May 16, 2018 — Morningstar Credit Ratings, LLC today republished its April Single-Family Rental Performance Summary after receiving March performance data for IH 2017-SFR2 that was not included in the original report published on May 2, 2018. The updated information resulted in minor changes to the April performance summary, but it did not change the overall analysis. Changes in the report include the following:

► The blended rent change dropped to 4.1% from 4.2%.

► The average vacancy rate changed to 4.3% from 4.4%.

► The average retention rate rose to 79.3% from 75.8%

► The Miami and Raleigh-Carey, North Carolina, metropolitan statistical areas had the second- and third-highest vacancy rates, respectively, at 5.7% and 5.5%, updated from the Charlotte, North Carolina, and Raleigh-Carey MSAs tied for the second-highest vacancy rate, at 5.5% each.

► The overall turnover rate changed to 2.4% from 2.3%.

Single-Family Rental Research

Performance Summary Covering All Morningstar-Rated Securitizations

April 2018   Download to Excel

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Introduction

Morningstar Credit Ratings, LLC updated the April Single-Family Rental Performance Summary to include March data for IH 2017-SFR2. The inclusion of IH 2017-SFR2's March data did result in minor changes, but none of the changes significantly affected the overall analysis.

The blended rent change increased by 4.1% in March, compared with a revised 3.2% rise in February. The average vacancy rate across single-borrower, single-family rental securitizations rated by Morningstar improved for the fifth-consecutive month, declining to 4.3% in March from 4.6% in February. The lower vacancy is likely due to fewer winter lease expirations and a continued strong average retention rate that now stands at 79.3% as of February, the most recent data available. Among the top 20 metropolitan statistical areas, the Houston MSA continued to have the highest vacancy rate at 6.4% in March, though it was down from 7.3% in February and 10.0% in October. The Miami and Raleigh-Cary, North Carolina, MSAs had the next-highest vacancy rates at 5.7% and 5.5%, respectively. The Phoenix MSA experienced the highest blended rent growth of 6.4%, while the Denver-Aurora and Las Vegas MSAs both saw blended rent growth of 5.7%. The updated April Single-Family Rental Performance Summary includes 23 single-borrower deals with just over 86,200 properties.

Because of the timing of data reporting and in an effort to report common monthly data across all transactions rated by Morningstar and avoid revisions, starting with the May report, Morningstar will publish the Single-Family Rental Performance Summary on or

around the 15th of the following month. For example, we will publish the May performance summary with April data on or around June 15th.

Morningstar publishes our performance summary to provide market participants detailed property-level information on each single-family rental securitization that Morningstar has rated. The data below summarizes issuer-reported property-level information through March. Page 5 includes a summary of the multiborrower transactions. For deals seasoned at least one year, we provide Morningstar Surveillance Analysis reports, available on our website, www.morningstarcreditratings.com.

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Single-Borrower Performance

The average vacancy rate fell to 4.3% in March, continuing a five-month trend of improving vacancy rates. While AMSR 2016-SFR1's vacancy rate declined to 6.5% from 7.7% in February, it remains the highest among single-borrower deals, followed by AH4R 2015-SFR2 at 5.6%. The average retention rate on full-term leases remains strong at 79.3% in February, the latest month for which data is available, with all transactions reporting rates of at least 74.9% and 11 deals having retention rates greater than 80.0. The overall turnover rate decreased slightly to 2.4% in February, the latest month for which data is available. The average delinquency rate improved to 0.5% from 0.7% in February, with only one deal posting a delinquency rate above 1.0%. AMSR 2016-SFR1 continues to have the highest delinquency rate at 1.9%, down from 2.2% in February. Please note that any review of delinquency should be viewed within the context of the delinquency definitions in Table 7.

Rents rose 4.1% in March, compared with a revised increase of 3.2% in February. Chart 1 shows that the rent gains for securitized properties increased above their RentRange benchmarks. The RentRange benchmarks track the year-over-year change on three- and four-bedroom median rents, weighted by MSA to match the geographic concentration of the Morningstar database.

