

Millennials, Baby Boomers, and Rebounding Multifamily Home Construction

By Jordan Rappaport

Construction of both single-family and multifamily homes collapsed with the onset of the housing crisis in 2006. Since then, single-family construction has moved up only modestly, but multifamily construction has rebounded strongly. A number of factors account for this difference. Prior to the crisis, single-family housing was significantly overbuilt, leaving excess stock. The large declines in income and employment associated with the severe recession and slow recovery drove households to move to less expensive housing units, which are typically multifamily units. The housing crisis itself—characterized by plunging house prices and waves of foreclosures—left many households wary of homeownership. This wariness has primarily dampened demand for single-family homes, which have accounted for 95 percent of owned housing units since 1990.

Many analysts have speculated about the demographic composition driving the multifamily rebound. A number of anecdotes suggest millennials may be the main driver, due in part to a strong preference for living in urban cores where multifamily housing dominates. Other anecdotes suggest baby boomers downsizing from single-family homes may be the main driver.

A careful parsing of census data shows both explanations are partly correct. Adults in their 20s and early 30s, the current age range of

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millennials, swung back toward living in multifamily units after the housing crisis, reversing their swing away from multifamily units during the housing boom. But adults in their 50s and 60s, the current age range of baby boomers, accounted for most of the increase in the actual number of occupied multifamily units both before and after the housing crisis. Looking forward, millennials will continue to help drive multifamily construction over the next few years. Over the longer term, however, baby boomers will be the main driver of multifamily construction as they age through their senior years.

Section I describes the diverging paths of single-family and multifamily construction since the housing crisis and the demographic composition driving the multifamily rebound. Section II analyzes the forces underpinning changes in demand for multifamily units by adults in their 20s, 30s, and 40s. Section III does the same for adults 50 and older.

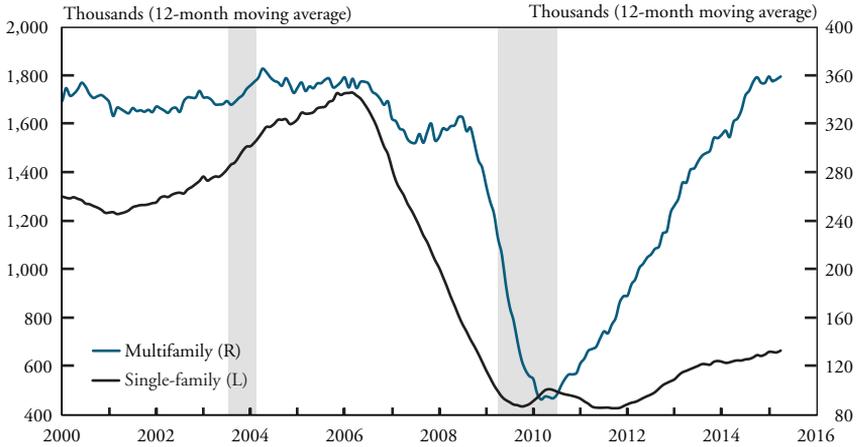
I. The Multifamily Construction Rebound and Multifamily Occupancy

Following the onset of the housing crisis in early 2006, single-family (SF) and multifamily (MF) construction plunged (Chart 1). By late 2009, starts of each unit type had decreased by nearly three-quarters. While single-family construction has moved up only tepidly since then, multifamily construction has rebounded strongly. By the end of 2014, multifamily construction starts had surpassed their pre-crisis level.

The recent rebound in multifamily construction was driven primarily by young adults (ages 20-34), who sharply increased the number of multifamily units they occupied following a sharp decrease during the housing boom. Chart 2 breaks out recent changes in multifamily occupancy—the number of occupied multifamily units—into four age groups: young adults (ages 20-34), intermediate-age adults (35-49), older adults (50-69), and seniors (70+). The number of multifamily units headed by young adults decreased by one-half million from 2000 to 2007, freeing up multifamily units that other age groups could occupy. From 2007 to 2013, this pattern reversed: the number of multifamily units headed by young adults increased by one-half million. This increase required other age groups to free up existing units and builders to construct new ones. The implied one-million unit flip from young adults freeing up units to claiming new ones accounted for much of

Chart 1

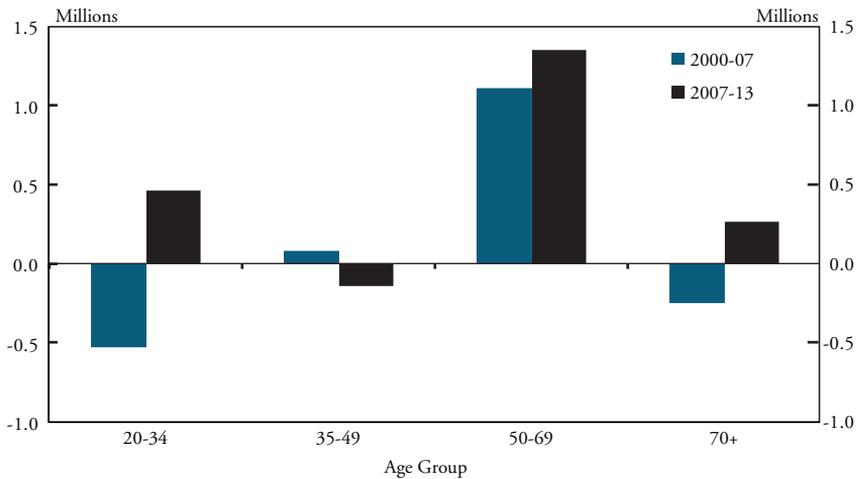
House Starts



Notes: Starts data is through April 2015. Gray bars denote NBER-defined recessions.
Sources: Census Bureau and Haver Analytics.

