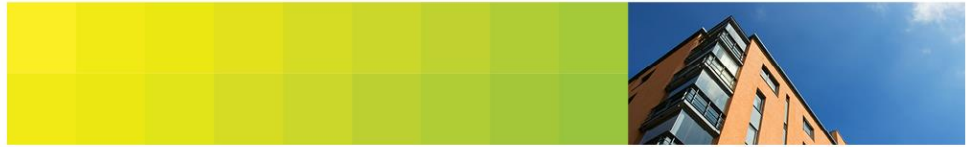




2021 Outlook

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Multifamily Research Center



Multifamily 2021 Outlook

The economy is now rebounding from the economic shock of the COVID-19 pandemic. A vaccine is in early distribution – though day-to-day life has not come close to reflecting pre-pandemic norms. Short-term forecasts depend on both economic activity as well as the additional stimulus for continued improvement. Despite the challenging economic conditions, the national apartment market has held up quite well.

- The economy has been severely damaged by the effects of the virus; however, conditions are improving, and the passage of another stimulus package is expected to help boost the economy in 2021.
 - The economic slowdown caused by the pandemic has not been uniform, with many lower income workers facing far more challenges than those earning more.
 - Expanded unemployment benefits and stimulus supported tenant's ability to pay rent. If a median renter income worker lost their job for three months during the summer of 2020, the expanded unemployment benefits would replace nearly all of their lost wages.
 - Demand for multifamily housing is off significantly from 2019 levels – demand is roughly 60% in 2020 compared with 2019, according to RealPage. Completions in 2020 are expected to nearly match 2019 levels, despite being slowed during the spring and summer of 2020.
 - Investment activity declined sharply in the first half of 2020 but rebounded significantly during the second half of the year. Despite falling interest rates, cap rates remained stable – meaning cap rate spreads increased, while property prices continued to increase, indicating that investors still have faith in the asset class.
 - The National Multifamily Housing Council (NMHC) rent tracker over most of 2020 has indicated that multifamily collections in large institutional investor-owned properties were holding up well, typically within 1% of 2019 levels. During the fourth quarter, collections were off 1.8% compared with a year earlier. Modestly sagging collections are not expected to hamper the ability of most multifamily properties to make monthly payments.
 - For 2021 we expect the vacancy rate to increase to 5.8%, while rents are predicted to fall -0.2%, leading to an estimated overall decline in gross income of -0.5%. These are the national averages, and the larger gateway markets of New York, San Francisco, the District of Columbia and Miami are expected to perform much worse, while the smaller, more stable markets in the Northeast and across the South and West are typically expected to perform better.
 - Total multifamily origination volume is expected to decline by about 20% in 2020 to \$287 billion compared with 2019, before rebounding to \$340 billion in 2021.
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Economic Conditions in 2020 and 2021: The Slow, Bumpy Road to Recovery

The economy in 2020 experienced massive shocks. Gross domestic product (GDP) declines, unemployment levels and jobless claims were all at their worst levels in decades. While the economy rebounded during the second half of the year, much uncertainty still remains. Jobs lost during 2020 are expected to come back this year, aided by additional stimulus expected to be enacted. While we anticipate economic conditions in 2021 to be better than they were in 2020, the bar is low and how much we exceed them by is unknown.

As the economic recovery took hold it was clear that one job sector has suffered far more than the others. For the period from fourth quarter 2019 to fourth quarter 2020, employment in the leisure and hospitality industry declined nearly -21%, while no other sector saw a decline of more than -10%. The leisure and hospitality industry shed nearly 3.5 million jobs, which is over 37% of all jobs lost during that 12-month span. The only other sectors to have a greater job loss percentage than the overall average of -6.0% are the information industry at -8.6% and other services¹ at -7.1%.

The low interest rate is driving some economic performance. After the economic collapse brought on by the virus, the 10-year U.S. Treasury Rate dropped sharply and hit its low in early March at 0.3%, since then it has stabilized and risen to just over 0.9% at the end of 2020. The single-family housing market has benefited as demand for mortgages and homes is the strongest it has ever been, with prices up meaningfully.

In late December 2020 another round of stimulus was signed into law, with the new package totaling about \$900 billion in new aid. The new law is expected to provide economic stability and significantly boost economic conditions in 2021. Highlights of the package include:

- One-time payments of up to \$600 per person, including dependents.
- Another \$275 billion for the Paycheck Protection Program, which helps keep employees working.
- Expanded unemployment benefits are extended through March 14, 2021, providing an additional \$300 per week, including contract and other non-covered employment.
- The national eviction moratorium has been extended through January 31, 2021 and has subsequently been extended through March 31, 2021 by executive order².
- Rental assistance of \$25 billion to help households pay their rent and utilities and remain stably housed.

The December stimulus followed the CARES Act, which provided \$2.2 trillion in economic relief and aid. One of the major pieces of that law was an expansion of unemployment insurance benefits by the federal government. Through the end of July 2020, the CARES Act provided an additional \$600 weekly to those who became unemployed due to COVID-19 on top of any state benefits they were eligible to collect. It also provided that benefit to those workers who are typically unable to receive unemployment, including contractors, “gig workers” and other non-covered employment. The new law also extended unemployment benefits for up to 50 weeks. The additional unemployment benefits provided support to the economy, and for a few months many unemployed workers were receiving more in unemployment benefits than they were while working. However, once the additional \$600 weekly federal boost ended in July, workers were again receiving roughly half of their previous income in benefits, although the amount received varies from state to state. Averaged across the nation, if a median-income renter became unemployed at the end of March 2020, they would receive about 62% of their earnings for calendar year 2020 in pay and unemployment benefits. States with a low median renter income and relatively robust unemployment benefits saw a higher percentage of income replaced. In West Virginia, the median-income renter would receive over 79% of their earnings for the year if they became unemployed at the end of March, the highest percentage in the nation. Conversely, a median-income renter in Washington, D.C., who became unemployed at the end of March would receive about 44% of their yearly wages if they are on unemployment benefits for the rest of the year.

¹ Other services include equipment and machinery repairing, promoting or administering religious activities, grantmaking, advocacy, providing dry cleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services. Source: BLS

² Policy proposals are suggesting the eviction moratorium could be extended into the second half of the year.

Household Impact

Now that the next round of stimulus is enacted and more is expected, the unemployed again will receive an economic boost. As discussed earlier, an unemployed renter would expect to receive a one-time payment of \$600 and an additional \$300 weekly in unemployment benefits from the federal government through the middle of March 2021. Looking at total stimulus and expanded unemployment benefits averaged across the country, a median-income renter would have about 67% of their salary replaced from January 1, 2020, through March 14, 2021, if they became unemployed at the end of March 2020. This means the new stimulus package not only increases the amount of time these unemployed workers receive benefits; they also receive a greater percentage of their lost income replaced for that time period.

If we think of this in terms of a renter, we can see how the unemployment benefits and stimulus packages would affect their incomes. In Exhibit 1 we used the national median-renter income of about \$42,500 and the average unemployment benefits across the country to calculate total renters' income from January 1, 2020, through March 14, 2021, given different employment conditions.

Exhibit 1: Total Income by Employment Status

Employment Status	Total Income 1/1/20 - 3/14/21
Job Lost 3/31/20	\$34,249
Job Lost for 3 Months	\$50,774
No Change in Employment	\$50,975

To provide some context at a property level, with the assumptions that 10% of households lost their job at the outbreak of the pandemic at the end of March, 15% of households lost their jobs for three months over the summer of 2020, and 75% of households saw no change in employment. Given these circumstances, the income across the apartment development would be over 96% of the total if all residents maintained their jobs and incomes.

The Housing Market in 2021: Uncertainties Abound

The sharp, severe, almost overnight decline in economic conditions are unlike any other modern recession. This makes it difficult to draw comparisons to help inform how this downturn will affect both the rental and for-sale housing markets, as well as the broader economy. As economic conditions declined, so did interest rates. According to Freddie Mac's weekly mortgage survey, in mid-March 2020 the 30-year mortgage rate was about 3.65%. By the end of the third quarter, rates had dropped about 75 bps to 2.9% and have since fallen further to about 2.65% at the end of December. The low interest rates, in conjunction with increased demand caused by urban dwellers leaving their densely populated city centers for the suburbs and smaller less dense, less expensive metros, caused home prices to escalate rapidly. Since the end of 2019 to the end of the third quarter 2020, home prices have increased 7.2%, according to the Case-Shiller Home Price Index.

Overall, the multifamily market has held up surprisingly well given the economic turmoil, but some markets are struggling.

Despite the significant increase in home prices, for a median-priced home, principal and interest costs are actually down about -3.5%, or about \$40 per month, at the end of the third quarter compared with the end of 2019, due to the decline in mortgage rates. However, as the economy slowly regains steam, interest rates are expected to rise, and mortgage rates may as well. Home prices show no sign of declining given the strong demand seen over the past year, and given the overall shortage of housing, they most likely will continue to rise. This may impact affordability in the future. Hypothetically, let's assume 30-year mortgage rates are in the 3.5% range, which puts them back where they were at the end of the first quarter of 2020. If at the same time home prices increased just another 2.5%, the monthly principal and interest costs for a home buyer will increase over

10% from the third quarter of 2020. As these monthly costs increase, renter households who wish to purchase a home may choose to remain renters due to the higher monthly payments.

Demand in the housing market is shifting to different geographies. United Van Lines released its annual National Migration Study, concluding that the pandemic accelerated trends that were already underway – namely movers were heading south and west. Idaho, South Carolina and Oregon were the states with the highest percentage of inbound movers, while New Jersey, New York and Illinois were the states with the highest rate of outbound movers. On a metro level, analyzing inbound and outbound moves, the cities with the highest percentage of moves out of the metro were New York City (72% outbound), Newark (72% outbound) and Chicago (69% outbound). Conversely, the highest levels of inbound moves were in Wilmington, North Carolina (79% inbound), and Boise, Idaho (75% inbound).

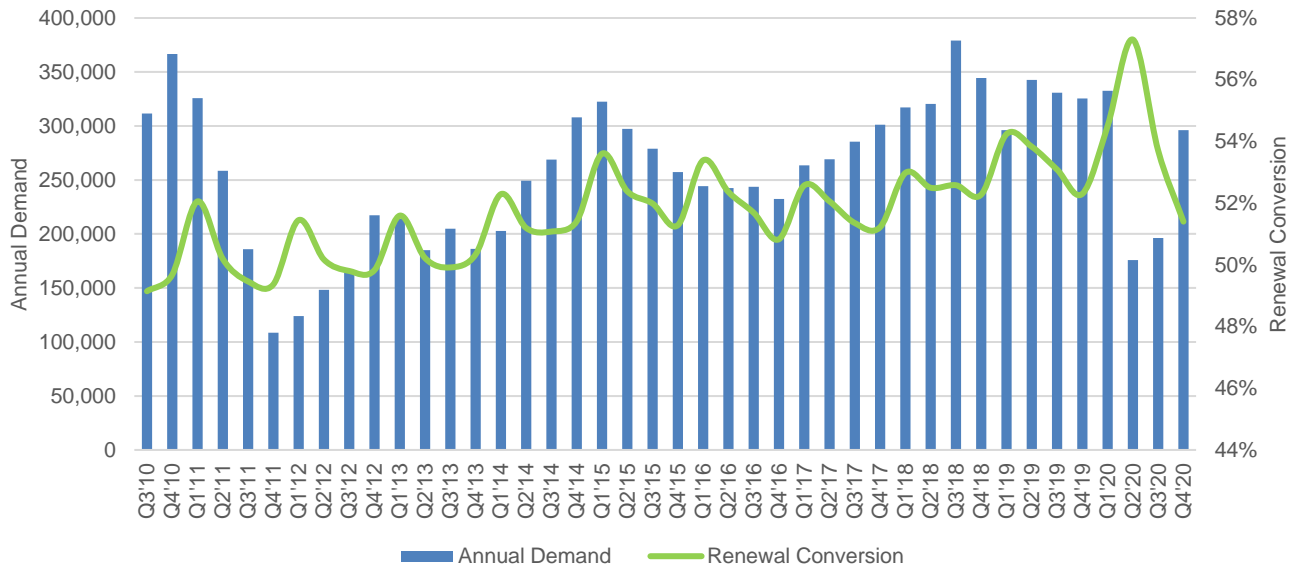
The severe economic downturn caused by COVID-19 has placed pressure on the rental housing market. As the unemployment rate climbed to nearly 15% in April and many renters lost their jobs, despite tremendous federal financial support, many renters were and are unable to pay their rent. Due to eviction moratoriums, many of these families did not lose their homes, however, the rent owed was not forgiven. Many of these households owe significant back rent, which could be very difficult to repay. The Census Bureau, through its Pulse Survey, indicates that nearly 9 million Americans are behind on their rent, while the MBA estimates that rental owners did not receive over \$9 billion in rent during the third quarter. The combination of many families owing rent they will not be able to pay and an eviction moratorium, which is set to expire at the end of March 2021, means a wave of evictions may be on the horizon. The Philadelphia Fed estimates that if all households entitled to receive aid available to them through stimulus packages, then just 0.4% of renter households would have rental debt. But without the stimulus, 10.6% of rental households would have rental debt³. Clearly, eviction risk is profoundly impacted by stimulus and near-term rental market performance.

Demand is off significantly from previous levels. Completions, after slowing earlier in the year, are now exceeding 2019's level as previously stalled projects are finished.

The second and third quarters of 2020 saw a meaningful slowdown in multifamily rental demand. Annual demand for those two quarters averaged about 185,000 units, which represents less than 60% of 2019 demand. Demand rebounded in the fourth quarter of 2020 to just below 300,000 units annually, about 10% lower than the fourth quarter 2019 level. This is likely due to pent up demand from the second and third quarters moving to later in the year, a change from established seasonal patterns. For the year, demand in 2020 was off more than 20% compared with 2019. As demand has rebounded, the percentage of renewal leases declined from a peak of over 57% in the second quarter of 2020, to 51.4% in the fourth quarter of the year, below the 2019 average of 53.4%. This implies that while many people stayed in their units early on during the pandemic, move-outs are accelerating. With demand picking back up in the fourth quarter of 2020, rent increases for renewals has followed suit. According to RealPage, rent increases for renewals in the fourth quarter was 2.5%, an increase of 60 bps from the third quarter. In 2020, rental renewals averaged an increase of 2.8%, well below the 2019 average of 4.5%.

³ <https://www.philadelphiafed.org/-/media/frbp/assets/community-development/reports/household-rental-debt-during-covid-19.pdf>

Exhibit 2: Annual Multifamily Absorptions and Renewal Rate



Sources: RealPage, Freddie Mac

In Exhibit 3 we examine rent, occupancy and rental renewals by asset class in the fourth quarter of 2020. Year-over-year rent change was down nearly 5% in Class A properties, while Class B and C had rent growth of 0.6% and 1.7%, respectively. Similarly, occupancy is down -70 bps in Class A units while Class B and C saw minimal movements of plus and minus 10 bps each. Class A units had the least time vacant, with an average of 28 days, but these operators are offering the highest concessions on the most units. Class C properties took an average of 32 days to fill a vacant unit, the most time among all the classes. While the value of those concessions was second highest at 5.4%, they offered concessions on the fewest units. Class B developments split the difference between Class A and C for the time it took to fill a vacant unit and the percentage of units offering concessions, but the amount of the concession on average was slightly below the Class C level.

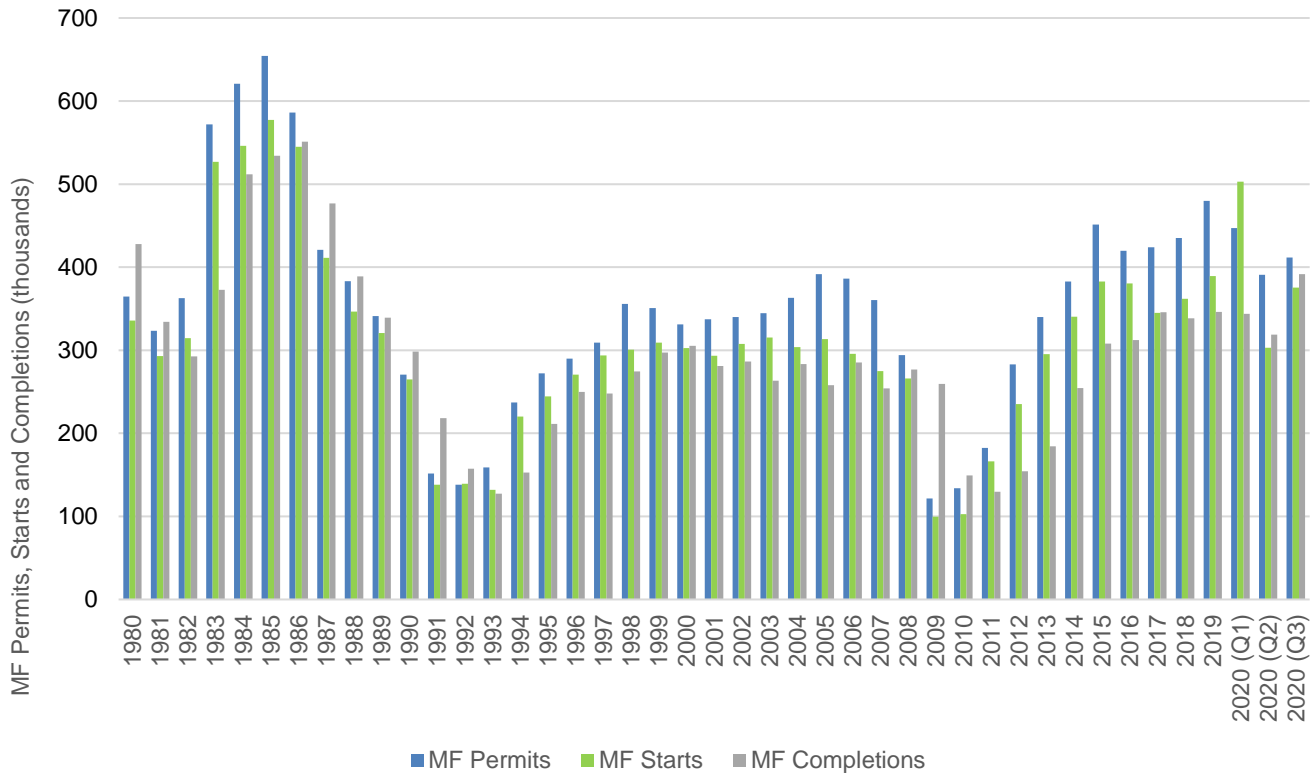
Exhibit 3: Rent, Occupancy and Lease Renewal Statistics by Class (4Q 2020)

Property Class	A	B	C
Rent Change (12 months)	-4.7%	0.6%	1.7%
Occupancy Rate	94.6%	95.7%	96.3%
Occupancy Rate Change (12 months)	-0.7%	-0.1%	0.1%
Days Vacant on Turn	28	29	32
% of Units offering Concessions	25.7%	22.9%	19.9%
Rent % Concession	6.8%	5.1%	5.4%

Sources: RealPage, Freddie Mac

According to the Census Bureau, as shown in Exhibit 4, annualized multifamily permits, starts and completions were all down in the second quarter of 2020. Permits and starts were off about 20% compared with 2019 levels while completions were down nearly 10%. In the third quarter, all three metrics rebounded, with annualized multifamily starts nearly equal to 2019 levels, while completions are exceeding 2019 levels. Permits are still lagging last year's level by about 15% in the third quarter.

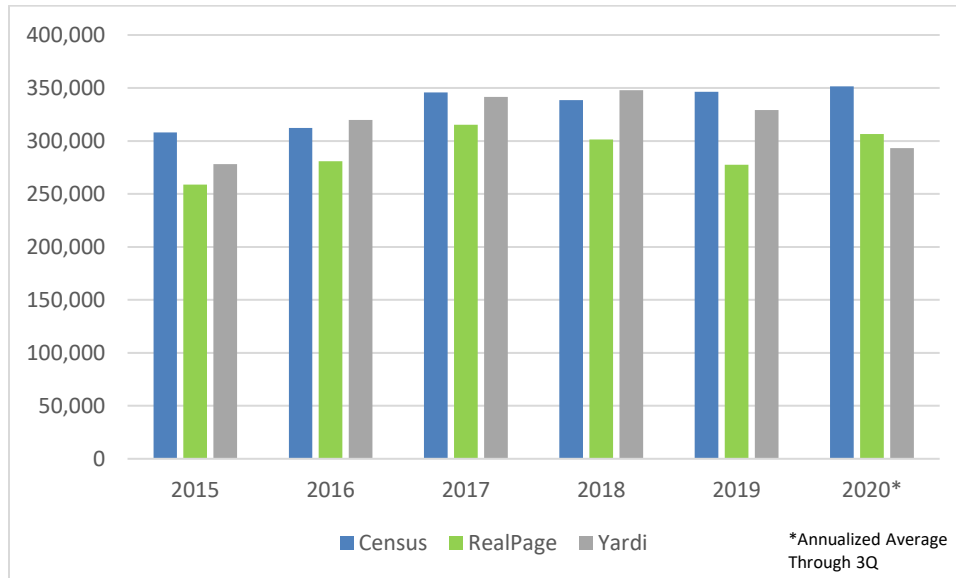
Exhibit 4: Multifamily Permits, Starts and Completions (5+ Units, thousands)



Sources: Freddie Mac, Census Bureau, Moody's Analytics

The sharp slowdown of economic activity and shutdowns implemented early on during the pandemic led to delays in new unit deliveries across the country during the second quarter of 2020. The data providers we use indicated that deliveries picked up during the third quarter after sharp declines in the second quarter. Looking at annualized completions through the third quarter of the year, all three sources reported deliveries within about plus or minus 10% of 2019's total, as seen in Exhibit 5. Reis, another data provider, typically has the least new unit deliveries, a trend which continued in 2020 where they are projecting completions at about half the level of the other sources. Overall, despite the slowdowns earlier in the year, deliveries are expected to finish the year similarly to 2019.

Exhibit 5: Annual Unit Delivered by Data Provider



Sources: Freddie Mac, Census Bureau, RealPage, Yardi

The multifamily market entered the pandemic on solid footing. According to RealPage, vacancy at the end of the first quarter was 4.4%, and in the second quarter it jumped 30 bps to 4.7%, which is somewhat surprising given the governmental support and eviction moratoriums. The vacancy rate declined 0.4% during the third quarter to 4.3%, just 10 bps higher than what it was at the end of 2019. Rent growth was positive in the first quarter of 2020 as well, before falling -0.8% during the second quarter as the lockdowns were enacted and began to rattle the economy. As economic conditions modestly recovered the rent decline slowed, with third-quarter rents just -0.1% below the second-quarter rate. Yardi has reported less severe rent declines than RealPage, falling just \$8 nationally since the outbreak, a decline of just -0.5%. They noted that rent declines were most prevalent in the lifestyle renter category, while the renter-by-necessity properties are performing better.

The NMHC releases bi-monthly data on rent collections. They utilize property management software to report the percentage of renters paying part or all of their rent. Rent collections throughout the year have been holding up well and have generally been with 1% to 2% of the previous year's collections by month end. The most recently released collection data for the month of December indicates that collection are off -2.1% compared with December 2019. The -2.1% monthly decline is the biggest of 2020 and continues a trend of decreasing collections compared with the prior year. The strong performance throughout much of the year is at least partially attributable to the CARES Act and the tremendous level of support it provided to families struggling due to the pandemic. Now that additional support has been passed, collections may return to near pre-pandemic levels.

Drivers of Multifamily Market Conditions

We use models to inform our views of the multifamily market; some of the economic inputs we use are home prices (home price index; HPI), inflation (consumer price index; CPI), employment, multifamily starts, income and population. Exhibit 6 shows the quarterly changes for each input used in 2020.

Exhibit 6: Quarterly Changes to Model Inputs

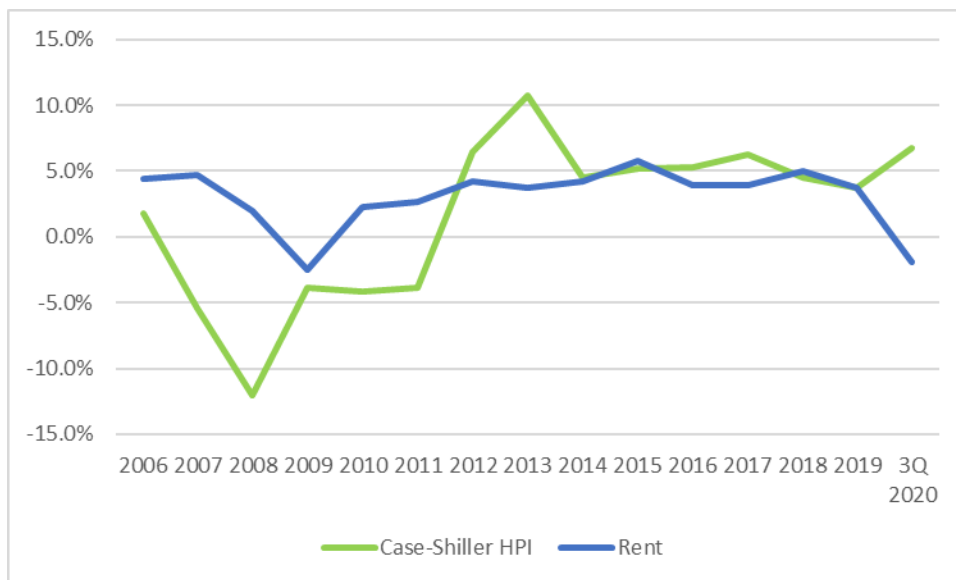
	Employment		Per Capita	Population		
	HPI	CPI			Change	MF Starts
2020 Q1	1.5%	0.3%	0.1%	10.6%	1.9%	0.1%
2020 Q2	0.6%	-0.9%	-12.0%	-40.4%	1.5%	0.1%
2020 Q3	3.4%	1.3%	5.3%	29.0%	0.8%	0.1%

Sources: Freddie Mac, Case-Shiller U.S. National Home Price Index, Reis, Census Bureau

The for-sale housing market has been extremely hot this year, with the HPI increasing each quarter, as seen in Exhibit 7. The HPI slowed briefly in the second quarter as new restrictions were implemented around the virus, and the market slowed as buyers and sellers adjusted to the new requirements. Since then the market has been one of the economic bright spots for the country, with demand extremely high and limited supply of both existing and new homes available, combined with record-low mortgage rates leading to price appreciation.

Generally speaking, when home prices increase rents do as well. After the Great Financial Crisis through 2019, rents and home prices have generally tracked similarly, as seen in Exhibit 7. Since the outbreak of the pandemic home prices have been accelerating rapidly while multifamily rents have been falling. We believe this is short-term consequence of this unique recession, and in the longer term rents and home prices will again move together. The strong house price appreciation is a likely signal that rents will rebound.

Exhibit 7: Home Price Index Compared to Rent



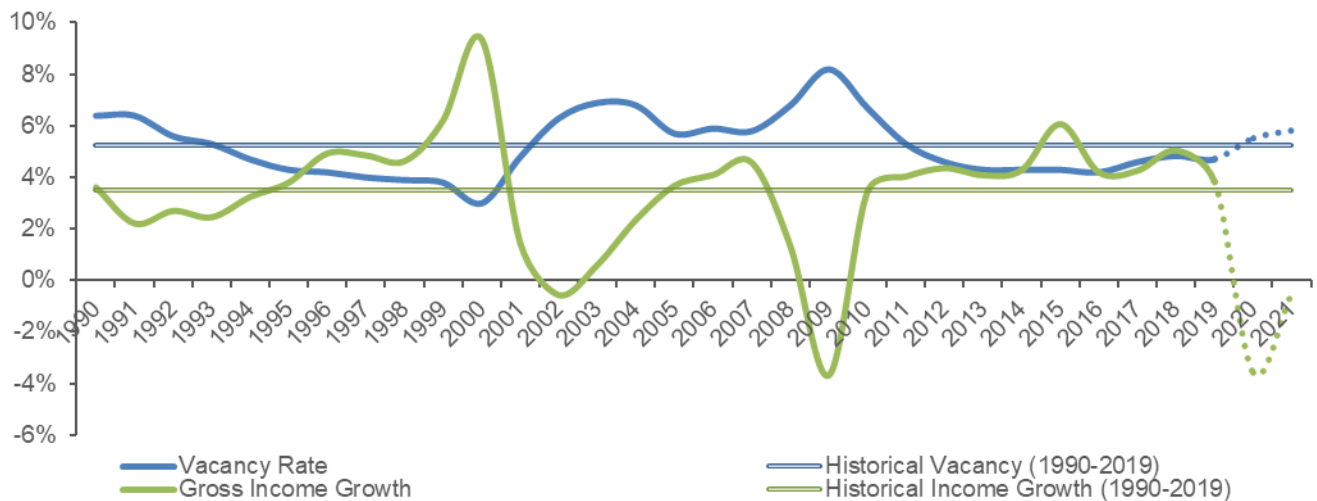
Sources: Freddie Mac, Case-Shiller U.S. National Home Price Index, Reis

Inflation is an important factor in our multifamily models because housing costs typically move in unison with overall inflationary increases. Stated another way, from an investment perspective rents are a good inflation hedge. The CPI increased modestly in the first quarter, before a sharp decline at the height of the pandemic in the second quarter, followed by a large increase during the third quarter.

Jobs are always one of the most important factors that affect any sort of housing projection; it is especially important among multifamily renters. After a historic plunge in employment during the second quarter, employment has rebounded significantly, but it still well below the peak levels seen during the first quarter of year.

Income is a key driver in determining how well multifamily housing will perform. As income increases, renters are more willing and able to pay for rent increases. Additionally, as incomes increase, more renters enter the market, which helps to lower the vacancy rate and consequently boost rental rates. Somewhat surprisingly, incomes have been increasing over the past year. Over the first two quarters of 2020 income growth was still strong; while it has trailed off in the third quarter it remains positive quarter over quarter. This is at least partially attributable to the CARES Act, but as that stimulus program has wound down, income growth has slowed.

Exhibit 8: Vacancy Rate and Gross Income Growth, History and Forecast



Sources: Reis, Freddie Mac projections for 2021 represented in the dotted lines.

Given these limitations, we project the vacancy rate for 2021 to increase to 5.8%, rental rates to decline -0.2% and gross income is projected to fall a relatively modest -0.5%, as shown in Exhibit 8. There are many factors that could alter these forecasts, including a new round of forced shutdowns, a significant delay in the vaccine rollout and an extension of the eviction moratorium, to name just a few. The forecasted decline in gross income is not large enough to cause a widespread disruption in the ability of multifamily operators to keep up with their debt obligations. However, both renters and property owners are impacted, and some will suffer more than others. For properties owned for a few years, significant equity was gained recently as property values have increased, which will provide some stability to the market.

The 2021 vacancy rate is expected to increase 30 bps to 5.8%, while rent is projected to be down 0.2%, much better than 2020's -2.9%.

Multifamily Markets Analysis

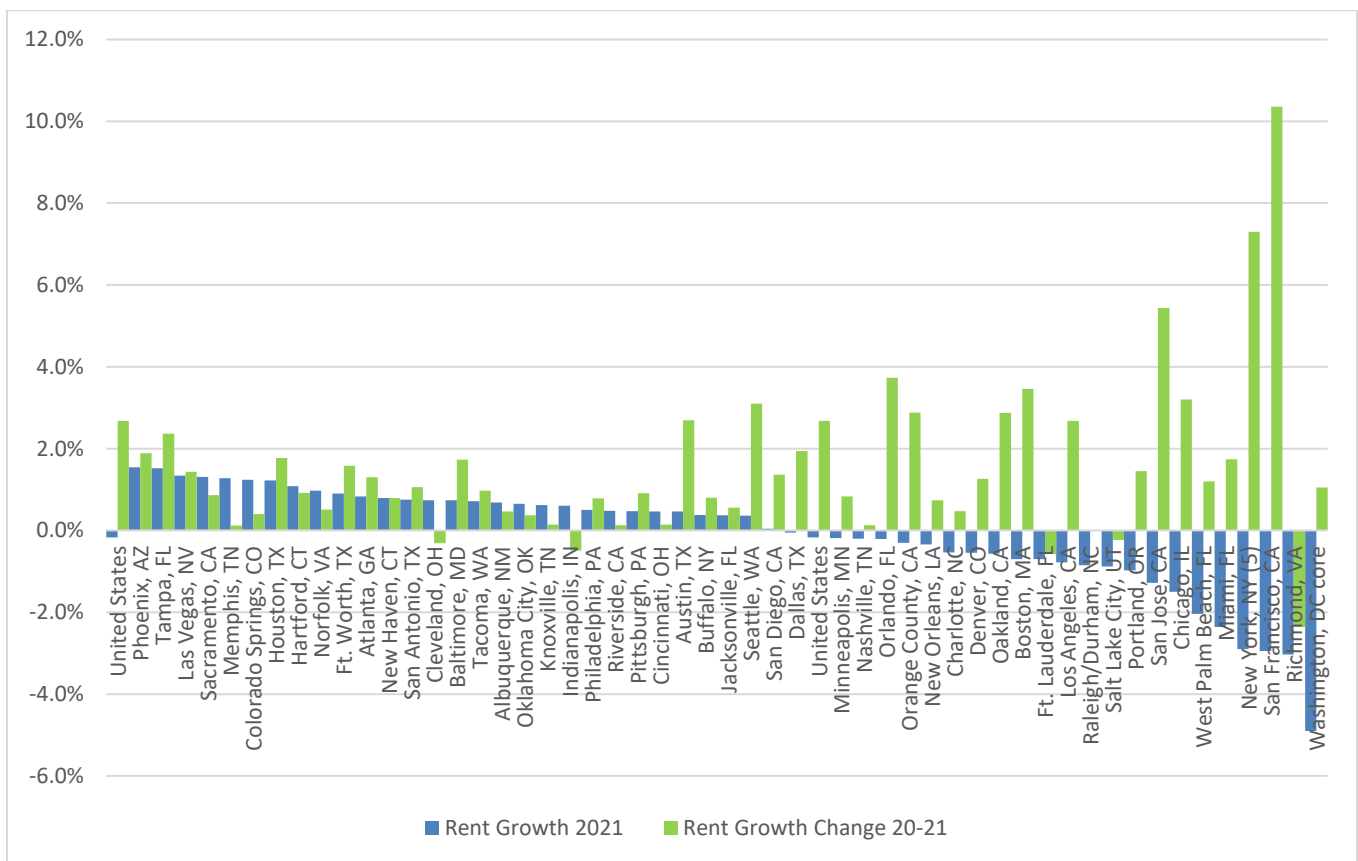
Generally speaking, in 2021 we forecast the metros with the highest year-over-year vacancy increases to be the same ones that have the highest vacancy levels. Most of these areas are in the sunbelt region of the nation, including Austin, Orlando, Charlotte, Miami, Raleigh-Durham and Nashville. These Sun Belt metro areas typically see more variation in their vacancy rates than in the larger more stable gateway markets of New York, San Francisco and Boston. Vacancy rates in about 55% of markets are expected to increase in 2021, with Austin having the greatest increase of 130 bps. In 34 of the 75 markets we track, we do not expect to see any change or

decrease in vacancy rates. The Syracuse, New York and Fairfield County, Connecticut, markets show the strongest performance, with vacancy predicted to fall 90 bps in each in 2021.

Rent declines in some metros were staggering in 2020, especially in New York City and San Francisco, and despite the whipsaw in rent increases shown in Exhibit 9, with year-over-year rent changes improving 7% or more, rent growth for 2021 is still forecasted to be negative for these two cities. These markets were among the hardest hit by COVID-19, and with an increase in cases nationally, there is a fear that a second round of lockdowns may be imminent. The markets on the right-hand side of Exhibit 9 are not expected to perform as well in 2021, including New York City and San Francisco. Despite negative rent growth projections (shown in the blue bars), year-over-year change in rent growth (shown in the green bars) is positive in a vast majority of these markets, indicating that conditions are improving. The Sun Belt and secondary markets shown on the left side of Exhibit 9 can be viewed as the stable markets, showing positive rent growth for 2021 and typically rent growth year over year as well. So far, these markets have been less affected by the virus, and even at the height of the outbreak early in 2020, had relatively short and modest lockdowns. Assuming further mandates are not made in these areas, they are expected to continue to perform better than the larger denser metros.

The gateway markets have seen tremendous rent declines combined with significant increases in the vacancy rate.

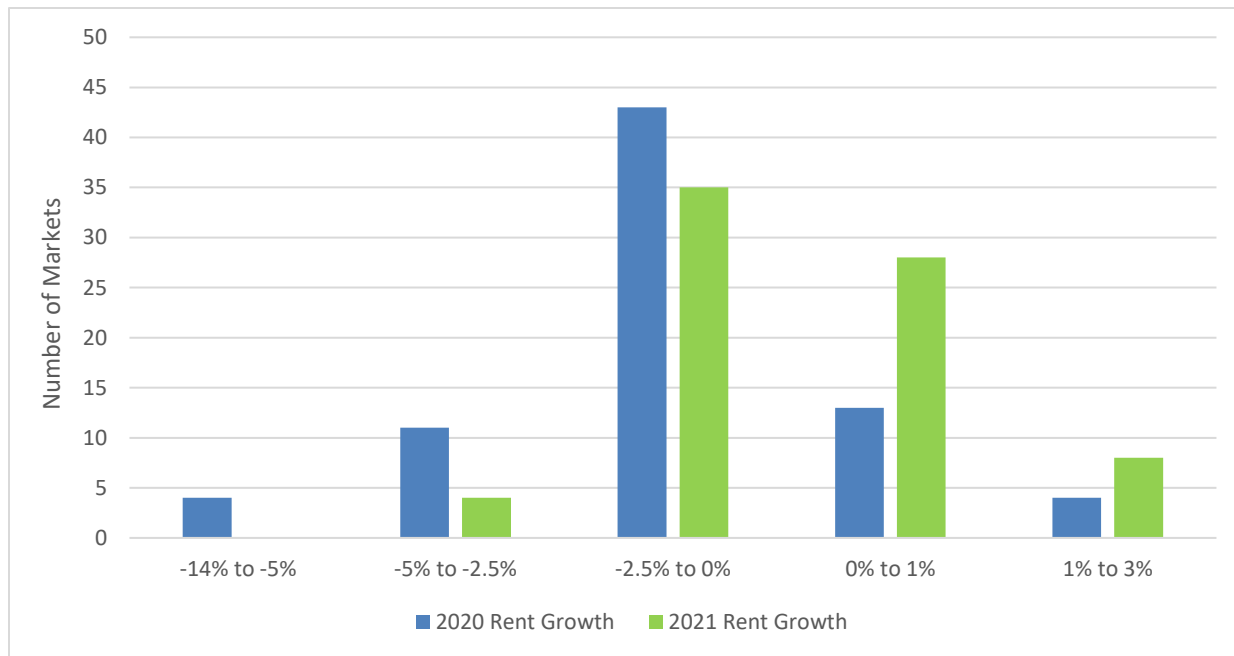
Exhibit 9: Annual Rent Growth Change (bps) and 2020 Forecasted Rent Growth



Sources: Reis, Freddie Mac projections

Despite all the headwinds, the rent growth projections for 2021 look significantly better than what occurred in 2020. Exhibit 10 groups the markets by their rental rate growth for 2020 and 2021. In 2020 four markets had rent declines in excess of 5%, while 11 had declines of -2.5% to -5%. We project in 2021 that no market will decline more than 5% and just four markets will fall between -2.5% and -5%. Well over half of markets in 2020 experienced declines between 0% and -2.5%, while still a significant portion of markets in 2021 fall in that bucket, it has dropped to 46% of markets in 2021. Rent growth was scarce in 2020, with just 17 of the 75 markets covered showing positive rent growth, but for 2021 we expect nearly half of all metros to have positive rent growth.

Exhibit 10: Rent Growth Projection Comparison 2020 with 2021



Sources: Reis, Freddie Mac projections

The 10 markets projected to perform the best by gross income growth for 2021 are generally smaller secondary and tertiary markets, concentrated in the northeast and midwest sections of the country, along with a few Sun Belt metros as well. The bottom ten markets by projected gross income growth for 2021 are generally the larger coastal gateway markets: D.C., San Francisco and San Jose, New York, and Miami. Other smaller markets projected to perform poorly include Richmond, West Palm Beach, Raleigh/Durham, Orlando and Portland.

Exhibit 11: Top and Bottom 10 Metros by Gross Income Growth for 2021

Metropolitan Area – Top 10	2021 Annualized Growth in Gross Income	2021 Vacancy Rate	Metropolitan Area – Bottom 10	2021 Annualized Growth in Gross Income	2021 Vacancy Rate
Hartford	1.5%	4.6%	District of Columbia	-5.8%	8.0%
Sacramento	1.2%	3.8%	Richmond	-3.7%	6.2%
Tampa	1.1%	5.9%	San Francisco	-3.3%	5.4%
Cleveland	1.1%	3.8%	New York (5)	-2.6%	5.0%
Memphis	1.1%	5.6%	West Palm Beach	-2.3%	6.5%
Albuquerque	1.1%	3.3%	Miami	-2.1%	7.6%
Buffalo	1.0%	2.1%	Raleigh/Durham	-1.4%	7.5%
Baltimore	0.9%	4.6%	San Jose	-1.4%	4.7%
Pittsburgh	0.9%	3.5%	Orlando	-1.3%	7.7%
Greensboro/Winston-Salem	0.9%	5.5%	Portland	-1.2%	6.7%
United States	-0.5%	5.8%			

Source: Freddie Mac projections

Despite the slowdowns in deliveries due to the virus, if a project is under construction, there is a high likelihood that it will be completed, even if there is little-to-no demand when the project is delivered. So, projects that started construction before the outbreak of the virus are most likely still going to deliver. In most of the bottom 10 metros, the above-average supply coming online is a major drag on market performance given the overall lack of demand. This leads to increased vacancy rates and decreasing rent growth, as the newly delivered supply will typically offer concessions to boost lease-up pace, putting downward price pressure on the market.

The top 10 metro areas are made up primarily of the stable northeastern, midwestern and smaller Sun Belt areas. Seven of these 10 metros are expected to have decreases in vacancy rates in 2021, along with positive, albeit modest rent growth as well. Many of these areas have been passed over by the multifamily development boom of the past decade and as such, are less severely impacted than many of their more developed counterparts. Within these top markets, vacancy rates in 2020 are lower than their long-term average except for Baltimore, which is just above. We expect these markets will have more ability to cope with the economic impacts associated with the virus and should perform relatively well in 2021.

The Gateway Markets In-Depth

The gateway coastal markets have experienced steep declines in rent combined with increasing vacancy rates. Rent declines for 2020 were severe, particularly in San Francisco and New York, which both saw rent fall more than 10%, with more moderate rent declines projected for 2021. Possibly more surprising is the increase in the vacancy rate in those two metro areas, which typically see very little movement. The vacancy rate in San Francisco and New York increased 1.1% and 1.5%, respectively, in 2020. The situation is expected to improve in 2021, with San Francisco expected to see just a 30 bps increase in the vacancy rate, and New York expected to see a decline in the vacancy rate of 0.3%. The rent declines in the District of Columbia and Miami are less severe in 2020 than in the other gateway markets, but while Miami is expected to see a more moderate decline of 2.4% in 2021, D.C. is expected to see the worst rent growth among all the market analyzed in 2021, down nearly 5%. The vacancy rate is also projected to increase notably in 2021 in D.C., while the vacancy rate in Miami is expected to come down slightly in 2021. Overall, these gateway markets have been some of the worst performing markets of 2020 – a trend that is expected to continue into 2021.

Exhibit 12: Gateway Market Rent Growth and Vacancy Rate Change

Gateway Markets	% Job Loss		Rent Change		Vacancy Rate Change	
	2020	2021	2020	2021	2020	2021
New York (5)	-10.4%	1.4%	-10.2%	-2.9%	1.5%	-0.3%
San Francisco	-7.6%	0.4%	-13.3%	-3.0%	1.1%	0.3%
District of Columbia	-4.8%	-0.1%	-6.0%	-4.9%	0.8%	0.9%
Miami	-5.1%	1.0%	-4.1%	-2.4%	1.2%	-0.3%

Sources: Freddie Mac, Reis, Moody's Analytics

As seen in Exhibit 12, the gateway markets have seen severe job losses this year, with New York and San Francisco fairs significantly worse than D.C. and Miami. Taking a deeper dive on drivers, we use a shift-share analysis to understand performance across metros.

A shift-share analysis compares the job change by sector at a metro level with the national change in those sectors, which measures the competitiveness of the metro area's industries with those nationally. Examining the shift-share analysis for the New York City metropolitan statistical area (MSA) in Exhibit 12, we see that the total non-farm "Share" change is -685,200 jobs, with job change for each sector broken out below, in Exhibit 13. The share change estimates how much job change would occur in each sector of the New York City metro area economy if each of those sectors had changed at the national change rate. In this example, if each sector in the New York City MSA lost jobs at the national rate for that sector, job losses for the past year would have been -685,200.

The "Industry Mix" calculates additional job change due to the specific mix of industries within the metro area. This measures how much job change in the area should have occurred due to its mix of sectors and how much they are changing nationally. In the case of the New York City MSA, the industry mix added 26,600 jobs over the past year.

The "Competitive Effect" takes the job change in each sector for the area and combines it with job change by sector on the national level. This measure shows how competitive each sector in an area is compared with the country as a whole. As seen below, the competitive effect in the New York City MSA is -555,700 jobs, meaning that when compared with the national average, the competitiveness (or lack thereof) of these sectors led to a decline of more than half a million jobs in the New York City metro area. Obviously, this is not because the workers in the city suddenly became less competitive, it is primarily due to the shutdowns the city enacted to try to curb the spread of the virus, and to ultimately save lives.

When all three pieces of the shift-share analysis are combined, the New York City MSA lost over 1.2 million jobs over the past year. When looking at the other gateway markets shown in Exhibit 13, the jobs lost or gained due to competitive effect are relatively modest, signaling that the choice New York City made to shut down large portions of its economy severely hurt its local economy.

Exhibit 13: Shift-Share Analysis for Gateway Markets

	United States				New York City (MSA)				San Francisco, CA			
	2019Q3	2020Q3	% Change	Composition	Share	Industry Mix	Competitive Effect	Total Change	Share	Industry Mix	Competitive Effect	Total Change
Total Non-Farm	151,160	140,789	-6.9%	2020Q3	-685.2	26.6	-555.7	-1,214.3	-81.3	-7.7	-34.4	-123.4
Mining, Logging, and Construction	8,245	7,850	-4.8%	5.6%	-28.6	8.6	-28.8	-48.8	-3.0	0.9	-1.6	-3.7
Manufacturing	12,848	12,143	-5.5%	8.6%	-24.7	4.9	-14.6	-34.3	-2.7	0.5	-1.3	-3.4
Trade, Transportation, and Utilities	27,697	26,403	-4.7%	18.8%	-119.1	38.0	-107.5	-188.6	-10.6	3.4	-10.5	-17.7
Information	2,863	2,596	-9.3%	1.8%	-20.4	-7.3	10.1	-17.7	-6.8	-2.4	1.1	-8.0
Financial	8,764	8,651	-1.3%	6.1%	-54.3	44.1	-34.4	-44.6	-5.9	4.8	1.5	0.4
Professional and Business Services	21,372	20,050	-6.2%	14.2%	-110.8	10.9	-79.8	-179.7	-20.1	2.0	9.7	-8.4
Education and Health Services	24,263	23,112	-4.7%	16.4%	-141.9	43.8	-64.8	-162.9	-10.0	3.1	0.1	-6.9
Leisure and Hospitality	16,576	12,793	-22.8%	9.1%	-65.0	-151.2	-174.8	-391.0	-10.1	-23.6	-21.2	-54.9
Other	5,907	5,402	-8.5%	3.8%	-29.4	-7.2	-27.6	-64.2	-2.9	-0.7	-4.4	-8.0
Government	22,625	21,789	-3.7%	15.5%	-91.0	42.0	-33.4	-82.5	-9.1	4.2	-7.8	-12.7

	United States				Washington DC (Core)				Miami, FL			
	2019Q3	2020Q3	% Change	Composition	Share	Industry Mix	Competitive Effect	Total Change	Share	Industry Mix	Competitive Effect	Total Change
Total Non-Farm	151,160	140,789	-6.9%	2020Q3	-54.8	-0.7	4.4	-51.1	-83.6	-1.8	6.0	-79.4
Mining, Logging, and Construction	8,245	7,850	-4.8%	5.6%	-1.0	0.3	0.9	0.2	-3.7	1.1	3.9	1.3
Manufacturing	12,848	12,143	-5.5%	8.6%	-0.1	0.0	-0.1	-0.1	-2.9	0.6	-0.1	-2.4
Trade, Transportation, and Utilities	27,697	26,403	-4.7%	18.8%	-2.3	0.7	0.2	-1.4	-20.8	6.6	-1.5	-15.7
Information	2,863	2,596	-9.3%	1.8%	-1.4	-0.5	0.6	-1.3	-1.4	-0.5	1.4	-0.5
Financial	8,764	8,651	-1.3%	6.1%	-2.0	1.7	-0.9	-1.3	-5.6	4.6	2.1	1.0
Professional and Business Services	21,372	20,050	-6.2%	14.2%	-11.8	1.2	3.9	-6.7	-12.6	1.2	2.0	-9.3
Education and Health Services	24,263	23,112	-4.7%	16.4%	-8.9	2.8	-2.3	-8.4	-13.2	4.1	-1.2	-10.3
Leisure and Hospitality	16,576	12,793	-22.8%	9.1%	-5.6	-13.1	-15.8	-34.5	-10.0	-23.3	1.4	-31.9
Other	5,907	5,402	-8.5%	3.8%	-5.3	-1.3	5.2	-1.4	-3.4	-0.8	-0.4	-4.7
Government	22,625	21,789	-3.7%	15.5%	-16.4	7.6	12.6	3.8	-9.9	4.6	-1.5	-6.9

Sources: Freddie Mac, Moody's Analytics

The District of Columbia, the bottom-ranked market for 2021, is projected to have both significant rent declines and an increasing vacancy rate. The projected 90 bps jump in vacancy is among the highest rates in the nation. However, the District has a relatively stable employment base, as seen in the shift-share analysis above, with the hard-hit leisure and hospitality sector accounting for roughly two-thirds of the job losses in the city. A reason for hope is the “competitive effect” (discussed in the shift-share example above) for the District is positive, buoyed by the stability of the federal government. This means the industries within the District are performing better than the nation as a whole given the size of its economic sectors. Our models have a difficult time picking up the nuances of a labor market like the District with such an outsized reliance on the federal government, which is inherently stable. All of this is to say that while the inputs of our model do not paint a favorable outlook for the District of Columbia in 2021 given the uncertainty in the inputs, we believe the city may perform better than our models indicate.

Multifamily Mortgage Origination Market

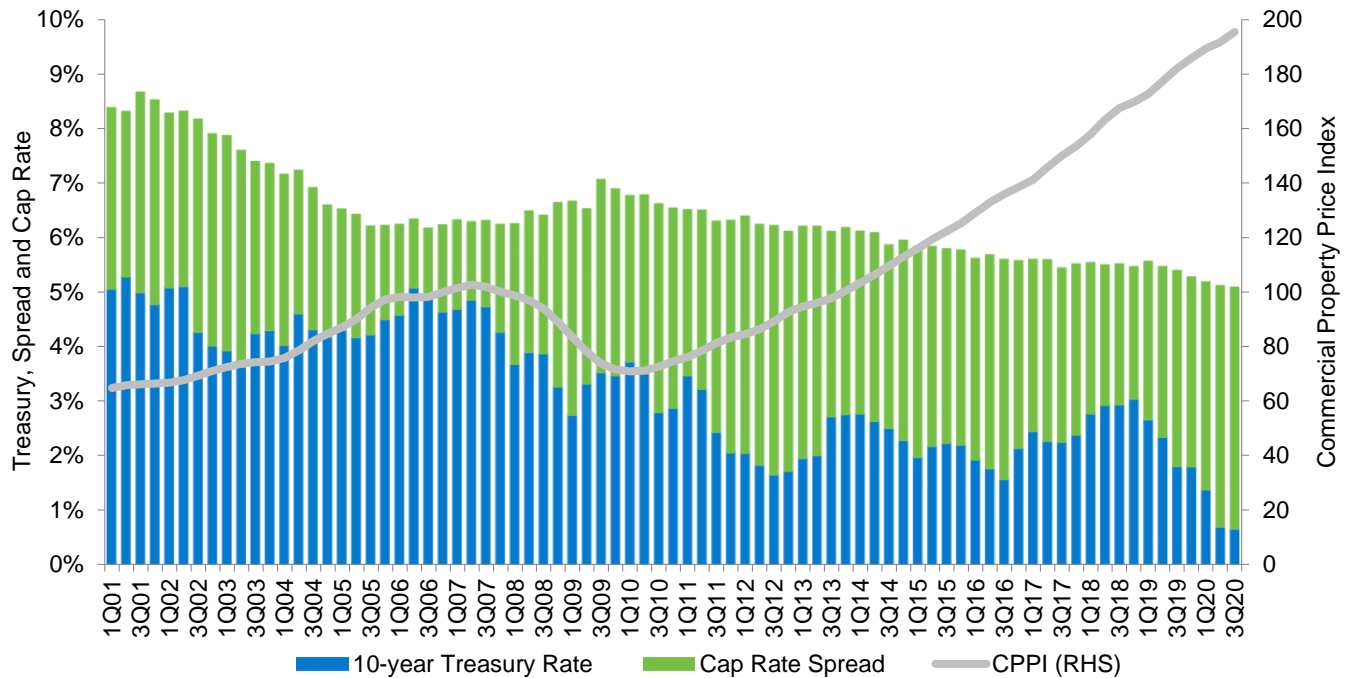
Multifamily investment volume stalled out in the second quarter, totaling just \$15.4 billion, one-third of the volume from a year prior, and down 60% from the first-quarter level, according to Real Capital Analytics (RCA). The year-over-year decline in originations was the largest in over a decade. Despite extremely favorable interest rates, market participants sat on the sidelines as they digested what the virus would mean for the economy and multifamily housing. Deal activity rebounded sharply in the third quarter, up nearly 70% from the second-quarter level, to \$25.9 billion; however, it represents a nearly 50% decline from third quarter 2019 volume.

As of the third quarter, the 10-Year Treasury Rate was 0.65%, and RCA reported cap rates were unchanged from the second quarter at 5.1%, which is down 30 bps from third quarter 2019, as shown in Exhibit 14. The 5.1% cap rate indicates a cap rate spread of 445 bps; well above the average of 322 bps going back to 2001, and the highest level since 2012. Despite the headwinds, the multifamily Commercial Property Price Index has

maintained its positive trajectory, up 7.4% year over year, and 3.2% since the outbreak in first quarter of this year. The continued price appreciation is due to several factors:

- Interest rates are a key driver of property values and as discussed, are extremely low, which helps to prop up values.
- Collections have been stronger than expected earlier in the year, although signs of deterioration may be emerging.
- The vacancy rate has held relatively steady, while the change in rent (outside of a few markets) has been positive to only slightly negative.
- Distressed sales, which drive down overall prices, have been minimal due to these factors.
- Investors are taking a long-term view of the asset class and have faith in the underlying fundamentals of multifamily housing.

Exhibit 14: Multifamily Price Index, Cap Rate Spread and Treasury Rate



Sources: Freddie Mac, Real Capital Analytics CPPI, Federal Reserve Board, Moody's Analytics

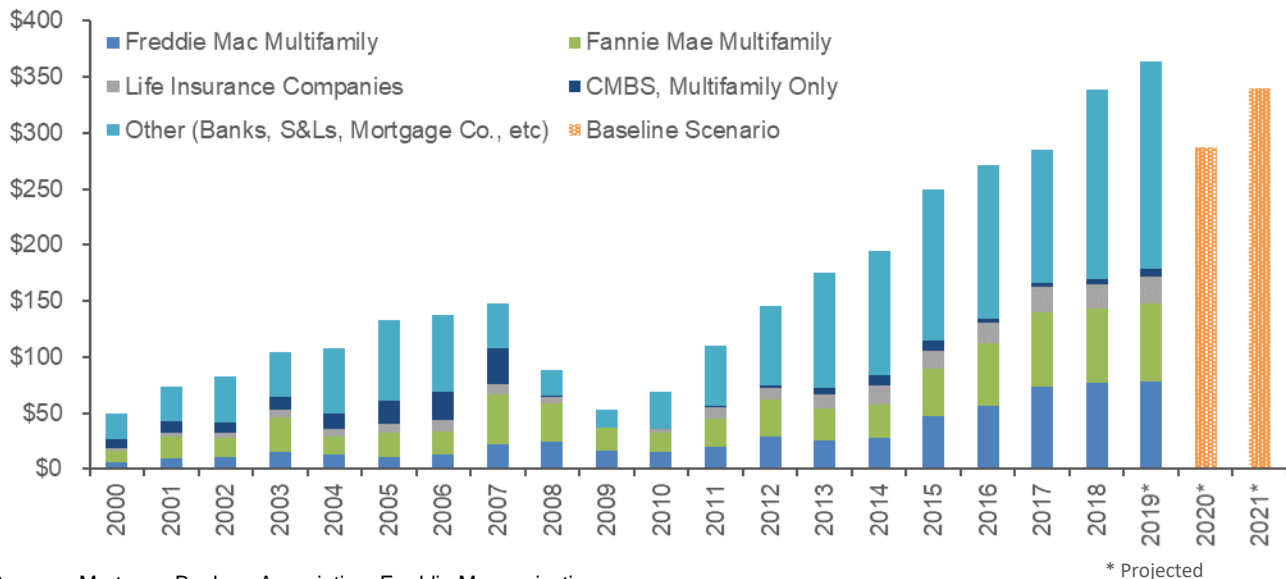
Origination Market Forecast

After a decade of growth, multifamily originations were on a roller coaster in 2020. Origination volume started the year strong, then dropped as the effects of the virus took hold in the second quarter of the year, followed by emerging strength over the second half of the year. The upward trend has been encouraged by low interest rates, and rent fundamentals and collections holding up better than first expected.

The net effect of all of this is a decline. For 2020, we estimate total multifamily volume will have been \$287 billion, down about 21% compared with the record level of 2019, shown in Exhibit 15. For reference, the projected 2020 multifamily volume of \$287 billion is nearly equal to the 2017 level. Our 2021 origination volume forecast is based on an economy that is recovering from the destruction wrought by the virus, with strong GDP growth, the 10-Year U.S Treasury Rate up slightly but still at historically low levels, with an unemployment rate that is not yet fully recovered. Considering these factors, 2021 multifamily volume is expected to increase 18.5% to \$340 billion, nearly identical to 2018 originations. However, most properties have net operating income that is above 2018 levels, and mortgage rates are lower, so both of these factors suggest robust demand for debt in 2021.

Origination volume has been on an upward trend in the second half of 2020 and that will continue into 2021, currently forecast to be \$340 billion.

Exhibit 15: Multifamily New Purchase and Guarantee Volume (\$ Billions)



Sources: Mortgage Bankers Association, Freddie Mac projections
Note: 2019-2021 results are projections as of November 2020.

After a difficult 2020 that impacted the macroeconomy and the housing market, multifamily market conditions are expected to improve in 2021. Vaccines have been approved and are being distributed; stimulus was signed into law at the end of 2020 with more expected; and importantly, the macroeconomy is expected to grow this year. However, headwinds continue as the unemployment rate is elevated, and many workers have left the job market. We expect a year from now we will again be discussing the shortage of supply in the overall housing market and how that impacts multifamily fundamentals and affordability.

For more insights from the Freddie Mac Multifamily Research team, visit <https://mf.freddiemac.com/research>.