Chart 2 shows the rental change of renewals versus vacant-to-occupied properties. For February, the latest month for which data is available, the rent change for renewal properties increased 4.2% and vacant-to-occupied properties increased by 3.2%. Chart 3 shows that the average contractual rents by MSA have been largely in line with or slightly higher than their property-level RentRange estimates. Chart 4 shows the MSA-level blended rent change. MSAs with rent changes above the 4.1% average are blue, while those below are red. The size of the circle indicates the percentage of properties by count from a given MSA in Morningstar's database. Table 3 shows the MSA-level blended rent change for the past 12 months.

Table 11b shows the percentage of loans rented out under a month-to-month lease. AMSR 2016-SFR1 MTM leases have increased to 17.5% of its portfolio from 11.2% in April 2017. TAH 2016-SFR1 has the second-highest percentage of MTM leases with 7.6%.

Multiborrower Performance

There have been eight multiborrower transactions; as of the most recent remittance report, these transactions were secured by 780 total loans. The number of loans 30-59 days delinquent remained at 10, while the number of loans 60-89 days delinquent declined to four from six, and the loans over 90 days delinquent remained unchanged at 17. Loans in foreclosure remained at three, and loans in special servicing increased to 31 from 30. B2R 2016-1 had one loan transferred to special servicing.

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Table 1 – Multiborrower Loan Performance by Percentage of Balance

	30-59 Delinquent	60-89 Delinquent	90+ Delinquent	Foreclosure	Real Estate Owned	Special Servicing
B2R 2015-1	0.4	0.0	0.3	0.3	0.0	0.8
FKL 2015-SFR1	0.0	0.0	0.0	0.0	0.0	0.0
CAF 2015-1	0.0	0.0	1.2	0.0	0.0	5.6
B2R 2015-2	0.7	0.0	1.2	0.2	0.0	1.4
CAF 2016-1	0.0	0.0	1.2	0.0	0.0	1.2
B2R 2016-1	1.9	0.9	1.3	0.0	0.0	2.9
CAF 2016-2	0.8	0.2	0.3	0.4	0.0	4.0
CAF 2017-1	0.0	0.4	0.3	0.0	0.0	1.4

Table 2 – Multiborrower Loan Performance by Loan Count

	Total Loans	30-59 Delinquent	60-89 Delinquent	90+ Delinquent	Foreclosure	Real Estate Owned	Special Servicing
B2R 2015-1	129	1	0	1	1	0	4
FKL 2015-SFR1	15	0	0	0	0	0	0
CAF 2015-1	57	0	0	1	0	0	2
B2R 2015-2	191	3	0	6	1	0	7
CAF 2016-1	76	0	0	1	0	0	1
B2R 2016-1	156	5	2	3	0	0	9
CAF 2016-2	70	1	1	4	1	0	5
CAF 2017-1	86	0	1	1	0	0	3
Overall	780	10	4	17	3	0	31

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Single-Borrower Charts and Tables

