Economic Policy Program

Housing Commission

Demographic Challenges and Opportunities for U.S. Housing Markets

Prepared for the Bipartisan Policy Center | March 2012

BIPARTISAN POLICY CENTER

Economic Policy Program

Housing Commission

ABOUT BPC

Founded in 2007 by former Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole and George Mitchell, Bipartisan Policy Center (BPC) is a non-profit organization that drives principled solutions through rigorous analysis, reasoned negotiation and respectful dialogue. With projects in multiple issue areas, BPC combines politically balanced policymaking with strong, proactive advocacy and outreach.

AUTHORS

Rolf Pendall and Lesley Freiman, The Urban Institute

Dowell Myers, University of Southern California

Selma Hepp, Manager, Public Policy and Homeownership Research, National Association of Realtors®

DISCLAIMER

This paper was prepared by consultants for the Bipartisan Policy Center as background for the Housing Commission. The data, information and projections in this paper are those of the consultants and not of the Bipartisan Policy Center or members of the Housing Commission. Funding for this paper was provided by the John D. and Catherine T. MacArthur Foundation.

Table of Contents

Executive Summary

Growth in the 65+ population will create new demands for affordable, accessible housing

With the aging of the Baby Boomers, America's population of seniors is growing and diversifying fast. Fewer seniors are disabled and more of them are financially independent, but the sheer size of the Baby Boom generation means that a large increase in the absolute number of seniors facing housing affordability and independent living challenges is inevitable. Aging is likely to pose special housing challenges for renters, minorities and rural Americans.

Seniors will contribute increasingly to housing supply

Seniors demand housing, but they also contribute to an important and growing share of the housing supply. Among adults entering their sixties, the pace of household dissolution begins to exceed that of household creation, meaning that this cohort releases more housing units into the supply than it absorbs. Just as the Baby Boom will swell the number of seniors in the next two decades, it will also swell the number of dwellings released into the housing market over the next four decades, creating new challenges and opportunities for housing policy. The increase is likely to be felt most acutely in the housing markets of the Northeast and Midwest, where the number of older homeowners seeking to sell their homes already accounts for a large share of the houses bought by younger homebuyers.

Echo Boomers represent a long-term opportunity for housing market recovery, but are struggling in the economic crisis

Echo Boomers (children of the Baby Boom generation born between roughly 1981 and 1995) are numerous and relatively well educated. They have also been hit hard by the recession as they've entered independent adulthood. This has reduced their income and employment and limited their ability to form households and attain homeownership.

Over the next two decades, the U.S. housing market will depend on Echo Boomers

The volume of housing demand over the next 20 years, especially for owner-occupied housing, will depend heavily on the economic and housing policy environment that confronts Echo Boomers as they mature from young adulthood into middle age. Regardless of the economy and policy, Echo Boomers will account for between 75 and 80 percent of the owner-occupied housing absorbed by people under 65 before 2020. A strong recovery with favorable housing market conditions would translate to substantial growth in Echo Boomer households. Resulting demand would help absorb houses that are currently vacant or being withheld from the market, and would accelerate a return to conditions that are conducive for residential construction. A weak economy and job market, by contrast, would substantially depress household formation and homeownership by this important segment of the population.

Rental housing demand is likely to climb in coming years

Rental housing vacancy rates have declined substantially in the past two years, and rents are increasing. This trend has come about because of a dual set of pressures. First, working-age adults 35 years and older either have shifted from owning homes to renting or are delaying the transition to homeownership. Second, Echo Boomers are maturing into adulthood, entering the housing market and searching for rental housing. As the economy and the housing market recover, older adults can be expected to shift back into homeownership. Even as this shift occurs, however, demand for rental housing will remain strong for several years because of continued household formation by Echo Boomers. Even with higher levels of rental-housing demand from 2010 to 2020, however, the most pessimistic demographic scenario developed here would result in national homeownership rates above 60 percent between now and 2030.

Black and Hispanic Americans have suffered significant setbacks in homeownership

The impacts of the housing crisis have been felt differently not only by different age groups but by different racial and ethnic groups. Homeownership fell modestly for white non-Hispanics under 65 and severely for black non-Hispanics between the ages of 35 and 64.[1] Black homeownership was 28 percentage points below white homeownership in 2010, a wider gap than in 1990 or 2000. Hispanics saw a strong increase in homeownership during the housing boom but lost all of these gains in the bust; their homeownership rate lags white non-Hispanics' by 25 percentage points. Largely as a result of this fall-off in homeownership, the median wealth of black and Hispanic households has declined by one-half to two-thirds.

Key Trends and Challenges

This paper summarizes six key demographic trends against the backdrop of the still-unfolding U.S. housing crisis, which has thrown markets into disarray and disrupted long-term trends in demography and housing demand. In 2010, young adults lived in their parents' homes, doubled up with other families or stayed with roommates at rates far higher than in 2000. All working-age adults, even those between 45 and 65 years old, reduced their rates of homeownership; blacks and Hispanics saw especially acute declines in homeownership during the housing bust. The crisis has also reduced incomes and increased poverty rates to their highest level in two decades, reducing many families' ability to pay for housing. Home vacancies stand well above year-2000 levels; at year-2000 vacancy rates, 2.7 million fewer units would now be vacant.[2] In addition, about 10 percent of residential mortgages are either in foreclosure or at least 90 days delinquent.[3]

In the longer term, however, these imbalances will not persist. At pre-crisis trends, the U.S. population is expected to grow to 403 million by 2050 – an increase of nearly 93 million from the population in 2010 and about the same as the current populations of California, Texas, New York, and Ohio combined.[4] It is safe to assume that these people will need at least 43 million more housing units than the nation currently has, and probably more just to accommodate household growth. The crisis has not changed the underlying drivers of housing demand. As the Baby Boomers age and as the population of young adults diversifies and grows, the need for senior housing will increase with the intergenerational handoff of millions of homes each decade. All these forces are described in more detail in the Background Report section of this paper.

The growing senior population

GROWTH IN THE 65+ POPULATION WILL CREATE NEW DEMANDS FOR AFFORDABLE, ACCESSIBLE HOUSING

The population of Americans over age 65 increased by about five million between 2000 and 2010. ***Over the next 20 years, the aging of the Baby Boom generation will cause the senior population to grow by 30 million,*** according to Census Bureau projections. About 14.2 million more seniors will live in the U.S. by 2020; between 2020 and 2030 the increase will grow to 16.5 million. As a result, the senior population is expected to grow from 13 percent to about 20 percent of the national population by 2030.

After 2030, the rate of growth in the senior population will recede substantially: between 2030 and 2040, the number of seniors is projected to increase by just 8 million. However, ***two-thirds of this increase will be among individuals over the age of 85 years.*** During this decade, as the early Baby Boomers reach their late 80s, the population over 85 will grow by more than five million. This increase in older seniors is a consequence of both the size of the Baby Boom and a steady increase in life expectancy.[5]

The senior population will also be more diverse. In 2010, minorities – defined as all race and ethnic groups other than non-Hispanic whites – made up 20 percent of the population aged 65 or older. By 2030, that proportion will rise to 29 percent, as the more diverse cohort now nearing retirement age reaches age 65.

Disability affects most older seniors. Over half (54 percent) of Americans 75 years or older have some difficulty with vision, hearing, mobility or activities related to personal care or independent living; a quarter of those between the ages of 65 and 74 also report experiencing these types of difficulties.[6] About a third of seniors over 85, and 16 percent of those between the ages of 75 and 84, have moderate or severe memory impairment.[7] Research has documented improvements in functioning in the older population based on national data through the 1990s. These gains in functioning appear to have stalled, however, and seniors with less education and income did not share equally even in the gains of the 1990s.[8] The growing obesity epidemic may further exacerbate this disparity in future years.

When health or the ability to function independently is compromised, ***staying at home can become a challenge.*** In responses to a 2005 AARP survey, only about half of people aged 50 and over reported that their home would be able to accommodate them "very well" as they age, while 12 percent responded "not well" or "not well at all."[9] Respondents who reported that their homes were less accessible were more likely to report less community involvement and feelings of isolation. Persons with disabilities of all ages are more likely to live in housing that is inadequate to their needs. They are also less likely to be able to afford suitable housing.[10]

Despite these real or potential disability-related challenges, ***a large majority of older Americans want to remain in their current home and community as they age*** – that is, to "age in place."[11] Affordability, along with the ability to remain independent and in a convenient location, are key reasons people cite for preferring to stay in their current home, while being near family and friends and safety from crime are among the top reasons cited for wanting to stay in the same neighborhood or community. Census data show that moving is relatively rare in the older population. Only five percent of adults age 55 and older change residences in a given year compared to 17 percent of adults under the age of 55, and almost half of older adults who do move remain in the same county.[12]

Even when they do move, ***most seniors remain in owner-occupied or rental housing*** until they can no longer maintain the activities of daily living.[13] Studies in recent years indicated that between 85 and 88 percent of seniors live in traditional private residences.[14] Only about one out of 20 seniors (4.7 percent) live in group quarters (2008).[15,16] The remaining seven to 10 percent live in housing units in various kinds of senior facilities, including assisted, independent and congregate living. Seniors had a homeownership rate of 77.5 percent in 2010. Even households headed by people 85 years and older had homeownership rates of 66.2 percent – higher than the national average for the population as a whole.

Affordability is a serious problem for seniors, especially for renters. According to a U.S. Department of Housing and Urban Development (HUD) report to Congress earlier this year, 1.33 million elderly renters (where the householder or spouse is age 62 or over, with no children under 18 present) had "worst case" housing needs in 2009. This meant that they earned less than half their metropolitan area's median income, received no government housing assistance and either paid more than half their income for rent, lived in severely inadequate housing, or both.[17] Compared to 2007, the number of older renters in this category had increased by 120,000 (10 percent) – a change that the HUD report attributes to fallout from the foreclosure crisis and recession, as shrinking incomes drove increased competition for already scarce affordable housing. Seventy percent of senior renters spend at least 30 percent of their income on housing costs. Senior homeowners are not immune from affordability problems either: about three in 10 senior homeowners spend at least 30 percent of their income on housing and 17 percent pay at least half their income.[18] Even seniors who own their houses free and clear face rising energy costs and, in some locations, rising property taxes.

Federally assisted housing offers an important resource for low-income seniors, but the need exceeds available subsidies. In about 31 percent (1.6 million) of HUD's five million assisted housing units, the head of household is at least 62 years old (as of 2008).[19] Section 202 housing units built exclusively for seniors represent a minority of these units; many more seniors live in conventional public housing and are assisted by housing choice vouchers (HCVs). (Seniors hold about 18 percent of HCVs.) The USDA's Section 515 program also accommodates some seniors in rural areas. Seniors occupy an unknown number of units developed with the Low Income Housing Tax Credit (LIHTC), but these units generally have higher rents than low-income seniors can afford unless they hold HCVs. Among these housing assistance programs, only LIHTC has been growing in large numbers. Meanwhile, many of the units assisted by USDA and the Section 8 new construction program are privately owned and face expiring contracts that will allow their owners to raise rents to market rates. Considering that so many seniors already have problems affording their homes or finding an appropriate subsidized dwelling, the growth in the senior population over the next 20 to 30 years will further strain the nation's assisted housing stock unless new resources for housing assistance become available.

Several other housing challenges will also arise for seniors – and therefore for the nation – as the Baby Boomers age. Many dwellings that seniors occupy are inconvenient or expensive to ***adapt for mobility impairments*** and have features that increase the probability of falls, a leading cause of disability. Some home adaptations would pay for themselves many times over, but few mechanisms currently exist to shift expenditures from treatment to prevention. Some seniors may find themselves ***over-housed,*** occupying homes larger than they wish or can afford to maintain. Some may become ***isolated***, especially those in car-dependent suburbs and rural areas, because of a combination of their own mobility limitations, their neighborhood location, concerns about safety, or the unavailability of reliable mass transit. Finally, many seniors will need ***support*** from family members or from providers in the community to maintain their independence and quality of life. Senior renters are especially vulnerable with respect to family support since they are more likely than homeowners to be unmarried and childless.[20]

SENIORS WILL CONTRIBUTE INCREASINGLY TO HOUSING SUPPLY

Seniors occupy increasing numbers of housing units (and will occupy many more by 2030), but ***people over 65 release much more housing than they absorb.*** Net releases of housing occur when households combine (e.g., seniors move in with their children), when seniors move into non-household residential arrangements (i.e., group quarters, including nursing homes), and when people pass away. Between 2000 and 2010, people who began the decade aged 55 and over released over 10.5 million housing units (net). Most of these releases involve owner-occupied dwellings, because seniors predominantly own their homes and more seniors shift from ownership to rental housing than vice versa. Whether owned or rented, dwellings occupied by seniors may, upon release, be rented or sold to new occupants, vacated or removed from the housing stock via conversion, abandonment or demolition. During the same period, by comparison, 14.7 million new dwellings were constructed and the number of households headed by people under age 55 in 2000 grew by 21.8 million. On net, the growth in households (i.e., the difference between the dissolution households headed by older Americans and household formation by younger ones) amounted to 11.2 million.[21]

Among and within metropolitan areas, dwellings released by an aging population are not likely to align with future demand. While most states and metropolitan areas have significant numbers of Baby Boomers, the distribution of young adults is more uneven. Post-1980 immigrants and their descendants are particularly unevenly distributed. This mismatch is already beginning to have consequences in some areas. Michigan leads the list of states where as many or nearly as many seniors are exiting homeownership as young households are entering into homeownership. West Virginia, Ohio, Pennsylvania and Rhode Island likewise had almost as many seniors exiting homeownership as young households entering between 2000 and 2010, a trend that is expected to continue in the next decade. Louisiana and Mississippi also had nearly as many younger entrants to homeownership as seniors exiting it. In all these states, economic and environmental calamities contributed to the softening of housing markets. All areas had also experienced difficulty in retaining and attracting Echo Boomers and immigrants even before 2000, gradually but significantly reducing the number of young people who are responsible for much household formation and home buying. Nevada, Arizona, Utah, Idaho and Texas, by contrast, have high birth rates and added more jobs than the Midwest in the early to mid-2000s. Consequently, the release of owner-occupied houses in these states added up to less than 35 percent of the increase in housing supply needed to accommodate the entry of young households into homeownership between 2000 and 2010.

Depending on assumptions about the economic recovery, seniors will release a net of 10.6–11.3 million housing units between 2010 and 2020 and 14.4–15.0 million housing units between 2020 and 2030. Between 2000 and 2010, the net release of homes totaled some 10.5 million units, whereas the projections for 2010 to 2020 suggest a further increase of less than one percent, even at the higher end of the projection (i.e. 11.3 million releases compared to the 10.5 million observed from 2000 to 2010).[22] Releases will continue at roughly the same rate from the 2020s into the 2030s, because the last Baby Boomers will not reach 65 until about 2030. While actual releases may depart somewhat from these projections, the total number of senior-occupied housing units released as a result of the aging of the Baby Boom generation will certainly grow by these approximate magnitudes. Owner-occupied units will account for about 80 percent of the releases, and most will be single-family detached dwellings. Total demand for new housing in the coming years is difficult to judge, but it is certain that the release of senior-occupied units will account for a growing share of the total inventory of housing stock while new construction will constitute a declining share. The likely consequence is that growing numbers of states and metropolitan areas will experience softening market conditions and weak demand for new construction.

As Pitkin and Myers put it in 2008:

> "The sell-off of seniors' former housing creates a potential supply that will potentially exceed younger adults' effective demand. American communities face an historic tipping point in the social make-up and economic base of their housing and neighborhoods. The essence of the problem is the disproportionate number of existing homes eventually coming for sale. The exit of the baby boomers from homeownership could have as great impact as their entry, but the consequences would be reversed."[23]

Some seniors occupy newly constructed housing (so the total release of housing exceeds the net release). In 2009, for example, housing built since 2000 accounted for about seven percent of owner-occupied dwellings occupied by seniors and 10 percent of rentals.[24] Seniors' consumption of new housing may rise in the next two decades as Baby Boomers – whose wealth and income are higher than that of today's retirees and who are entering retirement in vastly larger numbers – seek new options to downsize, accommodate disabilities or live in different types of neighborhoods. Just as demand created by Baby Boomers spurred new apartment construction in the 1970s, the sheer size of the Baby Boom generation could cause a dramatic increase in the construction of senior-accessible housing over the coming decades. Baby Boomers' ability to move into new housing, however, will depend on where, when and for how much they will seek to sell their current residences.

