



Decline in Homeownership Rate will Boost Rental Demand.

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- We project a decline in the homeownership rate to 62.1% - the lowest rate in over 20 years - before a partial recovery to 63.6% in 2025.
- Demographics play an important role in determining the homeownership rate but lending standards and net worth, among others, are increasingly important.
- The projected decline in the homeownership rate will boost rental housing demand by 33% to 49% through 2025.

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The Future of Homeownership is Crucial to Understanding Rental Demand

Changes in the homeownership rate are important to understand because even a small increase or decrease in the rate can have large implications on rental housing demand. As of 2018, there were 121.5 million households in the United States, meaning a one percent change in the homeownership rate indicates a shift of 1.2 million households from for-sale to rental housing or vice versa. To put this in perspective, the US added, on average, 1.1 million households per year across all housing types, from 2015 to 2018.¹

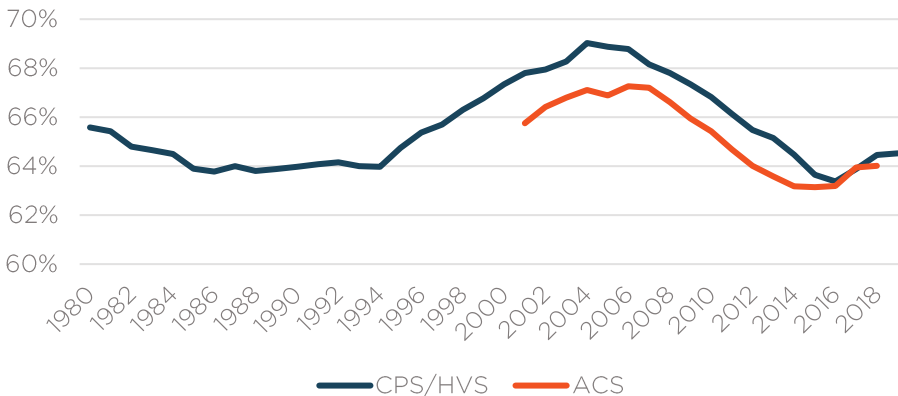
Historical Overview

The homeownership rate measures the share of households in the United States that own the housing unit they occupy. The numbers typically reported in the media come from the US Census Bureau's Housing Vacancy Survey (HVS), which is derived from the Current Population Survey (CPS), a voluntary monthly survey of 72,000 households. The quarterly estimates from this series are the most current but they are fairly "noisy" due to the small sample size. Estimates of the homeownership rate are also available from the American Community Survey (ACS), which is based on a much larger sample of 3 million addresses over the course of a year.

Both series show a similar trend, if not the exact same levels. Homeownership rates rose to a peak in the pre-recession boom of 2004-2007, before beginning a long decline that only bottomed out in 2016 at 63.1%. By 2018, the latest year data is available from the ACS, the rate had recovered to 64.0%, roughly the historical average from 1984 - 1994. The latest CPS/HVS data from the first quarter of 2020 shows a rate of 65.3%, indicating that homeownership continued to recover until the onset of COVID-19.

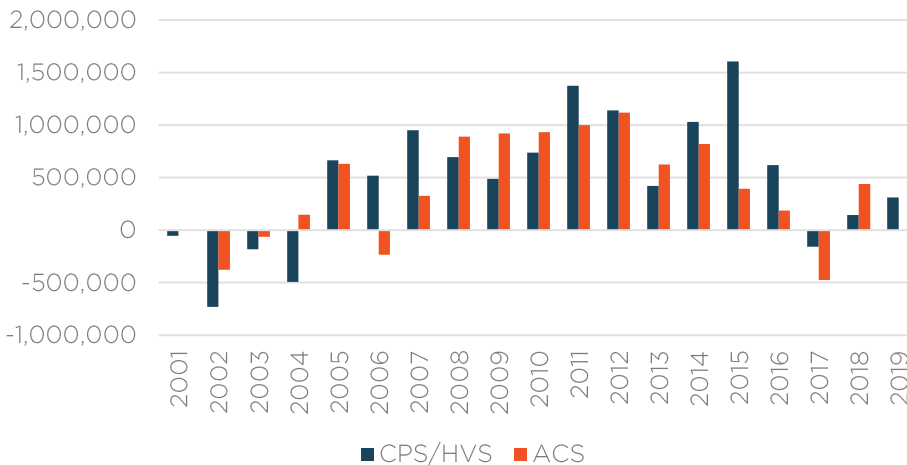
¹American Community Survey (ACS). This analysis makes use of ACS public use microdata made available through the IPUMS-USA dataset. <https://ipums.org/>

Figure 1: Homeownership Rate in the United States
(Sources: ACS/CPS/IPUMS)



The impact of the shifts in homeownership on housing demand by type are shown in Figure 2. For most of the late 1990s and early 2000s, as the homeownership rate rose, the number of rental households declined, even as the number of total households in the United States steadily increased. The situation reversed after 2006. The number of rental households increased dramatically from 2007 to 2015, while the number of homeowner households declined.

Figure 2: YOY Change in Number of Rental Households
(Sources: ACS/IPUMS, CPS/HVS)



For some rental housing investors, Figure 2 may also raise questions. The early 2000s were not terrible years for apartments as this chart might imply, nor are the recession years of 2009 and 2010 remembered fondly for booming demand. Therefore a few notes on the interpretation of this data and the projections below are warranted:

- Both the CPS/HVS and the more reliable ACS produce estimates based on a sample. These estimates have a margin



of error and some of the annual variation reflects statistical noise rather than reality.²

- Although correlated, rental household growth and apartment demand are not the same thing. 55% of renters in the US do not live in apartments.³ In any given year, growth in rental households may be spread disproportionately across housing types.⁴
- It is possible for the number of rental households to grow while rents decline. Operators can induce demand by lowering rents. In weak markets they will do just that to maintain occupancy.

Projecting the Future: Determinants of the Homeownership Rate

The homeownership rate is influenced by a number of demographic variables. These include the age, income, and racial distribution of the population, and the rate at which people marry. These variables are relatively easy to understand and forecast because the Census Bureau collects and publishes data about them every year via the American Community Survey. Moreover, except for the distribution of income, these variables tend to follow stable trends. The impacts of each of these variables on the homeownership rate is discussed in detail below.

However, as this analysis will show, the above demographic factors explain only a limited amount of the variation in the homeownership rate since 2002. A variety of additional factors may be at play. Other analysts have proposed rising student loan balances, high rent burdens that limit savings for down payments, a shift in preference towards locations where for-sale homes are more expensive, and a simple shift in preference away from homeownership, among others, as potential drivers of the homeownership rate.

These factors and others probably all have some influence on the homeownership rate. However, much of the variation in the homeownership rate that is unexplained by demographic variables can be explained by the changing net worth of American households, lending standards, and inertia. On this basis, a forecast of the future homeownership rate that takes into account likely changes resulting from COVID-19 is made.

² The ACS estimate of the homeownership rate has a margin of error of approximately 0.2%. The latest CPS/HVS quarterly estimates have a margin of error of 0.5%. Note that the historical analyses and future projections made in this report are based on the American Community Survey rather than the CPS/HVS because of its larger sample size and better reliability.

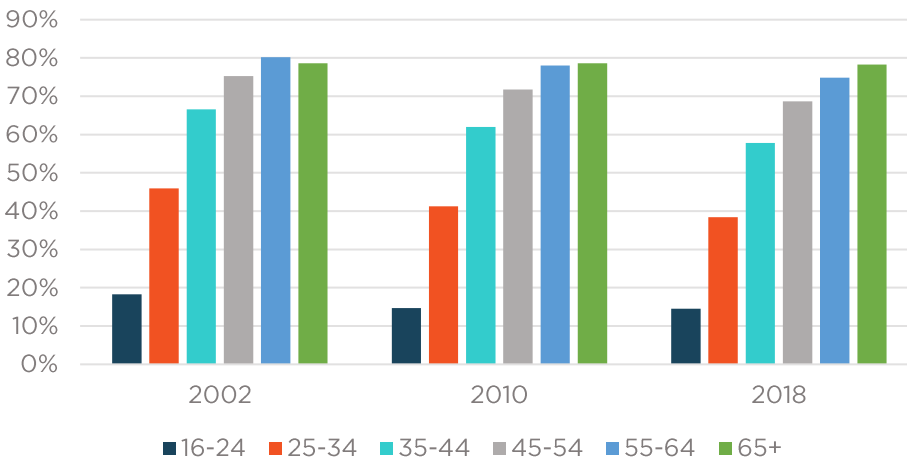
³ American Community Survey 2018. Apartments are defined here as units in a structure with 5-units or more.

⁴ For example, ACS estimates indicate that apartments accounted for just 35% of rental housing demand growth from 2007-2012.

Aging Population Drives Up Homeownership

Homeownership rates tend to rise with the age of the householder, and as Figure 3 shows, the basic contours of the relationship have remained largely consistent over the years. That said, homeownership rates were lower across all age categories in 2018 than in either 2010 or 2002.

Figure 3: Homeownership Rate by Age
(Source: ACS/IPUMS-USA)



Since 2002, the share of US residents aged 55 and over has steadily grown and, as Figure 4 shows, the Census Bureau projects it will continue to grow through 2025. The decline in household formation among young adults has amplified aging's impact on homeownership. More young people live in their parent's homes or with roommates than in 2002. Their relative absence among independent householders has caused the distribution of householders to age faster than the population as a whole.

Figure 4: Age 55+ Share of US Population and Householders
(Source: ACS/IPUMS-USA, Census Bureau, Author's Projection)

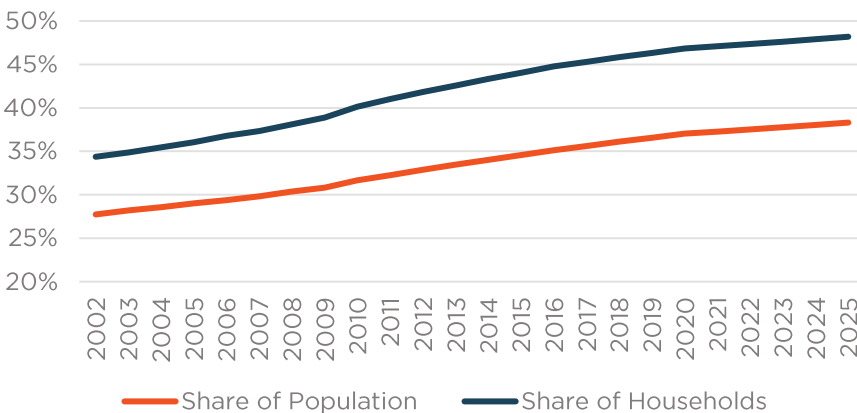
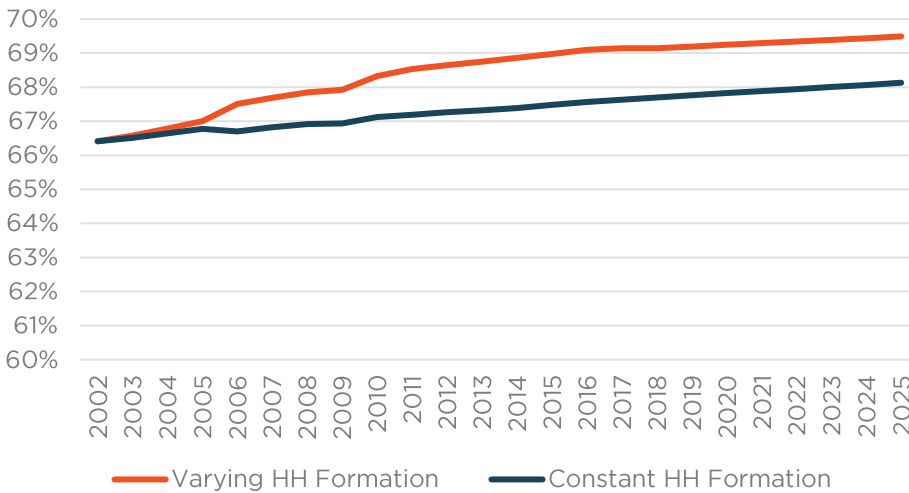




Figure 5 illustrates the impact of the aging population and householder distribution on the homeownership rate, holding everything else constant at 2002 levels. The rate rises steadily as one would expect based on the previously established facts. If all else is held constant, the age distribution of householders would be responsible for a 2.8% increase in the homeownership rate from 2002-2019, and a further 30 basis point increase by 2025.

Figure 5: Historical and Projected Homeownership Rate Holding All Variables Constant at 2002 Levels Except Age Distribution
(Source: ACS/IPUMS-USA, Author's Projection)



Declining Marriage Rates Push Homeownership Rates Down

Married householders are more likely to own their homes than unmarried households. Figures 6 and 7 show how rates of homeownership differed between married householders and unmarried householders in 2002 and 2018 respectively. The charts also demonstrate how stable the difference in homeownership rates between married and unmarried householders has been over the years. For example, in 2002, among householders aged 35-44 in 2002, the difference in homeownership rate between married and unmarried households was 33.4%. In 2018, the difference was 33.7%.



Figure 6: Homeownership Rates by Age of Householder and Marriage Status in 2002

(Source: ACS/IPUMS-USA)

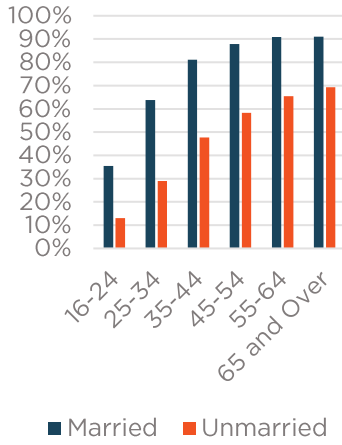
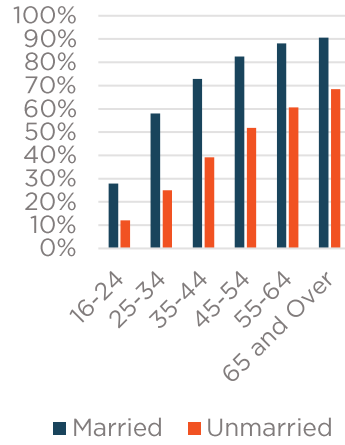


Figure 7: Homeownership Rates by Age of Householder and Marriage Status in 2018

(Source: ACS/IPUMS-USA)



The difference in homeownership rates associated with marriage status takes on more importance with the knowledge that marriage rates among young adults have been declining steadily over the last 20 years. Figure 8 shows the trends by age group. In 2002, nearly 49% of householders aged 25-34 were married. By 2018, the share married had fallen to 40.6%. There has also been a steady decline in the married share of householders aged 55-64, from 57.9% in 2002 to 51.8% in 2018. However, the share of married householders over the age of 65 has actually been trending slightly upward. Moreover, the downward trend in marriage rates among the 35-44 and 45-54 age groups stopped in 2012 and have since risen slightly.

Figure 8: Historical and Projected Share of Householders Married by Age

(Source: ACS/IPUMS-USA, Author's Projection)

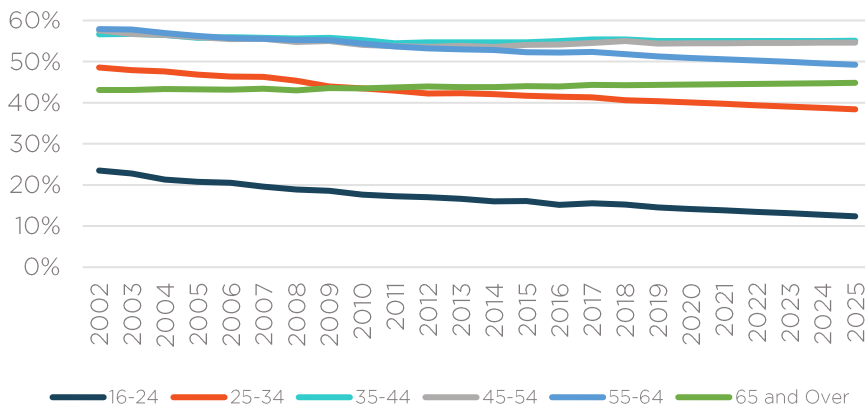
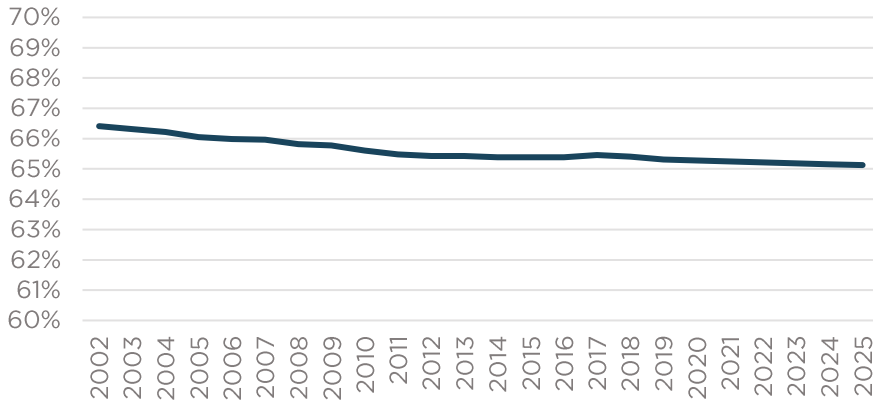




Figure 9 shows the historical and projected homeownership rate, holding everything constant at 2002 levels except for the rate of marriage within age categories. The decline in marriage rates alone is responsible for a 1.2% decline in the overall homeownership rate from 2002 to 2018. If the recent trends in marriage rates continue and all else is held constant at 2002 levels, they would contribute to an additional 20 basis point decline by 2025.

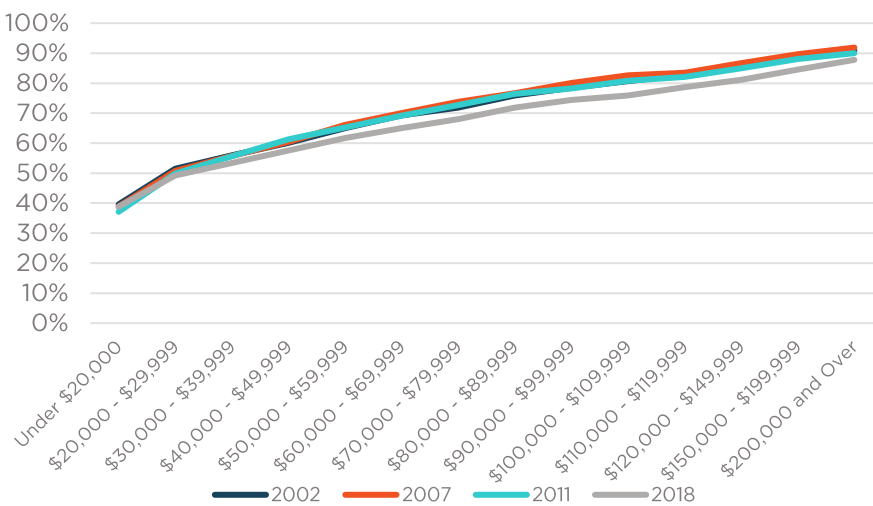
Figure 9: Historical and Projected Homeownership Rate Holding All Variables Constant at 2002 Levels Except for Marriage Rates
(Source: ACS/IPUMS-USA, Author's Projection)



Recessionary Decline in Incomes will Shift Homeowners to Rentals

There is a strong positive correlation between household income and homeownership rates. As Figure 10 illustrates, this correlation has remained quite consistent over the years.

Figure 10: Homeownership Rates by Household Income
(Source: ACS/IPUMS-USA. Incomes presented in real 2019 dollars)

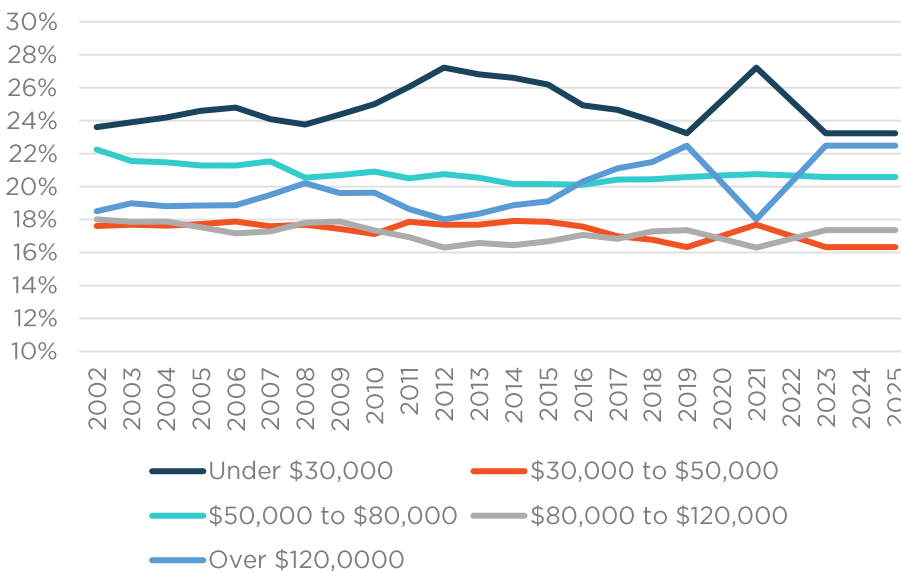


It follows that shifts in the household income distribution would cause changes in the overall homeownership rate. However, unlike the trends in age or marriage, the distribution of households by income, in real terms, has remained relatively consistent except during the last recession when, as Figure 11 shows, the share of households in the lowest income bracket expanded while the share in the top bracket shrank. The reverse happened during the recovery.

Predicting what will happen to household incomes is far less straightforward than projecting trends in age distribution or marriage rates. It will depend on, among other things, the course of the COVID-19 virus, whether and when a vaccine is produced at scale, and the extent of fiscal support from the government for threatened businesses and the unemployed.

We do not claim to know the precise trajectory that household incomes will take over the next five years. However, with some 19 million jobs lost as of this writing, the direction of household incomes in the near future is clearly negative. For purposes of this analysis, we assume that the income distribution in 2020 will shift to where it was in 2012, the year that the real median household income bottomed after the last recession, but recover fully to 2019 levels by 2023.⁵

Figure 11: Historical and Projected Distribution of Households by Household Income (Source: ACS/IPUMS-USA, Author's Projection)



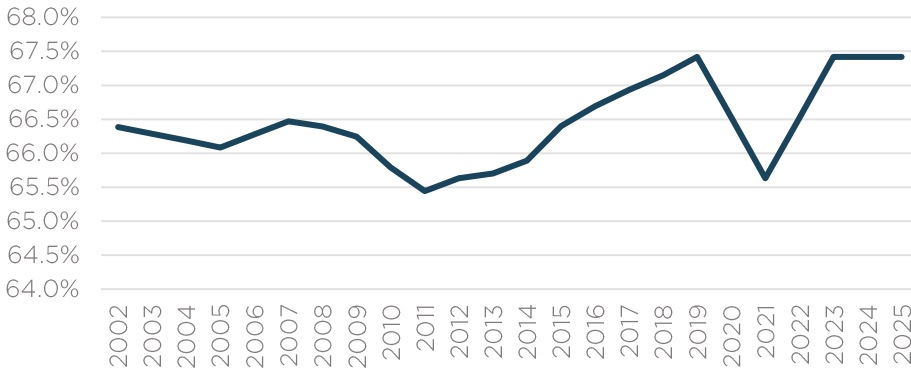
The implication of the historical and projected shifts in income distribution alone on the homeownership rate, holding all else constant at 2002 levels, is shown in Figure 12. As the chart shows, changes in incomes have produced large changes in the homeownership rate in the past. If the above forecast of income

⁵ Note that ACS data for 2019 has not yet been released. Income distribution in 2019 is estimated based on an extension of historical trends from 2015-2018.



distributions holds true, it would result in a sharp but temporary drop in the homeownership rate.

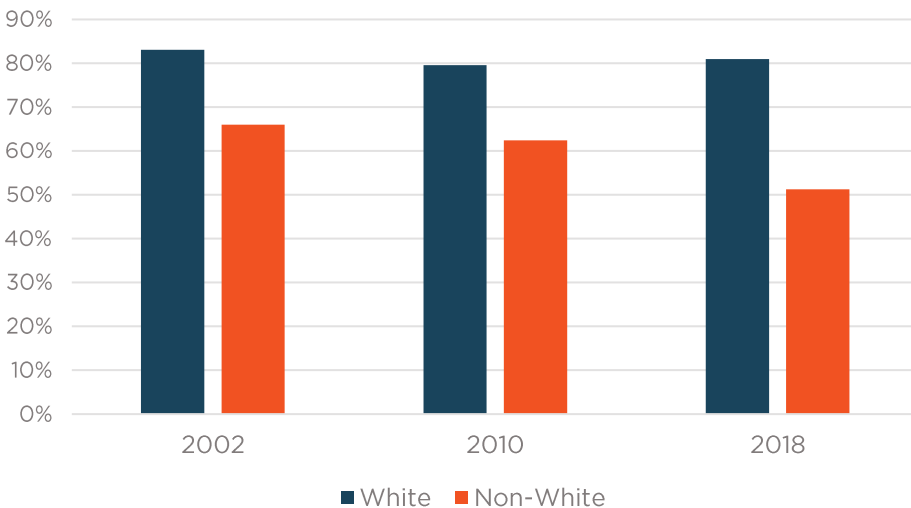
Figure 12: Historical and Projected Homeownership Rate Holding All Variables Constant at 2002 Levels Except Income Distribution
(Source: ACS/IPUMS-USA, Author's Projection)



Minorities Historically Have a Higher Propensity to Rent

Even after controlling for age, marriage status, and income, minorities have a higher propensity to rent than whites. Figure 13, for example, shows the homeownership rates of married householders aged 35-44 with household incomes of \$70,000 to \$80,000 in 2019 dollars broken down by race, summarized here as white and non-white. As Figure 13 demonstrates, the disparity between white and non-white households has been persistent.

Figure 13: Homeownership Rate of Married Householders Aged 35-44 with Household Incomes of \$70,000 to \$80,000
(Source: ACS/IPUMS-USA)





The non-white share of US householders has grown steadily. The forecast below simply extends the trend from 2014-2018 to 2025.

Figure 14: Non-white Share of US Householders
(Source: ACS/IPUMS-USA)

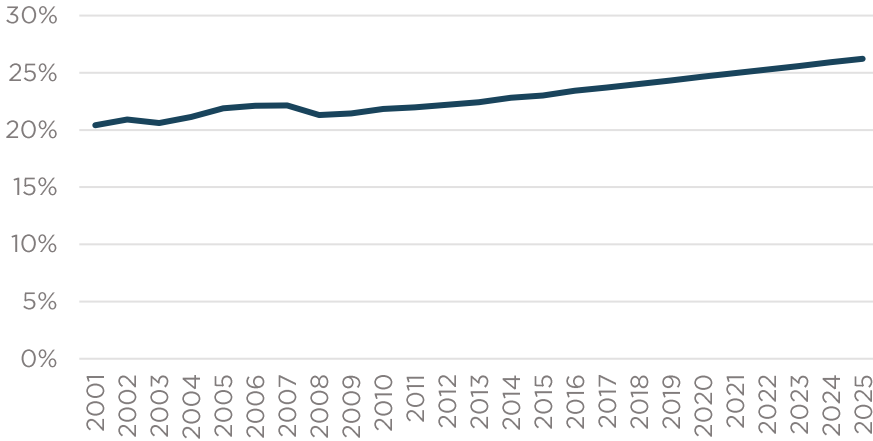
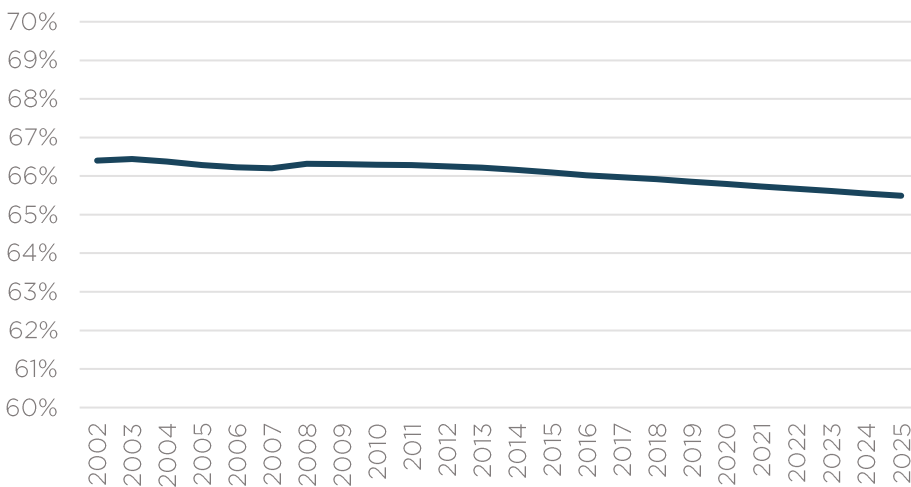


Figure 15 presents the implication of the growing share of non-white householders on the homeownership rate. To isolate the impact of the change in racial composition alone, age, marriage, and income distributions were held constant at 2002 levels. In addition, homeownership rates within each age, income, marriage, and race category were held constant at 2002 levels. On that basis, we attribute a 0.5% decline in the homeownership rate from 2002 to 2018, and we would expect an additional decline of 0.4% by 2025 due to the changing racial composition of US householders, if all else were held constant at 2002 levels.⁶

Figure 15: Historical and Projected Change in the Homeownership Rate Due Exclusively to Racial Composition
(Source: ACS/IPUMS-USA, Author's Projection)



⁶ Other variables associated with race, not race itself, may well be driving the difference in homeownership rates among races. However, the obvious candidates of age, income, and marital status are controlled for here.

Demographics Alone are a Weak Explanation for Shifts in Homeownership

To summarize, the aging population pushes homeownership rates upward, but that effect is muted by declining marriage rates and a growing non-white share of households. A decline in incomes will likely drive millions of homeowner households to rentership but that impact will be temporary if incomes recover. Figure 16 shows the historical and projected homeownership rate allowing the distribution of households by age, income, marriage, and race to vary but holding the homeownership rates within each age, income, marriage, and race category constant at 2002 levels. As the chart illustrates, these variables together do not do a great job of explaining movement in the actual homeownership rate.

Figure 16: Historical and Projected Homeownership Rate Based on Demographic Variables Alone versus Actual Homeownership Rate
(Source: Author's Projection, IPUMS-USA)

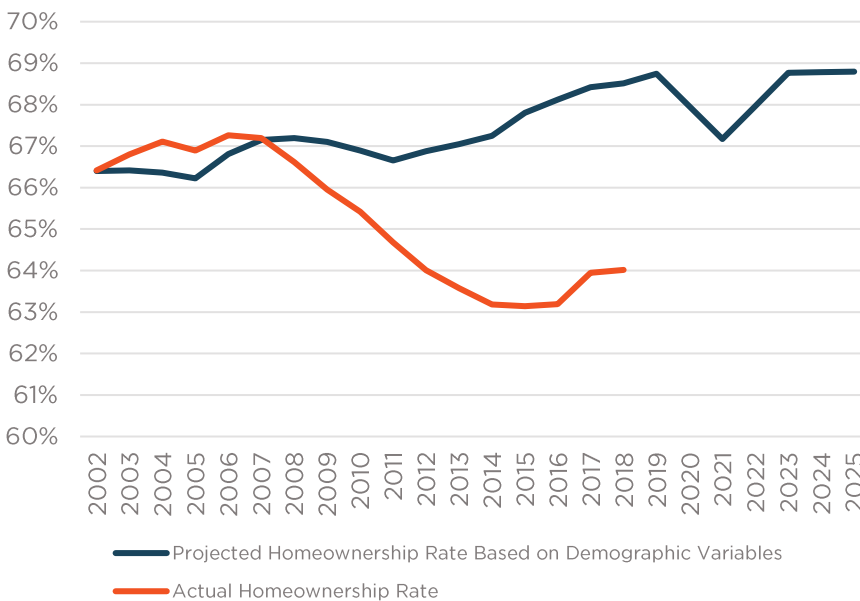
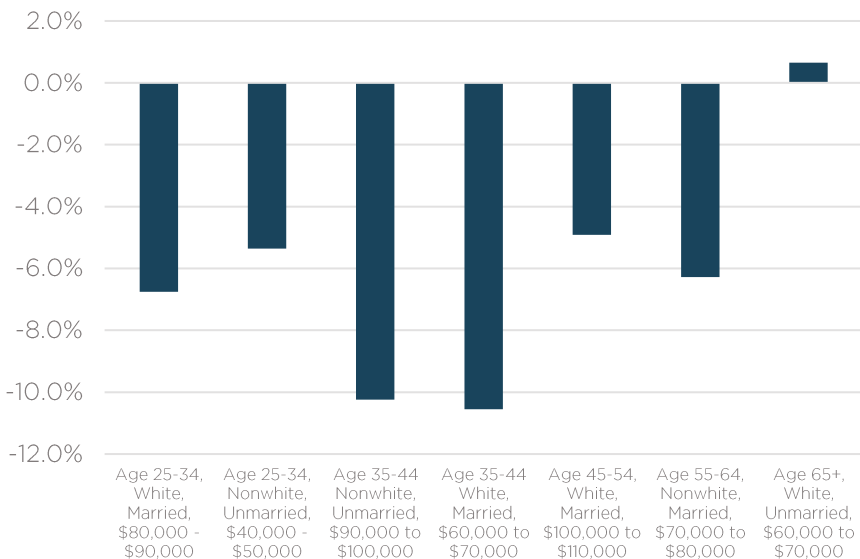


Figure 17 illustrates why the demographic variables described above do not fully explain the movement in the actual homeownership rate. Even after controlling for age, income, race, and marriage status, there have been large declines in homeownership rates from 2002 to 2018. Figure 17 presents only a few of these categories for illustrative purposes. Declines occurred across most demographic categories but the scale of the decline tended to diminish among older and wealthier households.

Figure 17: Change in Homeownership Rate within Selected Demographic Categories, 2002 to 2018
(Source: ACS/IPUMS USA. Incomes are presented in real 2019 dollars)



Wealth and Lending Standards Play an Important Role

The continued decline in the actual homeownership rate from 2012 to 2016, even as the economy recovered, and demographic forces should have pushed it higher, has led analysts to seek other drivers of homeownership. As discussed earlier, they have proposed a variety of explanations, including, among others: rising student loan burdens, a perceived or real inability to make the down payment, tightened lending standards, high rents that limit savings, and a simple shift in preference.⁷

All of these factors likely play some role. However, after testing several variables that might lead to a simpler basis for forecasting, we found three that, when combined in a multiple regression model, do a reasonable job of explaining the difference between the demographic-based projection of homeownership shown on Figure 16 and the actual homeownership rate. These variables are lending standards, as measured by the average credit score of mortgages, median net worth by age of householder, and the previous year's deviation from the demographic-based projection, essentially inertia.

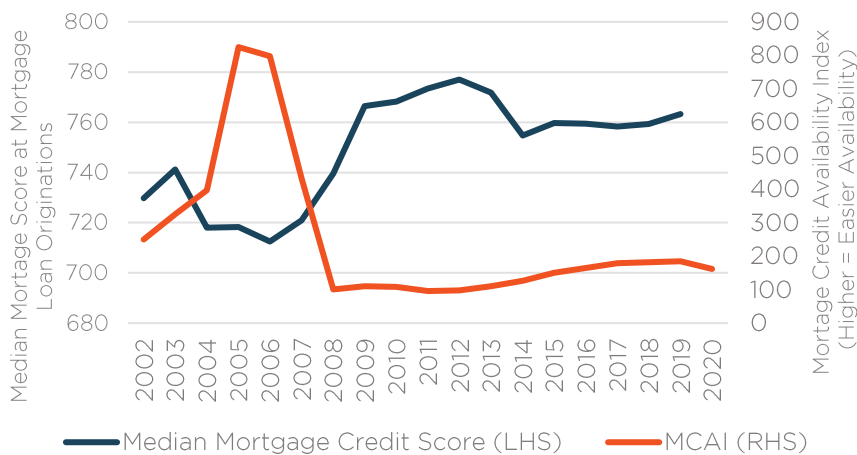
It is well known that loose lending standards and sub-prime loans contributed to the housing boom in the early 2000s. They played a part in the rise of the homeownership rate by enabling households

⁷ The Urban Institute has published several in-depth studies of the homeownership rate that cover many of the same themes of this article in greater detail and explore some of these alternative explanations.
https://www.urban.org/sites/default/files/publication/96221/homeownership_and_the_american_dream_0.pdf
https://www.urban.org/sites/default/files/publication/99028/barriers_to_accessing_homeownership_2018_4.pdf

with lower incomes and savings than ever before, to buy homes. After the bust in 2008, banks tightened lending standards dramatically.

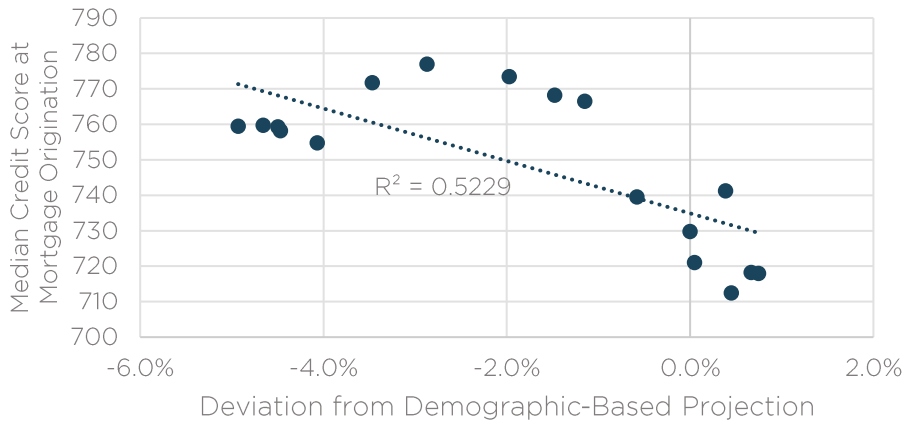
Quantifiable data on lending standards is limited. However two metrics are available. The Mortgage Bankers Association publishes a data series called the Mortgage Credit Availability Index to measure how tight credit is (higher means looser credit). Its data goes back to 2004. In addition, the New York Federal Reserve publishes the median credit score of mortgage originations. Both metrics depict the same trend of relatively loose credit in 2007 that tightened sharply in 2008 and never returned to pre-recession levels. Note that the median mortgage credit score began rising in late 2019, indicating that lenders were tightening even before COVID-19. The Mortgage Credit Availability Index, which is published monthly, reported a steep drop in March and April to levels not seen since 2015, giving the first hints of the impact COVID-19 will have.

Figure 18: Indicators of Lending Standards
(Source: Mortgage Banker's Association and the New York Federal Reserve)



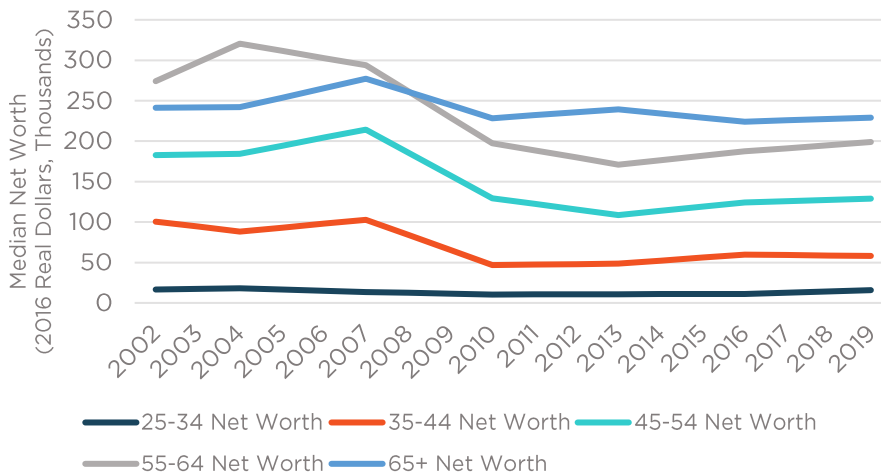
The relationship between the median credit score for mortgage originations and the deviation of the actual from the projected homeownership rate based on demographics, is shown in Figure 19. The correlation is not necessarily linear but it is clear that lower credit scores at mortgage originations is associated with higher homeownership rates and less deviation from the demographic-based projection.

Figure 19: Delta Between Actual Homeownership Rate and Demographic-Based Projection vs. Median Credit Score for Mortgage Originations
(Source: ACS/IPUMS-USA, Federal Reserve Bank of New York)



The second variable is median net worth. This data is based on the Federal Reserve's Survey of Consumer Finances, which is published every three years. To create an annual time series, we assumed a straight-line trend between the three-year estimates. Data for 2019 has not been published by the Federal Reserve, however, ESRI has released estimates for 2019, allowing the years 2017 and 2018 to be interpolated. As shown in Figure 19, real median net worth for households in all age categories declined sharply following the recession and has never recovered to pre-recession levels.

Figure 20: Median Net Worth by Age of Householder
(Source: Federal Reserve Survey of Consumer Finances, ESRI)

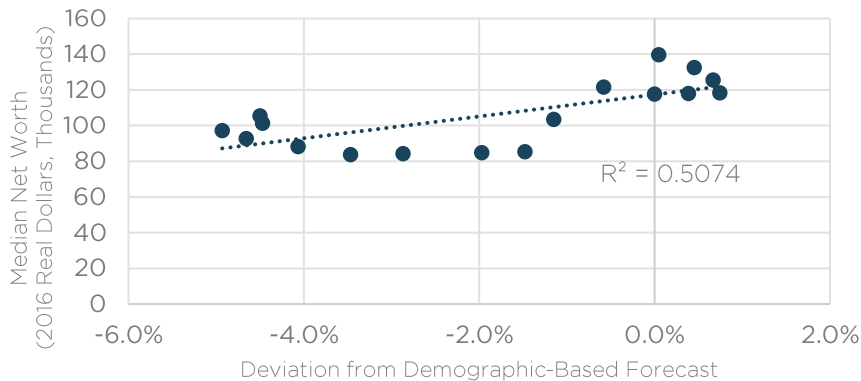


Both metrics add nuance to our understanding of the economic recovery from 2010-2019. Although incomes and employment recovered, the financial hit to many households' balance sheets has been almost permanent.⁸ One can easily imagine a reduced capacity

⁸ Note that rising student loan burdens and high rent burdens may be partial drivers of the decline in net worth

or willingness to purchase a home as a result. Figure 21 shows the relationship between the deviation of the actual homeownership rate from the demographic-based projection and the real median net worth of US households in a given year. Higher net worth is associated with higher homeownership and less deviation from the demographic-based forecast.⁹

Figure 21: Delta Between Actual Homeownership Rate and Demographic-Based Projection vs. Real Median Net Worth
(Source: Federal Reserve Survey of Consumer Finances, Author's Projection, ACS/IPUMS-USA)



As Figures 20 and 21 demonstrate there is a clear, though far from perfect, correlation between net worth, lending standards, and homeownership. However, what these analyses miss is that shifts in tenure are somewhat sticky. Not everyone moves every year, even if they could. Decisions made by householders years ago can impact the homeownership rate today. As a result, several years of tight lending standards or low net worth can have a cumulative impact on the homeownership rate.

For that reason, we introduced a third variable into the multiple regression analysis: the previous year's deviation from the demographic-based forecast. This variable has the highest predictive power and lends greater stability and accuracy to the overall model.

In the end, the model does not fully capture and understand all the variables affecting homeownership, nor does it fully explain why homeownership rates, even after controlling for demographics, declined. Nevertheless, it produces a reasonable fit relative to the historical homeownership rate as shown in Figure 22 and provides a framework for making predictions.

For purposes of forecasting, we have assumed that credit will continue to tighten through 2021, with the median credit score for mortgage originations rising to 775, before falling back steadily to 2018 levels by 2025. Moreover, we have assumed that median net worth within age

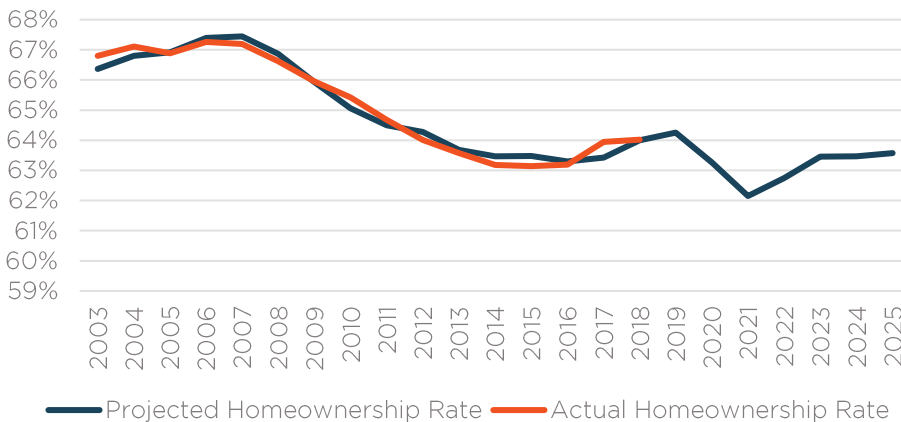
⁹ For-sale homes are a component of net worth but this relationship is not tautological. The mere purchase of a home at market value does not grant any increase in net worth. In any case, the relationship is largely similar if only the median value of financial assets, excluding real estate, are substituted.

categories, will fall from 2019 to 2021 by 75% of the rate it fell from 2007 to 2010 before beginning a steady recovery to 2019 levels by 2025.¹⁰

Forecast and Implications on Rental Housing Demand

The results of the final model compared to the actual homeownership rate and its forecast based on the assumptions described above are shown in Figure 22. Steep income declines in 2020 and 2021 lead to a drop in the homeownership rate. Thereafter, tightened lending standards and a lingering effect on households' net worth, especially compared to pre-2007 recession levels, limit a recovery in the homeownership rate, such that in 2025, we project a rate of 63.6%.

Figure 22: Projected and Actual Homeownership Rate
(Author's Projection, ACS/IPUMS-USA)



To be clear, additional stimulus from the government that shores up household incomes or further legislation restricting foreclosures could limit the projected near-term decline in homeownership.

In any case, for purposes of evaluating the impact of the forecast on rental housing demand, the table below compares the projected 2019 homeownership rate to the rate in 2025, a difference of 0.68%. The table below presents two scenarios. One assumes a depressed rate of household formation due to the recession while the other assumes a formation rate consistent with 2018. The rate of household formation, in and of itself, is the topic for another paper but the estimates below are reasonable starting points. Under either scenario, the 0.68% decline in the homeownership rate can be expected to increase rental housing demand by at least 869,000 units total from 2019-2025 in comparison to a scenario where the homeownership rate stayed flat.

¹⁰ The median net worth could decline even more than in the past recession given the scale of the current job losses. However, the last recession was also characterized by a rapid and large decline in home prices. Zillow is currently forecasting only a mild price decline of 2% to 3% in home prices, while Freddie Mac has projected a continued rise in average prices.

Normal Household Growth Scenario

	Flat Homeownership Rate			Projected Homeownership Rate		
	2019	2025	Household Growth	2025	Household Growth	Difference in Growth %
Total Households	122,871,000	130,487,000	7,616,000	130,487,000	7,616,000	0.0%
Homeownership Rate	64.25%	64.25%		63.57%		
Homeowner Households	78,943,000	83,836,000	4,893,000	82,949,000	4,006,000	-18.1%
Renter Households	43,928,000	46,651,000	2,723,000	47,538,000	3,610,000	32.6%

Depressed Household Growth Scenario

	Flat Homeownership Rate			Projected Homeownership Rate		
	2019	2025	Household Growth	2025	Household Growth	Difference in Growth %
Total Households	122,871,000	127,838,000	4,967,000	127,838,000	4,967,000	0.0%
Homeownership Rate	64.25%	64.25%		63.57%		
Homeowner Households	78,943,000	82,134,000	3,191,000	81,265,000	2,322,000	-27.2%
Renter Households	43,928,000	45,704,000	1,776,000	46,573,000	2,645,000	48.9%

The projected decline in homeownership is a silver lining for the rental housing industry amid the negative economic impacts of COVID-19. Depending on how formation rates are affected by the current recession, the forecasted drop in homeownership will add between 33% and 49% incremental demand from 2019-2025 than would be generated by household growth alone. Measured over a shorter timeframe of the next 1-2 years, the boost would be even higher. While this shift is unlikely to cause rapidly rising rents in the near-term, it will contribute to the resilience of the rental housing industry through the current downturn.



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DISCLAIMER

The data presented in this report are gathered from multiple sources that have been cited. Note that even historical data may change in subsequent reports.

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