Chart 1 – Single-Family Rental Rent Change Versus RentRange Year-Over-Year Rent Change
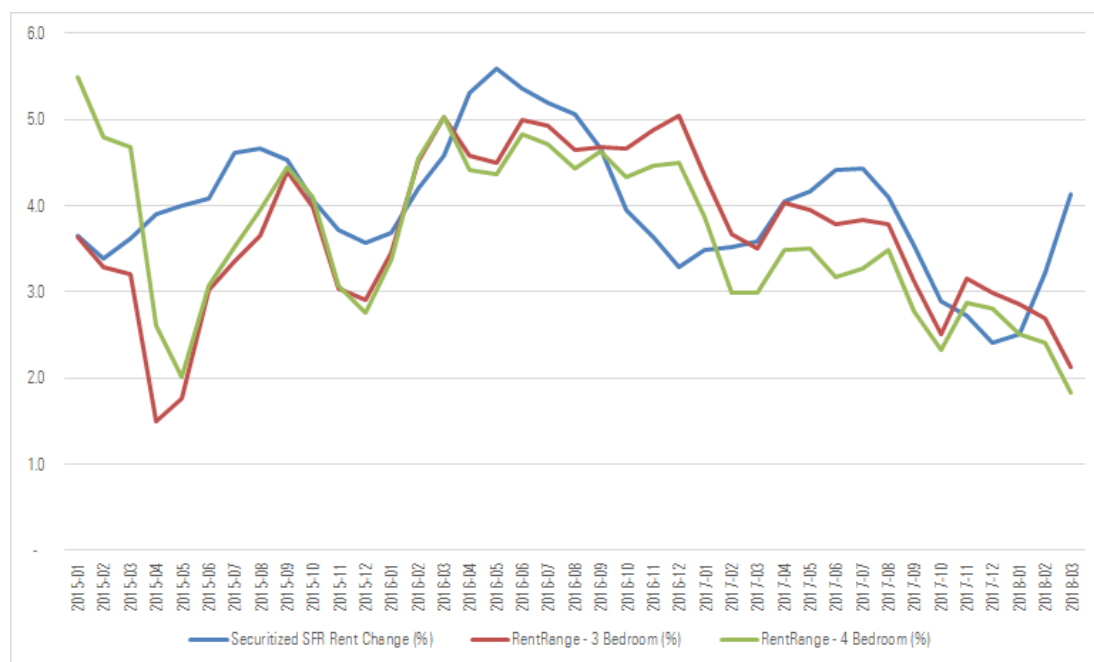
Sources: Morningstar Credit Ratings, LLC; RentRange

Chart 2 – Rental Changes for Renewals Versus Vacant-to-Occupied Properties
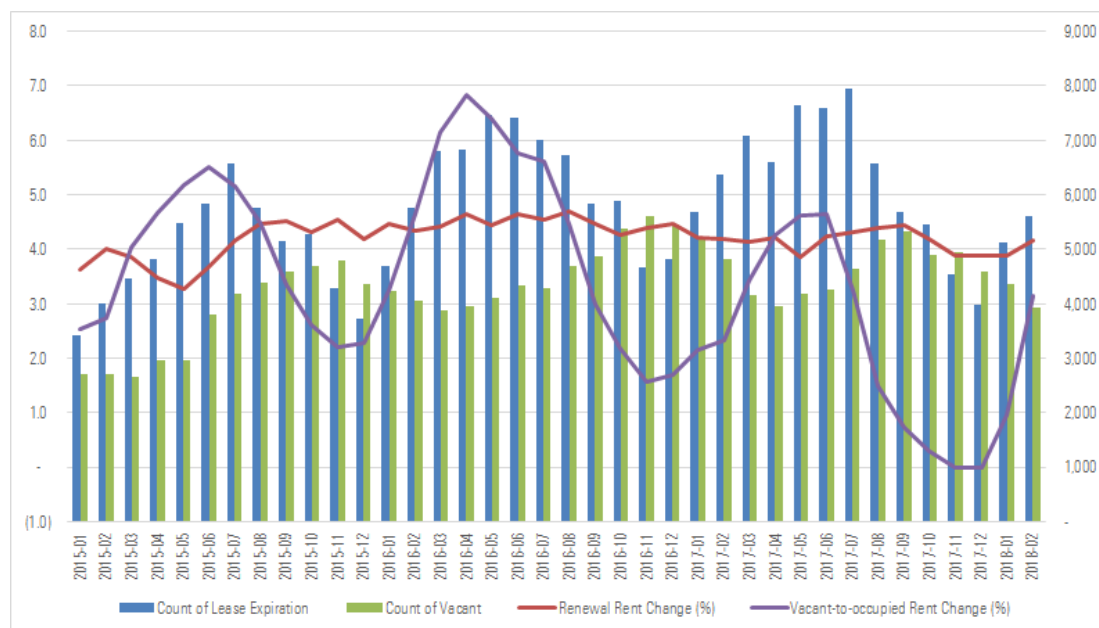
Source: Morningstar Credit Ratings, LLC

