

Home is where retirement funding is

- In this paper, we show that generations of retirees may have tapped into housing wealth as an important source of funding via an underappreciated channel: relocation to a cheaper housing market. About 60% of migrating retirees do so, typically extracting about \$100,000 of home equity.
- We highlight two types of relocators: those who move from a booming housing market ("lottery winners") and those who move to a low-growth housing market ("bargain hunters"). Lottery winners show up more prominently near the peaks of housing cycles, whereas bargain hunters appear mostly during the troughs.
- The downside risk in counting on relocation for retirement income materializes when prospective retirees' current residence lags their desired housing market in appreciation. We examine how local housing dynamics have evolved over the past few decades and suggest approaches to managing this risk.

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Acknowledgments: We thank Cecil-Francis Brenninkmeijer for his contribution to this paper in the initial stage of research and gratefully acknowledge helpful comments from Roger Aliaga-Díaz, Andy Clarke, Fiona Greig, Jim Rowley, and Stephen Utkus.

Introduction

About 80% of Americans age 60 and over are homeowners, with housing wealth accounting for approximately 48% of their median net worth.

Despite its prominence on most retirees' balance sheets, the role of housing wealth in funding retirement has not been fully understood. While this wealth is not typically accessed by homeowners who stay put (Venti and Wise, 2004), it is much less clear what retirees do with it when they relocate and have an opportunity to extract home equity.

Consider an individual homeowner who purchased a primary residence for \$170,000 in Boston in her 30s in the early 1990s. This home would have enjoyed rapid appreciation (significantly above the national average) and would now be valued at \$500,000. As she starts her retirement in Florida in her 60s in the early 2020s, the investor will be able to unlock \$200,000 of the capital gains on her Boston home, which she can add to her retirement funding.

Work by Banks et al. (2010) shows that downsizing may be an important channel to shore up retirement funding. So the question arises: Is this lucky Boston retiree merely anecdotal, or could the strategy apply to retirees across the U.S.?

In this paper, we assess how much retirement funding could be unlocked by homeowners who relocate to a less expensive housing market—a strategy we refer to as "retire-and-relocate."

In 2019, the median homeowner age 60 or older using this technique could have accessed about \$99,000 in home equity; the figure rises to \$347,000 at the top 10th percentile. Since the average homeowner in that age group holds \$223,000 of retirement savings in financial accounts, the additional funding could be mission-critical to a secure retirement.

Retiring and relocating could be useful for many retirees. Investigating millions of migration records from the American Community Survey (ACS), we find that roughly 60% of movers age 60 and above go to a cheaper housing market. Over a ten-year period, this translates to 25% of all retirees having the potential to shore up their retirement funding through relocation. This contrasts sharply with the general lack of traction in reverse mortgages—a financial product specifically engineered to facilitate access to housing wealth—among retirees.¹

The tendency to move to a less expensive housing market varies along two important cycles. First, it shows a hump-shaped pattern over investors' life cycle, rising in the 30s to 50s, peaking in the 60s, and declining rapidly into the 80s.

Second, the composition of those using the strategy changes with the housing cycle. In a bull market, up to 50% of retire-and-relocators move from a housing market with significantly above-national-average growth (as in the case of the hypothetical Boston homeowner)—a group we refer to as "lottery winners." During housing market downturns, however, lottery winners'

¹ This has been attributed to a desire to leave bequests (Engelhardt and Eriksen, 2022), build precautionary savings (Davidoff, 2010), and remain in the home (Cocco and Lopes, 2020), as well as to possible suboptimality in financial product design (Davidoff, Gerhard, and Post, 2017; Venti and Wise, 1991).

presence drops to below 20%, and this void is filled by an increased number of “bargain hunters,” who access equity by moving to a housing market with anemic historic growth.

For all homeowners, the outcome of retiring and relocating is subject to the timing of the move relative to the national housing market cycle and the difference in housing market growth between origin and destination.

What risks might prospective retire-and-relocators face? Examining the evolution of 29 major local housing markets from 1980 to the present, we find that much depends on what unfolds in the following decade. In the 1980s and 1990s, housing markets across the country had predominantly local drivers, resulting in significant dispersion in appreciation.

Since the 2008–2009 financial crisis, however, most local housing markets have become highly synchronized and moved in lockstep with the national housing market, enjoying a secular upward trend. In this latest regime, dispersion has been dramatically compressed, creating a friendly environment for retiring and relocating. Should the housing market change, prospective retirees might face very different (and less friendly) circumstances.

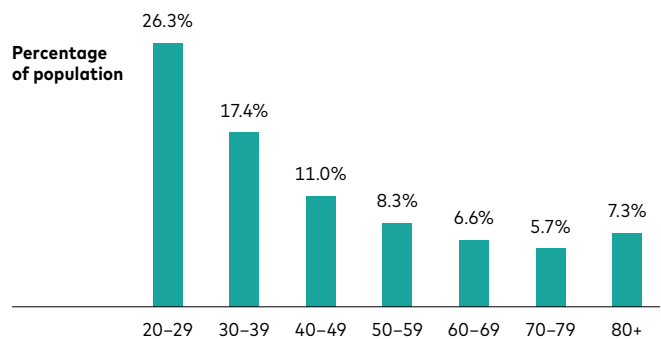
The next part of this paper describes our main data sources and establishes our key findings on retiring and relocating. The following section examines how results vary over investors’ life cycle and the national housing cycle. We then document how local housing markets have evolved since 1980, putting the current environment into perspective, and finally present our conclusions.

Retirement, relocation, and home equity

Our first goal is to understand how prevalent retiring and relocating is in the prime retirement age group. We begin by combining migration records from the ACS with housing price data from the Federal Housing Finance Agency (FHFA). The ACS is very suitable for our purpose because it keeps track of survey respondents’ primary residence information at the county, state, and metropolitan statistical area (MSA) level for the year of the survey and the prior year. It samples roughly 1% of the American population every year, allowing us to observe the residence and migration records of roughly three million individuals in more than 3,000 U.S. counties.²

The United States has a mobile population that may move multiple times for college, employment, lifestyle, and financial considerations.³ While 15% of all U.S. adults move annually, mobility varies over the life cycle, as shown in **Figure 1**. It is highest among those in their 20s and then steadily declines before rising moderately again in the 80s and above.

FIGURE 1
Share of population that moves annually, by age group



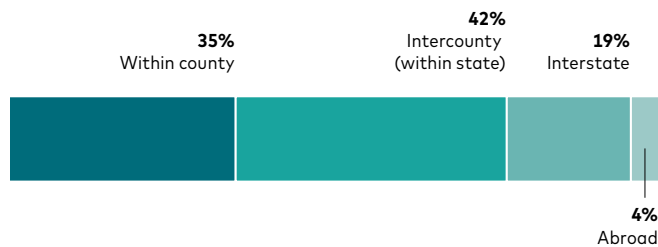
Source: Vanguard calculations, based on the 2018 American Community Survey and U.S. Census Bureau data.