As housing released by seniors comes to constitute a larger share of the housing available to younger generations, new opportunities and challenges will arise. Perhaps the biggest question about these releases is ***how public policy and economic conditions will combine to accommodate the transfer of a large share of the housing stock*** to younger generations. Despite potential increases in new construction, most of the houses that seniors will release in coming years were built when energy was inexpensive, nuclear families were the rule, incomes were increasing for most Americans, and mortgages were generally predictable and easy to obtain. Most observers expect the next 20 to 30 years to depart from this historic picture, with more expensive energy, growing diversity in race, ethnicity and in household structure, and more intense international economic competition. All of these factors will likely reduce demand for large single-family homes on large lots far away from established centers of employment and entertainment. Meanwhile, increasing uncertainty also applies to mortgage lending. In combination, these trends could limit the ability and desire of younger generations to buy some of the housing seniors will release in the next two decades.

The maturing of the Echo Boom

ECHO BOOMERS: LONG-TERM OPPORTUNITY, SHORT-TERM SETBACKS

The Echo Boom consists of young adults aged 15 to 29 in 2010; it includes the nearly 65 million people born between 1981 and 1995. By comparison, the Baby Bust generation – those aged 30 to 44 in 2010 – numbers only 61 million (despite the fact that this age group includes a relatively large number of immigrants). In 2010, the population of 15- to 19-year-olds totaled more than 22 million, 20- to 24-year-olds totaled 21.5 million, and 25- to 29-year-olds totaled 21.1 million. The generation trailing the Echo Boom – those under 15 in 2010 – is about as large as the Baby Bust is now, with 61.2 million members; however, this young generation will continue to grow as immigrants join their ranks.

Not only does the Echo Boom cohort outnumber the Baby Bust, but the Baby Bust represented a marked decline in population from the Baby Boom. The number of 35- to 39-year-olds in 2010 was only 89 percent the number of people in their late 30s in 2000. The decline in young adults entering the housing market between 1980 and 1995 contributed to a steep drop in the construction of multifamily housing. As distressed homeowners move into rental housing today, they find that the supply of available units is relatively small. This situation is exacerbating the shortage of affordable apartments that has faced long-time tenants since about 2005, according to HUD.[25] Echo Boomers, facing the same tight rental markets and significant economic uncertainty, have reduced the rate at which they are forming households: many have never left home or have moved back in with older relatives. In addition, immigration rates have slowed as this generation has started to come of age, further reducing the number of new families entering the housing market.

What characterizes the Echo Boomers?[26] According to the Pew Research Center, this generation – which is also often called the "Millennials" – is "[c]onfident, connected, and open to change."[27] The Echo Boomers are also more ***racially and ethnically diverse*** than previous generations: about 60 percent are white non-Hispanic, compared with 70 percent of those over 30. One-fifth are Hispanic, 14 percent are black, five percent are Asian, and one percent are "other," including multiracial. About 14 percent of Echo Boomers were born outside the U.S., and another 11 percent are U.S.-born children with at least one immigrant parent. Together they represent the highest share of "second-generation" individuals since the "Silent Generation" – children born to parents who arrived during the immigration wave of 1890 to 1910.

Compared to previous generations at the same age, Echo Boomers are more likely to have ***completed high school,*** and more than half (54 percent) have at least some ***college education,*** compared to 49 percent of people in the Baby Bust generation and 36 percent of Baby Boomers when they were 18 to 28 years old. In terms of educational achievement, women of the Echo Boom generation have vaulted far above women of previous generations; in fact, among Echo Boomers, more women than men and more women than in any previous generation have attained a college education.[28] Only 21 percent of Echo Boomers were married in 2009 and ***75 percent were single and never married***. These figures compare with 29 percent married and 67 percent single or never married among the Baby Bust generation. Among Baby Boomers at the same stage of life, by contrast, fully half were married. Only 20 percent of Echo Boomers have children in their homes, compared with 30 percent of Baby Boomers at the same stage of life. Almost half (47 percent) of Echo Boomers live with at least one family member, including their parents, compared with 43 percent of Baby Bust members and 39 percent of Baby Boomers when they were 18 to 28.

Echo Boomers have been hit hard by the recession. In fact, even before the recession they had experienced weak or no real income growth since 2000. About 22 percent of those 18 to 24 years old in 2010 lived in poverty. And in another grim statistic, the median income of people 15 to 24 years old dropped nine percent between 2009 and 2010 alone. Nearly half of 25- to 34-year-olds who had moved in with family and friends to save money would otherwise have lived below the poverty line.[29]

Household formation dropped for those under 35 between 2000 and 2010, and among those young adults who did form households, homeownership also declined.[30] Rates of homeownership for white and black non-Hispanics fell more steeply than those of non-Hispanics of other races or for Hispanics, dropping to rates below those for people of the same age in 1990. Hispanics and people of other races (including Asian and multiracial) saw a substantially steeper increase than white and black non-Hispanics in the early 2000s, but they also lost ground in the housing crisis.

THE NEXT TWO DECADES IN HOUSING MARKETS DEPEND ON THE ECHO BOOM

When the economy and housing market recover, to what extent and how quickly will Echo Boomers form households and begin buying houses? Several factors point to an early return to household formation and homeownership when economic conditions allow. Echo Boomers have high levels of college education, which improves their long-term financial position and earning expectations in comparison with previous generations. An October 2010 National Association of Realtors® survey found that three-quarters of renters aged 18 to 29 hope to buy a house. The growth in female educational attainment may also portend higher levels of household formation if it results in greater gender equity and gives women more financial independence.

Other factors, however, could inhibit household formation and homeownership. Young adults carry high levels of credit card and student loan debt; even young people who already had formed households had higher debt loads in 2009 than people of the same age 10 years earlier.[31] Rates of marriage declined in the 2000s from 8.2 per thousand to 6.8 per thousand.[32] Finally, while all households lost wealth during the recession, average household wealth fell well below $10,000 for Hispanic and black households.[33] Considering the diversity of the young population, this reduction in wealth among older adults will reduce the purchasing power of a significant fraction of young people who can no longer count on their parents' housing wealth.

To estimate the magnitude of the demand that Echo Boomers may (or may not) bring to housing markets in the next 20 years, we developed three scenarios. We began with the 1990, 2000 and 2010 Census results and the Census Bureau's national population projections assuming a constant net rate of immigration at 975,000 people per year.[34] Using the observed and projected population series, we computed national rates of household formation and homeownership for people grouped by age cohort (10-year groups starting at age 15) and by race/ethnicity (white non-Hispanic, black non-Hispanic, other non-Hispanic and Hispanic).[35]

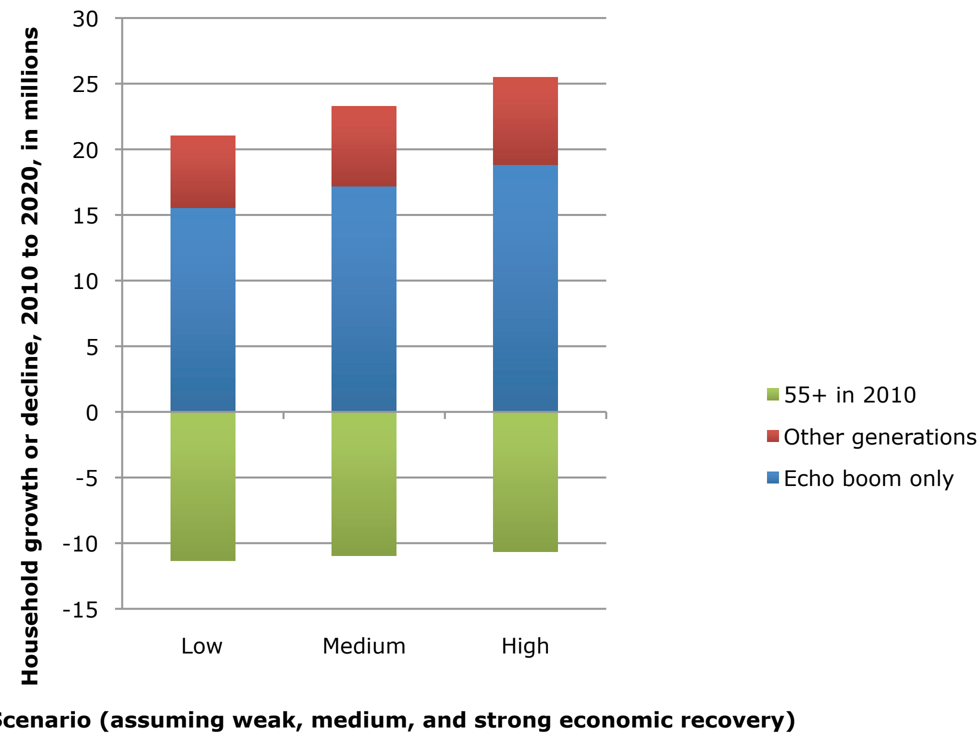
Using this methodology, our "low" scenario results in only 9.7 million new households between 2010 and 2020, reflecting a weak recovery and prolonged difficulty in attaining homeownership. This scenario assumes that the rate at which households form and transition to homeownership over the next two decades will be no higher than the rates observed in the 2000s.[36] (For an explanation of the distinction between *transition rates* and *headship* and *homeownership rates,* see Appendix A.)

Our "middle" scenario yields growth of 12.3 million households between 2010 and 2020; it could come about if there is a moderate recovery and if future growth and housing market conditions are somewhat more favorable to homeownership than those that prevail today (in particular, this assumes moderate reductions in the requirements for down payments). Under this scenario, rates of household formation and transitions to homeownership over the next two decades will be comparable to rates observed in the 1990s (when household formation and homeownership growth were both comparatively strong) and 2000s (when household formation and homeownership contracted).

Finally, our "high" scenario results in 14.9 million new households between 2010 and 2020. An increase of this magnitude could result if, for example, conditions over this time period mirror those of the 1990s, when economic expansion and gradual increases in mortgage availability and affordability led to faster growth in household formation and rising homeownership compared with the decade from 2000 to 2010.[37] Several trends could facilitate a return to 1990s-era conditions, including rising levels of education and income among Echo Boomers; the aging and assimilation of foreign-born residents whose arrival in the U.S. peaked in the early 2000s; and an increase in children with foreign-born parents as a share of all racial and ethnic minorities.

The range of estimates in these scenarios can be attributed to different rates of household formation for Echo Boomers. Under the low scenario, people between 15 and 34 years old in 2010 (a span that includes Echo Boomers plus five years of the Baby Bust generation) would form 15.6 million new households between 2010 and 2020. Other cohorts would account for the formation of an additional 5.4 million households over the same time period (Figure 1). The medium scenario would result in 17.1 million new Echo Boomer households and 6.1 million other households. The high scenario, finally, yields 18.8 million new Echo Boomer households and 6.7 million new households from other generations. Because changes in the number of older households are less sensitive to differences in economic assumptions, the decline in older households is more consistent across the three scenarios, ranging from 10.6 million fewer old households in the high scenario to 11.6 million fewer old households in the low scenario.

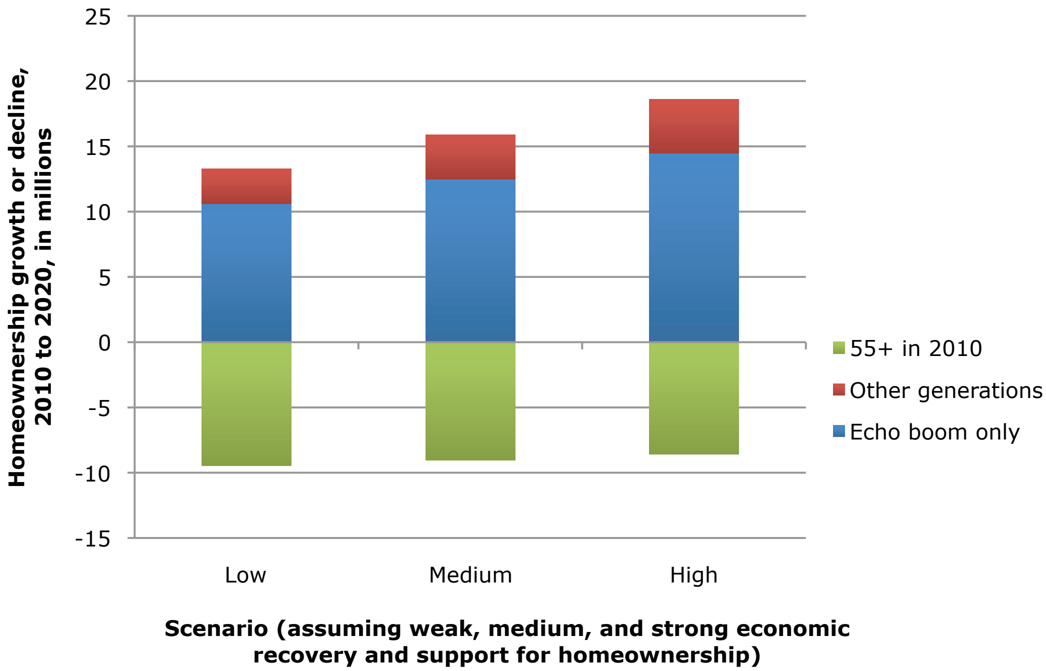
Figure 1. Projected change in households, 2010 to 2020



Source: Authors' analysis and projections based on U.S. Census of Population and Housing for 1990, 2000 and 2010, 100 percent count results and Census Bureau 2009 National Projections, constant net international migration series. For methodological details, see Appendix A.

Growth in homeownership between 2010 and 2020 will also depend substantially on the Echo Boomers (Figure 2). Again, people aged 55 and over (as of 2010) would release owner-occupied houses in similar numbers across the three scenarios, ranging from as many as 9.5 million houses released in the low scenario to 8.5 million released in the high scenario. Under the low scenario, total absorption of owner-occupied housing amounts to only 13.3 million units; after subtracting the units released by older adults, this would mean an increase of only 3.8 million in owner-occupied units for the decade, compared with an increase of slightly more than six million for the decade from 2000 to 2010. The high scenario, by contrast, would bring a projected 18.6 million new households into homeownership and yield a net growth of 10 million new homeowners.

Figure 2. Projected change in owner-occupied households, 2010 to 2020

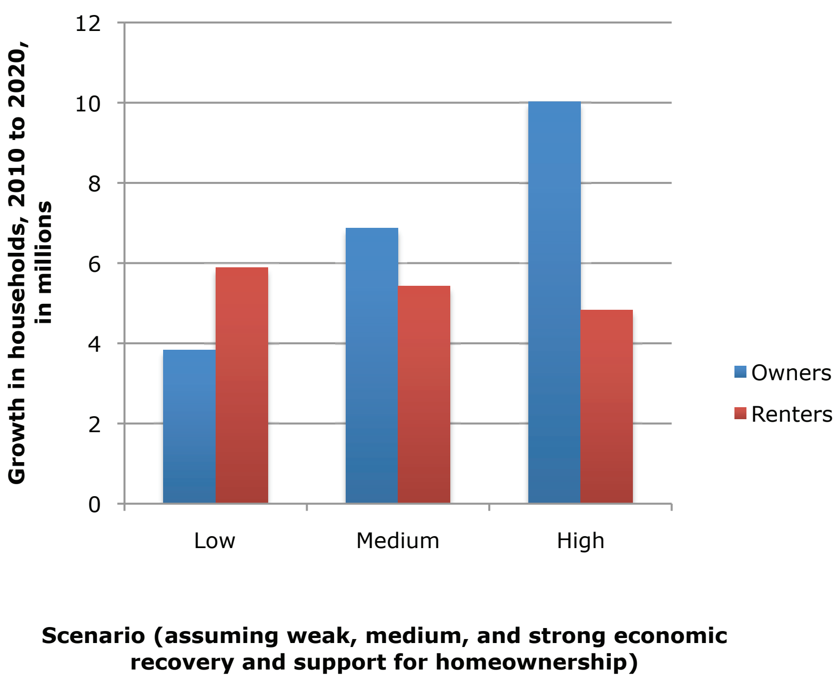


Source: Authors' analysis and projections based on U.S. Census of Population and Housing for 1990, 2000 and 2010, 100 percent count results and Census Bureau 2009 National Projections, constant net international migration series. For methodological details, see Appendix A.

The projections point to further differences between the low and high scenarios in the 2020s. The number of houses released by Baby Boomers will increase in the 2020s, most of which will be owner-occupied dwellings. Under the low scenario, new owners would absorb only 300,000 more owner-occupied units than seniors would release. This near parity at the national scale would mean that many local markets would be deeply oversupplied; established homeowners who sought to move (or their heirs) would presumably adjust by lowering their expected sales prices, converting their dwellings to rentals, leaving them vacant (potentially for seasonal use), or abandoning them. As is already the case because of the housing crisis, many non-senior homeowners who wish to move would be unable to do so because of "underwater" mortgages. In the high scenario, by contrast, new owners would outnumber seniors releasing dwellings by more than 10 million. Even in the 2020s, Echo Boomers will play an important role in generating demand for existing and new housing; they account for about 45 percent of new homeowners under all three scenarios.