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Chart 3 – March Average Contractual Rent Versus Property-Level RentRange Estimate by MSA
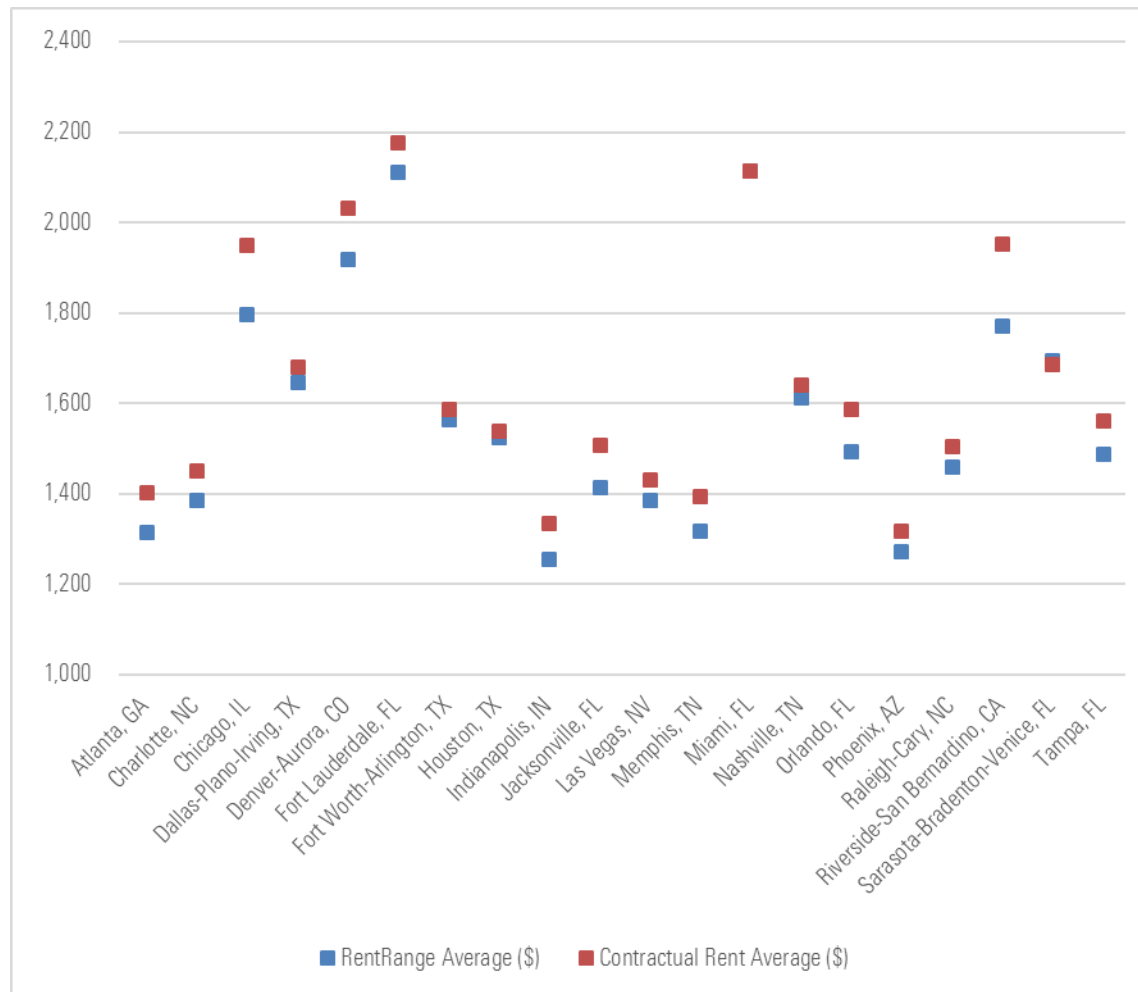
