to reduce the

total leverage on their balance sheets or by the creation of portable mortgages that could be transferred (with reasonable restrictions) to a new house.

V. Implications for rental policy

Currently, the housing playing field is tilted toward home ownership, especially at the high end of the income distribution, due to its favorable tax treatment and the government subsidy for mortgage finance (first through the implicit guarantee of GSE debt and subsequently through the Fed's active role as a purchaser of mortgage-backed securities). For less well-off households, the playing field is more neutral. The subsidy to home ownership is smaller for low income households who, despite financing their houses largely with debt, typically do not receive much benefit from the mortgage interest deduction because they do not itemize on their tax returns. (Poterba and Sinai (2010)) Renting is subsidized largely through place-based public housing and voucher programs. However, due to the large amount of crowd out of private housing consumption by public subsidies, low-income housing subsidies can be more like targeted income transfers than subsidies to renting. (Sinai and Waldfogel (2005))

There are two ways to level the playing field between renting and owning. One is to reduce the subsidy to home ownership. The other is to increase the subsidy to renters to compensate for the existing subsidy to home ownership. These two are not equivalent in terms of risk, or incentives. It is important to recognize that housing or rental policies typically influence not only whether households own or rent, or how much housing they consume, but also how much and what kinds of risk they take on. Assessments of housing policies should account for whether households' are induced to take more appropriate risks, not just whether household consumption is affected.

To assess differences in risk, it is helpful to recall that home owning can be thought of as housing consumption plus an investment in housing in the local market. Both components have independent effects on risk. The housing consumption part has the same risks for both renters and owners – the cost of housing services can fluctuate. Since everyone needs a place to live, both renters and owners need to obtain housing services and face this source of risk. The difference between them, in fact, comes in how they handle it.

Owners deal with the uncertainty over future housing costs by making investments in their local housing markets: They buy houses. (It is an extremely local market, since they buy their *own* houses.) Renters just accept the volatility of housing cost fluctuations and invest in a more diversified portfolio. This decomposition of owning into renting plus an offsetting investment makes some sources of risk apparent. First, risk rises with spending on housing services (holding income constant). Thus, the most obvious way for any household – renter or owner – to control risk is to avoid spending too much on housing relative to its income or wealth. For renters, spending less on rent relative to income reduces the impact of rent fluctuations on non-housing consumption or income fluctuations on the ability to continue to pay rent. Therefore, policy makers should be careful to make sure that any incentive for renting is not also an incentive to spend more on rent. Likewise, current tax policy subsidizes the consumption of additional housing for home owners. Reducing this subsidy would mitigate the risk that follows from home owners being incentivized to devote more of their resources to housing.

The second way a renter can manage the risk of rent fluctuations is by taking on an offsetting investment in local housing. Although it seems ironic to encourage households to make a volatile investment, the investment simply negates the household's preexisting risk. For example, one can think of owning a house as owning a financial asset that for each period in

perpetuity pays the current rental cost of a house combined with renting the house. When rents are higher, the financial asset pays just enough more to cover the increment. When rents are expected to be higher in the future, the financial asset is worth more, just offsetting the extra cost.

Currently, the only viable way to invest in local housing markets is to own the home you live in. That is a polar case amount of investment that offsets the approximate expected rental cost if a household were to live in the house in perpetuity. (Renting is the other polar case of zero investment.) For many households, owning can be too much investment in housing because they do not expect to stay in the house for a long enough time. In that case, the residual value of the house at sale is uncertain, potentially leading to risk.

However, there is no particular reason that investment in housing needs to be limited to 100 percent (owning) or zero (renting). For example, long-term leases eliminate the primary risk renters face, not being able to lock in their total cost of obtaining housing, for a set period of time. That is because a long-term lease is like a financial asset that for each period during the term of the lease pays the current rental cost of a house. The economic difference between a lease and ownership is merely the length of the term of fixed rent (a lease is finite while ownership is perpetual). Indeed, an infinitely-long, transferable lease is just like owning. Other differences between leasing and owning are merely institutional. For example, lease payments typically are paid each year whereas a purchase price is paid upfront. However, the timing and amount of lease payments are set by contract; the only reason they are not frontloaded like a purchase is that the landlord and tenant choose not to.[4] Another typical institutional difference between renting and owning is that residential tenants typically don't have discretion over

[4] Presumably, a tenant would be worried about counterparty risk – the landlord would collect an up-front rent payment and then fail to provide the contracted rental unit.

making renovations to a property like an owner does. But they would, if the lease contract were not written to disallow it.