The three scenarios produce vast differences in the share of new households who rent vs. own their homes over the next two decades (Figure 3). In the low scenario, about 40 percent of new households formed between 2010 and 2020 would own their homes; in the medium scenario the figure is 55 percent and in the high scenario it is 67 percent. The differences are even more pronounced (though the projections are also less certain) in the 2020s, when homeownership among new households ranges from five percent under the low scenario to 77 percent under the high scenario. **Notwithstanding predictions of a coming "rentership society," however, none of the scenarios indicates a reduction in the overall U.S. homeownership rate below 60 percent before 2030.** (The lowest national rate of homeownership, 60.6 percent, would come about under the low scenario in 2030.)

Figure 3. Projected growth in owner-occupied and renter-occupied households, 2010 to 2020



Source: Authors' analysis and projections based on U.S. Census of Population and Housing for 1990, 2000 and 2010, 100 percent count results and Census Bureau 2009 National Projections, constant net international migration series. For methodological details, see Appendix A.

Echo Boomers' decisions about whether and when to form households and seek homeownership will have important effects on housing construction after houses that are currently vacant or being held off the market have been sold. Census results from 2000 and 2009 show that between one-fifth and one-third of houses owned by people under 35 are newly constructed – higher than the rates of new home occupancy for other age groups. New construction also accounts for between 12 and 16 percent of the rental units occupied by young adults – again, somewhat higher than overall rates of new home occupancy.[38] Echo Boomers will also account for a large share of the pool of potential buyers for homes that are released by seniors over the next two decades.

ECHO BOOMERS WILL CONTINUE TO FUEL DEMAND FOR RENTAL HOUSING
Against the backdrop of persistent vacancies, foreclosures and delinquencies in owner-occupied housing, some observers have announced the arrival of a "rentership society."[39] Rental vacancies have declined and asking rents are at higher levels than before the housing crisis began.[40] HUD has documented an increase in "worst case housing needs" among renters – that is, a growing incidence of households that are paying over half their income for housing, primarily as a consequence of the withdrawal, upgrading, conversion and demolition of rental units from the most affordable segments of the housing stock.[41] Projections that assume 2010 rates of household formation and homeownership will extend unchanged to 2020 underscore the possibility that the nation will require large amounts of rental housing to meet demand for the remainder of the decade.[42]

The scenarios described above suggest that – depending on the strength of the housing market and economic recovery – ***between five and six million new renter households will form over the next decade.*** Almost all of this increase reflects demand from the Echo Boomers. The medium scenario yields a net increase of about 5.4 million renters, about 400,000 more than the increase in renter households between 2000 and 2010. The high scenario (whose assumptions reflect the economic and housing market conditions of the 1990s) would yield less demand for new rental housing, about 4.8 million units in all; the low scenario (whose assumptions reflect economic and housing market conditions of the 2000s) would result in rental demand of almost six million net new renter households. Growth in demand for rental housing between 2020 and 2030 is likely to be somewhat smaller than in the current decade, simply because the Echo Boom generation is likely to be transitioning in large numbers to homeownership by then.

Racial dimensions of the housing crisis

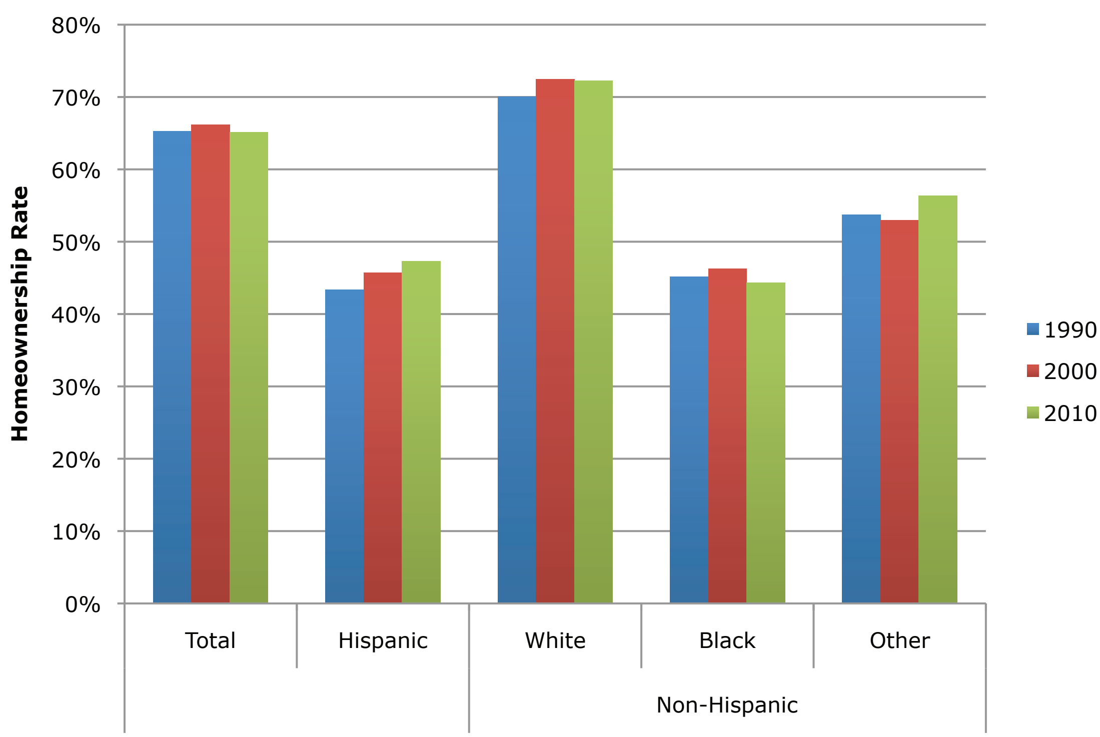
For decades, white non-Hispanics have had homeownership rates 25 to 30 percentage points above those of blacks and Hispanics. Private sector innovations and public interventions beginning in the early 1990s aimed to raise homeownership rates for low-income borrowers, especially minorities. Rising employment, economic opportunity, the social integration of recent immigrants and the aging of minority Baby Boomers boosted demand. Between 1995 and 2004, rates of homeownership among blacks rose by seven percentage points; among Hispanics, homeownership grew even more quickly – from about 40 percent in 1993 to 50 percent in 2005–2006.[43]

Between 2004–2006 and 2010, however, homeownership rates dropped sharply, and more so for Hispanic and black households than for white non-Hispanics. The overall homeownership rate of 65.1 percent in April 2010 was 1.1 percentage points lower than 10 years earlier. Blacks ended the 2010s with a lower homeownership rate, 44.3

percent, than their 1990 rate of 45.2 percent and two percentage points lower than just 10 years earlier (Figure 4). The homeownership rate for black non-Hispanics now lags the white non-Hispanic rate by nearly 28 percentage points, compared with 26 points in 2000 and just less than 25 points in 1990. The Hispanic homeownership rate also remained 24.9 points below the non-Hispanic white rate in 2010, a modestly smaller gap than in 2000 (when it was 26.8 percentage points).

While the housing crisis has hurt people of all races and ethnicities, it has been devastating for many Hispanic and black families, reducing their median wealth by one-half to two-thirds and significantly increasing the number of households with negative net worth. According to the Pew Research Center, "From 2005 to 2009, inflation-adjusted median wealth fell by 66 percent among Hispanic households and 53 percent among black households, compared with just 16 percent among white households."[44]

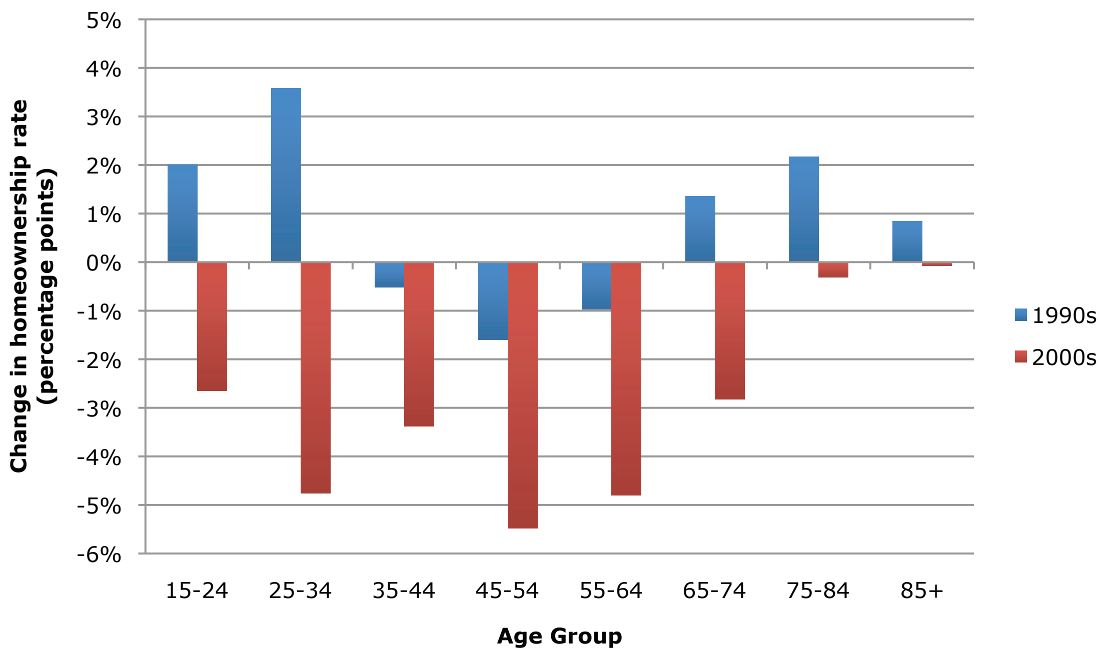
Figure 4. Changes in homeownership by race, 1990 to 2010



Source: U.S. Census of Population and Housing for 1990, 2000 and 2010, 100 percent count results, computed by the authors.

When we combine information about race/ethnicity and age, the picture shows that every racial group experienced at least some decline in homeownership between 2000 and 2010. The losses were most severe for blacks (Figure 5). Homeownership declined at least two percentage points for blacks in every 10-year age group up to 75 years old; for blacks aged 25 to 34 and 45 to 64 (prime ages for first home buying and home upgrading), homeownership fell four and five percentage points, respectively. Among Hispanics, by contrast, homeownership during this period dropped between 0.8 and 1.6 percentage points for in the same age groups (25–44 years old and 65–74 years old) but climbed slightly or remained constant for 45- to 64-year-olds. (It bears repeating, however, that these seemingly modest changes mask the steep decline in homeownership and wealth experienced by both Hispanic and black households between 2005 and 2010 – losses that appear to be continuing at the time of our analysis.)

Figure 5. Changes in homeownership rate for black non-Hispanics by age group, 1990 to 2010



Source: U.S. Census of Population and Housing for 1990, 2000 and 2010, 100 percent count results, computed by the authors.

Concluding thoughts: housing policy matters

This report has shown that the implications of demographic trends for housing in the U.S. are quite fluid. A large new generation is only beginning to make decisions about household formation and homeownership. The largest ever generation of seniors is poised to begin a substantial housing sell-off, sometimes in markets where relatively small numbers of young people are ready to become homeowners. Immigration levels peaked 10 years ago and may remain low or climb again, depending on national policy and the nature and timing of economic recovery.

This fluidity and uncertainty mean, together, that decisions about the shape of housing policy in the U.S. – especially the finance system and tax incentives for owner-occupied and rental housing – stand to have a potentially large effect on the shape of the future U.S. housing market. Housing policies will likely affect individuals' decisions about whether, when and with whom to form households. Even more, the housing policies that emerge by the end of the 2010s will influence whether many households buy or rent, where they decide to live and whether houses currently owned by Baby Boomers are sold, rented or leave the housing stock entirely. Whether for newly forming households or long-established ones, therefore, housing policies that emerge by the end of this decade have the potential to affect significantly the wealth portfolios of tens of millions of American families.

Appendix A. Assumptions and methods: household and homeownership projections

Household formation and homeownership are cumulative outcomes of life transitions. People who form households in their twenties, for example, are likely to stay in their own households in their 30s, and those who attain homeownership in their thirties are likely still to be homeowners in their forties. In addition, as they age, more adults become householders than join households, and more renters become homeowners than vice versa. The increase in household formation and homeownership continues for most groups into their sixties, and for some racial and ethnic groups even into their seventies.

Conditions in the economy and housing market have very large effects on how fast age cohorts make these transitions, however, so projections are sensitive to these assumptions.[1] In the 1990s, economic expansion and increasing availability of mortgage credit increased the pace of young adults' transitions into their own households and into homeownership. These expansions continued into the early 2000s, further fueling their household formation and homeownership, and spurring the next-younger cohort to begin forming households of their own. By 2004 or 2005, however, rising housing prices and rents began to slow household formation and homeownership, and the full onset of the housing crisis then caused reversals. By 2010, young adults had bigger households and lower homeownership rates than they would have if conditions of the 2000s had been more like those of the 1990s.

Cohort transition rates for household formation and homeownership from the 1990s and the 2000s help build scenarios for what might happen in housing markets in the next two decades. One cohort of non-Hispanic blacks, for example, was born between 1976 and 1985, making them 15 to 24 years old in 2000. Among the 5.5 million or so members of this cohort in 2000, 14.5 percent were householders; among the householders, 10.5 percent were homeowners. By 2010, household formation had risen to 45.6 percent of the adults. Of these, 22.6 percent owned their homes. The transition rate is the ratio of the end-of-decade to the beginning-of-decade rates: 45.6/14.5 (3.14) for householding, and 22.6/10.5 (2.15) for homeowning. In the 1990s, by contrast, the next-older cohort made the same age transition but raised its household formation rate from 11.6 to 47.1 percent, and its homeownership rate rose from 8.5 to 27.3 percent. This gave the next-older cohort transition rates of 4.06 for householding and 3.21 for homeowning. The differences between the transition rates were large enough to

[1] Age cohorts are groups of people born within a given span of time. Household and homeownership transitions vary substantially by race and ethnic origin. For that reason, we use four broad racial/ethnic groups for our analysis: Hispanics, non-Hispanic whites, blacks and people of other races. We use the 10-year age spans provided by the Census Bureau in its summary reporting of the number of householders by age and race.

translate to 4.4 percentage points less household formation and a 6.7-point reduction in homeownership among this young cohort between the 1990s and the 2000s. Because cohorts build on their past transitions as they age, the reductions in household formation and homeownership in the 2000s will have consequences that last for at least a few years.

Using age- and race-specific transition rates from the 1990s and 2000s, we developed three scenarios to shed light on possible futures for U.S. housing markets. The low scenario assumes the lower of the two rates persists into the next two decades; this is an assumption of continued economic struggle and protracted obstacles to achieving homeownership. The high scenario – which assumes economic recovery and the development of new mechanisms to foster homeownership – assumes the higher of the two rates persists in both decades. The middle scenario assumes that the transition rate of each of the next two decades is the average of the rates of the 1990s and the rates of the 2000s. Usually the low transition rates are from the 1990s; the exceptions are mainly in household formation for Hispanics and blacks, whose household formation was higher in the 2000s than in the 1990s. Additionally, seniors' household formation and homeownership transitions were higher in the 2000s than in the 1990s. Seniors' household formation and homeownership rates are less susceptible to economic and housing-market fluctuations than those of working-age adults, leading us to project stability of seniors' rates in the low scenario and gradual increases in transition rates in the medium and high scenarios. A complete table of projected household formation and homeownership rates for these three scenarios through 2030 appears in Appendix B.