Chart 2

Change in Occupied Multifamily Units by Age



Sources: Census Bureau, Ruggles, and author's calculations.

the rebound in multifamily construction.¹ The Box describes the close relationship between construction and changes in occupancy.

In contrast, intermediate-age adults (ages 35-49) have recently exerted modest downward pressure on multifamily construction as they flipped from claiming more units from 2000 to 2007 to freeing up units from 2007 to 2013.

Older adults (ages 50-69) accounted for most of the increase in multifamily occupancy from 2000 to 2007 and from 2007 to 2013, and nearly all of the net increase over the two periods combined. Even so, older adults contributed relatively little to the construction rebound. Their increase in occupancy from 2007 to 2013 was only slightly larger than their increase from 2000 to 2007; as a result, only a moderate increase in multifamily construction was needed during the later period to meet older adults' demand.

Seniors (ages 70 and older) contributed to the multifamily rebound in the same way as young adults. From 2000 to 2007, seniors freed up 250-thousand multifamily units. From 2007 to 2013, they claimed an additional 250-thousand units. The implied one-half million swing in senior occupancy significantly spurred multifamily construction from 2007 to 2013.

II. Changing Multifamily Occupancy by Young and Intermediate-Age Adults

The number of occupied multifamily units can be decomposed as the product of three components: population, headship, and the share of households living in multifamily units.

$$\text{Occupied MF units} = \text{Population} \times \text{Headship} \times \text{MF share},$$

$$\text{where Headship} = \frac{\text{Occupied units}}{\text{Population}} \text{ and MF share} = \frac{\text{Occupied MF units}}{\text{Occupied units}}.$$

The headship rate is the ratio of occupied units to the total population—that is, the inverse of the average number of persons per household.² For example, a two-person household is equivalent to a one-half headship rate. Higher headship rates imply more units are required to house the entire population. This same decomposition can be done separately for multifamily households headed by individuals in different age groups.

Box**Do the Same Age Groups Drive Growth in Multifamily Occupancy and Multifamily Home Construction?**

The age group driving changes in multifamily occupancy need not be the same age group driving multifamily home construction. For example, households might remain in the same house or apartment permanently. If so, young adults would occupy most newly constructed units and thus be the main drivers of both single-family and multifamily construction. In practice, however, people of all ages move frequently between different multifamily units as well as from single-family to multifamily units. For example, approximately half of all baby-boom households who lived in a multifamily unit in 2013 had moved into it during the previous four years (author's calculation based on Ruggles).

Due to shifting taste preferences, age groups can drive new multifamily construction out of proportion to changes in their multifamily occupancy. For example, senior baby boomers may prefer larger multifamily units than did seniors of the previous generation. This would spur construction of larger multifamily units even if the total number of multifamily units occupied by seniors remained unchanged.

An age group's location preferences may also change over time. For example, senior baby boomers may prefer to remain nearer to where they lived during their working-age years than did seniors of the previous generation. This would dampen construction of multifamily units in warm-weather locations and spur construction elsewhere, even if the national number of senior multifamily units remained unchanged. Similarly, millennial young adults may have a stronger preference for central urban locations than did young adults in Generation X. This would spur construction of urban multifamily units, even if the total number of young-adult households living in multifamily units remained unchanged.

An age group can also drive construction even if it does not occupy the newly constructed units. For example, seniors typically have greater financial resources than do young adults. If both age groups prefer to live in central urban locations, the upward pressure on central urban rents may displace young adults to newly constructed multifamily units elsewhere. In this case, seniors moving into existing units would arguably drive the new construction.

Growth in the total number of occupied multifamily units is simply the sum of the growth in each component:

$$\frac{\Delta \text{Occupied MF units}}{\text{Occupied MF units}} \approx \frac{\Delta \text{Population}}{\text{Population}} + \frac{\Delta \text{Headship}}{\text{Headship}} + \frac{\Delta \text{MF share}}{\text{MF share}}.$$

The symbol Δ denotes the numerical change of population and the percentage point change of headship and the multifamily share. For example, a 2 percentage point change in the headship rate from 10 percent to 12 percent equals a 20 percent growth in headship: $(12 - 10)/10$. The growth of each component reflects its contribution to changes in the number of occupied multifamily units and helps to identify the underlying forces driving the rebound in multifamily construction.