² This represents a significant advantage over traditional sources such as the Health and Retirement Survey (HRS) and the Panel Study of Income Dynamics (PSID). Whereas the ACS samples roughly three million individuals in 3,000 counties, the HRS and PSID follow at most 23,000 and 8,000 households, with coarse geographic representation. See **Appendix 4** for details.

³ Walters (2002) provides a comprehensive review of the literature on later-life migration.

Older individuals clearly move less: Roughly 7% of the 60-and-above population moves annually. **Figure 2** breaks down their 2019 migration at a high level. In this age group, 35% of all moves were within the same county. The rest involved crossing either in-state county lines (42%) or state borders (19%).

FIGURE 2
Migrations among those age 60 and older in 2019



Source: Vanguard calculations, based on the 2019 American Community Survey.

How many people might be using the retire-and-relocate strategy? The 7% annual mobility figure from Figure 1 implies that about 52% of all U.S. retirees migrate over a ten-year period (each year, 93% of eligible retirees stay put). Applying the average 80% homeownership rate to this group⁴ and the 61% share of nonlocal movers from Figure 2, we arrive at an estimated 25% of all retirees who could use the strategy over a ten-year period. The less-than-2% use of reverse mortgages by the same group (Nakajima and Telyukova, 2017) highlights the relative importance of relocation in tapping housing wealth.

What is the impact of these nonlocal (intercounty or interstate) moves on homeowners' net worth? We estimate this by comparing the prices of the origin and destination housing markets, sourcing local house prices from FHFA All-Transactions Indexes. FHFA indexes capture the average price of all housing transactions involving Freddie Mac and Fannie Mae loans in each housing market.⁵ Accordingly, our estimate is most accurate for a retiree moving from one average-priced house to another. If instead the tendency is to downsize (see Banks et al., 2010),⁶ our estimate would be on the lower side relative to the true impact.

As an example, consider a 65-year-old California resident with a primary residence in Santa Clara who relocates to Merced, an adjacent county in the same state, upon retirement in 2019. The average house prices in 2019 were \$1,034,000 in Santa Clara and \$266,000 in Merced. Assuming full ownership of the Santa Clara house and no mortgage financing for the new house, we estimate that this relocation would unlock \$768,000 in home equity.⁷

To put the additional funds in perspective, we also consider the ratio between the home equity accessed and the new house price. In this example, \$768,000 in home equity translates to 289% ($\$768,000/\$266,000$) of the new house price, anchoring the value of the new funding in the local economy. If this retiree downsizes, the potential grows.

⁴ Census Bureau, Current Population Survey/Housing Vacancy Survey, March 15, 2022.

⁵ Our estimate will be less accurate for those at the upper end of wealth and income distribution who typically own homes financed with nonconforming loans. See **Appendix 3** for additional details on FHFA house price data.

⁶ Banks et al. (2010) find that older Americans who move tend to downsize.

⁷ We believe this is a reasonable assumption for many retirees. In the 2019 ACS, less than 45% of those between ages 65 and 74 had a mortgage, and this share declined to 24% for ages 75 and above. Our estimate does not include transaction costs, although these may represent a meaningful amount of the proceeds (Blanchett, 2017).

Figure 3 provides the summary statistics on potential home equity extracted (or injected if negative) from all nonlocal moves by those age 60 and above observed in the 2019 ACS.⁸ About 60% of moves across county lines or state borders involve moving to a cheaper housing market and generate the opportunity to access home equity. The other 40% may need to inject it.

The median amount of potential home equity unlocked is roughly \$100,000, representing over 40% of a new residence's value in a cheaper housing market. This is significant for the median homeowner in this age group with an annual income of \$59,050, financial assets of \$87,000, and net worth of \$349,600, and can be critical to shoring up retirement readiness. Of course, those who relocate to a more expensive housing market could be left with roughly \$70,000 less than those who do not relocate.

FIGURE 3
Summary statistics on potential equity extracted or injected from nonlocal migration, income, and retirement savings for individuals age 60 and above in 2019

	Percentile					Average
	10th	25th	Median	75th	90th	
Potential equity extracted or injected: All movers	-\$165,244	-\$72,584	\$16,508	\$108,576	\$240,433	\$24,982
Potential equity extracted: Movers to a cheaper market	\$18,445	\$45,114	\$99,019	\$188,663	\$346,699	\$140,148
Equity extracted as a share of new house price	9%	22%	44%	83%	128%	62%
Potential equity injected: Movers to a costlier market	-\$313,310	-\$168,969	-\$73,178	-\$36,601	-\$12,513	-\$124,778
Equity injected as a share of new house price	-53%	-41%	-23%	-11%	-6%	-27%
Annual income of homeowners	\$19,244	\$32,580	\$59,050	\$111,993	\$200,569	\$118,216
Financial assets of homeowners	\$1,200	\$11,000	\$87,000	\$422,200	\$1,275,830	\$688,587
Net worth of homeowners	\$68,750	\$155,695	\$349,600	\$922,920	\$2,222,700	\$1,377,223

Notes: Home equity extracted or injected is computed for individuals age 60 and above who moved to a different state or a different county in the same state in 2019. Income includes Social Security and other retirement income. Financial wealth includes all assets held in transaction accounts, certificates of deposit, directly held pooled investment funds, directly held stocks and bonds, retirement accounts, cash value life insurance, and other managed assets. All income and asset statistics are based on homeowners age 60 or older.