Appendix B. Owners, renters, and total households by age group, three scenarios, 1990 to 2030

Numbers in thousands

	OBSERVED			LOW		MEDIUM		HIGH	
HOUSEHOLDER AGE	1990	2000	2010	2020	2030	2020	2030	2020	2030
HOMEOWNERS									
15-24	803	990	870	842	889	937	990	1,038	1,095
25-34	9,224	8,336	7,547	6,630	6,439	7,719	8,418	8,891	10,851
35-44	13,707	15,867	13,256	12,388	10,519	13,175	13,115	13,987	16,182
45-54	10,993	15,957	17,804	15,023	13,941	15,416	15,245	15,814	16,648
55-64	9,971	11,367	16,503	17,899	15,384	18,131	16,012	18,355	16,647
65-74	9,236	9,353	10,834	15,737	16,960	15,894	17,352	16,040	17,730
75-84	4,897	6,340	6,789	8,254	11,927	8,423	12,292	8,594	12,656
85+	1,052	1,606	2,384	3,043	4,057	3,165	4,326	3,290	4,607
TOTAL	59,882	69,816	75,986	79,815	80,115	82,862	87,749	86,009	96,415
RENTERS									
15-24	3,960	4,544	4,531	4,405	4,681	4,661	4,961	4,912	5,236
25-34	10,660	9,961	10,410	10,592	10,694	10,691	11,161	10,707	11,343
35-44	6,620	8,101	8,035	9,316	9,545	8,966	8,787	8,592	7,630
45-54	3,412	5,336	7,103	7,249	8,497	6,998	7,803	6,744	7,019
55-64	2,394	2,880	4,838	6,256	6,633	6,136	6,263	6,010	5,871
65-74	2,389	2,154	2,670	4,658	5,787	4,661	5,687	4,659	5,573
75-84	1,859	1,866	1,927	2,594	4,166	2,555	4,121	2,514	4,066
85+	595	822	1,215	1,551	2,110	1,489	2,001	1,425	1,881
TOTAL	31,889	35,664	40,730	46,621	52,114	46,157	50,784	45,564	48,619
TOTAL									
15-24	4,763	5,534	5,401	5,247	5,570	5,598	5,951	5,950	6,332
25-34	19,884	18,298	17,957	17,222	17,133	18,410	19,578	19,598	22,194
35-44	20,327	23,968	21,291	21,703	20,064	22,141	21,902	22,579	23,812
45-54	14,405	21,293	24,907	22,271	22,438	22,415	23,048	22,558	23,666
55-64	12,364	14,247	21,340	24,155	22,018	24,267	22,275	24,365	22,517
65-74	11,625	11,508	13,505	20,395	22,746	20,555	23,040	20,699	23,302
75-84	6,756	8,205	8,716	10,848	16,093	10,978	16,413	11,109	16,723
85+	1,648	2,428	3,599	4,594	6,168	4,655	6,327	4,715	6,488
TOTAL	91,771	105,480	116,716	126,435	132,229	129,019	138,533	131,573	145,034
HOMEOWNERSHIP RATE									
15-24	16.9%	17.9%	16.1%	16.0%	16.0%	16.7%	16.6%	17.4%	17.3%
25-34	46.4%	45.6%	42.0%	38.5%	37.6%	41.9%	43.0%	45.4%	48.9%
35-44	67.4%	66.2%	62.3%	57.1%	52.4%	59.5%	59.9%	61.9%	68.0%
45-54	76.3%	74.9%	71.5%	67.5%	62.1%	68.8%	66.1%	70.1%	70.3%
55-64	80.6%	79.8%	77.3%	74.1%	69.9%	74.7%	71.9%	75.3%	73.9%
65-74	79.4%	81.3%	80.2%	77.2%	74.6%	77.3%	75.3%	77.5%	76.1%
75-84	72.5%	77.3%	77.9%	76.1%	74.1%	76.7%	74.9%	77.4%	75.7%
85+	63.8%	66.1%	66.2%	66.2%	65.8%	68.0%	68.4%	69.8%	71.0%
TOTAL	65.3%	66.2%	65.1%	63.1%	60.6%	64.2%	63.3%	65.4%	66.5%

Source: U.S. Census of Population and Housing for 1990, 2000 and 2010, Tables H16 and H17. 2020 and 2030 projections are authors' calculations based on 1990-2000 and 2000-2010 transition rates in household formation and homeownership as described in Appendix A.

Background Report: Demographic Trends in Detail

In this background report, we review the principal demographic sources of demand for housing as they have evolved in the past several decades and appear likely to continue evolving over the coming two decades. These trends include population growth and age structure, household formation and tenure choice. Though not strictly a demographic phenomenon, income and wealth also contribute to housing demand, not only directly by affecting the kind and quality of housing that households demand, but indirectly by shaping tenure choice, household formation and population change itself.

Population growth and age structure

HISTORIC TRENDS

The first main source of housing demand is population growth. The two sources of net population growth are natural increase (net births over deaths) and immigration. Between 1930 and 2010, the national population grew by just under 200 million people, from 123 to 309 million people. Population growth has been uneven over the past eight decades, however, and that unevenness has important ramifications for housing supply and demand.

Natural Increase: Peaks and Troughs

Moving chronologically, there is a succession of accepted generations, demarcated by historical circumstances and events. Because a "generation" is not a set period, these periods of births are not all the same length of time, sometimes overlap or have gaps between them, and, in a few cases, demographers do not fully agree on when precisely a given generation begins or ends. The generations of people still living in America are described below. In order to make comparisons of generations possible, we also discuss spans of time, shifted slightly but containing the same numbers of years each, roughly approximating the generations.

The Depression- and World War II-era (born 1930-1945 and age 65-80 in 2010) – this generation is smaller than the one that preceded it and much smaller than the Baby Boom generation that follows it. Relatively few babies were born during the Great Depression, a phenomenon that consistently occurs when the economy is dismal.

In the previous decade, immigration limits (adopted 1921) drastically reduced the flow of immigrants into the country, further slowing U.S. population growth. As a result, the U.S. population grew by only nine million (7.3 percent) in the 1930s, the lowest absolute growth recorded since the 1860s. The total number of births did not recover to pre-Depression levels until 1945 (Figure 6). This small Depression- and World War II-era generation constitutes the population of seniors aged 65 to 90 in the year 2010. Because their numbers are small, markets and policy will have several years to respond as their needs and demands become clearer, potentially preparing the nation as the Baby Boom ages.

The Baby Boom (born 1946-1965 and age 45-64 in 2010) – this generation released pent up demand for childbearing brought on by the Depression and World War II, adding about 78 million children to the U.S. population between 1946 and 1965.[45] During the 1940s, the U.S. population increased by 19 million (over twice the level of the 1930s) and by 28 million in the 1950s. Like the Depression, the Baby Boom has direct and indirect demographic ramifications today. As the Baby Boom generation has passed through age groups and life stages, they have had profound effects on housing demand and supply. Today, the Baby Boom generation is on the verge of yet another life stage shift. About 36 million "early boomers" (aged 55 to 64 in 2010) and 45 million "later boomers" (aged 45 to 54) are poised for retirement in the next two decades.

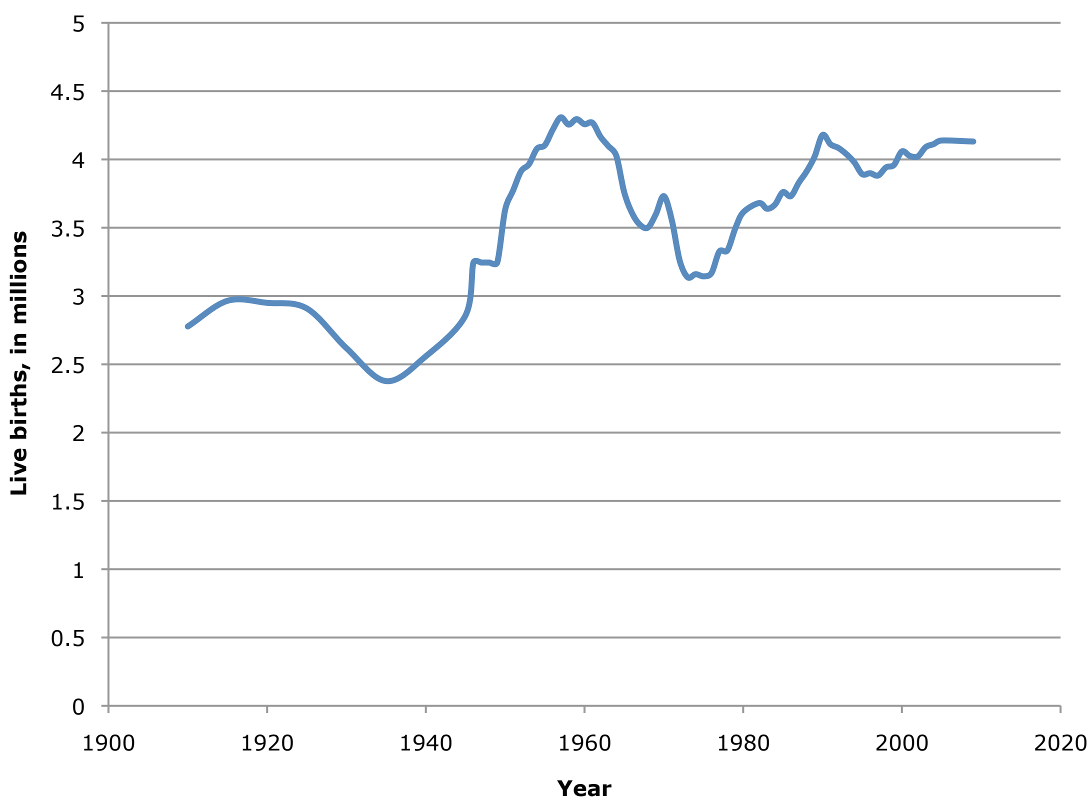
Generation X/the Baby Bust (born 1966-1980 and age 30-44 in 2010) – the small number of Depression- and World War II-era births has created an "echo" in the form of "Generation X" (or, "the Baby Bust") for Americans born between approximately 1965 and 1979. About 51 million people were born in the United States between 1965 and 1979, compared with 61 million between 1950 and 1964 (the last 15 years of the baby boom). People who were born into Generation X are now between 30 and 44 years old – years in which people continue to reduce their residential mobility, have children and buy homes.

The Echo Boom/Millennials (born 1981 to 1995 and age 15 to 29 in 2010) – this generation consists chiefly of the children of the Baby Boom generation and includes people born between 1981 and 1995 (an "echo boom"). As the large population of Baby Boomers came into their childbearing years during the same period, they gave birth to another, relatively large generation. Around 62 million people were born in the United States between 1981 and 1995, inclusive. Members of the Echo Boom generation are now between 15 and 29 years old, the period in which most young adults form new households and start buying first-time homes. This generation is already much more racially and ethnically diverse than the Baby Boom and will become more so as immigrants gradually increase the number of young adults in the United States. Millennials are coming of age in what is currently a much less promising economic climate. Relative to their parents, however, they stand to benefit more from wealth transfers because there are fewer children per parent and because their parents' average wealth, even after the hit taken in the 2000s, is greater than their grandparents' average when they were reaching retirement ages.

Today's Children and Adolescents (age 14 and under in 2010) – while a large share of people born since 1995 are children of Generation X, many are also children of immigrants in the same age range as Generation X, and a substantial and rising share are children of the Echo Boom. Given the size of the Echo Boom generation, there may be a large number of American births in the coming decade if the economy rebounds. Approximately 48.3 million people were born in America between 1996 and 2010.[46]

From this point forward, we consider 20-year population spans (with the exception of 15- to 24-year-olds), which roughly approximate the generations described above. This allows a more consistent comparison of age groups and generations and parallels Census Bureau reporting of homeownership by the age of the householder.

Figure 6. Annual births, U.S., 1925 to 2009



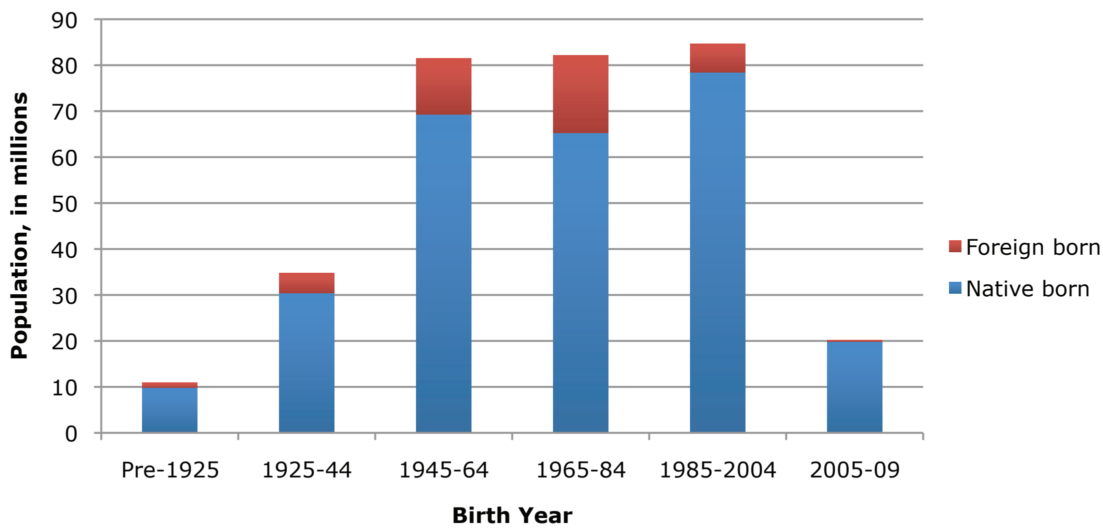
Source: Data from "Live Births and Birth Rates, by Year," Information Please Database, Pearson Education, Inc. (Infoplease.com, accessed Sept. 20, 2011).

Immigration: Smoothing Peaks and Troughs in Births

In addition to these trends in native births, immigration plays a significant role in population change. Estimating immigration is challenging, yet general trends are still possible to summarize. In the past several decades, the numbers of young, new entrants have evened out the peaks and valleys in native-born population. Immigration contributed very little to national population growth between 1921 and 1965, when immigration policy limited entrants. Immigration policy reforms – first in 1965, and more significantly in 1986 – resulted in a wave of immigration between 1965 and 2010, adding over 33 million mostly young, legal, permanent residents to the U.S. population, in addition to millions more children of these immigrants. Between 2001 and 2010 alone, about 10.5 million immigrants became permanent residents.

This immigration history has resulted in a more balanced number of Americans across generations than would have occurred with steady immigration rates (Figure 7). Foreign-born residents account for about 12.2 million (or 15 percent) of the Baby Boom generation as of 2010. The 16.9 million immigrants born between 1966 and 1985, by contrast, nearly makes up for the smaller number of native-born Generation X population; foreign-born residents make up about 20.6 percent of those in their late 20s through mid-40s today.[47] The children of these immigrants also account for some of the Millennial generation.

Figure 7. U.S. Population by birth year, 2009



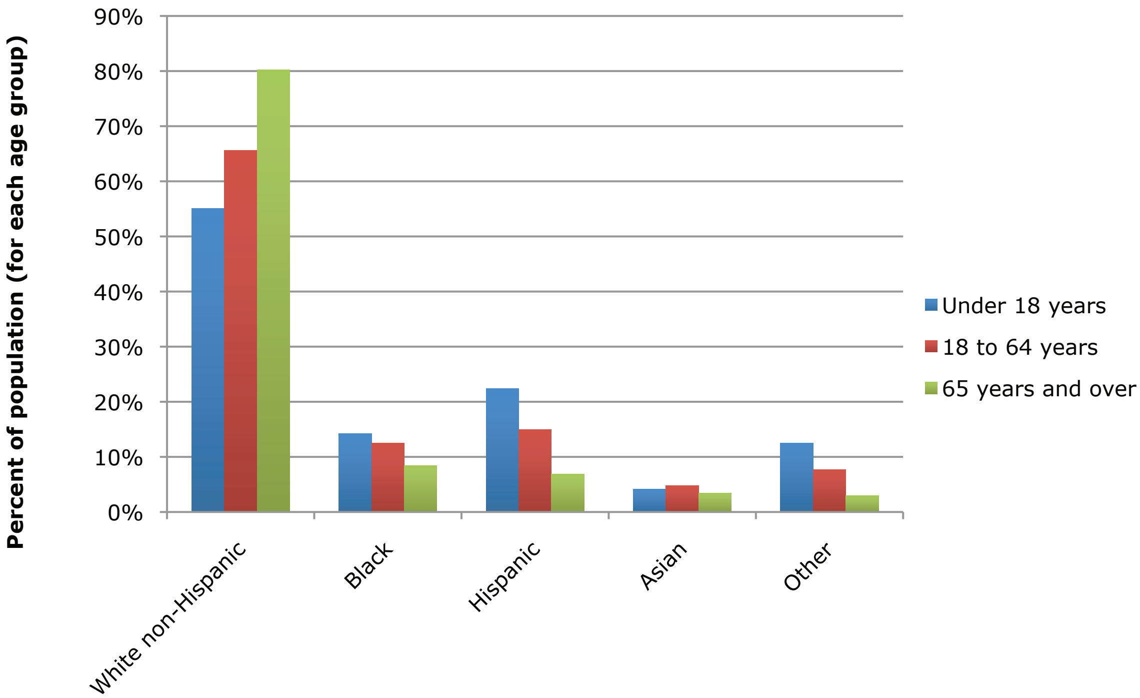
Source: 2009 one-year estimates from Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010, computed by the authors.