Decomposing changes in multifamily occupancy by young and intermediate-age adults

From 1990 to 2013, the varying growth rates of population, headship, and the multifamily share each contributed to the varying growth rate of young adults' multifamily occupancy (Chart 3). During the 1990s, the number of multifamily units occupied by young-adult households was essentially unchanged.³ The share of young-adult households living in multifamily units grew modestly, offsetting a modest contraction in the age group's population. From 2000 to 2007, young adults' multifamily occupancy contracted, as modest growth in their population was more than offset by modest contractions in their headship and multifamily share. From 2007 to 2013, young adults' multifamily occupancy rebounded. Moderate growth in population and their multifamily share more than offset a large contraction in their headship.

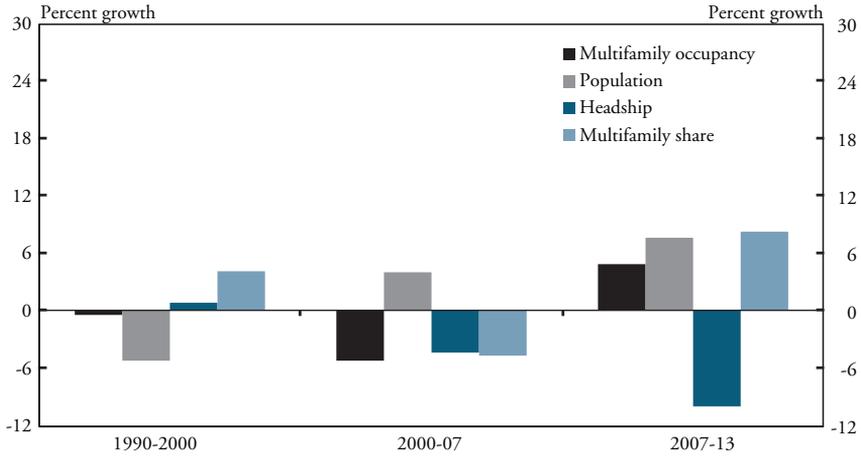
Intermediate-age adults' multifamily occupancy grew significantly during the 1990s—due entirely to strong population growth—and then remained essentially unchanged through 2013 (Chart 4). From 2000 to 2007, intermediate-age headship, population, and multifamily share were each flat. From 2007 to 2013, contractions in population and headship offset moderate growth of the multifamily share.

Underlying causes

Changes in young and intermediate-age adults' population, headship, and multifamily share were driven by a variety of underlying factors.

Chart 3

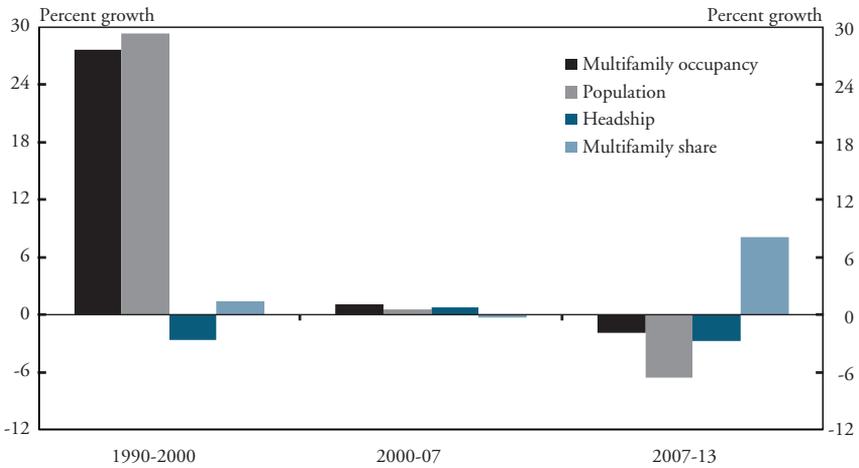
Growth Decomposition: Ages 20-34



Sources: Census Bureau, Ruggles, and author's calculations.

Chart 4

Growth Decomposition: Ages 35-49



Sources: Census Bureau, Ruggles, and author's calculations.

Population growth. Demographic factors such as birth rates and aging drove population growth for young adults. The number of young adults contracted moderately during the 1990s, as baby boomers moved out of this age range and the smaller, post-baby-boom generation (Generation X) began moving into it. In 2000, the young-adult population began to grow, reflecting a pickup in birth rates 20 years earlier.

Similar factors accounted for growth in the intermediate-age population. Population growth for intermediate-age adults was exceptionally strong during the 1990s, as the trailing edge of baby boomers moved into this age range. The intermediate-age population contracted moderately from 2007 to 2013, as baby boomers moved out of this age range.