Sources: Morningstar Credit Ratings, LLC; RentRange
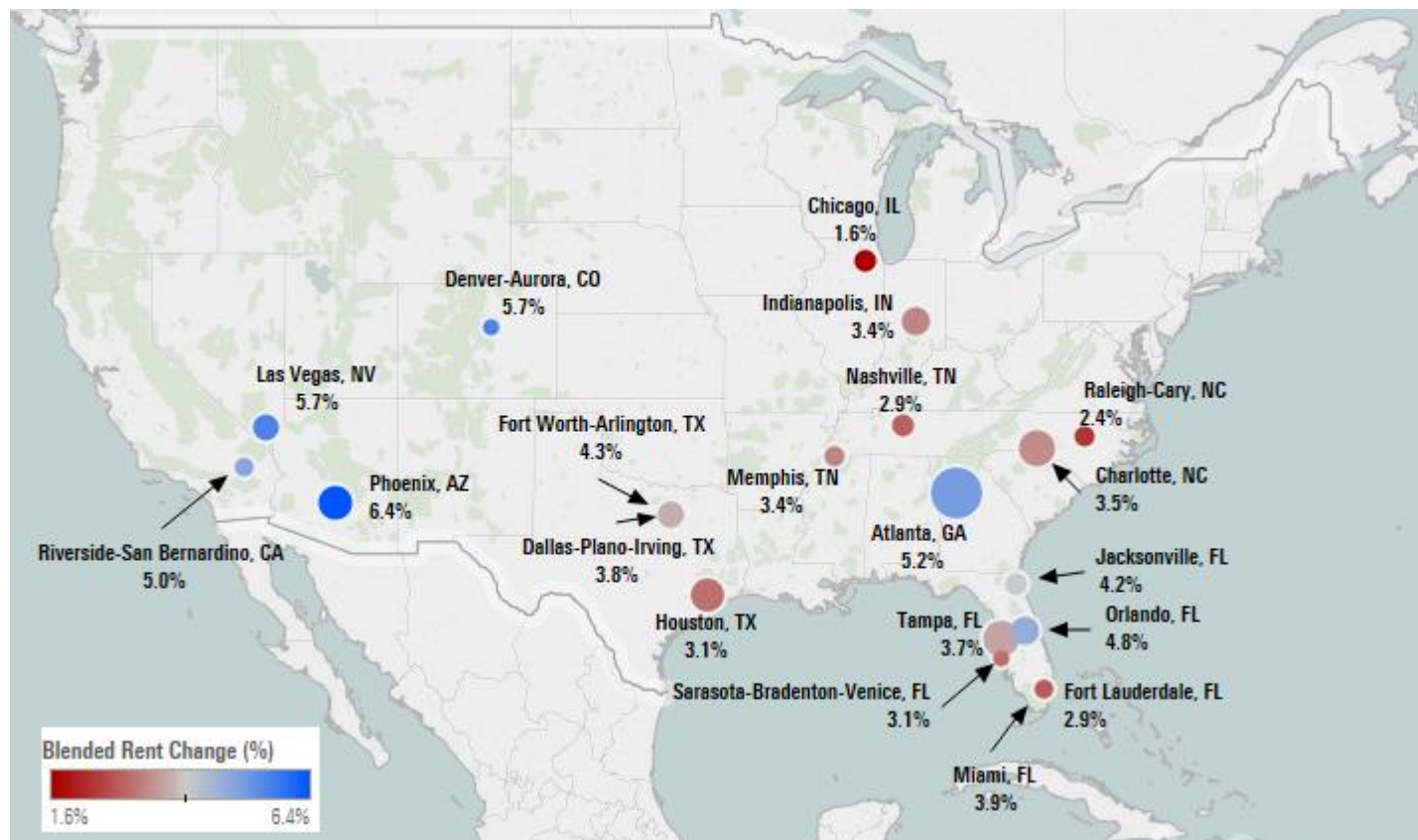
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Chart 4 – MSA-Level Blended Rent Change*