Given their potential benefits, one wonders why it is that long-term residential leases are not already commonplace in the U.S.? While long-term fixed rent leases (or with built in, known escalations) are prevalent in commercial real estate in the U.S., they are exceedingly rare in domestic residential leases. Genesove (1999) finds that fewer than 2 percent of residential leases in the U.S. are for a year or more. This is true even though many renter households live in the same rental unit for well longer than one year. One possible explanation is that it simply is cheaper to obtain the benefits of a long-term lease by owning. As discussed earlier, home ownership is favored by the tax code. Perhaps, in the absence of subsidized ownership, a long-term rental sector would develop. Unfortunately, existing empirical research does not address that issue. In most studies, the own-rent margin is not estimated to be very sensitive to the size of the tax subsidy for home ownership. However, the empirical research cannot truly address any systemic shifts in the form of the housing market that might arise from a large change in the overall tax treatment of homeownership because typically they are estimated from small changes in tax rates.

Another possible explanation for the lack of long-term renting in the U.S. is that tenants would have to pay a premium for such a lease. One expensive likely feature of a long-term residential lease would be that a tenant could break the lease at will. When would a tenant do this? Besides exogenous moves, if market rents dropped below what was agreed upon in a long-term lease, a strategic tenant would move out to a cheaper apartment and the landlord would have to re-lease the unit at a lower rent. If rents rose above what was agreed upon in the lease contract, the tenant would not move out. This one-sided benefit in favor of the tenant would be

most valuable in housing markets where rents were the most volatile. Commercial leases avoid this asymmetry by enforcing that a tenant pays either the rent for the entire length of the lease or a penalty that makes the landlord whole if the tenant departs. It seems less likely that individual residential tenants could be forced to do that in a contract and, even if they could, that a landlord could efficiently collect. Instead, a landlord would have to be compensated for the tenant's option through higher rent for long-term leases. That rent premium would have to be largest in housing markets where housing costs fluctuated the most and for longer leases, where the odds are higher that market rents could drop below the rates in the long-term lease. Paradoxically, the very households who would value long-term leases – those who intend not to move – face the highest rental premium and the lowest cost of owning. As renters, they would have to pay a high rent premium because the option to break the lease is most likely to be "in the money." As owners, they amortize the high transaction costs over a longest horizon, reducing their per-period cost of owning.

A second source of risk, as detailed earlier, is uncertainty over housing costs in future residences, whether those new houses are in the same city as the current ones, or in new housing markets. Home owners' investment positions hedge them against changes in housing costs in future houses in the same city because the value of their investments go up when local housing costs rise. To the extent that changes in housing costs are correlated across cities the household might move to, the same change in sale value hedges an owner against changes in housing costs in other cities. A renter, who has no investment position in housing, is unhedged. Long term leases could remedy this omission if the leases could be transferred to new tenants. The reason is that long-term leases become more valuable when current rents rise, just as houses become more valuable when rents go up. A household who moves out of a rental unit could sell the right to

take over a favorable lease and use the proceeds to defray the cost of higher rent in the next rental unit. One possible reason that long-term leases have not gained traction in the U.S. is that the domestic population is fairly mobile and assumable leases are atypical. However, there is no particular reason that assumable leases could not become the norm.

Other potential options for renters to avoid the risk from moving involve taking positions between the extremes of only renting or only owning. However, these alternatives run into a host of concerns about implementation. For example, if a renter knew with certainty where she would move next, just not when, she could become a landlord in that other city. She could buy a housing unit there and rent it to a tenant, meanwhile renting a place herself in her current city. This strategy separates the investment in housing, which provides the hedge against uncertain future housing costs, from the consumption in housing. There are a number of practical problems with this strategy. For example, when it is time for her to move, our combination tenant/landlord would have to break the lease with her landlord and with her tenant. She would have to manage her rental property. And, being a landlord is anathema to the idea of encouraging households to be renters rather than owners!

An alternative to being a landlord would be to invest in a housing index that tracked the destination city. This would provide an investment position in housing without the hassle of managing a property. A renter could even invest in a basket of city housing indexes, weighted by her likelihood of moving to each of the cities. Such indexes, such as the Case-Shiller indexes, are easily tradeable and would simply need to be packaged into products that consumers could easily understand.[5] There are several difficulties with adopting this strategy. First, where does the money come to maintain a long position in possible future cities? And, if leverage is necessary to buy the position in the housing index, a decline in the index can leave the renter

[5] See: Case et al (1993), DeJong et al (2007), Shiller (2008), Voicu (2007).

under water just like a decline in house prices can do to an owner. Instead, a renter might prefer an option-based product to reduce their risk. For example, a renter who wished to limit his exposure to house price increases could purchase an option that pays the excess of house prices in a destination city above some threshold if house prices rise enough. However, such financial products would be expensive since the seller of the option would be absorbing risk from the renter, and the derivatives markets necessary to create such products have failed to develop.