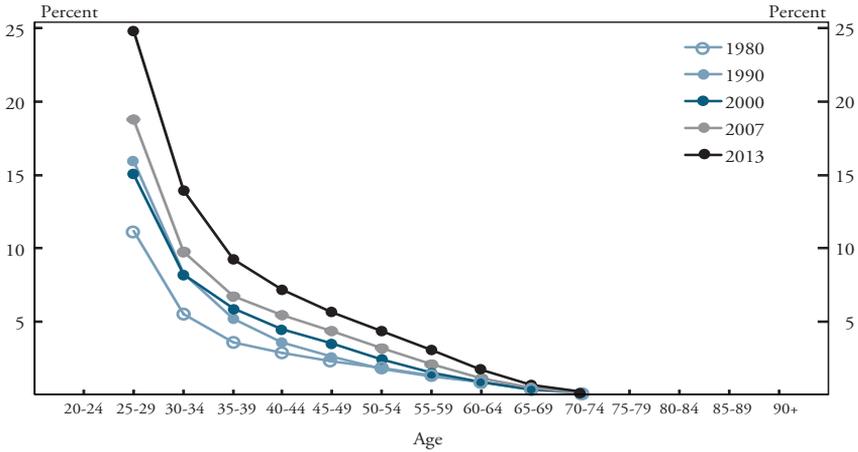
Headship. Headship, the ratio of households to population, contracted for both young and intermediate-age adults from 1990 to 2013. The contraction was especially sharp from 2007 to 2013, reflecting the recession and slow recovery.

For the most part, declining headship corresponded with the increasing share of adults living with their parents.⁴ For example, the share of young adults in their early 30s living with their parents rose by more than 1.5 percentage points from 2000 to 2007 and by more than 4 percentage points from 2007 to 2013 (Chart 5). From 1980 to 2013, the share of young adults living with their parents more than doubled. Similarly, the share of intermediate-age adults living with their parents doubled from 1980 to 2013.

Both business cycle and long-term forces drove these increases. The sharp rise in unemployment during the 2007-09 recession and subsequent slow recovery kept young adults from moving out of their parents' homes and forced many intermediate-age adults to move back into them (Paciorek). Over the longer term, sluggish income growth has also been driving more adults to live with their parents. The share of U.S. workers in low-skilled occupations has been increasing since the 1980s while real hourly wages in these occupations have steadily decreased (Tüzemen and Willis; Autor and Dorn; Autor, Katz, and Kearney). In addition, those with less education have increasingly dropped out of the labor force since the 1970s (Autor). The associated decreases in income have compelled working-age adults to pare their expenses; living with their parents helps accomplish this goal. Consistent with

Chart 5

Share of Population Living with Parents



Sources: Census Bureau, Ruggles, and author's calculations.

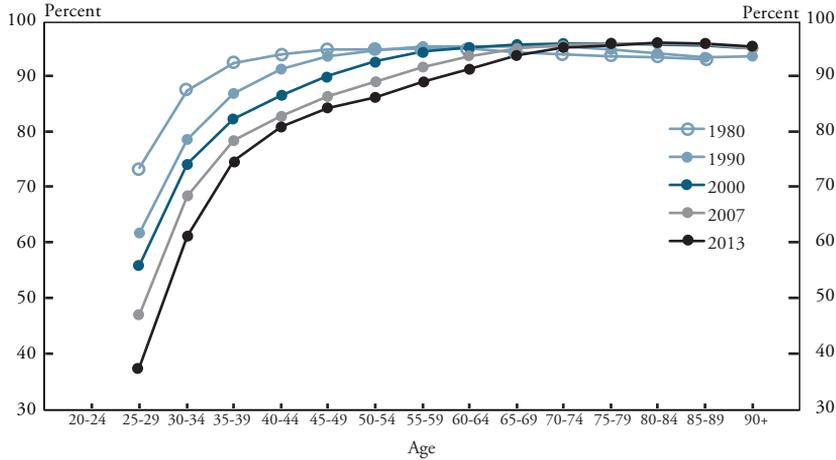
this explanation, the increase in the share of young adults living with their parents has been considerably smaller for college graduates than for high school graduates who did not attend college.⁵

While rising student debt also contributed to the increase in adults living with their parents (Bleemer, Brown, Lee, and van der Klaauw), it is unlikely to be the main long-term cause. The rise in student debt accelerated in the mid-1990s, many years after the share of adults living with their parents began trending upward (Akers and Chingos). In addition, the negative effects of debt for students who graduate college appear to be relatively short-lived (Mezza, Sommer, and Sherlund).⁶ For those who fail to graduate, however, student debt is likely to be a stronger, longer-lasting impediment to living on their own.

The multifamily share. Both short-term and long-term forces drove changes in the share of households living in multifamily units. During the 2000-07 housing boom, relaxed access to mortgage credit and expectations of rapid house price appreciation fueled demand for homeownership. This depressed the multifamily share, as nearly all owner-occupied units are single-family units.⁷ Then, during the sharp recession and slow recovery, young and intermediate-age adults swung back toward living in multifamily units. Doing so is typically less expensive than living in single-family units and thus becomes more

Chart 6

Share of Population That Has Ever Been Married



Sources: Census Bureau, Ruggles, and author's calculations.

attractive when unemployment rises and income growth slows. Furthermore, many households moved to multifamily units after losing their single-family homes to foreclosure.