Sources: Morningstar Credit Ratings, LLC; Tableau Software
*The size of the circles represents the total percentage (by count) of properties in each MSA, ranging from 1.6% to 6.4%. Because of their proximity, the Fort Worth-Arlington, Texas, MSA is hidden behind the Dallas-Plano-Irving, Texas, MSA, and the West Palm Beach, Florida, MSA is hidden behind the Fort Lauderdale, Florida, MSA.

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Table 3 – Blended Rent Change (by Percentage) - Top MSAs

		Year 2017								Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Atlanta, GA		4.5	4.6	5.0	4.9	4.6	4.4	4.3	3.6	3.5	3.1	3.9	5.2
Charlotte, NC		4.1	4.1	4.3	4.1	3.2	3.0	2.7	1.7	1.0	1.4	2.5	3.5
Chicago, IL		1.7	2.7	2.7	2.2	2.1	0.8	0.8	-0.2	-0.6	0.7	1.3	1.6
Dallas-Plano-Irving, TX		4.4	4.9	5.2	5.2	4.3	4.1	2.8	2.8	2.4	2.5	3.2	3.8
Denver-Aurora, CO		6.7	5.9	7.0	6.2	6.2	4.2	1.7	2.4	3.8	1.6	4.3	5.7
Fort Lauderdale, FL		3.9	3.6	2.4	2.5	1.8	2.2	2.2	1.2	1.7	1.8	2.5	2.9
Fort Worth-Arlington, TX		4.5	4.3	4.7	4.6	4.5	4.4	3.3	3.2	2.7	2.3	3.2	4.3
Houston, TX		1.9	1.7	1.1	1.5	1.6	-0.8	-0.4	-0.6	0.0	1.4	1.4	3.1
Indianapolis, IN		1.6	2.4	3.4	3.0	3.1	2.0	1.8	0.4	0.2	-0.1	2.9	3.4
Jacksonville, FL		2.2	2.9	3.6	4.3	3.5	3.7	3.3	2.6	2.3	3.0	3.3	4.2
Las Vegas, NV		4.8	5.4	5.6	5.4	5.9	5.1	3.1	4.5	4.0	4.2	5.1	5.7
Memphis, TN		0.5	0.8	2.1	2.3	2.7	2.4	1.0	0.2	-0.1	0.9	1.5	3.4
Miami, FL		3.3	3.7	2.9	3.7	2.9	2.7	1.7	2.8	2.4	3.1	3.2	3.9
Nashville, TN		4.1	4.0	4.9	4.8	4.0	3.7	3.3	2.2	1.1	1.7	1.9	2.9
Orlando, FL		4.8	4.9	4.9	5.2	4.7	4.1	3.2	4.0	4.0	3.2	4.9	4.8
Phoenix, AZ		6.4	6.6	6.4	6.8	6.1	5.5	4.8	5.0	4.1	4.1	5.0	6.4
Raleigh-Cary, NC		4.2	3.5	3.7	3.7	3.3	3.4	2.6	2.1	0.5	1.3	1.6	2.4
Riverside-San Bernardino, CA		5.0	5.5	5.5	5.9	5.2	5.1	5.1	5.0	4.9	4.5	4.6	5.0
Sarasota-Bradenton-Venice, FL		2.3	2.7	2.9	2.1	1.4	1.0	0.4	1.0	0.4	0.8	2.0	3.1
Tampa, FL		3.4	3.1	3.7	3.6	3.2	2.6	1.7	2.4	2.1	2.1	2.9	3.7

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Table 4a – Month-End Vacancy (by Count)