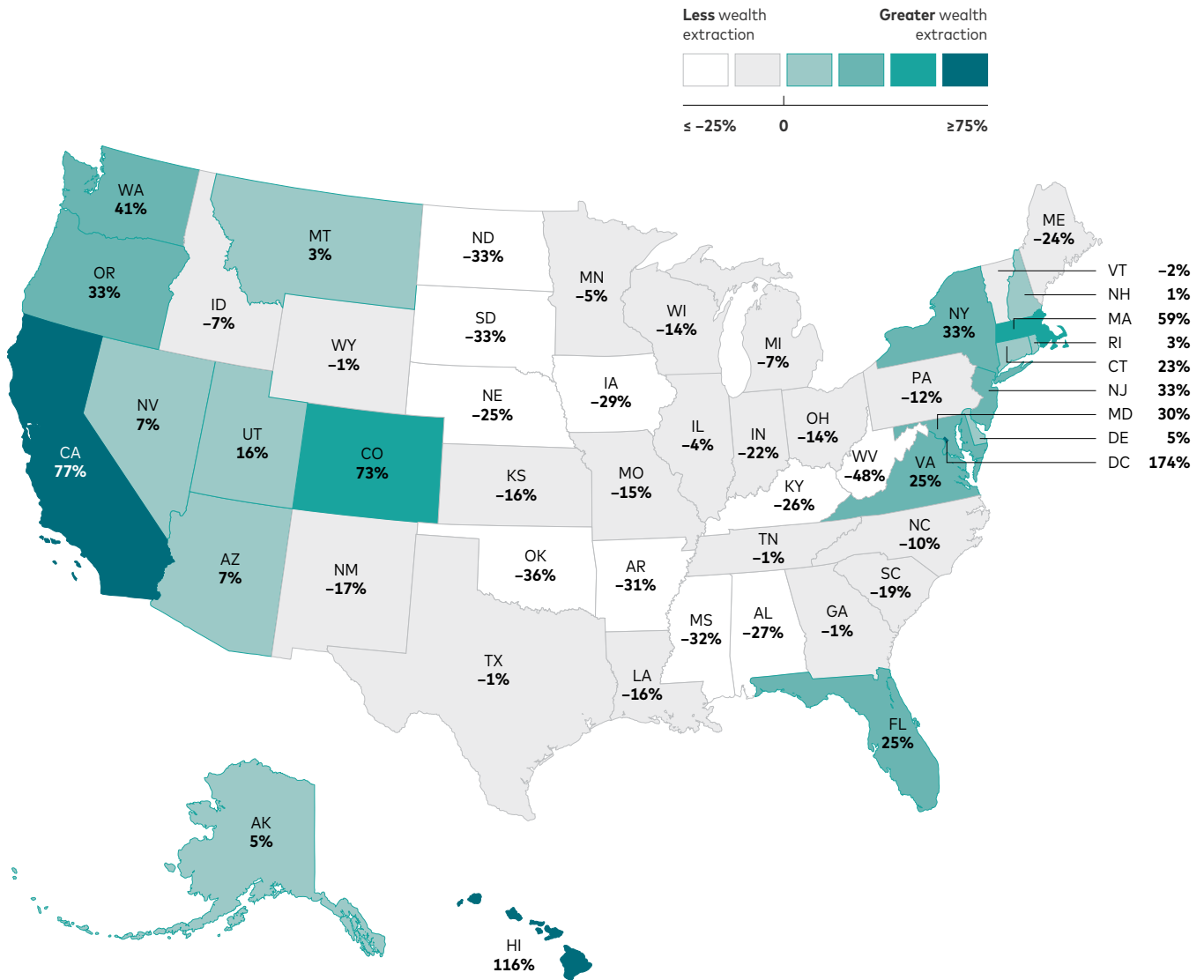
Source: Vanguard calculations, based on the 2019 American Community Survey and the 2019 Federal Reserve Board Survey of Consumer Finances.

8 The figure uses state average prices for interstate migrations and county average prices for intercounty (within state); this allows us to connect most of the nonlocal migrations with house prices in both origin and destination markets. In an unreported analysis, we used county-level average prices only (even for interstate moves) and found results consistent with those in Figures 3 and 4.

Who is likely to benefit financially from retiring and relocating? In **Figure 4**, each state reports the average ratio between home equity extracted or injected and the destination house price of all nonlocal movers originating from the state.⁹ In calculating the average, we use the frequency of origin-to-destination pairings as weights so that

the average ratio is driven by the most-observed relocation patterns. For example, most movers from California go to adjacent states with a lower housing price, including Arizona and Nevada, or other counties in California with a less expensive housing market; this is captured in the 77% ratio for California.

FIGURE 4
Average potential home equity extracted or injected by state of origin



Notes: A positive number means potential extraction, whereas a negative number means potential injection. These ratios are computed for individuals age 60 and over who moved to a different state or a different county in the same state in 2019. Migration flows serve as weights in computing average potential extraction or injection by state of origin.

Source: Vanguard calculations, based on the 2019 American Community Survey and Federal Housing Finance Agency State and County House Price Indexes.

⁹ As mentioned above, nonlocal moves include both intercounty (but within state) and interstate migrations.

Figure 4 highlights the underlying importance of strength in the original local housing market. It shows that retirees moving out of their primary residence on the West Coast—Washington, Oregon, California—and in the Northeast are most likely to unlock home equity when they retire and relocate. Movers from Nevada, Utah, Colorado, Arizona, and Florida are also well-positioned.

Those originating from other states with a weaker housing market, including many in the Midwest (such as South Dakota and Nebraska) and the South (such as Mississippi and Alabama), may end up injecting additional funds into housing.

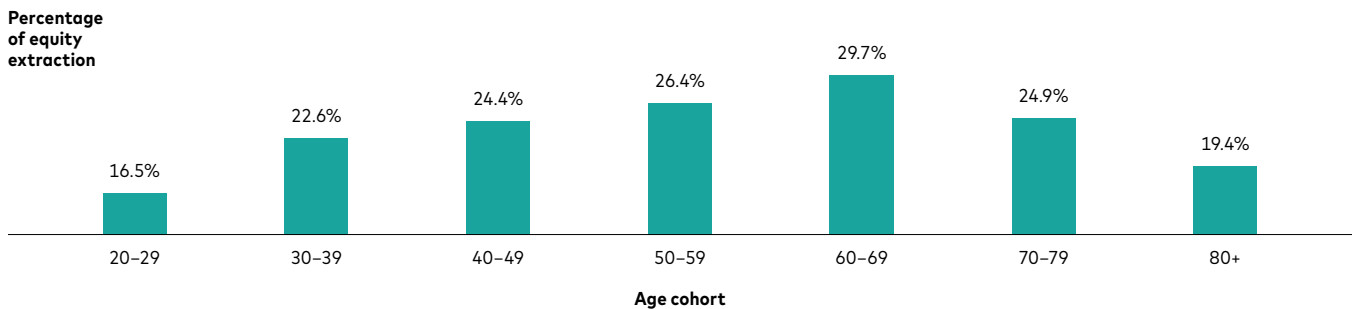
Relocation and home equity over the life cycle and the housing cycle

The role of life cycle

Is our main finding—the tendency to relocate to a cheaper housing market—specific to those nearing retirement? Or is it common throughout the life cycle? We answer this question by extending our analysis to other age groups.

Figure 5 shows potential relocation equity unlocked by age group, averaged over the 15 ACS waves from 2005 to 2019.

FIGURE 5
Average potential relocation home equity unlocked throughout the life cycle



Notes: Average potential home equity unlocked is expressed as a share of the destination house price level. Annual results for 2005 to 2019 for each age cohort are averaged.

Source: Vanguard calculations, based on 2005–2019 American Community Surveys and Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

The answer appears nuanced. In absolute terms, average relocations involve migration to a cheaper housing market for all age groups. However, in relative terms, the results confirm a strong life-cycle dimension. Moves by those in the 60–69 age group, closest to retirement, generate the greatest opportunity to unlock equity (almost 30%) through relocation. Closely behind them are those in the adjacent age groups—50–59 and 70–79—whose decisions may be affected by similar considerations.

But the sensitivity to home equity appears to decline as we move further away from the prime retirement age group. The 80+ group appears among the least sensitive to price differences. This may reflect that in this stage of retirement, proximity to health care facilities (including continuing care retirement communities) and care providers may play a bigger role in the relocation decision.

The 20–29 age group is the least sensitive to price difference. Closest to the beginning of the economic life cycle, this group likely prioritizes the opportunity to build human capital and network.

The role of local housing market growth

What role do local housing market dynamics play in shaping retiring and relocating? And who drives it—those who enjoyed higher-than-national-average appreciation (lottery winners), those looking for a destination with lower-than-national-average appreciation (bargain hunters), or some combination of both?

To shed light on this, for every year between 2005 and 2019, we divide local housing markets into three groups based on their ten-year cumulative returns. We use quarterly FHFA housing price data to compute returns. Because these local price indexes are available only at the MSA level, we perform our analysis at this level for the remainder of this paper.¹⁰

If a housing market's return is in the top 20% of all MSAs, we designate it as a high-growth area for the year; MSAs with the bottom 20% returns are low-growth, and the remaining 60% are medium-growth. **Figure 6** shows the distribution of nonlocal migrations (Figure 6a) and potential equity unlocked (Figure 6b) for retirees age 60–69—the prime retirement age.

¹⁰ There are 256 MSAs in our analysis. All inter-MSA moves are nonlocal.

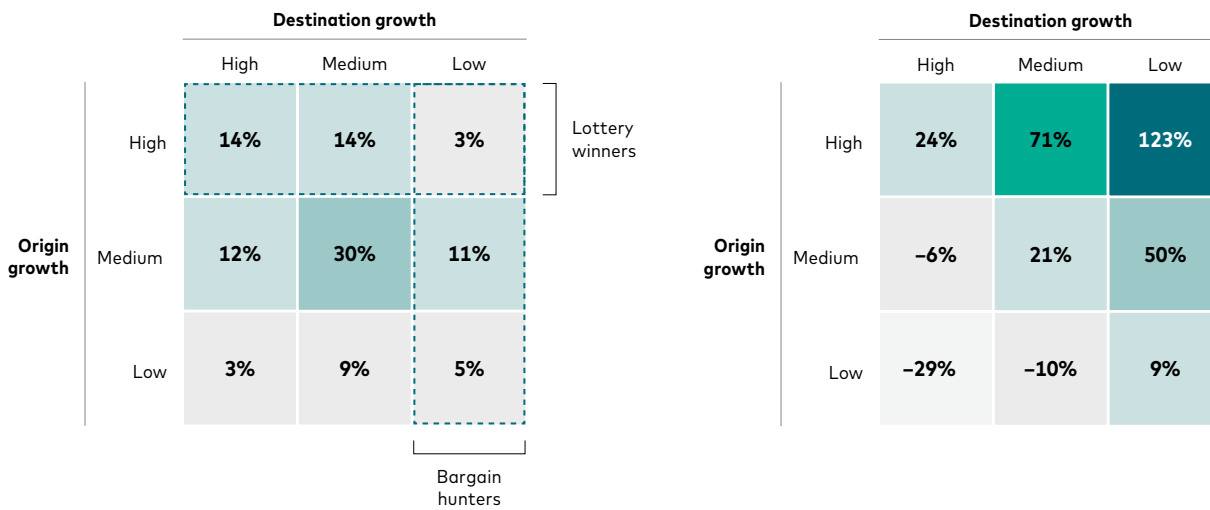
Figure 6 shows that unlocking home equity is a broad-based phenomenon. Less than 25% of all migrations are to a destination that has experienced more rapid growth than the market of origin (medium to high, low to high, and low to medium). Also, multiple types of movers are gaining access to home equity. Lottery winners account for 31% of all migrations and unlock an average 55%.

Bargain hunters account for 19% (3% overlapping with lottery winners) and unlock an average 51%. Interestingly, those who move between two medium-growth markets (30% of all migrations) extract an average 21%. Collectively, this suggests that retirees may be retiring and relocating across a broad spectrum of housing markets.

FIGURE 6
Proportion of movers and potential home equity unlocked at prime retirement age, according to origin and destination housing market growth

a. Proportion of moves

b. Equity unlocked



Note: The proportion of moves and potential average home equity unlocked as a share of the destination house price level is computed for the prime retirement-age cohort (ages 60–69) and averaged over the 15 waves from 2005 to 2019.

Source: Vanguard calculations, based on 2005–2019 American Community Surveys and Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

Relocation and home equity access over the housing cycle

How is the retiring-and-relocating pattern changing over time, and how is it connected to the national housing market cycle? As shown in **Appendix 1**, the overall share of the prime retirement-age population moving nonlocally steadily increased between 2005 and 2019. Beneath this trend, however, the composition of the movers has changed. **Figure 7** shows how the proportion of prime-retirement-age bargain hunters and lottery winners evolved.

Clearly, retiring-and-relocating retirees adapt to changing housing market conditions. Lottery winners are procyclical, making up 40% to 50% of movers during booming housing markets such as that of 2005–2007. Their presence tracks national housing market growth closely, declining rapidly to reach a nadir of 15% in 2016. Since 2017, as the market has risen above the high-water mark of 2007, more lottery winners have been employing the strategy.¹¹

In contrast, the proportion of bargain hunters moves countercyclically with the national housing cycle, growing from below 10% of all nonlocal movers in 2005–2007 to 34% in 2016 as the national cycle (measured by ten-year trailing return) bottomed out.

Figure 8 plots the average amount of potential equity bargain hunters and lottery winners could have accessed in 2005–2019. As expected, both types show procyclicality, and their average was very high prior to the 2008–2009 financial crisis before trending downward over the ensuing downturn.

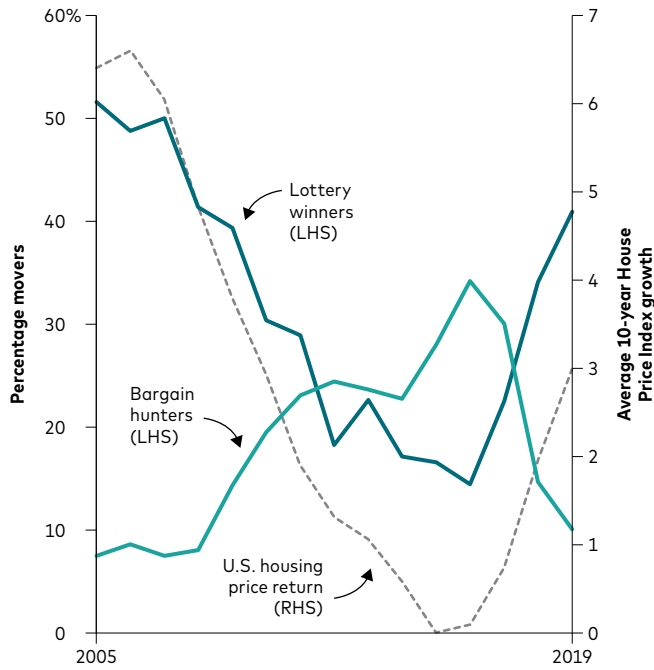
Lottery winners' potential equity extraction is more sensitive to housing market conditions, with the average declining from over 60% for most of the 2000s to almost 20% in 2015. Bargain hunters, on the other hand, show a stable (in fact, moderately increasing) average of about 50% from 2010 onward.

Together, Figures 7 and 8 show how different types of retirees navigate evolving housing market conditions. Lottery winners display a keen sensitivity to the housing cycle, moving when potential equity extraction is high and waiting out downturns. Interestingly, the minority who retired and relocated during a downturn (2015–2016) did not appear to have prioritized maximal home equity access, unlocking just 20% on average.

Bargain hunters, on the other hand, appear more dependent on unlocking potential home equity. Their tendency to migrate nonlocally increases as the housing market deteriorates. And even when house prices are declining, they manage to free a stable amount of equity, suggesting that additional retirement funding may be more critical for them.

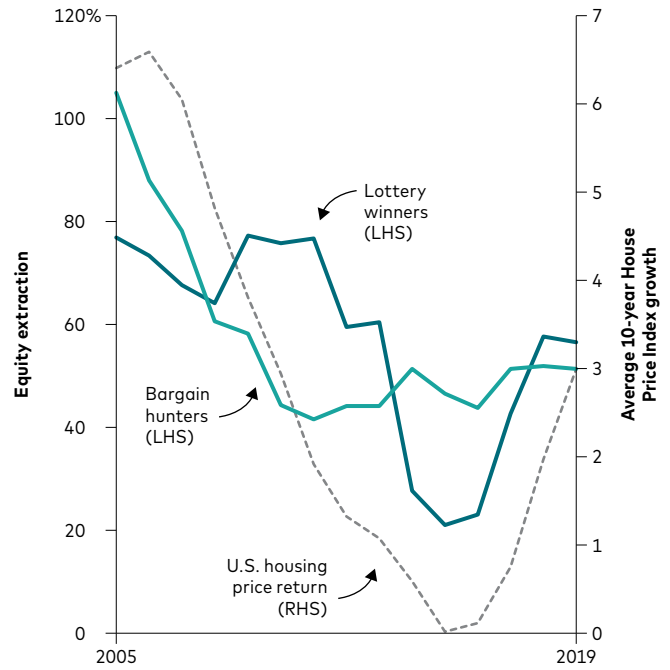
¹¹ See **Appendix 2**, a time series of the U.S. House Price Index between 1995 and 2019.

FIGURE 7
Proportion of movers of prime retirement age from 2005 to 2019



Note: The U.S. House Price Index return is the annualized ten-year trailing return.
Source: Vanguard calculations, based on 2005–2019 American Community Surveys and Federal Housing Finance Agency Metropolitan Statistical Area and U.S. House Price Indexes.

FIGURE 8
Average potential equity unlocked by prime-retirement-age movers, 2005 to 2019



Notes: Average potential equity unlocked is expressed as a share of the destination house price level. The U.S. House Price Index return is the annualized ten-year trailing return.
Source: Vanguard calculations, based on 2005–2019 American Community Surveys and Federal Housing Finance Agency House Price Indexes.

Assessment of local housing market conditions by decade

How do local housing markets move together over the housing cycle, and what risks might be involved in retiring and relocating? To determine this, we examine over 40 years of returns in 29 markets, shown in **Figure 9**. These markets include major retire-and-relocate origins and destinations and are geographically diverse.

FIGURE 9
Retire-and-relocate markets

Origin MSAs	Destination MSAs
New York, NY	Phoenix, AZ
Los Angeles, CA	Tampa, FL
Chicago, IL	Riverside, CA
Washington, DC	North Port, FL
San Francisco, CA	Las Vegas, NV
Philadelphia, PA	Miami, FL
Detroit, MI	Denver, CO
Seattle, WA	Orlando, FL
Minneapolis, MN	Dallas, TX
San Diego, CA	Boston, MA
Houston, TX	Atlanta, GA
Pittsburgh, PA	Cincinnati, OH
Kansas City, MO	Urban Honolulu, HI
Milwaukee, WI	
St. Louis, MO	
Cleveland, OH	

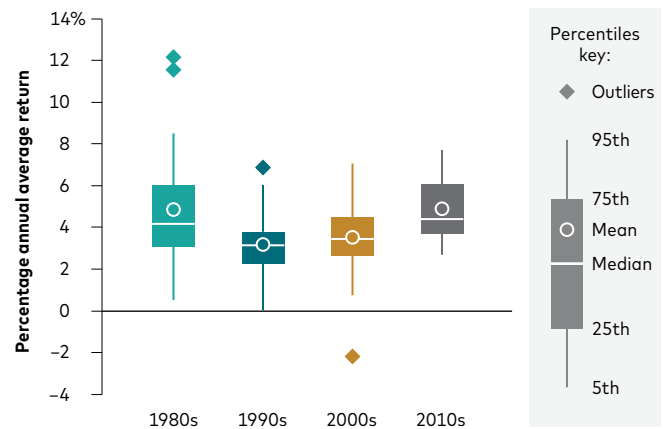
Source: Vanguard calculations, based on 2005 to 2019 American Community Surveys.

Return dispersion through time

Figure 10 shows a box whisker chart of returns by decade of the 29 housing markets.¹² The range was very wide in the 1980s (11.7 percentage points) but generally declined over the next decades to reach 5% in the most recent period, which spans the 2010s plus the first two years of the 2020s.

Underneath these dispersions are varying patterns over the four decades. Some local markets, such as Seattle, Pittsburgh, and Dallas, experienced consistent growth. Others experienced ups and downs: New York, Washington, D.C., and San Francisco appreciated at a rate near the top of the range in the 1980s and 2000s but closer to the lower end in the 1990s and 2010s.¹³

FIGURE 10
House price returns of the 29 MSAs by decade



Notes: The chart shows mean, median, interquartile range, maximum, and minimum of the 29 housing markets' annualized returns for each decade. The 2010s include the first two years of the 2020s.

Source: Vanguard calculations, based on 1980Q1 to 2021Q4 Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

¹² Total return on home ownership is composed of house price returns and rents. Given the context of this paper, and consistent with Case, Cotter, and Gabriel (2011), we focus on only the price-return component.

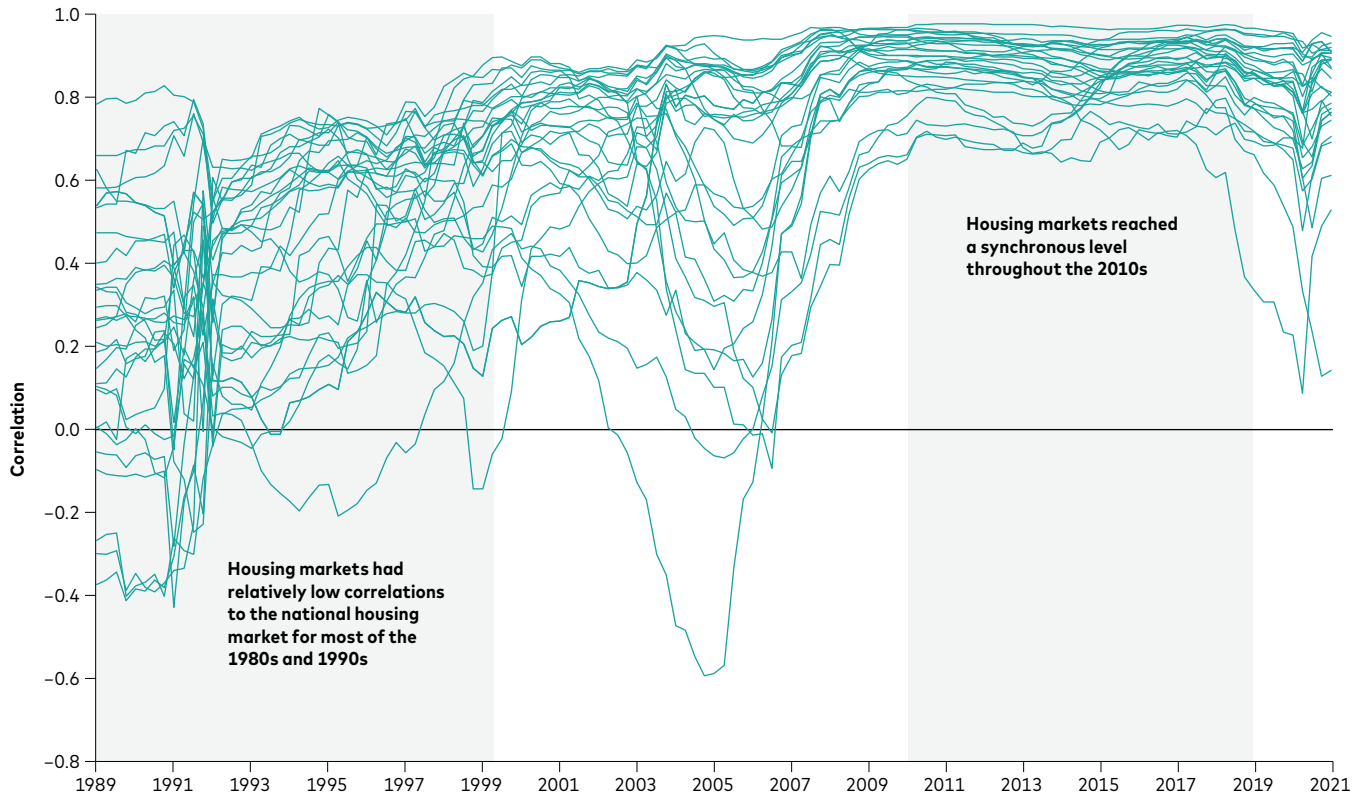
¹³ For example, New York grew an annual average of 11.6% in the 1980s, 1.5% in the 1990s, 6.2% in the 2000s, and 2.3% in the 2010s.

Figure 11 plots ten-year rolling correlations between the 29 local housing market returns and the national housing market.

It shows that the majority of local housing markets had relatively low correlations (below 0.6) to the national housing market for most of

the 1980s and 1990s, started coalescing at a higher level (between 0.6 and 0.8) in the 2000s, reached a synchronous level (around 0.8) throughout the 2010s, and showed signs of widening again in the 2020s.¹⁴

FIGURE 11
Ten-year rolling correlation of local and national housing returns



Note: Each line represents the rolling correlation between a sample MSA and the national housing return.

Source: Vanguard calculations, based on 1980Q1 to 2021Q4 Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

¹⁴ A number of explanations have been proposed to explain the synchronization of local housing markets, including banking market integration (Landier, Sraer, and Thesmar, 2017) and a confluence of macroeconomic conditions (Cotter, Gabriel, and Roll, 2015).

Housing asset pricing model

Figures 10 and 11 suggest that the drivers of local housing market dynamics may have changed over the last four decades. To assess this more formally, we apply a housing asset pricing model (HAPM) in the spirit of Case, Cotter, and Gabriel (2011):

$$R_{HPI,MSA_i} = \alpha_i + \beta_i R_{HPI,US} + \epsilon_{i,t}$$

where R_{HPI,MSA_i} is the return of the local housing market for MSA_i , $R_{HPI,US}$ is the return of the national housing market, and α_i represents the MSA-specific return. For each of the MSAs in our sample, decade by decade, we estimate the equation using quarterly returns. **Figures 12** and **13** plot decade-by-decade box whisker charts for the α 's and β 's.

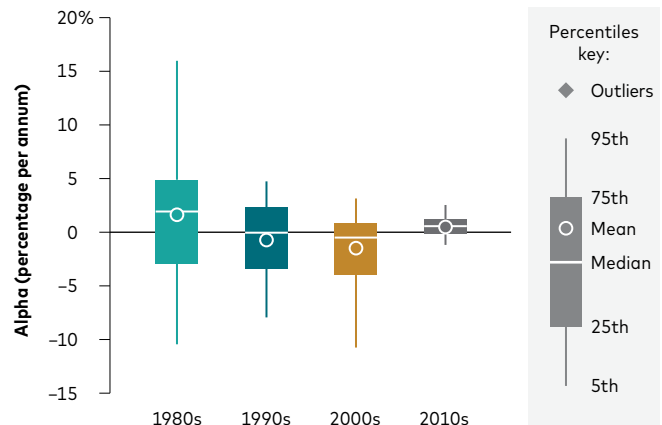
Figure 12 shows that the dispersion in α —the extent to which local market-specific factors drive returns—has declined significantly over time, as reflected in the downward trend in the interquartile range from 7.3% in the 1980s to 1.4% in the 2010s. Figure 13 shows that the average β trended upward over time, from 0.7 in the 1980s to 1.1 in the 2010s. The cross-sectional dispersion of β s has also generally compressed over time, with the interquartile range falling from 1.2 in the 1980s to 0.4 in the 2010s. The (generally) rising average β also means that a higher proportion of the local variation in housing returns is attributable to co-movements with the national housing market; the average R-squared increased from 13% in the 1980s to 75% in the 2010s.¹⁵

Taken together, these findings reveal a pattern that has received limited attention thus far. Since the great financial crisis, there has been an unprecedented synchronization of U.S. local housing markets. The majority have experienced ups and downs (largely ups) of similar magnitude.

This has translated into significant year-over-year stability between any two housing markets' relative standing. In other words, the last decade has offered an especially friendly (if highly unusual) environment for retire-and-relocators; retirees' primary residences have been good hedges for the housing markets they retire to.

¹⁵ See **Appendix 5** for details.