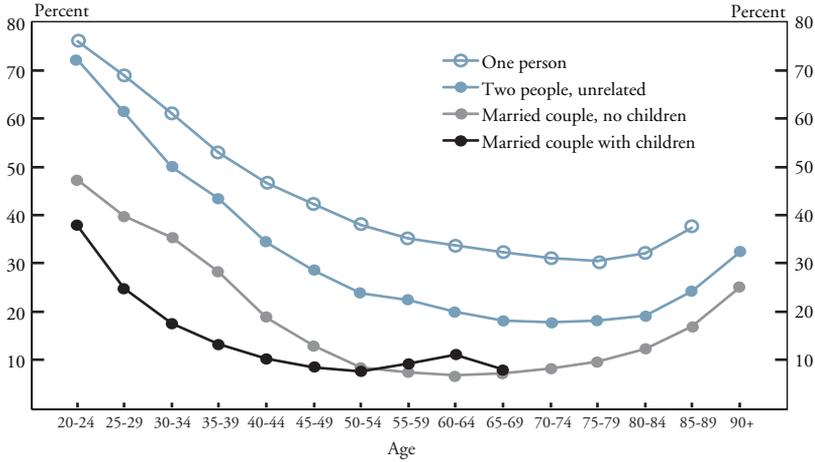
In addition to these shorter-term swings, the share of young and intermediate-age adult households living in multifamily units has been trending up since 1980. For young adults, the share gradually increased from 40 percent in 1980 to 44 percent in 2000. After temporarily decreasing during the housing boom, the young-adult share climbed to 46 percent in 2013.

Underlying this upward trend is the increasingly later age at which adults first marry or have children. The share of adults in their 20s through 50s who have ever been married has moved steadily down over time (Chart 6). For those ages 30 to 34, for example, the share decreased by 26 percentage points from 1980 to 2013. Over this same period, the share of women ages 30 to 34 living with one or more of their own children fell by 16 percentage points (author's calculations based on Ruggles).

As is intuitive, individuals living on their own or with a housemate are significantly more likely to live in multifamily units than are married couples (Chart 7). Similarly, married couples without children are significantly more likely to live in multifamily units than are married

Chart 7

Multifamily Share in 2013 by Household Type



Sources: Census Bureau, Ruggles, and author’s calculations.

couples with children. For example, 61 percent of individuals ages 30 to 34 who lived alone occupied a multifamily unit in 2013 compared with 35 percent of those who were married without children and 18 percent of those who were married with children.

III. Changing Multifamily Occupancy by Older Adults and Seniors

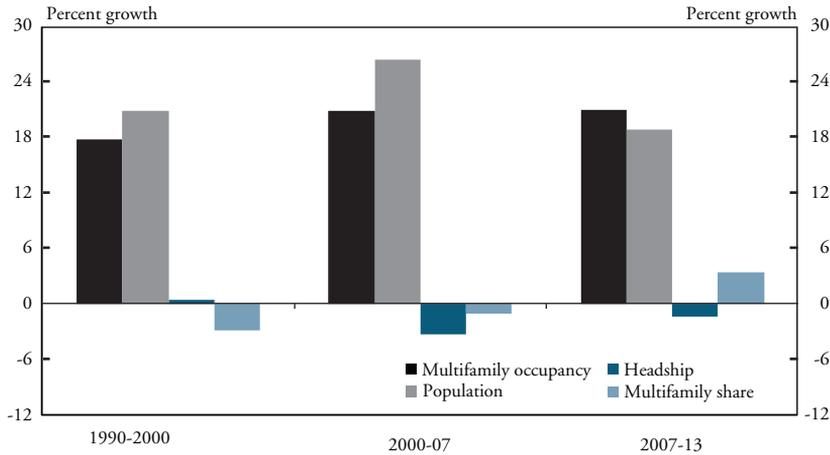
The factors driving the multifamily occupancy of older adults and seniors differ significantly from each other and from those driving the occupancy of young and intermediate-age adults. Population growth primarily drove occupancy among older adults, while declines in headship and the multifamily share dampened occupancy among seniors.

Older adults

The number of multifamily units occupied by older adults surged from 1990 to 2013 (Chart 8). The increase was driven almost exclusively by strong population growth as the baby boom generation—individuals born from 1946 to 1964—entered and moved through this age range (see Appendix for an illustration of the age distribution).

Chart 8

Growth Decomposition: Ages 50-69



Sources: Census Bureau, Ruggles, and author's calculations.

The increase in population was modestly offset by a decrease in older adults' multifamily share during the 1990s, largely accounted for by households in their upper 60s. More recent changes in older adults' headship and multifamily share were partly driven by the same forces affecting intermediate-age adults. From 2000 to 2013, a small but increasing share of individuals in their 50s lived with their parents, thereby putting downward pressure on headship. From 2007 to 2013, the collapse in housing prices and severe recession put upward pressure on the multifamily share.