The share of the population that is foreign born has been rising since the 1970s, concurrent with a shift in U.S. immigration policy. In 2000, there were approximately 31 million foreign-born American residents, making up over 11 percent of the total U.S. population (more than double the 4.7 percent of the population that immigrants comprised in 1970).[48] Between 1980 and 2005, recent immigrants accounted for net household growth of eight million.[49]

Younger Generations are Racially and Ethnically Diverse

In recent decades, the racial and ethnic composition of the country has changed substantially, with notable differences between older and younger generations. Whereas 80 percent of Americans over the age of 65 are white non-Hispanics and only seven percent are Hispanic, just 55 percent of children under 18 are white non-Hispanic and 22 percent are Hispanic (Figure 8).[50] The young population also outstrips the senior population in its shares of blacks, American Indians, Asians, Pacific-Islanders and mixed-race individuals. Illustrating this difference, fewer than 60 percent of people aged 15-29 were white and non-Hispanic in 2009, whereas nearly 72 percent aged 45-59 were white and non-Hispanic. [51] The share of Hispanics and other minority groups making up the Echo Boomer cohort will almost certainly increase as more young immigrants enter the United States. In addition to racial and ethnic changes, other factors affecting housing demand include family size and structure, household formation, income levels, and childbearing patterns, among many others.

Figure 8. U.S. children much more diverse than seniors, 2009



Source: U.S. Census Bureau, American Community Survey, 2009, Tables C01001A through C01001I, authors' tabulation.

<u>*Projections: Population, Age Structure and Ethnic Composition*</u>

Housing demand in the next 20 years will depend on how the population grows and how age and racial/ethnic composition changes. All three of these demographic trends – growth, aging and diversity – are significantly influenced by assumptions about immigration. Immigration is notoriously unpredictable, however, leading to significant uncertainty about future population growth and composition. The most recent national projections from the U.S. Census Bureau suggest that the national population will grow from about 310 million in 2010 to 341 million in 2020, but this projection is based on the (probably) overstated assumption of a steady increase in immigration from 1.2 million to 1.5 million over the decade.[52] The annual expectations undoubtedly start out too high; by 2009, net immigration had fallen to an estimated 855,000, according to the Census Bureau, and there are indications that immigration peaked in 2001.[53] Immigration may recover as the economy improves, but the recent reduction in net immigration may itself be understated since it relies on estimates of exits of illegal immigrants during these difficult times that could be too low.

Births and deaths change less dramatically than immigration. The Census Bureau projects the total fertility rate (number of children ever born per woman) will remain approximately constant for the near future, though there is some indication that births are falling slightly, concurrent with the weak economic climate. Although the Bureau expects Hispanic birthrates to drop significantly in the coming years, their rates are currently higher than those of non-Hispanics of any race (2.7 compared with 1.93 for non-Hispanic blacks and 1.90 for non-Hispanics of other races). Even as Hispanic birthrates fall, Hispanics will constitute larger percentages of the national population, resulting in more total births, even if the rate is lower.

Life expectancy at birth is also projected to increase steadily. Based on these assumptions, natural increase alone would be expected to increase the national population by about 22.5 million between 2010 and 2030.[54] Long-term reductions in immigration levels would reduce both the number of births and the birth rates, however; most immigrants arrive between the ages of 20 and 40 (the peak age range for child-bearing and household formation), and they generally have higher birth rates than native-born residents.

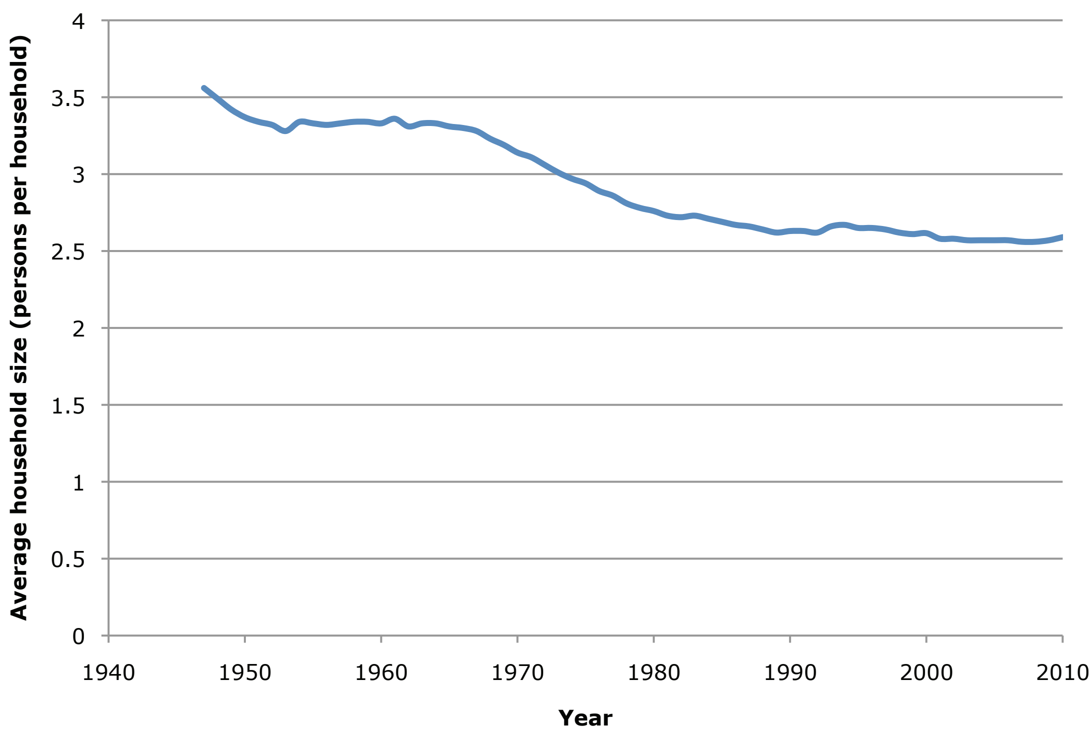
Regardless of immigration levels, **the U.S. population is bound to become more diverse over time** due to the diversity of young people in America. The diversification owes mostly to the growth of the Hispanic population. With constant immigration of one million persons per year, the Hispanic share is expected to increase to 28 percent by 2050 and the white non-Hispanic share will decline to just 50 percent; the share of non-Hispanic blacks should remain about constant at 12 percent. Even with zero immigration, Census Bureau projections suggest that the Hispanic population would rise from 14 percent of the population in 2010 to 21 percent by 2050, while the white non-Hispanic population share would drop from 67 to 58 percent.

Household formation

Households link population and the housing stock. Every occupied housing unit constitutes a household; households can be composed of families, single individuals, unrelated individuals, or combinations of families and unrelated individuals.[55] In general, household formation rises consistently with age, as children become adults, move away from home, occupy largely single-family units and see their own children move away from home. The timing and magnitude of these changes between generations is sensitive to both economic necessity and personal preference, including factors such as age at first marriage, divorce and remarriage rates, tendency to live with roommates, and forming temporary or long-term multi-generational households.[56] Consequently, these rates tend to change in line with societal, economic and cultural changes in the nation at large.

Between 1960 and about 1990, the average household size in the U.S. fell from 3.33 to 2.62 persons (Figure 9). Since 1990, however, average household size has declined much more slowly. Since the housing crisis began, household size increased slightly, most likely because more families and individuals were forced to share homes with others, and young adults delayed plans to move away from their parents' homes, or were compelled to live with additional roommates.[57]

Figure 9. Average household size has stabilized



Source: Current Population Survey Historical Time Series, Table HH6. http://www.census.gov/population/socdemo/hh-fam/hh6.xls, accessed Sept. 2011.

The long trend of falling household sizes from 1960 to 1990 had four main drivers.[58] First, ***as Baby Boomers aged***, reached adulthood and left home, they formed their own, smaller households and left smaller households in their wake. Second, ***women entered the labor force*** in huge numbers in the 1970s, providing them with unprecedented financial independence. Divorce rates increased and marriage rates decreased at the time when the population with the highest marriage, divorce and re-marriage rates – young adults – was growing (during this period, the Baby Boomers were coming of age). As a result, the number of single-person households and single-parent families rose dramatically. Third, ***incomes rose*** enough to allow large numbers of single individuals to afford housing by themselves. Fourth, ***longer life spans and***

growing numbers of the elderly – whose households are smaller on average than those of people under 65 – added to the decrease in the overall size of households.

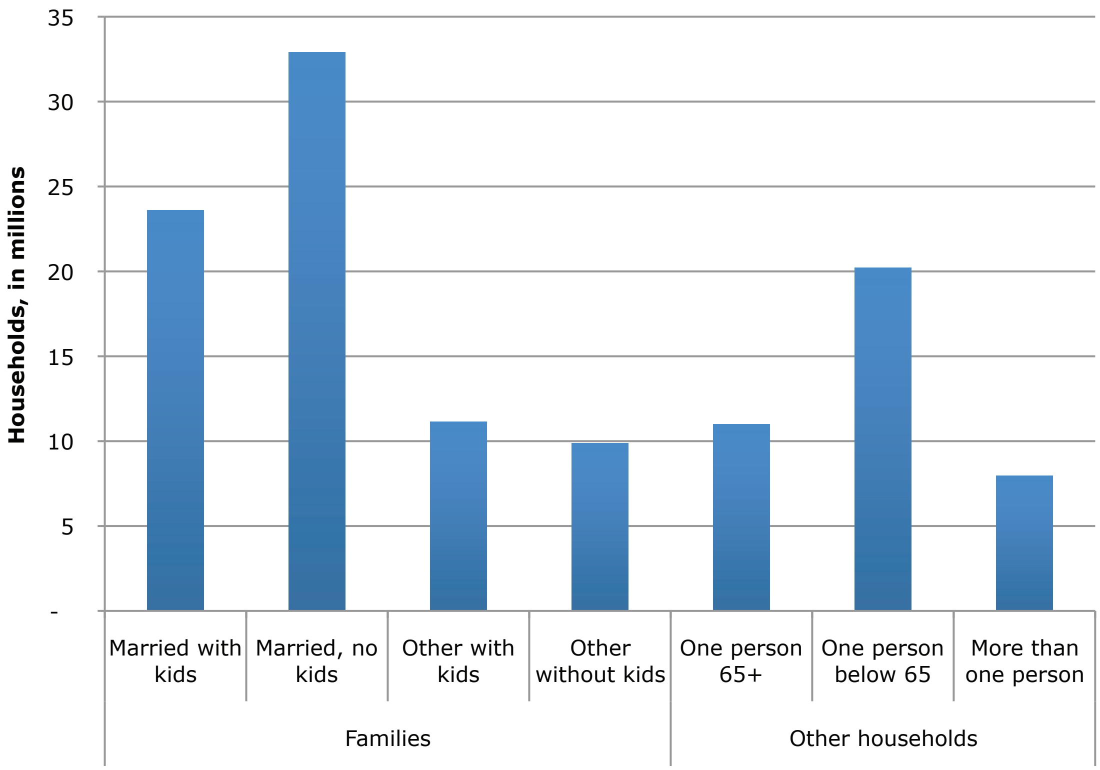
In 2010, the unadjusted Census reports found that ***just over 300 million U.S. residents lived in about 117 million households, with an average household size of 2.58 persons.*** There is some indication that household headship rates may be relatively stable within demographic groups. Despite the economic crisis, headship rates declined only slightly in the 2000s overall, with some age groups showing slight net increases or no net change (ages 35-44, 55-64).[59] The balance of U.S. residents (just under eight million, or 2.6 percent) lived in communal quarters, including institutions (e.g. prisons) and non-institutional settings (e.g., barracks, dormitories and nursing homes).

Household size and household formation vary significantly by race, ethnicity and national origin. The Hispanic population, especially foreign-born Hispanics, have substantially larger households and lower rates of household formation across the age spectrum, reflecting the larger share of families among Hispanic-headed households. In other words, fewer housing units are needed to accommodate the Hispanic population than the non-Hispanic white or black populations. How much, and for how long, these racial, ethnic and nativity differences in household size will persist is unclear.[60]

Average household sizes fell significantly for older Americans in the 2000s. Recent Census Bureau results show that the population over age 75, and especially that over 85, experienced a large decrease in its average household size. The large jump for the oldest seniors is a consequence of longer life spans, the preference and ability of older seniors to remain in their homes as long as possible, and the economic crisis, which has made seniors unable to sell their homes without steep discounts to values hit in the mid-2000s.

Falling household size reflects changes in household type. The U.S. has substantially more diversity in its household types than in the past (Figure 10). In 2010, 27 percent of households consisted of a single adult; about one-third of these one-person households comprised a person 65 years old or over. Two-thirds of households are families – composed entirely of at least two people related by blood, marriage or adoption – but fewer than half of these families (one-fifth of all households) had at least one child under 18 years old. Indeed, only one-third of households include at least one child.

Figure 10. Households in the U.S. by Type, 2010



Source: Authors' calculations based on 2010 Demographic Profile Data, U.S. Census, U.S. Census Bureau, DP-1 - Profile of General Population and Housing Characteristics: 2010.

TENURE CHOICE: RENTING VERSUS OWNING

Different kinds of households demand different kinds of housing. Some differences in housing consumption are governed by wealth and income, which we discuss below. Age structure and household type also have important independent effects on housing. Both household formation and housing consumption are linked by lifecycle events such as leaving home, getting married, having children, changing jobs, retiring and death of spouse. These break points punctuate increasingly lengthy spells within the same housing unit. [61]

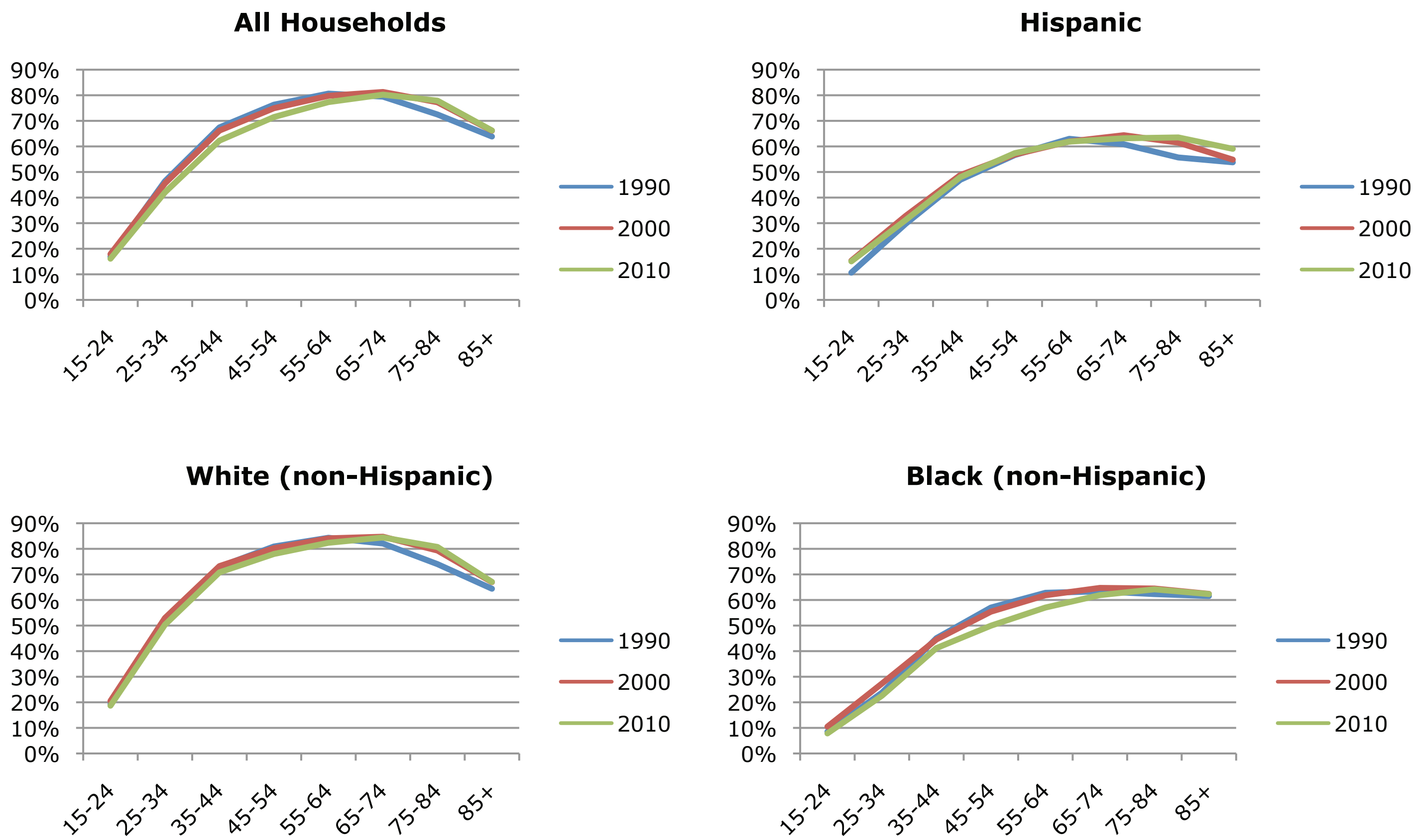
Efforts to distinguish the determinants of tenure choice (i.e. home renting or owning) in the United States have consistently shown the importance of age.[62] Aging is associated with rising income, lower residential mobility, marriage and childbirth, each of which contributes independently to the propensity for home buying. Homeownership rates peak just after retirement age, but even the oldest Americans have homeownership rates exceeding 50 percent.

Homeownership rates are also influenced by mortgage interest rates, house prices and expectations for gains in house values; low mortgage interest rates and a combination of low house prices and expectations of future gains combine to create the most favorable economic conditions for rising homeownership rates.[63] Price volatility generally dampens transitions to homeownership but, as Gabriel and Rosenthal note in a recent paper, the "deterrent effect of local house price volatility diminished considerably between 2000 and 2005," becoming "so pronounced that for many age groups," volatility associated with increasing probability of transitioning to homeownership.[64] The cost of the alternative to homeownership, renting, also influences homeownership; when renting is inexpensive relative to ownership, it can reduce some households' probability of making the transition to homeownership. Many metropolitan housing markets also offer housing consumers much greater ability to secure the many features they want in a house and location if they purchase than if they rent.[65]

The homeownership rates of blacks and Hispanics have persistently lagged behind those of non-Hispanic whites.[66] Systematic discrimination in all walks of life has denied many blacks the opportunity to obtain adequate education, decent employment, reliable credit, low-cost housing and other opportunities that are available to most white non-Hispanics.[67] In addition, blacks and Hispanics are both likely to have experienced lower homeownership rates, and white non-Hispanics higher rates, as a direct outcome of racial residential segregation; highly segregated metropolitan areas have lower minority homeownership rates than more integrated ones.[68] In the 1990s and early 2000s, homeownership rates rose rapidly for minority and low-income households, buoyed by changes in the housing market, the regulatory environment, and interest rates; improvements in access to credit and reductions in interest rates more than counteracted changes in family structure that would otherwise have reduced homeownership for minority households.[69]

The impacts of these racial/ethnic differences and changes can be seen in the panels of Figure 11. Age-specific homeownership rates did not change for white non-Hispanics under 65 in the 1990s, but they grew for Hispanics and black non-Hispanics. The overall homeownership rate for adults younger than retirement age in the 1990s changed very little, however, because Hispanics and blacks both accounted for more of the growth in the population with dramatically lower rates than whites. The decline in black homeownership rates also bears repeating here, shown by the pronounced gap between age-specific rates in 2000 and those in 2010 in Figure 11.

Figure 11. Homeownership rates by age and race, 1990 to 2010



Source: U.S. Census, 1990 STF1, 2000 and 2010 SF1, computed by authors.

Immigrants have substantially different housing patterns than native-born residents. Households headed by foreign-born residents are more likely than those headed by native-born residents to settle in high-density areas and multi-family rental housing, especially soon after arrival.[70] These differences are markedly reduced (but do not disappear) as first-generation households live in the U.S. longer, and decline further for second-generation Americans. In addition, new immigrants and their children tend to cluster in "immigrant gateway" cities where other immigrants from their home countries have already settled. This tendency concentrates the housing market effects of fluctuating immigration rates in such "gateway" metropolitan areas as New York, Los Angeles, Miami and Houston.[71] Declining numbers of Hispanics who are born outside of the U.S., combined with an increasing amount of time foreign-born residents live in the U.S., may partly explain why Hispanics' homeownership rates were stable between 2000 and 2010, while white and, in particular, black rates dropped.

The economic-housing crisis: effects on household formation and tenure

Two key trends in household formation distinguish the 2000s from the 1990s: a sharp reduction in household formation, and a substantial drop in the homeownership rate.[72] To illustrate the impact of differences in household formation and homeownership rates on conditions in 2010, we held constant the rates registered by the Census Bureau in 2000 for people in specified age and racial/ethnic categories. Had 1990s conditions persisted to 2010, about 1.3 million more households would have been formed, and the homeownership rate would have been 1.2 percentage points higher.

People born since 1955 had low rates of household formation. In all, people in these age groups would have formed 2.1 million more households if conditions from 2000 had simply extended to 2010. People born since 1975 were expected to head almost 1.6 million households, but those households were never formed. In the face of unemployment, rising poverty and uncertainties about the housing market, many young adults moved back in with their families or delayed moving from home for the first time, and others found roommates or remained in larger households rather than assuming housing-cost burdens alone.

People born before 1955 had high rates of household formation. Balancing the reduction in household formation by younger adults, those currently in their late 50s and older formed over 800,000 more households in the 2000s than would have occurred under year-2000 assumptions. Three trends probably drove this divergence. First, seniors are living longer, healthier and more economically secure lives, increasing the number of older Americans staying in their homes well into old age. Second, some older adults who would not have otherwise formed households may have been incentivized to do so during the housing boom; in the crisis, they may have found it less necessary to combine households than have younger adults or been resistant to doing so. Third, some older Americans may be delaying shifts to renting or assisted living until economic conditions improve.

People born since 1945 formed fewer homeowner households than would have been true under year-2000 assumptions. In all, people born since the Baby Boom would have formed 2.75 million more homeowner households than actually occurred. Baby Boomers alone would have formed almost a million more owner-occupied households than were observed had 2000 rates remained constant. Counter to this trend, however, *seniors accounted for more owner-occupied households than they would have under year-2000 assumptions,* again probably a reflection of their increased longevity, economic security and independence.

People born before 1975 formed more renter households – about 1.4 million more – than they would have under year-2000 rates. This surge in renting by adults in their late 30s and older has fueled a recently observed increase in rents and declining vacancy levels. Again countering this trend, *young adults born since 1975 formed nearly a half-million fewer renter households* than they would have under year-2000 rates.

Income and wealth

Although not strictly demographic phenomena, income and wealth are so closely connected with demographics and housing demand that a brief overview is warranted of trends and possible futures of income and wealth.

INCOME

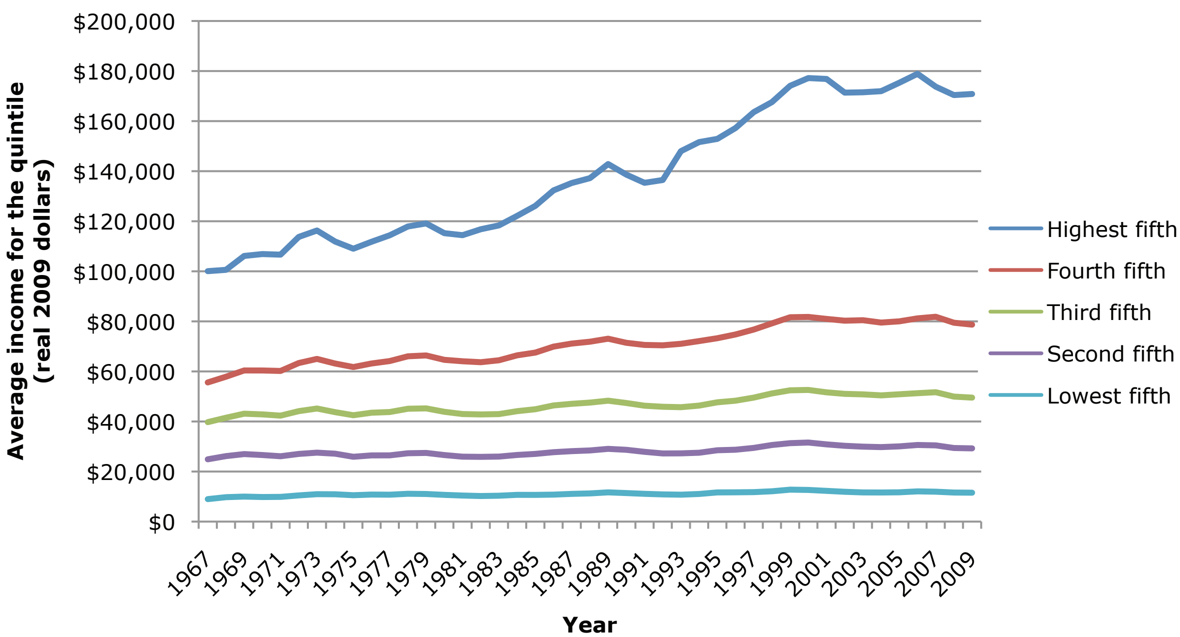
Between 1975 and 2000, the U.S. experienced two periods of prolonged increases in real median household income, each of which corresponded to a major demographic transition. In the 1980s, household income increases were spurred by the entry of women and Baby Boomers into the labor force (which occurred in the 1970s and 1980s). In the 1990s, the combination of the Baby Boom generation's transition into their peak earning years, the longest peacetime expansion in post-war U.S. history, and a relatively small senior population pushed median household incomes upward. Since 2000, however, the real median household income has hovered between $68,000 and $71,000, ending the decade just below $68,000 – approximately equal to the 1998 median household income in real dollars.

This past decade has also seen sharpening income inequality. The average income of the lowest quintile (i.e. the poorest 20 percent of households) in 2009 was only $11,550 – a decline in purchasing power of nine percent since 1999 and only 10 percent above 1975 levels in real dollars (Figure 12).[73] The second-lowest quintile had an income below $30,000, seven percent less than their inflation-adjusted income in 1999 and just 13 percent more than 1975. The top quintile, by comparison, earned an average of $170,844 per year, and the top five percent of households earns nearly $300,000 per year – increases of 57 percent and 79 percent, respectively, since 1975.

Households at the top of the income distribution, therefore, have much more to spend on housing than they did in 1975, raising housing consumption in at least two ways. First, housing size has increased. Between 1973 and 2007, the sizes of newly constructed homes steadily increased to meet growing demand, expanding from an average of 1,525 to 2,277 square feet (an increase of more than 65 percent) even as household size has declined.[74] (This trend was originally precipitated by overall increases in income as the Baby Boom matured, but has persisted into the 2000s, when only the top quintiles saw income gains). Second, the demand for vacation homes has increased.

Rising incomes at the top have also increased pressure on housing prices for lower-income households, especially in metropolitan areas with significant land constraints and/or low housing vacancy rates.[75]

Figure 12. Income gains have been steepest for top two quintiles, sharpening income inequality *(real 2009 dollars)*

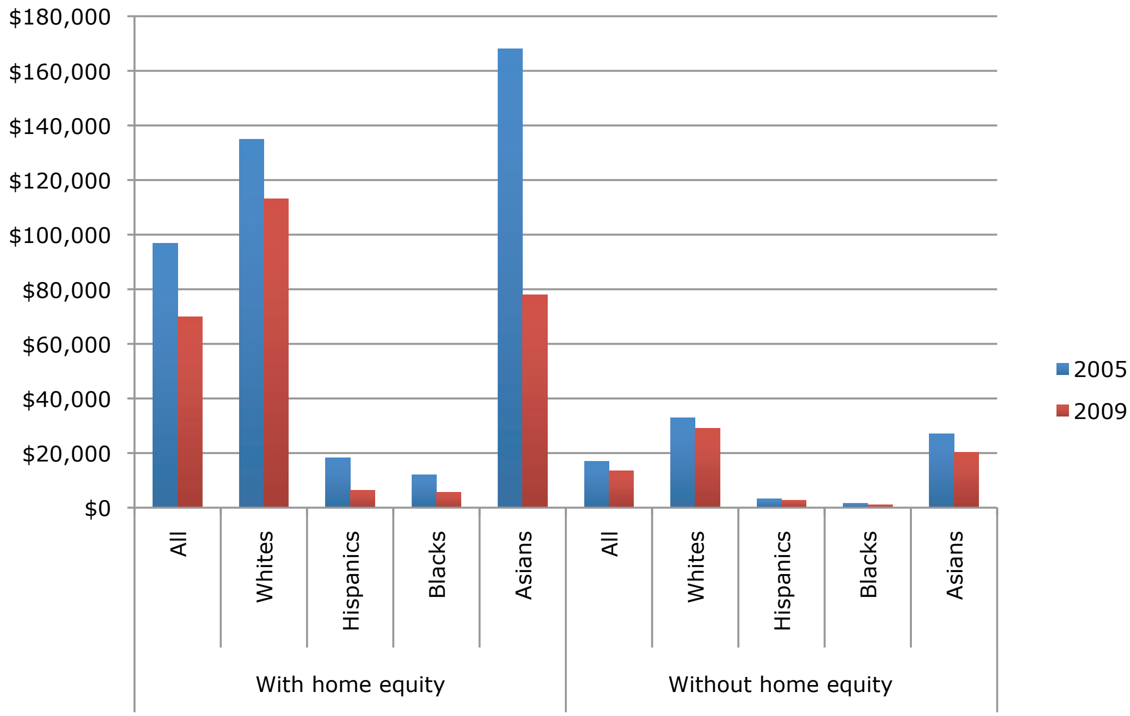


Source: Data from U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, 2011, Table H-3.

WEALTH

The median household in 2009 held net assets of $70,000, including both *liquid assets* such as savings and checking accounts and *illiquid assets* such as owned homes and retirement accounts. **The combined effects of the housing market crisis and the decline in value of stocks contributed to a decline in median wealth of 28 percent (from nearly $97,000) between 2005 and 2009.[76]** As discussed previously, a wide gulf separates households by race and ethnicity. The median household headed by a white non-Hispanic held about $113,000 in assets in 2009, and the median Asian household held about $78,000 in wealth. Hispanics and blacks held only $6,300 and $5,700 in wealth, respectively, the lowest inflation-adjusted levels in at least 25 years. Home value declines were responsible for most of the decline in wealth between 2005 and 2009 (Figure 13).

Figure 13. Median wealth declined dramatically, 2005 to 2009



Source: Data from Rakesh Kochhar, Richard Fry, and Paul Taylor, 2011. "Wealth Gaps Rise to Record Highs Between Whites, Blacks, Hispanics: Twenty-to-One," Pew Research Center, page 15. Compiled by the authors.

Wealth inequality parallels or exceeds income inequality. Fifteen percent of white households, and 19 percent of Asians, hold zero or negative wealth; about a third of Hispanic and black households are a similarly dire position. **This variation both reflects and reinforces homeownership disparities, since so much wealth is held in home equity and since wealth allows households to secure homeownership.**

As discussed above, **young generations, including the rising Echo Boom, have been hit hard by the economic and housing crisis.** During the last part of the decade, this group experienced higher poverty, delayed household formation and lower homeownership. Because home equity is such a large component of American household wealth, delays in homeownership are likely to put an economic drag on this generation for many years to come.

Regional trends and transitions

Similar to the national scale, regional trends in housing demand and supply are driven by in-migration, out-migration and the aging and fertility of the established population, all of which are affected by regional and local economic conditions.

MOBILITY AND DOMESTIC MIGRATION

Between 2009 and 2010, 12.5 percent of U.S. residents moved to a different home – 2.3 percentage points lower than the moving rate in the early 2000s. Most of the decline is a consequence of the economic crisis, but some is an unexplained variation that may be a sign of increasing "rootedness" in the U.S.[77] **Young adults are the population most likely to move**. In 2009-2010, for example, about a quarter of people aged 20 to 29 moved. However, **even when people move, they are mostly likely to remain close to home.** A sizeable majority of movers stay in the same county (69 percent between 2009 and 2010), and relatively few move to a different state or region (11.5 percent). For no age group did the percent of out-of-state movers exceed about 20 percent of all movers.

Seniors are unlikely to move, but senior *movers* are more likely to move to a different state than are their juniors. Between 2009 and 2010, fewer than four percent of people age 65 and over moved (compared with nearly 14 percent of people under 65). The recent statistics on seniors reflect long-standing habits and customs. If the recession has depressed senior rates of moving, it is not by much. Historically, **most adults have remained in the same state or metropolitan area through retirement and old age**.[78] About four percent of American residents age 65 and over relocated to another state over the five-year periods preceding the 1970, 1980, 1990 and 2000 Censuses.[79] In contrast, the rates for people age five to 64 were more than double that, ranging from 9.5 percent to just under 11 percent in each Census period.

In recent years, the Northeast and Midwest have been losing population to migration, particularly among the young. Meanwhile, the Southwest, Southeast and Mountain West have experienced substantial growth, continuing a trend in the South that began in the 1970s and in the West in the 1950s. Some have attracted senior migrants from other states in addition to more mobile, young populations. While there may have been a decline from previous years, net migration between 2009 and 2010 conformed to long-standing regional trends, with the continuation of outmigration from the Midwest and Northeast regions and in-migration toward the South and West. The Northeast lost 130,000 people to domestic migration in that year, and the Midwest 223,000. Meanwhile, the South picked up 200,000 and the West 153,000.

When we see wide variations among states' age structures, it generally has more to do with trends in net migration among young people than with net migration by seniors. (Florida and Arizona are the two main exceptions to this rule.) While most states and metropolitan areas are aging because of the (relatively less mobile) Baby Boom, many are also gaining a disproportionate number of young people as they experience in-migration of native and foreign-born adults under 35.[80] Since people in their 20s are both at their most mobile and in their peak child-bearing years, their movements across state lines can have substantial impacts in a fairly short period of time. In addition, since they are also in their prime years of household formation and homeownership, the movements of 20-somethings have big effects on housing markets.

HOUSEHOLD AND HOUSING TRANSITIONS IN REGIONAL PERSPECTIVE

Because different regions have different short- and long-term patterns of population change and housing, national rates of household creation cannot tell us directly about housing demand. Simply put, the owner-occupied house released by a senior household in Buffalo or Detroit will not meet the demand of a young household in Dallas or Atlanta. Accordingly, substantial surpluses and deficits may ensue in parts of the nation if today's regional disparities in age structure persist. Many of these disparities are the consequences not of a diminishing crisis but of decades of structural economic changes.

Unfortunately, credible population projections for all 50 states are difficult to produce. We can, however, use results from all 50 states from the 2000 U.S. Census to analyze the transition of age cohorts in individual states and highlight emerging regional differences. The net impacts of migration, the aging of established cohorts, and transitions in household led to substantial variations among the experiences of states in their housing markets in the 2000s.

OWNER-OCCUPANTS

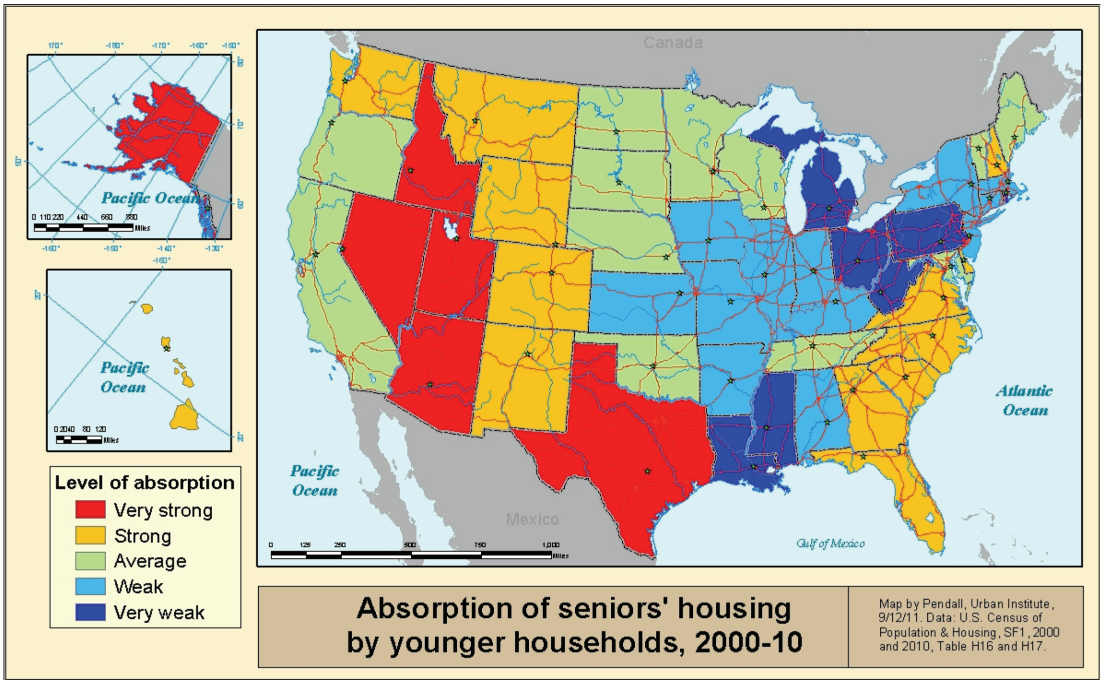
The absorption of owner-occupied housing released in the 2000s varied substantially across the United States. In Michigan, the number of senior-headed households that released housing (net) in the 2000s almost exactly equaled the number of younger-headed households that moved into homeownership. Other states where net releases by seniors added up to at least 80 percent of younger households' demand for new owner housing included Pennsylvania, Ohio, West Virginia, Mississippi and Louisiana (Figure 14), which are among the states with the oldest median ages and highest rates of net out-migration.

At the other end of the spectrum were Texas, Arizona, Nevada, Utah, Idaho and Alaska. In these states, seniors' net releases provided fewer than 35 percent of the owner-occupied units absorbed on net by younger households. States in the Southeast (including Florida, Georgia and the Carolinas) and the Mountain West (including New Mexico, Colorado and Wyoming) also experienced strong absorption.[81] These strong absorption states have particularly younger populations, and have seen recent and continued growth in the in-migration of younger generations. Arizona, Florida, Georgia and North Carolina are also retirement magnets, attracting seniors as well as young households. In these retirement destinations, seniors are also net buyers into later ages (in some cases, into their mid or late 70s), further reducing and delaying sell-offs.[82]

If regional trends of relatively low net increases in homeowners continue, the combination of weak in-migration by younger groups and houses released by increasing numbers of older households may result in a long period of slack housing demand in the Northeast and Midwest, beginning just in time for the recovery of national housing markets in the mid-2010s. Myers and Ryu (2008) term this the "generational housing bubble." It may be better to call it a prospective generational housing surplus: an incipient excess of housing offered for sale by Baby Boomers and their heirs, appearing first in the Northeast and Midwest, and eventually (in the late 2020s to the mid-2030s) in all but fast-growing states and metropolitan areas.

As new state and county population projections become available, it will become feasible to identify the places at highest risk of a generational surplus. Even in the absence of a literal surplus, it is already clear that Michigan, Ohio, Pennsylvania and parts of upstate New York currently have soft housing markets that do not promise to rebound this decade. Their softness was not brought on only by the current economic and housing crisis; rather, it is the combined result of the aging of the Baby Boom and the deficit in younger households caused by decades of economic restructuring. On the other hand, some areas that experienced the highest levels of housing speculation and overbuilding are also recent magnets for domestic migration, including Florida, Las Vegas, Phoenix and Riverside-San Bernardino.

Figure 14. Absorption of seniors' owner-occupied housing by younger households, 2000 to 2010



Note: The map distinguishes states according to the ratio of releases by older owner-occupiers to absorption by younger owner-occupiers. The break point between the age groups is age 55 at the beginning of the decade (2000). In Michigan, for example, there were (between 2000 and 2010) almost as many releases of dwellings by homeowners aged 55 or over at the beginning of the decade as creation of households by homeowners aged 54 or younger, a ratio of 0.99. "Very strong" absorption states had ratios between 0.19 and 0.35, "strong" ratios between 0.36 and 0.50, "average" 0.51 to 0.67, "weak" 0.68 to 0.80, and "very weak" 0.81 to 0.99.

Source: Authors' calculations based on data from the U.S. Census of Population and Housing, SF1, 2000 and 2010, Table H16 and H17.

It is important to note, however, that as long as household growth remains positive on net nationwide, there will still be demand for new construction to accommodate additional households. In addition, the loss of homes to abandonment, disasters and demolition in these regions may generate new demand for fresh supplies. Demand may be reduced – especially in the early stages of recovery – by excess existing vacant units (many coming from distressed sales) that will take time to absorb, as well as by weak demand for second homes. The sum of these will govern the level of new home demand by state and metropolitan area.

RENTERS

Nationally, renter households grew by 14.2 percent between 2000 and 2010. South and North Carolina, Utah, Idaho, Arizona and Nevada all had growth rates at least twice as high, consistent with their strong ability to attract young adults (and, to some degree, seniors); Georgia, Florida and Colorado also had rental-household growth above 25 percent during the decade. Household heads aged 34 and younger in California accounted for 1.4 million net new renter units, but were counterbalanced by 800,000 releases of rented dwellings by older generations of householders. Growth rates below five percent were registered in New Hampshire, Illinois, Connecticut, New York, Massachusetts and Rhode Island.

It is even more difficult to project regional futures in demand for rental housing than of owner-occupied housing with confidence, because it will depend most on young households that have not yet formed or that formed during an unusual period of economic and housing market distress. The biggest source of demand for rental housing between now and 2030 will be among people who are between the ages of 10 and 30 today. This is roughly the span of the relatively large Echo Boom generation, which will continue to exert substantial net new rental demand as the younger portion of the generation ages.

As described above, people in this age group are relatively mobile and currently face substantial economic uncertainty. An economic recovery would spur even greater new demand among this group, as young adults who have delayed forming their own households move out on their own. Due to the size of this generation and the relatively tight mortgage market, Echo Boomers will likely begin to put additional stress on more local rental markets irrespective of the timing of the economic recovery. As with housing ownership markets, local rental markets are particularly likely to experience rising demand in areas with higher numbers of young people. This is particularly true in expensive housing markets, where the average age when young people can afford to enter the market for homeownership is higher.[83]

Rental demand will also be much more sensitive to differences in immigration levels than owner-occupied housing will be. Immigrants are more likely to rent their housing and concentrate in a narrow range of states and metropolitan areas ("gateway cities" where other immigrants from the same geographic area have already settled) than the native-born population. Given the size of the Echo Boom (the other major new renter group), a rebound in immigration would be likely to result in either very tight and unaffordable rental markets, or a renaissance in new apartment construction in gateway cities.

Endnotes

[1] This paper uses race data from the 1990, 2000, and 2010 Census about race and Hispanic origin. We use the word "black" to refer to people who identified themselves as "Black or Negro" in 1990 and "Black, African Am. or Negro" in 2000 and 2010 and who did not claim Hispanic origin. We use the word "Hispanic" to refer to people who claimed "Spanish/Hispanic" origin in 1990, "Spanish/Hispanic/Latino" origin in 2000, and "Hispanic, Latino, or Spanish" origin in 2010. Definitions in 1990 allowed respondents to select only one race. Definitions in 2000 and 2010 allowed selection of multiple races. The racial categories we used for whites and blacks in this report refer to people who selected only one race in 2000 and 2010; all multi-racial people who were not Hispanic were combined into the "Other non-Hispanic" category for those years.

[2] Authors' calculations using U.S. Census 2000 and 2010, Table DP-1 (both years).

[3] LPS mortgage monitor, unpublished data.

[4] Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2010 Revision, http://esa.un.org/unpd/wpp/index.htm. United States of America Population (thousands), Medium variant, 2010-2050.

[5] "Under current mortality conditions," according to the 2010 report of the Federal Interagency Forum on Aging Statistics, "people who survive to age 65 can expect to live an average of 18.5 more years, about four years longer than people age 65 in 1960. The life expectancy of people who survive to age 85 today is 6.8 years for women and 5.7 years for men." See http://www.agingstats.gov/Main_Site/Data/2010_Documents/Health_Status.aspx, accessed 10/30/2011.

[6] U.S. Census Bureau, 2009 American Community Survey.

[7] Federal Interagency Forum on Aging Related Statistics (2006), Older American Update: Key Indicators of Wellness, indicator 17. http://www.agingstats.gov/agingstatsdotnet/Main_Site/Data/2006_Documents/Health_Status.pdf

[8] Freedman, VA, BC Spillman, RF Schoeni, PM Andreski, JC Cornman, EM Crimmins, E Kramarow, J Lubitz, LG Martin, SS Merkin, TE Seeman, and TA Waidmann, "Trends in Late-Life Activity Limitations: An Update from 5 National Surveys," 2011. Population Association of America, March. See also, Schoeni, RF, V Freedman, and LG Martin, 2008, "Why is late-life disability declining?" *Milbank Quarterly* 86, 47-89.

[9] AARP, 2005, "The State of 50+ America 2005," Washington, DC: AARP Public Policy Institute. http://assets.aarp.org/rgcenter/econ/fifty_plus_2005.pdf

[10] U.S. Department of Housing and Urban Development, 2011, "Worst Case Housing Needs 2009: Report to Congress." Department of Housing and Urban Development, Policy Development and Research; National Council on Disability, 2010. *The State of Housing in America in the 21st Century: A Disability Perspective.* Washington, DC.

[11] AARP, 2006, "The State of 50+ America 2006," Washington, DC: AARP Public Policy Institute. http://assets.aarp.org/rgcenter/econ/fifty_plus_2006.pdf

[12] National Association of Area Agencies on Aging, "The Maturing of America: Getting Communities on Track for an Aging Population," Washington, DC. http://www.n4a.org/pdf/MOAFinalReport.pdf

[13] ADLs (activities of daily living): The things we normally do in daily living including any daily activity we perform for self-care (such as feeding ourselves, bathing, dressing, grooming), work, homemaking, and leisure. The ability or inability to perform ADLs can be used as a very practical measure of ability/disability in many disorders. http://www.medterms.com/script/main/art.asp?articlekey=2152

[14] Spillman, Brenda C. and Kirsten J. Black, 2006, "The Size and Characteristics of the Residential Care Population: Evidence from Three National Surveys," The Urban Institute, Health Policy Center, January 4. http://aspe.hhs.gov/daltcp/reports/2006/3natlsur.htm

[15] 2009 data from ACS. The corresponding 2000 statistic (from Summary File 1 of the Census of Population and Housing) was 5.7 percent.

[16] A group quarters is a place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. http://www.census.gov/acs/www/Downloads/data_documentation/GroupDefinitions/2010GQ_Definitions.pdf. Common group quarters for seniors include, for example, residential treatment centers, skilled nursing facilities, and group homes.

[17] U.S. Department of Housing and Urban Development, 2011, "Worst Case Housing Needs 2009: Report to Congress." Department of Housing and Urban Development, Policy Development and Research.

[18] Wardrip, Keith, 2010, "Strategies to Meet the Housing Needs of Older Adults," Washington, DC: AARP Public Policy Institute. http://www.aarp.org/home-garden/housing/info-03-2010/i38-strategies.html

[19] U.S. Department of Housing and Urban Development, "A Picture of Subsidized Households – 2008". http://www.huduser.org/portal/picture2008/index.html.

[20] Spillman et al., "Housing as a Platform for Improving Outcomes for Older Renters," draft, August 2011, 2.

[21] U.S. Census Bureau, New Privately Owned Housing Units Completed, table downloaded by authors 10/28/11, data for 2001-2010 inclusive. http://www.census.gov/const/compann.pdf. Household growth computed by authors from 2000 and 2010 decennial Censuses.

[22] For more information on the assumptions on which these projections are based, see Appendix A and the longer discussion of Echo Boomer housing demand in a later section of this paper. Based on projections of immigration that exceed 2011 expectations, Myers and Pitkin wrote in 2009, "Total demographic exits from the housing market due to sale without repurchase are expected to escalate from 1.3 million per year in 2015 to 2.4 million per year in 2040. In the same time frame, the number of entrants grows much more slowly, and the net effect is a shrinking rate of growth in the number of households. The demographic increase in owners is expected to be about 900,000 per year in 2015, but that shrinks to 475,000 per year in 2040, near the low point recorded in 1965 before the Baby Boomers' entry into the housing market." Myers, Dowell and John Pitkin, 2009, "Demographic Forces and Turning Points in the American City, 1950-2040," *The Annals of the American Academy of Political and Social Science* 626, 108.

[23] Pitkin, John and Dowell Myers, 2008, "U.S. Housing Trends: Generational Changes and the Outlook to 2050". Paper prepared for the Committee on the Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption, Transportation Research Board and the Division on Engineering and Physical Sciences, http://onlinepubs.trb.org/Onlinepubs/sr/sr298pitkin-myers.pdf, page 15.

[24] Authors' calculations using microdata for the 2009 American Community Survey extracted from www.ipums.org. See Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.

[25] HUD reports in its most recent *Worst Case Housing Needs* report (2009) that rental markets began to tighten as early as 2003 with increases in the price, and decreases in affordability, of owner-occupied housing.

[26] This paragraph draws on the Pew Research Center's *Millennials, A Portrait of Generation Next: Confident. Connected. Open to Change,* Feb. 2010. Available at: http://pewsocialtrends.org/files/2010/10/millennials-confident-connected-open-to-change.pdf

[27] Pew Research Center, "Millennials, A Portrait of Generation Next: Confident. Connected. Open to Change." February 2010. Available at: http://pewsocialtrends.org/files/2010/10/millennials-confident-connected-open-to-change.pdf

[28] Using the Census Current Population Survey, Pew's researchers found that 20 percent of women 18 to 28 had completed four or more years of college by 2009, and 40 percent had at least some college. This compares with 15 and 34 percent, respectively, for men of the same ages, adding to a gender gap of 11 percentage points.

[29] Sabrina Tavernise, "Soaring Poverty Casts Spotlight on 'Lost Decade,'" *New York Times* (Sept. 13, 2011), accessed Sept. 14, 2011. http://www.nytimes.com/2011/09/14/us/14census.html

[30] In 2010, 12.1 percent of 15- to 24-year-olds were householders, compared with 14.1 percent in 2000. For 25- to 34-year-olds the corresponding decline was from 45.9 percent (2000) to 43.7 percent (2010). Homeownership dropped from 17.9 to 16.1 percent among 15- to 24-year-olds, and from 45.6 to 42.0 percent for 25- to 34-year-olds.

[31] Survey of Consumer Finances, http://www.federalreserve.gov/pubs/bulletin/2009/pdf/scf09.pdf and http://www.federalreserve.gov/pubs/feds/2011/201117/201117pap.pdf.

[32] http://www.cdc.gov/nchs/nvss/marriage_divorce_tables.htm

[33] Rakesh Kochhar, Richard Fry, and Paul Taylor, 2011, "Wealth Gaps Rise to Record Highs Between Whites, Blacks, Hispanics: Twenty-to-One," Pew Research Center. Available at: http://pewsocialtrends.org/2011/07/26/wealth-gaps-rise-to-record-highs-between-whites-blacks-hispanics/. Accessed Aug. 24, 2011.

[34] This level is lower than the Census Bureau assumed in its 2008 mid-range projections series and closer to the levels observed between 2005 and 2010. Using this low-end projection of immigration allows us to see more clearly how the household formation and homeownership decisions of young people already living in the United States will affect the total demand for new housing. To the extent that immigration increases beyond these levels, the near- to medium-term impact would mainly be heightened rental housing demand, since most new immigrants rent

housing. For more information on rental trends, refer to the Joint Center for Housing study's report on rental housing, http://www.jchs.harvard.edu/publications/rental/rh11_americas_rental_housing/index.html

[35] To be more precise, the rates are the age- and race/ethnic-specific owner and renter headship rates. The rates are reproduced in Appendix A.

[36] The Joint Center for Housing Studies (JCHS) at Harvard University suggested in late 2010, based on data available before the release of the 2010 Census and holding headship rates by age and by race/ethnicity constant at average 2007-2009 levels that between 11.8 million and 13.8 million new households will form between 2010 and 2020. (The variation is an outcome of differing assumptions about immigration rates.) Beyond one home for each of these households, additional inventory will be needed to ensure adequate housing stock, provide second homes for older and wealthier households, and to replace removals from the stock. The JCHS estimated that these sources of demand are likely to increase the annual growth in occupied housing units – which will come from both currently vacant and newly constructed dwellings – to between 1.6 million and 1.8 million per year during the 2010s, but that these figures must be adjusted for any assumed oversupply entering the period that will not absorbed by any release in pent-up demand that may have formed during the Great Recession. (See Masnick, George S., Daniel McCue, and Eric S. Belsky, 2010, "Updated 2010-2020 Household and New Home Demand Projections," Sept. 2010, Joint Center for Housing Studies publication W10-9, http://www.jchs.harvard.edu/publications/markets/w10-9_masnick_mccue_belsky.pdf, page 36.) The JCHS has projected more recently that, if the rates of homeownership by race, age and household type in 2020 are the same as those in 2010, between 3.6 million and 4.7 million of the new households will be renters. (See Joint Center for Housing Studies of Harvard University, "America's Rental Housing – Meeting Challenges, Building on Opportunities," Cambridge: Joint Center, 2011, http://www.jchs.harvard.edu/publications/rental/rh11_americas_rental_housing/index.html, page 6.)

[37] The low-end scenario is close to the 10 million developed by Masnick et al. for their "low" scenario, predicated on a low immigration assumption and using the lowest rolling three-year average CPS headship rate that any 10-year age group (not subdivided by age/race) has ever reached since the 1980-1982 period. The high scenario is slightly higher than the most recent "high" household projection by Masnick et al. See Masnick, George S., Daniel McCue, and Eric S. Belsky, 2010, "Updated 2010-2020 Household and New Home Demand Projections," Sept. 2010, Joint Center for Housing Studies publication W10-9, http://www.jchs.harvard.edu/publications/markets/w10-9_masnick_mccue_belsky.pdf

[38] Authors' computation based on microdata from the 2000 Census (five percent sample) and 2009 American Community Survey downloaded from www.ipums.org, see Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2010.

[39] Chang, Oliver, Vishwanath Tirupattur, and James Egan, 2011, "Housing Market Insights: A Rentership Society?" Morgan Stanley Research, July 20, 2011. http://fa.smithbarney.com/public/projectfiles/5bee89b1-94ce-45b5-b4b6-09f0ffdc626a.pdf

[40] U.S. Census Bureau, "Residential Vacancies And Homeownership in the Second Quarter 2011," http://www.census.gov/hhes/www/housing/hvs/qtr211/files/q211press.pdf.

[41] U.S. Department of Housing and Urban Development, 2011, "Worst Case Housing Needs 2009: Report to Congress." http://www.huduser.org/portal/publications/affhsg/wc_HsgNeeds09.html

[42] Joint Center for Housing Studies, "America's Rental Housing: Meeting Challenges, Building on Opportunities," Cambridge: The Center, April 2011. http://www.jchs.harvard.edu/publications/rental/rh11_americas_rental_housing/index.html

[43] Annual data on homeownership by race are available only from the Census Bureau's Housing Vacancy Survey (HVS), based on the monthly sample of the Current Population Survey. In both 2000 and 2010, the HVS estimates of homeownership rates were substantially higher than those registered by the decennial Census (100 percent count). Differences between the Census and CPS are especially marked for black non-Hispanics and Hispanics. Our report relies wherever possible, and for the development of household projections, on decennial Census data rather than on CPS-based estimates of household formation and homeownership.

[44] Rakesh Kochhar, Richard Fry, and Paul Taylor, 2011, "Wealth Gaps Rise to Record Highs Between Whites, Blacks, Hispanics: Twenty-to-One," Pew Research Center. Available at: http://pewsocialtrends.org/2011/07/26/wealth-gaps-rise-to-record-highs-between-whites-blacks-hispanics/. Accessed Aug. 24, 2011.

[45] Most observers place the end of the Baby Boom in 1963 or 1964. Here, we use 1965 for the convenience it provides in using the Census Bureau's reported age categories in decennial censuses.

[46] "Live Births and Birth Rates, by Year," Information Please Database, Pearson Education, Inc. (Infoplease.com, accessed Sept. 20, 2011) and "Provisional Monthly and 12-Month Ending Number of Live Births, Deaths, and Infant Deaths and Rates: United States, January 2009 - December 2010," United States Center for Disease Control.

[47] Estimates constructed by the authors based on 2007-2009 national American Community Survey estimates and year-2010 100 percent count data from the Decennial Census, Summary File 1.

[48] Campbell Gibson and Kay Jung, "Historical Statistics on the Foreign-Born Population of the United States," U.S. Census Bureau (February 2006). Table 1. Nativity of the Population and Place of Birth of the Native Population: 1850 to 2000.

[49] Pitkin, John and Dowell Myers, 2008, "U.S. Housing Trends: Generational Changes and the Outlook to 2050," prepared for the Committee on the Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption, Transportation Research Board and the Division on Engineering and Physical Sciences, http://onlinepubs.trb.org/Onlinepubs/sr/sr298pitkin-myers.pdf

[50] U.S. Census Bureau, American Community Survey, 2009, Tables C01001A through C01001I.

[51] U.S. Census Bureau, "Annual Estimates of the Resident Population by Race, Hispanic Origin, Sex and Age for the United States: April 1, 2000 to July 1, 2009 (NC-EST2009-04)," June 2010. Table 9. Resident Population by Race, Hispanic Origin, and Age: 2000 and 2009.

[52] Masnick, George S., Daniel McCue, and Eric S. Belsky, 2010, "Updated 2010-2020 Household and New Home Demand Projections," Sept. 2010, Joint Center for Housing Studies publication W10-9, http://www.jchs.harvard.edu/publications/markets/w10-9_masnick_mccue_belsky.pdf, page 14.

[53] U.S. Census Bureau, Population Division, Table 6, "Estimates of the Components of Resident Population Change by Race and Hispanic Origin for the United States: July 1, 2008 to July 1, 2009 (NC-EST2009-06)," Released June 2010, http://www.census.gov/popest/national/asrh/NC-EST2009/NC-EST2009-06.xls, accessed Aug. 22, 2011. The number of unauthorized immigrants dropped from an estimated 12 million in 2007 to 11.1 million in 2009, then rose by only 100,000 in 2010. The Census' "constant immigration" series maintains net immigration at one million per year, producing a population projection of 334 million in 2020 (an increase of 24 million from 2010), but even this may be an overestimate. Prolonged weak economic conditions in the U.S., coupled with continued stalemate over immigration reform and improving economic conditions in Mexico and Asia (the main sources of legal and illegal immigration to the U.S.), will likely depress net immigration levels for several years. See Pew Hispanic Research Center, Unauthorized Immigrant Population: National and State Trends, 2010. http://pewhispanic.org/files/reports/133.pdf, Feb. 1, 2011, accessed Aug. 22, 2011. Also, in their latest projection of housing demand, Masnick, McCue, and Belsky (2010) assume net international immigration levels at one-half the 2008 Census Bureau "baseline" rate. See Masnick, George S., Daniel McCue, and Eric S. Belsky, 2010, "Updated 2010-2020 Household and New Home Demand Projections," Sept. 2010, Joint Center for Housing Studies publication W10-9, http://www.jchs.harvard.edu/publications/markets/w10-9_masnick_mccue_belsky.pdf, page 15.

[54] U.S. Census Bureau, Population Division, Table 1-Z, "Projections of the Population and Components of Change for the United States: 2010 to 2050 Zero Net International Migration Series (NP2009-T1-Z)," released Dec. 19, 2009. http://www.census.gov/population/www/projections/files/nation/summary/NP2009-T1-Z.xls, accessed Aug. 22, 2011.

[55] Data sources such as the U.S. Census Bureau assign each household a reference person, formerly known as the "head of household" but now known as the "householder." The respondent to a Census survey usually identifies him- or herself as the first person in the household and thereby becomes the householder of record.

[56] Pitkin, John and Dowell Myers, 2008, "U.S. Housing Trends: Generational Changes and the Outlook to 2050," prepared for the Committee on the Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption, Transportation Research Board and the Division on Engineering and Physical Sciences, http://onlinepubs.trb.org/Onlinepubs/sr/sr298pitkin-myers.pdf

[57] For example, approximate 5.9 million young adults aged 25 to 34 lived in their parents' households in spring 2011, where only 4.7 million did in spring of 2007. See Carmen DeNavas-Walt, Bernadette D. Proctor and Jessica C. Smith, "Income, Poverty, and Health Insurance Coverage in the United States: 2010," U.S. Census Bureau, Sept. 2011, page 22. http://www.census.gov/prod/2011pubs/p60-239.pdf

[58] Pitkin, John and Dowell Myers, 2008, "U.S. Housing Trends: Generational Changes and the Outlook to 2050," prepared for the Committee on the Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption, Transportation Research Board and the Division on Engineering and Physical Sciences, http://onlinepubs.trb.org/Onlinepubs/sr/sr298pitkin-myers.pdf, page 9.

[59] Masnick, George S., Daniel McCue, and Eric S. Belsky, 2010, "Updated 2010-2020 Household and New Home Demand Projections," Sept. 2010, Joint Center for Housing Studies publication W10-9, page 12. http://www.jchs.harvard.edu/publications/markets/w10-9_masnick_mccue_belsky.pdf

[60] Myers, Dowell, 2001, "Demographic Futures as a Guide to Planning: California's Latinos and the Compact City," *Journal of the American Planning Association* 67 (4), 383-97.

[61] Clark, William A.V. and Frans M. Dieleman, 1996, *Households and Housing: Choice and Outcomes in the Housing Market*, Rutgers Center for Urban Policy Research Pres.

[62] Clark, William A.V. and Frans M. Dieleman, 1996, *Households and Housing: Choice and Outcomes in the Housing Market*, Rutgers Center for Urban Policy Research Pres.

[63] Chevan, Albert, 1989, "The Growth of Home Ownership: 1940-1980," *Demography* 26 (2), 249-66.

[64] Stuart A. Gabriel and Stuart S. Rosenthal, *Homeownership Boom and Bust 2000 to 2009: Where Will the Homeownership Rate Go From Here?* Research Institute for Housing America Special Report 10614, 2011 (http://www.housingamerica.org/RIHA/RIHA/Publications/77196_10614_Research_RIHA_Gabriel_Rosenthal_Report.pdf); see also Turner, Tracy M. and Daigyo Seo, 2007, "Investment Risk and the Transition into Homeownership," *Journal of Regional Science* 47 (2), 229-253.

[65] Dan Immergluck, "Critical Commentary. Sub-prime Crisis, Policy Response and Housing Market Restructuring," *Urban Studies,* 2011, DOI: 10.1177/0042098011419236.

[66] Bostic, Raphael W. and Brian J. Surette, 2001, "Have the Doors Opened Wider? Trends in Homeownership Rates and Income," *Journal of Real Estate Finance and Economics* 23 (3), 411-34.

[67] Massey, Douglas S. and Nancy A. Denton, *American Apartheid: Segregation and the Making of the Underclass,* Cambridge: Harvard University Press, 1993.

[68] Flippen, Chenoa, 2010, "The Spatial Dynamics of Stratification: Metropolitan Context, Population Redistribution, and Black and Hispanic Homeownership," *Demography* 47 (4), 845-868.

[69] Bostic, Raphael W. and Brian J. Surette, 2001, "Have the Doors Opened Wider? Trends in Homeownership Rates and Income," *Journal of Real Estate Finance and Economics* 23 (3), 411-34.

[70] Pitkin, John and Dowell Myers, 2008, "U.S. Housing Trends: Generational Changes and the Outlook to 2050," prepared for the Committee on the Relationships Among Development Patterns, Vehicle Miles Traveled, and Energy Consumption, Transportation Research Board and the Division on Engineering and Physical Sciences, http://onlinepubs.trb.org/Onlinepubs/sr/sr298pitkin-myers.pdf

[71] Audrey Singer, The Rise of New Immigrant Gateways, Brookings Institution Metropolitan Policy Program, 2004, http://www.brookings.edu/reports/2004/02demographics_singer.aspx, accessed Aug. 24, 2011.

[72] Each of these "trends" is in fact a net result of two trends: one from the housing boom of 2000-2006, and the other from the housing crisis that began in 2007 and persists today.

[73] U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, Table H-3.

[74] Myers, Dowell and John Pitkin, 2009, "Demographic Forces and Turning Points in the American City, 1950-2040," *The Annals of the American Academy of Political and Social Science* 626, 91-111.

[75] Matlack, Janna L. and Jacob L. Vigdor, 2008, "Do Rising Tides Lift All Prices? Income Inequality and Housing Affordability," *Journal of Housing Economics* 17 (3), 212-224, doi:10.1016/j.jhe.2008.06.004. See also Enrico Moretti, "Real Wage Inequality," working paper, http://emlab.berkeley.edu/~moretti/inequality.pdf, accessed Aug. 23, 2011.

[76] Rakesh Kochhar, Richard Fry, and Paul Taylor, 2011, "Wealth Gaps Rise to Record Highs Between Whites, Blacks, Hispanics: Twenty-to-One," Pew Research Center. Available at: http://pewsocialtrends.org/2011/07/26/wealth-gaps-rise-to-record-highs-between-whites-blacks-hispanics/. Accessed Aug. 24, 2011.

[77] Cooke, Thomas J., 2011, "It is not Just the Economy: Declining Migration and the Rise of Secular Rootedness," *Population, Space and Place* 17(3): 193-203. DOI: 10.1002/psp.670.

[78] Frey, William H., 2010, "Baby Boomers and the New Demographics of America's Seniors," *Generations-Journal of the American Society on Aging*, 34(3): 28-37.

[79] Conway, Karen Smith and Jonathan C. Rork, 2010, "'Going With the Flow' – A Comparison of Interstate Elderly Migration During 1970-2000 Using the (I)PUMS Versus Full Census Data," *Journal of Gerontology: Social Sciences,* 65B(6), 767–771, doi:10.1093/geronb/gbp135.

[80] Frey, William H., 2010, "Baby Boomers and the New Demographics of America's Seniors," *Generations-Journal of the American Society on Aging*, 34(3): 28-37.

[81] Authors' calculations from U.S. Census 2000 and 2010, SF1.

[82] Myers, Dowell and SungHo Ryu, 2008, "Aging Baby Boomers and the Generational Housing Bubble: Foresight and Mitigation of an Epic Transition," *Journal of the American Planning Association* 74: 1, 17-33.

[83] Myers, Dowell and SungHo Ryu, 2008, "Aging Baby Boomers and the Generational Housing Bubble: Foresight and Mitigation of an Epic Transition," *Journal of the American Planning Association* 74: 1, 17-33.

BIPARTISAN POLICY CENTER

1225 Eye Street NW, Suite 1000
Washington, DC 20005
(202) 204-2400

WWW.BIPARTISANPOLICY.ORG