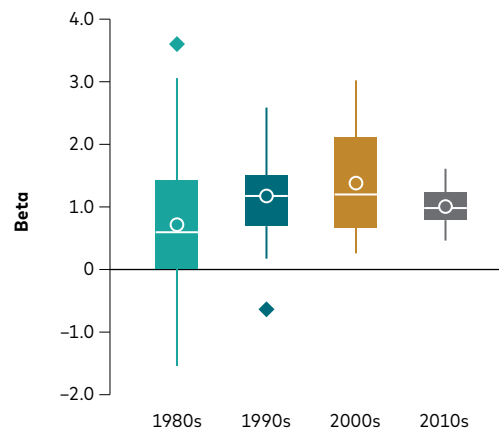
FIGURE 12
Distribution of HAPM α 's for 29 MSAs



Notes: The chart shows mean, median, interquartile range, maximum, and minimum of the alphas obtained from the HAPM regressions for each of the 29 housing markets in each decade. The 2010s include the first two years of the 2020s.

Source: Vanguard calculations, based on 1980Q1 to 2021Q4 Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

FIGURE 13
Distribution of HAPM β 's for 29 MSAs



Notes: The chart shows mean, median, interquartile range, maximum, and minimum of the betas obtained from the HAPM regressions for each of the 29 housing markets in each decade. The 2010s include the first two years of the 2020s.

Source: Vanguard calculations, based on 1980Q1 to 2021Q4 Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

Conclusion

In this paper, we demonstrated that unlocking home equity by relocating to a less expensive housing market can provide a significant source of funding. Recent records suggest that this strategy could be thoughtfully deployed by 25% of all U.S. retirees in the next ten years, potentially significantly improving their retirement readiness.

Relocation may also offer another way to shore up retirement security: A cheaper housing market is often associated with lower costs of living. We find that this type of move is most prevalent among those in the prime retirement age group (60–69).

Use of the strategy has not been limited to those who owned a primary residence in a high-growth market. Although lottery winners' home equity access has depended on timing, bargain hunters seem to prioritize unlocking home equity regardless of the market environment.

The decade following the great financial crisis saw an unprecedented national integration of local housing markets. Against this friendly backdrop for retiring and relocating, home ownership in one local market has generally provided a relatively good hedge for destination markets. Close examination of how local housing markets evolved over the last 40 years, however, indicates that the last ten-plus years may have been highly unusual.

Moving forward, should local housing markets disconnect and the importance of local-market-specific growth return, it may become significantly more disruptive for retirees to retire-and-relocate. A desired retirement destination may cost more, especially if it becomes popular and its appreciation outpaces that of the current preretirement residence. This may lead to an increase in adaptive behaviors such as increased flexibility among those who need to prioritize accessing home equity and locking it in by selling and renting in the current preretirement location for a few years.

Although home equity represents the most prevalent and often most significant source of wealth for American households, there has not been a commensurate focus on the use of this wealth in retirement. Our results challenge the narrative that housing wealth is off-limits to most retirees and highlights a previously underappreciated channel: relocation to a cheaper housing market. In this paper, we focused on understanding the nature and scope of this channel, along with the risks involved. A natural avenue for future research is to incorporate the retire-and-relocate strategy when assessing retirement readiness across the country.

References

- Banks, James, Richard Blundell, Zoe Oldfield, and James P. Smith, 2010. Housing Price Volatility and Downsizing in Later Life. *Research Findings in the Economics of Aging*, 337–379. Chicago, Ill., University of Chicago Press.
- Blanchett, David, 2017. The Home as a Risky Asset. *Journal of Personal Finance*, 16(1).
- Case, Karl, John Cotter, and Stuart Gabriel, 2011. Housing Risk and Return: Evidence From a Housing Asset-Pricing Model. *The Journal of Portfolio Management*, 37(5): 89–109.
- Cocco, João F., and Paula Lopes, 2020. Aging in Place, Housing Maintenance, and Reverse Mortgages. *The Review of Economic Studies*, 87(4): 1799–1836.
- Cotter, John, Stuart Gabriel, and Richard Roll, 2015. Can Housing Risk Be Diversified? A Cautionary Tale From the Housing Boom and Bust. *The Review of Financial Studies*, 28(3): 913–936.
- Davidoff, Thomas, 2010. Home Equity Commitment and Long-Term Care Insurance Demand. *Journal of Public Economics*, 94(1–2): 44–49.
- Davidoff, Thomas, Patrick Gerhard, and Thomas Post, 2017. Reverse Mortgages: What Homeowners (Don't) Know and How It Matters. *Journal of Economic Behavior & Organization*, 133: 151–171.
- Engelhardt, Gary V., and Michael D. Eriksen, 2022. Homeownership in Old Age and at the Time of Death. *Economics Letters*, 212: 110340.
- Landier, Augustin, David Sraer, and David Thesmar, 2017. Banking Integration and House Price Co-movement. *Journal of Financial Economics*, 125(1): 1–25.
- Nakajima, Makoto, and Irina A. Telyukova, 2017. Reverse Mortgage Loans: A Quantitative Analysis. *The Journal of Finance*, 72(2): 911–950.
- Venti, Steven F., and David A. Wise, 1991. Aging and the Income Value of Housing Wealth. *Journal of Public Economics*, 44(3): 371–397.
- Venti, Steven F., and David A. Wise, 2004. Aging and Housing Equity: Another Look. *Perspectives on the Economics of Aging*, 127–180. Chicago, Ill., University of Chicago Press.
- Walters, William H., 2002. Later-Life Migration in the United States: A Review of Recent Research. *Journal of Planning Literature*, 17(1): 37–66.

Appendix 1

Migration records by age group and by year

FIGURE 14
Total number of nonlocal migrations

	Total number	Age group						
		20–29	30–39	40–49	50–59	60–69	70–79	80+
2005	181,656	65,966	44,525	30,460	20,318	10,624	5,857	3,906
2006	194,640	71,053	46,027	32,444	21,231	11,113	6,645	6,127
2007	186,200	70,503	43,309	29,555	20,202	10,743	6,044	5,844
2008	184,152	70,359	42,191	28,733	19,893	10,990	5,862	6,124
2009	185,629	71,394	42,867	28,908	20,434	10,949	5,454	5,623
2010	190,809	72,113	44,647	29,825	21,337	11,686	5,506	5,695
2011	192,162	71,531	42,024	29,932	22,648	12,432	6,310	7,285
2012	178,394	64,252	39,704	27,218	21,792	12,634	6,117	6,677
2013	183,637	66,041	41,598	27,249	22,126	13,374	6,626	6,623
2014	183,504	65,200	41,525	26,631	22,198	14,049	7,234	6,667
2015	183,660	64,688	42,026	26,137	22,194	14,572	7,426	6,617
2016	184,515	64,272	42,493	25,431	22,186	15,408	7,792	6,933
2017	188,489	64,529	44,283	26,316	22,213	16,034	8,365	6,749
2018	189,663	64,657	44,323	25,820	22,159	16,606	9,049	7,049
2019	186,108	62,610	43,271	25,073	21,846	16,939	9,446	6,923

Note: Nonlocal migrations include interstate moves and intercounty (within the same state) moves.

Source: Vanguard calculations, based on 2005 to 2019 American Community Surveys.

FIGURE 15

Inter-MSA moves as a share of total moves, by age group and by year

	Inter-MSA moves (% of total moves)	Age group						
		20-29	30-39	40-49	50-59	60-69	70-79	80+
2005	22.2%	22.2%	21.1%	20.1%	23.3%	28.2%	25.0%	24.8%
2006	23.6	24.3	22.8	22.1	24.0	27.1	25.3	19.4
2007	23.3	24.2	22.3	22.1	22.5	27.1	22.7	18.5
2008	22.6	23.5	22.2	21.1	22.4	25.9	21.2	17.3
2009	21.5	22.7	20.6	19.9	21.1	25.2	20.8	17.6
2010	19.9	21.3	18.4	17.8	19.4	23.6	21.7	16.8
2011	21.3	24.0	20.3	18.9	20.0	22.3	19.7	14.3
2012	20.6	22.9	19.6	18.4	19.4	21.9	20.9	14.9
2013	21.4	24.1	20.0	19.1	19.9	23.5	20.5	15.4
2014	21.6	23.8	20.4	19.3	20.4	23.4	21.4	17.5
2015	22.2	24.7	20.8	19.6	20.6	24.5	21.8	17.4
2016	22.3	24.7	20.8	19.7	21.4	24.1	23.3	16.8
2017	22.7	25.3	21.5	20.2	21.1	24.5	22.4	17.4
2018	23.1	26.0	21.4	20.6	21.9	24.6	23.9	17.1
2019	23.5	26.3	22.0	20.8	22.0	26.0	22.8	16.9

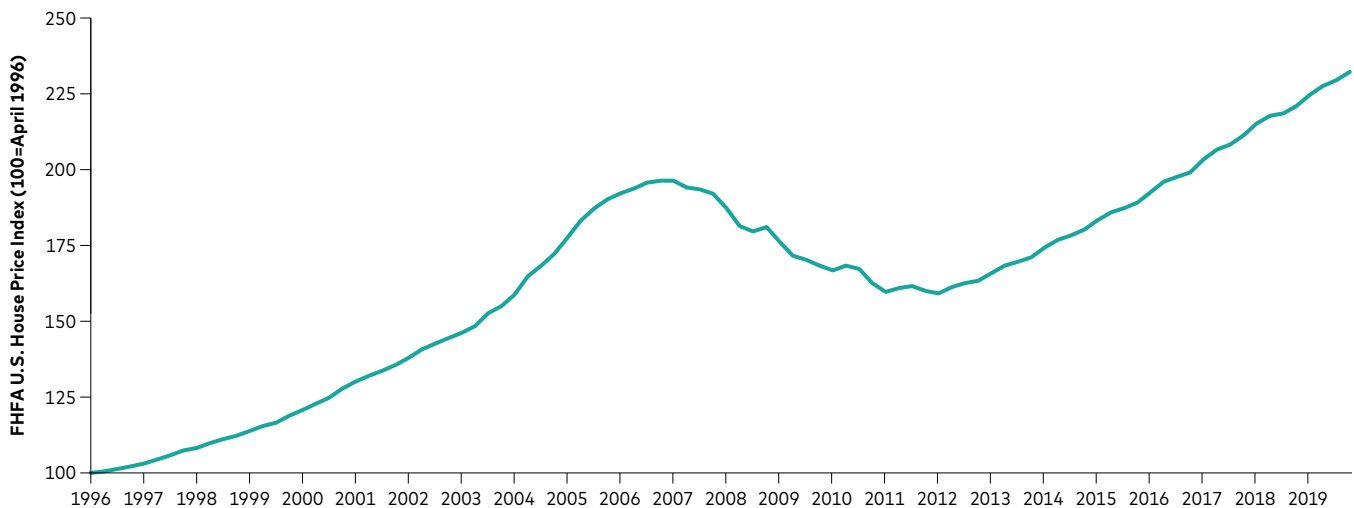
Source: Vanguard calculations, based on 2005 to 2019 American Community Surveys.

Appendix 2

U.S. House Price Index

FIGURE 16

U.S. house price over time



Source: Quarterly 1996 to 2019 Federal Housing Finance Agency House Price Index.

Appendix 3

Federal Housing Finance Agency

All housing price and return data are sourced from FHFA All-Transactions Indexes. Compared to other sources, this data has two benefits. First, it is available at the county, MSA, and state levels, matching our source of migration patterns from ACS. Second, no other data source provides information dating as far back as 1980 while maintaining broad geographic coverage thanks to the nature of the underlying data: all sales and refinancing transactions involving conforming loans with Freddie Mac and Fannie Mae.

Appendix 4

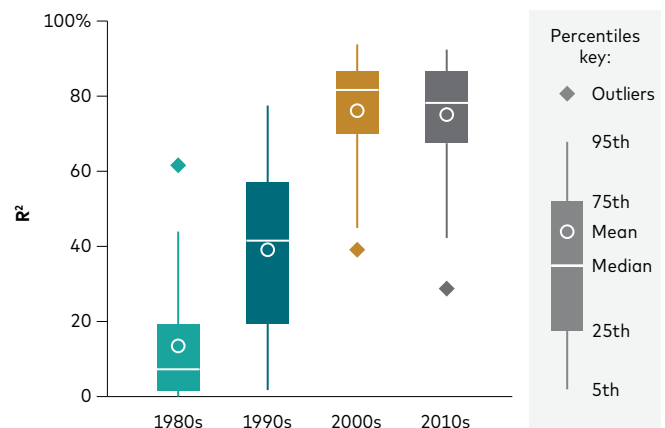
American Community Survey

Nationally representative migration records come from the ACS from 2005 to 2019. The ACS is an annually repeated cross-sectional survey that has evolved from the long-form decennial census since 2000. It covers the basic short-form questions found in the census but also includes detailed questions about population and housing characteristics. The ACS samples about 1% of the entire U.S. population, and the response is mandatory.

ACS respondents report the location of their primary residence one year ago if it is different from their current residence. Sampling roughly 3 million people in more than 3,000 U.S. counties every year, the ACS retains the country's geographical granularity, allowing us to track individual migrations at the county and state level. Because roughly 80% of the population live in MSAs, the vast majority of ACS migrations can be tracked at the MSA level as well.

Appendix 5

FIGURE 17
R-squared distribution from HAPM estimation



Notes: The chart shows mean, median, interquartile range, maximum and minimum of the R-squareds obtained from the HAPM regressions for each of the 29 housing markets in each decade. The 2010s include the first two years of the 2020s.

Source: Vanguard calculations, based on 1980Q1 to 2021Q4 Federal Housing Finance Agency Metropolitan Statistical Area House Price Index.

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ISGHIRF 062023