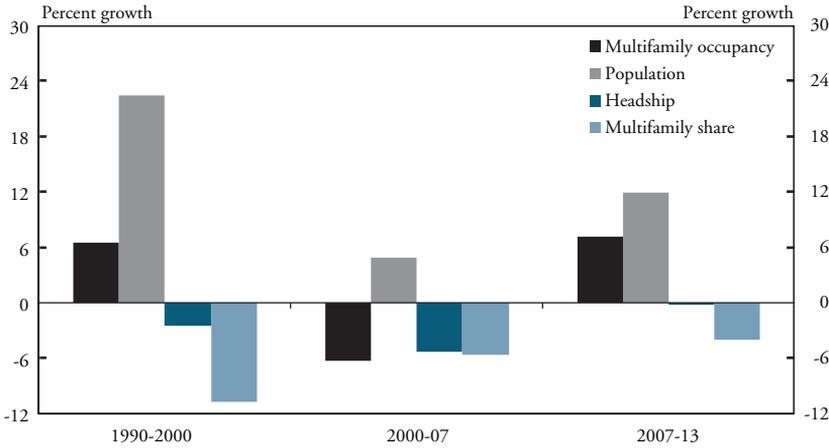
Seniors

The number of multifamily units occupied by seniors, individuals ages 70 and older, has fluctuated since 1990. The decomposition in Chart 9 shows that senior population growth in each of the three periods was at least partly offset by declines in seniors' headship and multifamily share. These declines were mostly caused by seniors' increasing longevity and health.⁸

Increased longevity increased seniors' population and thus the total number of housing units they occupied.⁹ However, increased longevity also put downward pressure on seniors' headship by allowing couples to live together longer before one partner's death. As a result, the share of

Chart 9

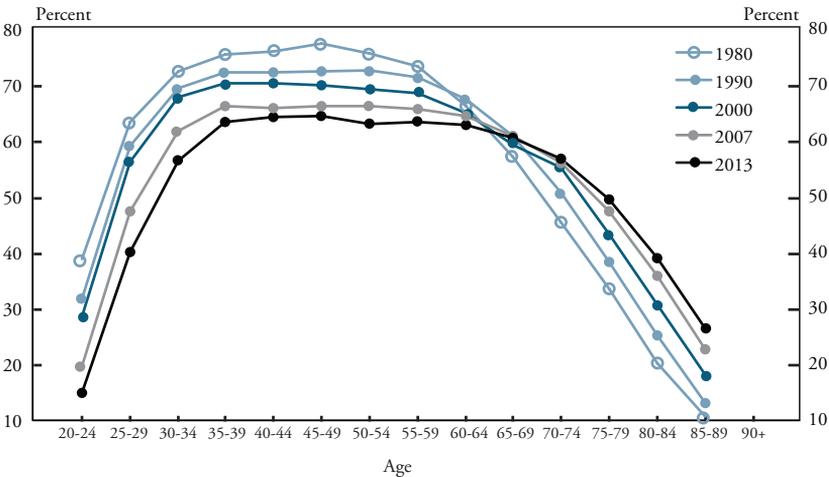
Growth Decomposition: Ages 70+



Sources: Census Bureau, Ruggles, and author's calculations.

Chart 10

Share of Population Living with a Partner

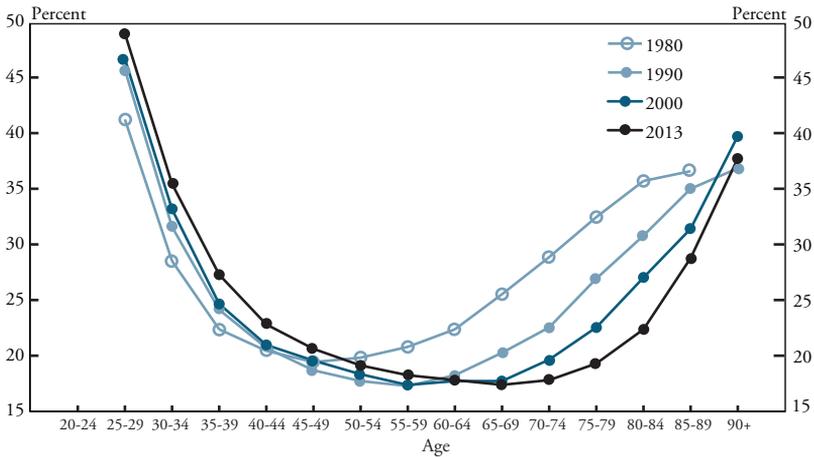


Sources: Census Bureau, Ruggles, and author's calculations.

seniors living with a married or unmarried partner has trended significantly upward over time (Chart 10). For example, the share of seniors ages 70 to 74 living with a partner increased from one-third in 1980 to one-half in 2013. Correspondingly, the average number of persons per senior household rose and senior headship fell.¹⁰

Chart 11

Share of Households in Multifamily Units



Sources: Census Bureau, Ruggles, and author's calculations.

As is the case for young adults, the multifamily share of senior households is considerably lower for married couples than for seniors who live on their own. The increase in the share of seniors living with a partner thus put downward pressure on seniors' multifamily share. Correspondingly, the age at which seniors began downsizing into multifamily units (indicated by a rise in the multifamily share) gradually rose from 50 in 1980 to 75 in 2013 (Chart 11).

Seniors' improving health, a factor separate from longer life expectancy, may also have contributed to their decreasing multifamily share. Improved health eases maintenance and other demands of single-family homeownership. Furthermore, improved health may increase seniors' desire to host visiting friends and family, which typically requires the larger space of a single-family home.