Since the market has not delivered mechanisms for renters to reduce their housing risk, policymakers could mitigate the adverse effects on risk of subsidizing renting by targeting rental subsidies to those households who do not face much rental risk. Households with a short expected duration of stay in a house face less risk from renting and more risk from owning than do long duration renters, so these households possibly could be subsidized to rent (and definitely should not be subsidized to own). Households living in stable housing markets, with not much rent volatility, face little rental risk no matter their horizon, and thus encouragement to rent would not significantly affect their housing risk. Households in industries whose wages covary positively with rents face relatively low risk as renters. Targeted incentives would thus have the least amount of distortions of risk.

VI. Conclusion

It is natural, given the recent volatility in home prices, for the public policy pendulum to shift from favoring home ownership to supporting renting. However, it is important to keep in mind that the alternative to home owning, renting, is also risky. It is also hard to claim that one tenure mode is more or less risky than the other in any absolute sense. Rather, the risks are multidimensional and impact various types of households to differing degrees.

This paper focused on two aspects of housing risk: First, what is the uncertainty of housing costs in the current residence? Second, what is the uncertainty of housing costs if a household were to move to a new residence, or a new city? It then discussed ways in which public policy could encourage renting or, alternatively, cease to encourage home owning, while minimizing the amount of additional risk taken on by renters.

Because housing markets with volatile prices also tend to have volatile rents, there is no inherent financial risk advantage from renting or owning. Instead, the tenure mode affects how that underlying volatility manifests itself. In low-volatility housing markets, there is little risk to renting or owning. In high-volatility markets, owning locks in the cost of the current residence but leaves the sale price uncertain whereas renting leaves the annual cost uncertain. Households with long durations of stay reduce their risk by owning rather than adopting annual leases. Owning also provides an investment that hedges housing costs after a move for households that would move within a housing market or move to a new housing market with correlated house price changes but which adds volatility if those conditions are not met. Renters are exposed to house price risk for future houses.

There are three broad ways to mitigate these sources of risk for renters. The first is to help households to be sufficiently conservative financially that they can absorb volatility in housing costs. The paper showed that renters tend to spend less of their cash flow on rent than owners do on housing costs. There are many possible reasons for this difference, but it is doubtful that renting is an inherently cheaper way of obtaining housing. Instead, current renters probably consume less housing than owners do. This provides a financial buffer against unexpected changes in rents or income. Any rental policy should avoid subsidizing additional spending on rent by renters since that would increase household risk. By contrast, the current tax

treatment of housing subsidizes housing spending on the margin, encouraging increased housing consumption as well as the act of home owning.

The second risk mitigation approach would be for renters to adopt positions somewhere in between the current norm of annual leases and a perpetual lease, which is like owning. Long-term leases could provide certainty about housing costs for a shorter horizon household and a possible hedge against housing costs in future markets. Housing derivatives-based products could aid renters as well. However, neither of these options have proved to be popular.

A third approach would be to target rental subsidies to those households for whom the risk of renting are low. Such targets include highly mobile households, those in low-volatility cities, and those whose incomes tend to commove with rents.

Since nearly all households either rent or own, an alternative to rental policy would be less favoritism towards home ownership. One wonders if the paucity of long-term lease contracts is due in part to crowd-out from subsidized home ownership. A reduction in the subsidy to owner-occupied housing could be across the board, or could be targeted to those households for whom owning is the most risky.

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Table 1: Differences in annual spending on housing by renters and owners

Data source:	IPUMS (Census)			Survey of Consumer Finances	
Rent imputation:	Predicted rent	User cost	User cost excluding capital gains	User cost	User cost excluding capital gains
Renter indicator	-0.1681 (0.0004)	0.1709 (0.0007)	-0.6308 (0.0007)	-0.214 (0.014)	-0.525 (0.014)
Log household income	0.1171 (0.0002)	0.2957 (0.0004)	0.2936 (0.0004)	0.504 (0.004)	0.521 (0.003)
Adjusted R^2	0.3998	0.2777	0.4674	0.6426	0.6937
MSA dummies?	Yes	Yes	Yes	No	No
Age dummies?	Yes	Yes	Yes	Yes	Yes
Married dummy?	Yes	Yes	Yes	Yes	Yes
Year dummies?	Yes	Yes	Yes	N/A	N/A
Sample period:	1980, 1990, 2000	1980, 1990, 2000	1980, 1990, 2000	2004	2004
# of observations:	4,070,627	4,070,627	4,070,627	19,099	19,099

Figure 1:

Figure 2: