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Single-Family Rental – Out of the Ashes

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Abstract

The single-family rental market has enjoyed a strong run in recent years. Demand has been fueled by the foreclosure crisis and declining homeownership. Many families displaced by the crisis much preferred to rent a single-family home over an apartment. Prospects for continued strong single-family rent growth are good. The foreclosure crisis is still playing out and homeownership is likely to remain under pressure until later in the decade. Rents are also low relative to house prices in many markets across the country. Whether the single-family rental share of the housing stock continues to increase largely depends on how millennials ultimately view renting a single-family home over owning their own home or living in an apartment.

Moody's Analytics would like to thank RentRange for providing the historical rental data used in this article, along with a number of other series including house prices.



RentRange collects nearly 3 million single-family rents annually, about 70% of the turnover volume. It maintains the deepest and broadest rental database going back to 2009 that covers nearly 95% of the population along with county property records, including sales prices, characteristics, and mortgage data. Besides the aggregated geographic data used here, RentRange also provides property-level estimated fair-market rents along with trends in vacancies and rents for local zip code level markets. Visit <http://www.renrange.com> for more information.

Single-Family Rental – Out of the Ashes

BY MARK ZANDI AND ADAM KAMINS

The U.S. housing market is in the midst of enormous change. The long, dark shadow of the housing bust and Great Recession, combined with massive demographic shifts including the ascent of the millennial generation and minority groups, is forcing significant adjustments.

One of the most notable changes is the unprecedented decline in homeownership. The percentage of households that own their home peaked more than a decade ago at nearly 70%. Today, homeownership is back closer to 64%, about where it was a quarter century ago, and it is still declining.

The housing boom, bubble and bust are largely behind the ups and downs in homeownership. Some 7 million homeowners have lost their homes since the bubble burst nearly a decade ago through foreclosure, short sales, and deeds in lieu (see Chart 1). By the time the problems created by the bust have been fully worked through, an astonishing estimated 7.5 million households will have lost their homes. For context, there were close to 55 million homeowners with mortgages at the peak prior to the Great Recession.

Nearly all of these households have since become renters. Given their wrecked credit scores and the persistently tight mortgage credit standards, such households have had little prospect of getting another mortgage loan. The earliest most borrowers can get a Federal Housing Administration loan after suffering a foreclosure is three years, and for a Fannie Mae or Freddie Mac loan it is seven years.

Even if enough time has passed since a foreclosure, many lenders are loath to make loans to borrowers with any blemish on their credit history. The average credit score on purchase mortgage loans sold to Fannie Mae last year was close to 745. In a more typical housing market, like that prior to the housing bubble, the average score was closer to 715. This 30-point difference represents several million potential homebuyers.

Demographics are also weighing on

homeownership. The large millennial cohort, made up of those 18 to 34 years old, is of the age more likely to rent than own a home. Given millennials' difficult financial circumstances—taking on more student loan debt to pay for their education and then looking for work

after graduation in the worst of economic times—it will take longer for them to save for a down payment and establish the employment history needed to purchase a home. In addition, changing social patterns such as the proclivity of millennials to get married at a later age and their preference for living in densely populated urban centers, are further delaying home purchases.

The rental housing market is thus experiencing robust demand. Absorption of rental homes has been so strong that despite a surge in multifamily construction, which has already rebounded to prerecession levels, the rental vacancy rate has plunged to a near 30-year low. Real after-inflation rent growth is sturdy and steadily accelerating.

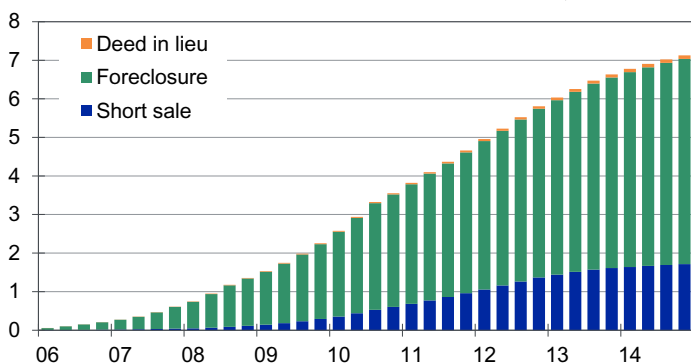
The rapid gains in the single-family rental housing market have been even more impressive. Many of those households that lost their homes in foreclosure are now renting similar ones. Millennials contemplating a home purchase may also consider renting a single-family home first to be a good option.

The single-family rental share of the entire housing stock has increased from just over 9% a decade ago to more than 13% today. As a share of just the rental housing stock, single-family rentals have risen from 30% to 36% over the same period (see Chart 2). The apartment share of the housing stock, for both those with two to four units and those with five or more units, has fallen commensurately.

Single-family renting is especially prevalent in the western and southern U.S. (see

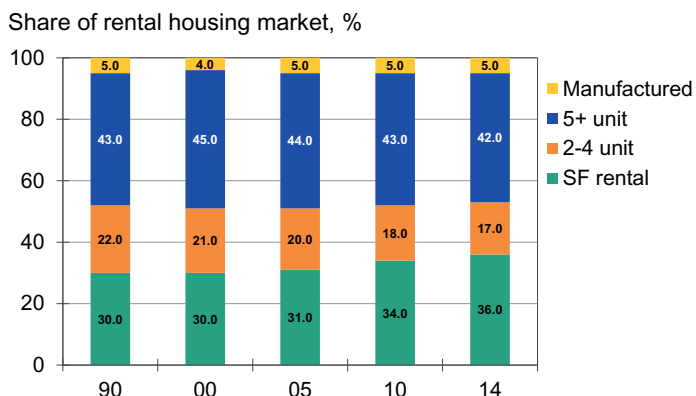
Chart 1: Foreclosures Cost Millions Their Homes

Cumulative number of homes lost to foreclosure crisis, mil



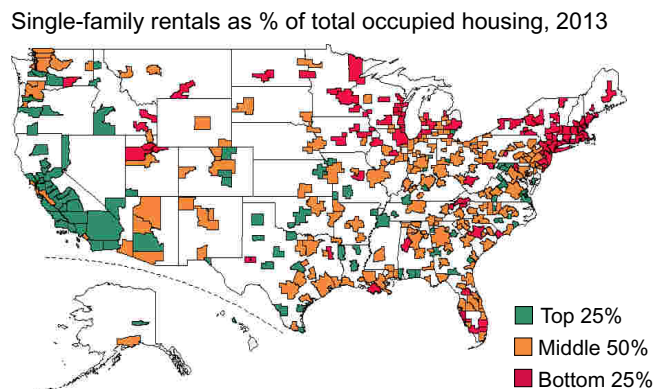
Source: Moody's Analytics

Chart 2: Single-Family Share of Market Increases



Sources: Census Bureau, Moody's Analytics

Chart 3: SF Renting Is Popular in West/South



Sources: ACS, Moody's Analytics

Chart 3). Approximately one-fifth of all households in the Central Valley of California rent a single-family home. The severe foreclosure crisis, comparatively low rents, and a newer housing stock help to explain this. Single-family renting is also popular in other regions of the country hurt badly in the housing bust such as Nevada, Arizona and Georgia.

Households are much less likely to rent a single-family home in the Northeast and Midwest. New York and Boston have the lowest single-family rental shares in the country. Single-family rental is also not as popular in the upper Midwest, where foreclosures have been much less prevalent and there are fewer millennials.

This paper will consider the forces behind the rapid rise of the single-family rental market and its prospects by focusing on the outlook for single-family rents in the nation's 50 largest metro areas. A model of rents for three-bedroom homes is estimated based on data collected by RentRange, and the model is used to identify over- and undervalued metro area rental markets as well as to produce rent forecasts over the remainder of the decade under different economic scenarios.

From the ashes

The single-family rental market has come into its own in the fallout from the bursting housing bubble. Institutional real estate investors have been especially important to the market's development. These large investors were attracted to the market during

the bust when millions of distressed homes were being sold at fire-sale prices.

These investors calculated that they could buy the properties, many of which were in fairly good shape, renovate them, and get a good return by renting them to displaced households who did not want to go back to apartment living. Prospects were also good, they figured, that home values would eventually rebound, allowing them to cash out in a few years with a tidy profit.

A number of institutional investors have invested heavily in this strategy beginning in early 2012, and now the seven largest single-family REITs own close to 150,000 homes across the country. They are collectively purchasing nearly 10,000 properties per quarter. And they are especially active in many California, Florida and Texas metro areas, along with Atlanta, Charlotte NC, Chicago, Indianapolis and Phoenix.

Although it is impressive that large investors have become such significant players in a number of housing markets in just a few years, they remain a small part of the overall market. Indeed, unlike the apartment market, which is dominated by large institutional investors, the single-family rental market is largely owned and managed by smaller mom-and-pop investors, most of whom own a few homes at most.

Investors in the single-family rental market were instrumental in ending the free fall in house prices during the bust. They began buying homes after prices had fallen by almost one-third nationwide, and in the most distressed markets where they have been most

prevalent, house prices were down by as much as two-thirds. Purchasing homes in this dark economic time was not for the faint of heart.

Institutional investors also had the advantage of being willing and able to put up cash for their purchases. Sellers looking to quickly off-load distressed properties, particularly banks that had taken repossession of homes, were not interested in waiting for other potential buyers to line up the necessary financing. That likely would have required a long wait given that shell-shocked lenders were in no mood to take any risks in their lending.

At the peak of investor home purchases in early 2013, they accounted for almost one-third of existing-home sales. In areas of the country hit hardest by the housing bust such as Arizona, California, Florida, Georgia and Nevada, the investor share of sales topped out at well more than half. For context, in more typical times, investors account for closer to one-tenth of sales.

It is not unusual for opportunistic investors to play a key role in stabilizing a distressed asset market. They certainly take advantage of the difficult position of those forced to sell, and are thus often labeled pejoratively as vulture investors, but they serve a vital purpose. If they did not put their capital at considerable risk, asset prices would fall further.

For the U.S. housing market during the bust this would have surely meant even more foreclosures, as the decline in prices would have pushed more homeowners more deeply under water. Those homeown-

Table 1: Single-Family Rent Model

Equilibrium equation for Northeast metro areas

Quarterly data 2009Q1 to 2014Q3

8 metro areas

R-squared = .95

Durbin-Watson = .27

Dependent variable: Log(real single-family rent)

	Coefficient	T-statistic
Constant	2.02	53.58
Log(real median single-family house prices)	0.69	59.61
Log(real Baa bond yield, 3-yr MA)	0.06	2.23

Error correction equation

Quarterly data 2009Q2 to 2014Q3

50 metro areas

R-squared = .06

Durbin-Watson = 1.82

Dependent variable: D(Log(real single-family rent))

	Coefficient	T-statistic
Fitted real rent growth from equilibrium equation	0.1441	3.2
Convergence term	-0.0697	-6.4
Diff(Log(state foreclosure started rate))	0.0066	1.7
Diff(Log(rental vacancy rate))	-0.0106	-3.8
2-qtr MA, unemployment rate	-0.0005	-4.9

Sources: NAR, BLS, Census Bureau, Mortgage Bankers Association, Moody's Analytics

ers lucky enough to hold on to their homes would have been worth a lot less.

Institutional real estate investors have also been criticized for hurting communities. It is argued that communities with lower homeownership and more out-of-town landlords are weaker, as there are fewer households committed to that community's long-term vitality. There is also the concern that institutional investors are bad landlords, taking advantage of their renters by aggressively raising rents or not taking care of their properties. Though reasonable concerns, these reflect broader views regarding the merits of homeownership and protections afforded renters, whether the landlord is an institutional or a mom-and-pop investor.

More recently, as the foreclosure crisis has abated in much of the country and house prices have recovered, investors have become less active. The investor share of home sales has receded toward a more typical one-tenth of sales, and institutional investors account for closer to 1% of sales.

Investors have been buying more nondistressed homes, as the supply of distressed homes of investment quality has dwindled. Institutional investors have also begun to provide financing for larger mom-and-pop investors experiencing difficulty obtaining credit from more traditional sources.

Single-family rent model

To gauge prospects for the single-family rental market, a model of rents for three-bedroom single-family properties in the

nation's 50 largest metropolitan areas was estimated and used to produce forecasts.

The model is specified as an error correction process estimated based on historical rental data collected monthly by RentRange and converted into quarterly frequency. In an error correction model, equilibrium and adjustment equations are estimated. The equilibrium equation captures where rents are headed in the long run, while the adjustment equation captures how rents move from where they are currently to where they should be in the long run.

In the equilibrium single-family rent equation, rents are determined by house prices and real interest rates. This flips the standard relationship between house prices and rents in which house prices are determined by the discounted value of expected future rents. This approach thus leverages the extensive house price modeling and forecasting work of Moody's Analytics.

Equilibrium equations are estimated for nine pools of metropolitan areas. The pools are of metro areas in distinct regions of the country, except for one pool consisting of large, land-constrained metro areas that behave differently than the rest of their region. The regression results for a typical equilibrium equation, reflecting metro areas in the Northeast, is shown in Table 1. House prices and expected real interest rates, proxied by a three-year moving average of historical real rates, are positively related to rents.

Single-family rents in the Northeast are slightly more sensitive to changes in house

prices than those in other parts of the country, as a 1% increase in house prices results in a 0.7% increase in rents. In all parts the country, the rent elasticity with respect to house prices is less than 1, reflecting the fact that rents tend to be a bit more stable than house prices through the business cycle.

The adjustment equation is estimated for one pool across all 50 metro areas. The adjustment of rents back to their long-run equilibrium occurs gradually, as shown by the convergence term in the equation. Taken at face value, the equation indicates that most of the convergence process should take place in approximately four years. It is difficult, however, to determine exactly how long this will take given the relatively short historical period back to 2009 for which single-family rent data are available for the estimation.

The adjustment process is influenced by the rate of foreclosures. More foreclosures mean that there are more displaced households likely to rent a single-family home. Stronger demand results in higher rents. An increase in vacancy rates for rental units not surprisingly pressures rents lower. And higher unemployment forces those households that might otherwise want to rent a single-family home into renting a smaller, less expensive apartment or to live in a manufactured home.

Over/undervaluation

The equilibrium equation in the error correction model can be used to identify

where single-family rents appear too high or too low compared with where they should be in the long run given house prices and interest rates.

Numerous single-family rental markets in the western U.S. and parts of the South appear somewhat overvalued (see Table 2). That is, rents appear high compared with house prices in these metro areas given current interest rate expectations. Rents appear especially high relative to house prices in the Bay Area of California, easily the nation's most expensive market for single-family rentals, San Diego and Denver. Single-family rents also appear high in Houston and New Orleans, particularly given the anticipated fallout from the plunge in oil prices on these energy-dependent metro area economies. Single-family rents in Tampa and Orlando also look a bit overdone.

Numerous southeastern markets, conversely, feature unusually low rents relative to house prices. Atlanta, Birmingham AL, and Charlotte NC boast some of the lowest rents relative to economic fundamentals, while Kansas City MO and Chicago represent undervalued midwestern metro areas (see Chart 4). Rents also appear to be low in the Pacific Northwest and Washington DC, while most of the Northeast Corridor features appropriate rents given broader market conditions.

The metro areas in which institutional investors seem to be most active are mixed. Single-family rents appear to be high relative to house prices in a number of Florida metro areas, but well-balanced or undervalued in Los Angeles and Las Vegas and Phoenix.

Upbeat rent outlook

Prospects for the single-family rental market through the remainder of the decade are good. Rent growth is expected to accelerate this year, and average nearly 3% per annum through the end of the decade (see Table 3). This compares with expected consumer price inflation over the period of close to 2% per annum.

Single-family rents are expected to modestly lag house price gains through the remainder of the decade (see Chart 5). Weighing on rent gains will be an improving

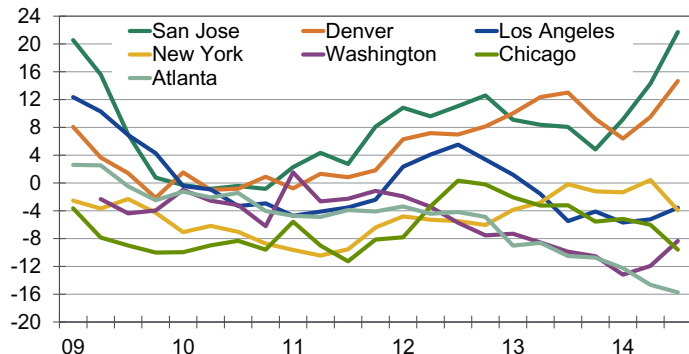
Table 2: Over/Undervaluation in the Single-Family Rental Market, 2014Q4-2015Q1

	Actual rent	Expected rent	% overvalued	Rank
Atlanta	989	1,151	-14.0%	48
Austin	1,529	1,502	1.8%	20
Baltimore	1,635	1,549	5.6%	13
Birmingham	871	1,136	-23.3%	50
Boston	2,222	2,114	5.1%	14
Buffalo	998	989	1.0%	21
Chicago	1,542	1,698	-9.2%	47
Charlotte	1,111	1,194	-7.0%	45
Cincinnati	1,055	1,025	2.9%	17
Cleveland	991	988	0.2%	23
Columbus	1,078	1,042	3.4%	15
Dallas	1,326	1,300	2.0%	19
Denver	1,746	1,485	17.6%	2
Detroit	901	935	-3.7%	33
Hartford	1,619	1,449	11.8%	3
Houston	1,452	1,345	7.9%	9
Indianapolis	1,032	1,026	0.6%	22
Jacksonville	1,111	1,194	-6.9%	44
Kansas City	934	1,125	-17.0%	49
Las Vegas	1,194	1,261	-5.3%	38
Los Angeles	2,510	2,609	-3.8%	34
Louisville	942	1,002	-5.9%	40
Memphis	910	969	-6.1%	42
Miami	1,902	1,906	-0.2%	24
Milwaukee	1,143	1,107	3.3%	16
Minneapolis	1,426	1,445	-1.3%	28
Nashville	1,382	1,265	9.3%	8
New Orleans	1,241	1,136	9.3%	7
New York	2,271	2,300	-1.3%	27
Oklahoma City	1,112	1,128	-1.5%	29
Orlando	1,265	1,179	7.3%	10
Philadelphia	1,419	1,434	-1.0%	26
Phoenix	1,168	1,249	-6.5%	43
Pittsburgh	1,014	1,051	-3.5%	32
Portland	1,543	1,585	-2.6%	31
Providence	1,630	1,521	7.1%	11
Raleigh	1,248	1,217	2.5%	18
Richmond	1,164	1,239	-6.1%	41
Riverside	1,500	1,565	-4.1%	36
Sacramento	1,471	1,554	-5.3%	39
San Francisco	2,780	2,618	6.2%	12
San Jose	3,121	2,632	18.6%	1
San Diego	2,270	2,072	9.5%	6
Salt Lake City	1,277	1,340	-4.7%	37
San Antonio	1,271	1,278	-0.6%	25
Seattle	1,674	1,744	-4.0%	35
St. Louis	985	1,004	-1.9%	30
Tampa	1,248	1,128	10.6%	4
Virginia Beach	1,331	1,205	10.5%	5
Washington	1,923	2,094	-8.2%	46

Sources: RentRange, NAR, Moody's Analytics

Chart 4: San Jose Rents Are High, Atlanta Low

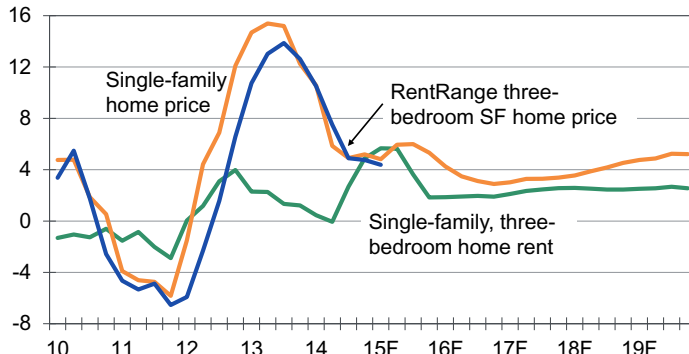
Quarterly rent, % difference vs. expected



Sources: RentRange, FHFA, Moody's Analytics

Chart 5: Rents to Rise by Less than Home Prices

Median, % change yr ago



Sources: RentRange, NAR, Moody's Analytics

job market and increased mortgage credit availability, both of which should soon stem the decline in homeownership. Demand for single-family rentals will also come under some pressure as the foreclosure crisis winds down and fewer households lose their homes.

Single-family rent growth is also expected to lag the rise in apartment rents over the next several years. Millennials will finally leave their parents' homes because of their better expected job prospects and rising marriage rates as they continue to age, but their first stop as new households will be in lower-cost apartments. They may eventually decide to trade up and rent a single-family home, but this will likely be a few years down the road.

Midwestern metro areas will experience relatively strong single-family rent growth through the end of the decade. This in large part reflects a cyclical rebound; of the 10 metro areas in the region considered in this analysis, rents have fallen in all but three since the recession. However, house prices in the region have risen. Rents thus appear especially low compared with house prices.

Strong fundamentals will support healthy single-family rent gains in a number of western metro areas through the end of the decade. The undervalued Phoenix market along with technology centers Seattle and Portland

OR will post sizable gains in the coming years. San Francisco will also be supported by high-technology industries; although there are concerns that the sector is getting overdone, there is little indication of a tech bubble, at least nowhere on the scale of that in the late 1990s.

Many of the fastest-growing western metro areas also benefit from robust demand from overseas families and investors. These foreign buyers are attracted by the safety of the U.S. and the already-large foreign communities in these areas.

Northeast metro areas will in general have the weakest single-family rent growth prospects. Rents are already high in many markets, and the region's economy will struggle with the continued migration of its residents to the West and large metro areas in the South. Similar demographic challenges will hold back single-family rent growth in certain southern metro areas, including New Orleans and Virginia Beach VA.

Areas in which institutional investors have focused their attention should experience solid single-family rent gains, even as the rest of the nation begins to catch up. Most California and Texas metro areas should enjoy rent increases that are at least on par with gains nationwide over the next year or so before growth begins to taper off. Florida metro areas, meanwhile, will experi-

ence more modest gains, but rent growth will nonetheless accelerate in the short run. Among large metro areas, Chicago and Los Angeles should outperform the U.S. through the rest of the decade, while Houston and New York are likely to disappoint.

Conclusions

The single-family rental market has enjoyed a strong run in recent years. Demand has increased quickly, fueled by the foreclosure crisis and declining homeownership rate. Many families displaced by the crisis much preferred to rent a single-family home over an apartment. The rapid ascent of institutional investors in the market has helped upgrade the quality of homes for rent and professionalized the industry, making it more attractive to households.

Prospects for the single-family rental market are good. The foreclosure crisis is still playing out and homeownership is likely to remain under pressure until later in the decade. Rents are also low relative to house prices in many markets across the country. Whether single-family rental continues to account for an increasing share of the housing stock depends on how millennials ultimately view homeownership and the benefits of renting rather than owning. Like many things for this age cohort, that is yet to be determined.

Table 3: Single-Family Rent Outlook
Monthly rent, \$, 3-bedroom home

	History		Forecast					Annualized growth rates					Growth rate rank								
	2009	2014	2015	2016	2017	2018	2019	2009-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2009-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2019	
Northeast																					
Baltimore	1,564	1,545	1,644	1,651	1,668	1,687	1,715	-0.2	6.4	3.4	2.6	2.2	2.1	0.9	35	13	23	29	33	36	39
Boston	1,901	2,151	2,238	2,259	2,291	2,324	2,365	2.5	4.0	2.5	2.1	1.9	1.9	2.2	7	31	37	37	36	37	11
Buffalo	1,031	962	1,012	1,021	1,034	1,050	1,069	-1.4	5.1	3.0	2.4	2.2	2.1	0.4	43	22	30	31	34	35	45
Hartford	1,543	1,561	1,644	1,617	1,614	1,628	1,664	0.2	5.3	1.8	1.1	1.1	1.3	0.8	30	20	44	45	45	42	42
New York	2,094	2,237	2,267	2,321	2,381	2,437	2,501	1.3	1.3	1.9	2.1	2.2	2.3	1.8	11	47	42	38	35	32	17
Philadelphia	1,430	1,438	1,416	1,449	1,481	1,510	1,543	0.1	-1.5	0.4	1.0	1.2	1.4	0.8	32	50	50	46	42	40	41
Pittsburgh	829	984	1,016	1,044	1,069	1,089	1,109	3.5	3.2	3.0	2.8	2.6	2.4	2.9	3	36	28	26	26	26	5
Providence	1,503	1,472	1,679	1,682	1,702	1,729	1,767	-0.4	14.1	6.9	5.0	4.1	3.7	1.6	36	1	1	4	7	7	19
Washington	1,736	1,862	1,956	2,014	2,061	2,098	2,136	1.4	5.0	4.0	3.4	3.0	2.8	2.1	10	23	17	17	19	20	13
Midwest																					
Chicago	1,587	1,532	1,555	1,627	1,693	1,753	1,815	-0.7	1.5	3.1	3.4	3.4	3.4	1.4	39	46	26	18	12	10	26
Cincinnati	965	995	1,062	1,077	1,093	1,110	1,131	0.8	6.8	4.1	3.2	2.8	2.6	1.6	19	11	16	21	23	25	33
Cleveland	1,062	960	1,000	1,020	1,043	1,068	1,095	-2.0	4.2	3.1	2.8	2.7	2.7	0.3	46	29	25	25	24	24	46
Columbus	1,022	1,011	1,083	1,099	1,114	1,130	1,149	-0.2	7.2	4.3	3.3	2.8	2.6	1.2	34	7	13	20	22	26	31
Detroit	1,026	901	907	934	964	995	1,028	-2.6	0.7	1.8	2.3	2.5	2.7	0.0	47	48	43	35	29	21	48
Indianapolis	983	998	1,039	1,059	1,079	1,099	1,122	0.3	4.2	3.0	2.7	2.5	2.4	1.3	28	28	27	28	30	29	27
Kansas City	957	908	961	1,026	1,081	1,127	1,170	-1.0	5.7	6.3	6.0	5.5	5.2	2.0	41	16	4	2	2	2	15
Milwaukee	1,306	1,097	1,141	1,157	1,177	1,200	1,228	-3.4	4.0	2.7	2.4	2.3	2.3	-0.6	50	32	32	33	32	31	49
Minneapolis	1,385	1,426	1,448	1,482	1,505	1,523	1,544	0.6	1.6	2.0	1.8	1.7	1.6	1.1	22	45	40	40	38	38	34
St. Louis	1,098	941	1,008	1,035	1,058	1,078	1,101	-3.0	7.1	4.9	4.0	3.5	3.2	0.0	48	8	9	11	11	15	47
South																					
Atlanta	1,044	978	1,011	1,061	1,111	1,155	1,197	-1.3	3.4	4.2	4.3	4.3	4.1	1.4	42	35	15	7	5	5	24
Austin	1,255	1,467	1,552	1,564	1,569	1,564	1,561	3.2	5.8	3.3	2.3	1.6	1.3	2.2	5	15	24	36	39	43	12
Birmingham	1,017	857	898	973	1,034	1,082	1,125	-3.4	4.7	6.6	6.4	6.0	5.6	1.0	49	26	2	1	1	1	36
Charlotte	1,006	1,074	1,136	1,167	1,199	1,228	1,257	1.3	5.7	4.2	3.7	3.4	3.2	2.3	12	17	14	12	14	14	9
Dallas	1,228	1,263	1,349	1,364	1,382	1,397	1,414	0.6	6.8	3.9	3.0	2.6	2.3	1.4	24	10	18	23	27	30	23
Houston	1,330	1,377	1,455	1,450	1,452	1,455	1,462	0.7	5.7	2.6	1.8	1.4	1.2	1.0	20	18	35	41	41	44	38
Jacksonville	1,089	1,121	1,123	1,164	1,204	1,240	1,272	0.6	0.2	1.9	2.4	2.6	2.6	1.6	23	49	41	32	28	27	21
Louisville	924	899	962	989	1,012	1,030	1,049	-0.6	7.1	4.9	4.0	3.5	3.1	1.3	37	9	8	10	10	16	28
Memphis	951	906	924	961	995	1,022	1,049	-1.0	1.9	3.0	3.1	3.0	3.0	1.0	40	41	29	22	18	18	37
Miami	1,842	1,867	1,924	1,968	2,009	2,043	2,076	0.3	3.0	2.7	2.5	2.3	2.1	1.2	29	37	34	30	31	33	30
Nashville	1,192	1,291	1,393	1,408	1,384	1,349	1,337	1.6	8.0	4.4	2.4	1.1	0.7	1.2	9	5	12	34	44	48	32
New Orleans	1,338	1,223	1,243	1,241	1,241	1,243	1,251	-1.8	1.6	0.7	0.5	0.4	0.4	-0.7	45	43	48	50	50	50	50
Oklahoma City	1,038	1,054	1,131	1,150	1,170	1,186	1,203	0.3	7.3	4.4	3.5	3.0	2.7	1.5	27	6	11	16	20	22	22
Orlando	1,174	1,233	1,268	1,268	1,279	1,292	1,307	1.0	2.9	1.4	1.2	1.2	1.2	1.1	16	38	45	44	43	45	35
Raleigh	1,149	1,219	1,260	1,270	1,285	1,299	1,317	1.2	3.4	2.1	1.8	1.6	1.6	1.4	14	34	39	42	40	39	25
Richmond	1,081	1,127	1,182	1,217	1,253	1,287	1,322	0.8	4.8	3.9	3.6	3.4	3.2	2.0	17	25	20	14	15	13	14
San Antonio	1,057	1,178	1,296	1,313	1,330	1,341	1,352	2.2	9.9	5.6	4.1	3.3	2.8	2.5	8	2	6	9	17	19	7
Tampa	1,195	1,216	1,248	1,243	1,248	1,258	1,272	0.4	2.7	1.1	0.9	0.8	0.9	0.6	25	39	46	47	48	47	43
Virginia Beach	1,297	1,290	1,323	1,314	1,319	1,331	1,350	-0.1	2.6	0.9	0.7	0.8	0.9	0.4	33	40	47	48	49	46	44

Table 3: Single-Family Rent Outlook (Cont.)
 Monthly rent, \$, 3-bedroom home

	History		Forecast					Annualized growth rates					Growth rate rank									
	2009	2014	2015	2016	2017	2018	2019	2009-2014	2014-2015	2014-2016	2014-2017	2014-2018	2014-2019	2009-2014	2014-2015	2014-2016	2014-2017	2014-2018	2014-2019			
West																						
Denver	1,341	1,626	1,735	1,709	1,693	1,684	1,685	3.9	6.7	2.5	1.4	0.9	0.7	2.3	2	12	36	43	47	49	8	
Las Vegas	1,268	1,167	1,216	1,256	1,297	1,336	1,376	-1.6	4.2	3.7	3.6	3.4	3.3	0.8	44	30	21	15	13	12	40	
Los Angeles	2,402	2,426	2,546	2,619	2,704	2,799	2,907	0.2	5.0	3.9	3.7	3.6	3.7	1.9	31	24	19	13	9	9	16	
Phoenix	1,082	1,125	1,188	1,231	1,272	1,311	1,349	0.8	5.6	4.6	4.2	3.9	3.7	2.2	18	19	10	8	8	8	10	
Portland	1,254	1,445	1,578	1,620	1,662	1,708	1,760	2.9	9.2	5.9	4.8	4.3	4.0	3.5	6	4	5	6	6	6	1	
Riverside	1,521	1,476	1,530	1,566	1,611	1,660	1,716	-0.6	3.6	3.0	2.9	3.0	3.1	1.2	38	33	31	24	21	17	29	
Sacramento	1,331	1,411	1,500	1,557	1,625	1,699	1,780	1.2	6.3	5.0	4.8	4.8	4.8	2.9	15	14	7	5	4	3	4	
San Francisco	2,205	2,598	2,736	2,789	2,868	2,963	3,075	3.3	5.3	3.6	3.4	3.3	3.4	3.4	4	21	22	19	16	11	2	
San Jose	2,316	2,993	3,041	3,019	3,051	3,115	3,208	5.3	1.6	0.4	0.6	1.0	1.4	3.3	1	44	49	49	46	41	3	
San Diego	2,060	2,198	2,292	2,295	2,324	2,374	2,443	1.3	4.3	2.2	1.9	1.9	2.1	1.7	13	27	38	39	37	34	18	
Salt Lake City	1,237	1,274	1,298	1,343	1,383	1,417	1,453	0.6	1.8	2.7	2.8	2.7	2.7	1.6	21	42	33	27	25	23	20	
Seattle	1,534	1,560	1,710	1,765	1,829	1,896	1,966	0.3	9.6	6.4	5.4	5.0	4.7	2.5	26	3	3	3	3	3	4	
Weighted Avg	1,448	1,473	1,545	1,572	1,608	1,648	1,690	0.3	5.0	3.4	3.1	2.9	2.9	1.6								

Note: No data exist for Cincinnati for 2009, so 2010 average and annualized four-year growth rate are used.

Sources: RentRange, Moody's Analytics

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Mark M. Zandi is chief economist of Moody's Analytics, where he directs economic research. Moody's Analytics, a subsidiary of Moody's Corp., is a leading provider of economic research, data and analytical tools. Dr. Zandi is a cofounder of Economy.com, which Moody's purchased in 2005.

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