IV. Summary and Conclusions

Young adults have primarily driven the recent rebound in multifamily construction, swinging back toward living in multifamily units after a swing toward single-family units in the early 2000s. In the near term, young adults will continue to help drive multifamily construction as the expanding economy allows more of them to form their own households.

Over the longer term, however, seniors will drive strong multifamily construction. The baby-boom generation will begin turning

70 in 2016, thereby ushering in two decades of rapid growth in the senior population. This population growth is likely to far outweigh any further increase in forces pushing down seniors' headship and multifamily share. As a result, the multifamily occupancy of seniors will grow rapidly for two decades.

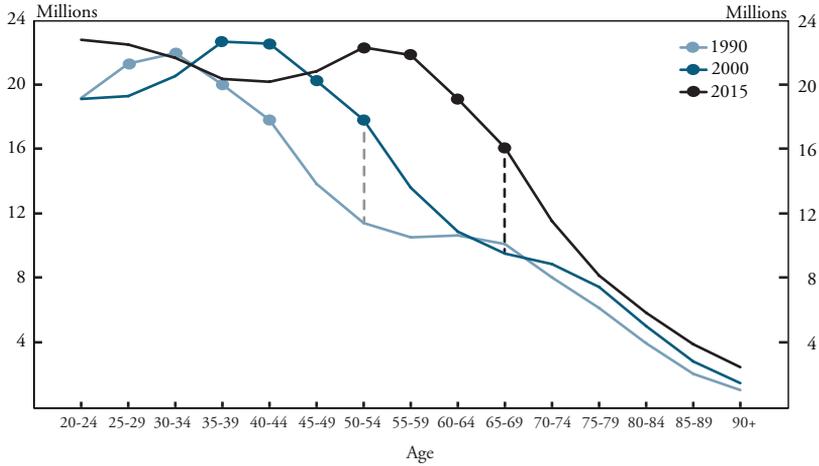
Moreover, as baby boomers age through their 70s and 80s, their multifamily share will increase sharply. While older adults and seniors are downsizing to multifamily units at increasingly older ages, downsizing—once it begins—increases more rapidly with age than in previous decades. In consequence, multifamily home construction is likely to continue to grow at a healthy rate through the end of the decade and thereafter remain well above its level prior to the housing crisis (Rappaport).

Due to the shifting age profile of demand, from young adults to seniors, developers risk overbuilding multifamily units that appeal only to the former group. For example, seniors typically have greater financial resources than do young adults and so may prefer larger apartments with more amenities. But the tastes of baby boomers have consistently differed from those of preceding generations, and what type of multifamily units will appeal to them is not yet clear. Will aging baby boomers prefer to live in the suburbs or the city? Will they prefer to remain in their present locations or move to a place with better weather or lower housing prices? Even if developers correctly anticipate these and other considerations, multifamily units that match the tastes of aging baby boomers will likely prove to be in short supply over the coming decades.

Appendix

Chart A-1

Adult Population by Age

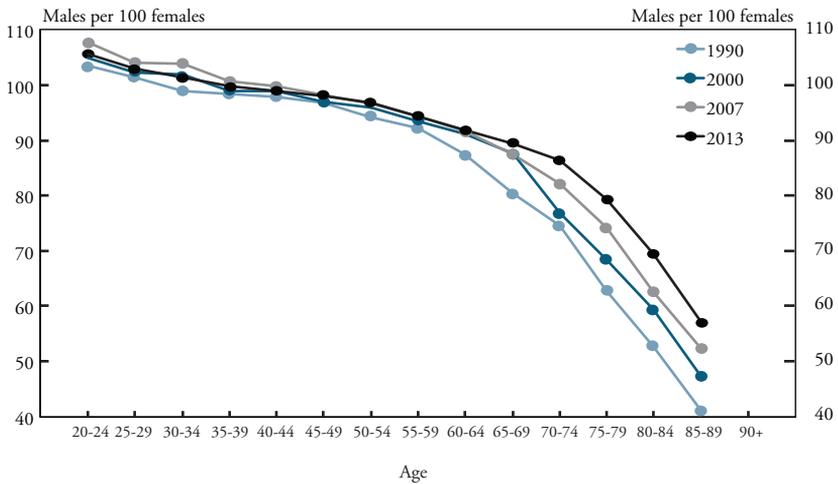


Notes: The markers indicate age range of baby boom in each of the displayed years. The gray vertical dashed line shows the projected 1990-2000 increase in population 50 to 54 attributable to leading edge of baby boom. The black vertical dashed line shows the 2000-15 increase in population 65 to 69 attributable to leading edge of baby boom.

Sources: Census Bureau, Haver Analytics, and author's calculations.

Chart A-2

Sex Ratio of Population



Note: See endnote 8 for a discussion of the sex ratio and seniors' increasing longevity.

Sources: Census Bureau, Ruggles, and author's calculations.

Endnotes

¹Changes in an age group's multifamily occupancy partly reflect household heads aging out of one age group and into another while remaining in the same multifamily unit. To understand the changing age composition of multifamily occupancy, it is helpful to think of exits from the younger age group as freeing up multifamily units and entries into the older age group as claiming them.

²The Census Bureau defines a household as an occupied housing unit. The overwhelming majority of households live in single-family or multifamily units, but some households live in other structures, primarily mobile homes and trailers. The share of households living in these other structures fluctuated between 6 percent and 7 percent from 2000 to 2013.

³The age of couples is measured as the age of the person identified as the head of household.

⁴Adults are considered to be living with their parents if one of the parents is listed as the head of household on the Census Bureau questionnaire. In contrast, a parent is considered to be living with an adult child if the child is listed as the head of household. In theory, an increase in the share of young adults living with their parents need not decrease headship. For example, headship would be unchanged if one of multiple housemates moved out to live with his or her parents and no replacement housemate moved in. But for the most part, this has not been the case. For example, both the share of young adults living with three or more housemates and the average household size among young adults not living with their parents have steadily increased over time.

⁵For example, the share of adults ages 30 to 34 living with their parents was 2 percentage points higher for high school graduates with no college than it was for college graduates in 1980. This difference more than doubled to 5 percentage points in 2000 and then doubled again to 10 percentage points in 2013 (author's calculations based on Ruggles).

⁶Mezza, Sommer, and Sherlund document that homeownership is negatively correlated with student debt for college graduates in their 20s but not for those in their early 30s.

⁷The multifamily share of owner-occupied units remained close to 5 percent from 1990 to 2013.

⁸Based on 2014 actuarial estimates, the remaining life expectancy of a 65-year-old increased from 16.1 years in 1990 to 19.2 years in 2013 for males and from 19.5 to 21.5 years for females. The downward trends of seniors' headship and multifamily share depend on increases in longevity for both males and females and on the larger relative increase of males' longevity. To get a more intuitive sense of magnitude, Chart A-2 in the Appendix shows the effect of the larger increase in the longevity of males (3.1 years) relative to the increase in the longevity of females (2.5 years). Males outnumber females at birth and so the *sex ratio*, the number of males per 100 females, begins above 100. Male mortality exceeds

female mortality, causing the sex ratio to decline as a cohort ages. In 1990, the sex ratio began falling off rapidly at about age 60. In 2013, this rapid falloff did not start until about age 75. Correspondingly, the sex ratio for the population ages 75 to 79 increased from 61.5 in 1990 to 78.8 in 2013.

⁹Only a small portion of the increase in senior-occupied multifamily units from 2007 to 2013 can be accounted for by an increase in assisted-living units. In 2009, only 3 percent of the population ages 75 to 84 lived in assisted-living units; only 8 percent of the population 85 and older did (Federal Interagency Forum on Aging Related Statistics). Increases in the number of seniors in long-term care are classified as increases in the population living in group quarters rather than in multifamily units.

¹⁰Chart 10 also illustrates that the share of people in their 20s through 50s living with a spouse or unmarried partner has trended steadily down over time. This largely reflects young adults delaying getting married.

References

- Akers, Beth, and Matthew M. Chingos. 2014. "Is a Student Loan Crisis on the Horizon?" Brown Center on Education Policy at Brookings, June.
- Autor, David H. 2010. "The Polarization of Job Opportunities in the U.S. Labor Market: Implications for Employment and Earnings," Center for American Progress and the Hamilton Project.
- , and David Dorn. 2013. "The Growth of Low-Skill Service Jobs and the Polarization of the U.S. Labor Market," *American Economic Review*, vol. 103, no. 5, pp. 1553-1597.
- , Lawrence F. Katz, and Melissa S. Kearney. 2006. "The Polarization of the U.S. Labor Market," *American Economic Review*, vol. 96, no. 2, pp. 189-194.
- Bleemer, Zachary, Meta Brown, Donghoon Lee, and Wilbert van der Klaauw. 2014. "Debt, Jobs, or Housing: What's Keeping Millennials at Home," Federal Reserve Bank of New York, Staff Report no. 700, November.
- Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds. 2014. "Table V.A4.—Cohort Life Expectancy," *The 2014 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, House of Representatives Document 113-139.
- Federal Interagency Forum on Aging Related Statistics. 2012. *Older Americans 2012: Key Indicators of Well-Being*. Washington D.C.: Government Printing Office.
- Mezza, Alvaro, Kamila Sommer, and Shane Sherland. 2014. "Student Loans and Homeownership Trends," Federal Reserve Board of Governors, *FEDS Notes*, October 15.
- Paciorek, Andrew. 2013. "The Long and the Short of Household Formation," Federal Reserve Board of Governors, *Finance and Economics Discussion Series*, working paper 2013-26, April.
- Rappaport, Jordan. 2013. "The Demographic Transition from Single-Family to Multifamily Housing," Federal Reserve Bank of Kansas City, *Economic Review*, vol. 98, no. 4, pp. 29-58.
- Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. *Integrated Public Use Microdata Series: Version 5.0*. Minneapolis: University of Minnesota.
- Tüzemen, Didem, and Jonathan L. Willis. 2013. "The Vanishing Middle: Job Polarization and Workers' Response to the Decline in Middle-Skill Jobs," Federal Reserve Bank of Kansas City, *Economic Review*, vol. 98, no. 1, pp. 5-32.