		Year 2017									Year 2018			Total Count
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
AH4R 2014-SFR2		165	194	209	209	230	251	248	235	215	233	217	186	4,481
AH4R 2014-SFR3		219	194	223	234	310	298	317	299	284	266	265	243	4,499
AH4R 2015-SFR1		183	175	197	198	243	282	312	331	304	309	294	253	4,658
AH4R 2015-SFR2		226	232	256	267	253	268	276	252	238	235	217	229	4,124
AMSR 2016-SFR1		230	237	297	355	335	350	339	366	375	397	328	279	4,262
CAH 2015-1		194	224	249	239	261	225	214	226	230	176	165	171	3,778
CSH 2016-1		183	176	176	194	215	207	214	207	207	202	180	189	3,537
CSH 2016-2		186	184	189	241	266	241	230	254	257	256	229	214	3,958
HPA 2016-2		37	48	62	80	63	48	36	42	46	52	45	41	1,324
HPA 2017-1					19	26	36	50	64	57	53	34	39	1,357
IH 2015-SFR1		118	104	103	128	142	139	140	142	123	126	141	124	2,987
IH 2015-SFR2		138	161	157	171	187	160	165	171	172	184	175	161	3,493
IH 2015-SFR3		298	270	287	315	317	352	318	343	334	326	300	290	6,925
IH 2017-SFR2											177	158	136	4,412
PRD 2015-SFR2		139	155	132	130	149	180	197	148	113	93	95	102	3,288
PRD 2015-SFR3		93	133	190	222	269	259	245	206	160	114	83	80	3,150
PRD 2016-SFR1		238	229	239	279	314	311	304	277	244	227	215	185	5,553
PRD 2016-SFR2		101	108	144	181	282	265	238	162	122	104	104	105	3,742
PRD 2017-SFR1						131	187	203	183	150	94	67	60	2,709
SWH 2017-1									184	209	219	238	239	4,433
TAH 2016-SFR1		164	178	188	187	169	199	186	178	156	161	150	162	3,438
TAH 2017-SFR1							173	162	164	146	152	145	124	3,480
TAH 2017-SFR2											109	93	94	2,621
Overall SFR		2,912	3,002	3,298	3,649	4,162	4,431	4,394	4,434	4,142	4,265	3,938	3,706	86,209

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Table 4b – Month-End Vacancy (by Percentage)

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		3.7	4.3	4.7	4.7	5.1	5.6	5.5	5.2	4.8	5.2	4.8	4.2
AH4R 2014-SFR3		4.9	4.3	5.0	5.2	6.9	6.6	7.0	6.6	6.3	5.9	5.9	5.4
AH4R 2015-SFR1		3.9	3.8	4.2	4.2	5.2	6.1	6.7	7.1	6.5	6.6	6.3	5.4
AH4R 2015-SFR2		5.5	5.6	6.2	6.5	6.1	6.5	6.7	6.1	5.8	5.7	5.3	5.6
AMSR 2016-SFR1		5.4	5.6	7.0	8.3	7.9	8.2	8.0	8.6	8.8	9.3	7.7	6.5
CAH 2015-1		5.0	5.8	6.5	6.2	6.8	5.9	5.6	6.0	6.1	4.6	4.4	4.5
CSH 2016-1		5.1	4.9	4.9	5.4	6.0	5.8	6.0	5.8	5.8	5.7	5.1	5.3
CSH 2016-2		4.7	4.6	4.7	6.0	6.7	6.0	5.8	6.4	6.4	6.4	5.7	5.4
HPA 2016-2		2.7	3.5	4.6	6.0	4.7	3.6	2.7	3.1	3.4	3.9	3.4	3.1
HPA 2017-1					1.4	1.9	2.6	3.6	4.7	4.2	3.9	2.5	2.9
IH 2015-SFR1		3.9	3.4	3.4	4.3	4.7	4.6	4.7	4.7	4.1	4.2	4.7	4.2
IH 2015-SFR2		3.9	4.6	4.5	4.9	5.3	4.6	4.7	4.9	4.9	5.3	5.0	4.6
IH 2015-SFR3		4.2	3.8	4.1	4.5	4.5	5.0	4.6	4.9	4.8	4.7	4.3	4.2
IH 2017-SFR2											4.0	3.6	3.1
PRD 2015-SFR2		4.2	4.7	4.0	3.9	4.5	5.5	6.0	4.5	3.4	2.8	2.9	3.1
PRD 2015-SFR3		2.9	4.2	6.0	7.0	8.5	8.2	7.8	6.5	5.1	3.6	2.6	2.5
PRD 2016-SFR1		4.3	4.1	4.3	5.0	5.6	5.6	5.5	5.0	4.4	4.1	3.9	3.3
PRD 2016-SFR2		2.7	2.9	3.8	4.8	7.5	7.1	6.4	4.3	3.3	2.8	2.8	2.8
PRD 2017-SFR1						4.8	6.9	7.5	6.8	5.5	3.5	2.5	2.2
SWH 2017-1									4.2	4.7	4.9	5.4	5.4
TAH 2016-SFR1		4.8	5.2	5.5	5.4	4.9	5.8	5.4	5.2	4.5	4.7	4.4	4.7
TAH 2017-SFR1							5.0	4.7	4.7	4.2	4.4	4.2	3.6
TAH 2017-SFR2											4.2	3.5	3.6
Overall SFR		4.3	4.4	4.9	5.3	5.8	5.9	5.9	5.6	5.2	4.9	4.6	4.3

Table 4c – Month-End Vacancy (by Percentage) – Top MSAs

		Year 2017								Year 2018			
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Atlanta, GA		4.1	5.6	5.1	4.4	4.9	4.8	5.0	4.7	4.4	4.6	4.6	4.1
Charlotte, NC		4.2	4.4	4.4	5.2	5.8	6.6	6.6	6.1	5.8	5.8	5.5	5.4
Chicago, IL		4.3	4.0	4.5	4.8	5.0	5.0	5.7	5.2	4.5	4.5	4.6	4.4
Dallas-Plano-Irving, TX		4.0	5.1	4.8	5.0	5.6	5.5	5.5	4.9	5.3	5.0	4.5	4.4
Denver-Aurora, CO		5.2	4.4	4.5	5.8	6.5	5.4	4.9	4.7	5.4	4.8	5.0	4.1
Fort Lauderdale, FL		6.7	5.9	6.0	6.3	6.3	6.7	6.8	6.1	5.8	5.1	4.2	4.9
Fort Worth-Arlington, TX		3.7	4.8	5.5	5.2	5.0	4.8	4.9	5.9	5.2	5.0	4.3	4.0
Houston, TX		5.8	6.2	6.9	7.9	9.2	9.8	10.0	9.4	8.8	8.8	7.3	6.4
Indianapolis, IN		4.8	4.1	5.1	6.3	6.7	6.7	6.2	5.6	5.3	4.4	5.1	4.4
Jacksonville, FL		4.1	4.1	3.7	4.4	5.1	6.4	5.8	5.2	4.5	4.6	4.0	3.3
Las Vegas, NV		4.1	3.6	4.3	4.3	4.4	4.5	3.8	3.5	3.6	2.6	2.5	2.8
Memphis, TN		4.1	4.5	5.5	6.3	6.7	7.3	7.3	6.2	5.3	5.2	4.3	4.4
Miami, FL		6.1	5.2	4.7	4.4	5.0	6.1	5.4	4.1	5.5	5.0	5.3	5.7
Nashville, TN		3.6	4.1	5.3	6.2	7.1	7.1	7.6	8.0	7.5	7.3	5.9	4.7
Orlando, FL		3.4	3.8	3.9	4.5	4.8	4.8	4.5	3.8	3.5	3.3	3.1	3.7
Phoenix, AZ		3.3	3.6	4.4	5.2	5.5	4.5	4.8	4.8	4.0	3.2	3.2	2.7
Raleigh-Cary, NC		5.2	5.1	5.5	4.9	6.1	7.1	7.1	6.8	5.6	5.8	5.1	5.5
Riverside-San Bernardino, CA		4.3	3.3	4.2	3.3	3.6	3.4	3.8	3.7	4.3	3.8	4.1	4.2
Sarasota-Bradenton-Venice, FL		6.6	7.1	6.7	7.0	7.7	7.7	7.0	7.3	5.9	4.5	4.6	4.9
Tampa, FL		4.1	3.9	4.2	5.1	6.3	6.7	6.3	5.9	5.0	4.5	4.0	4.0
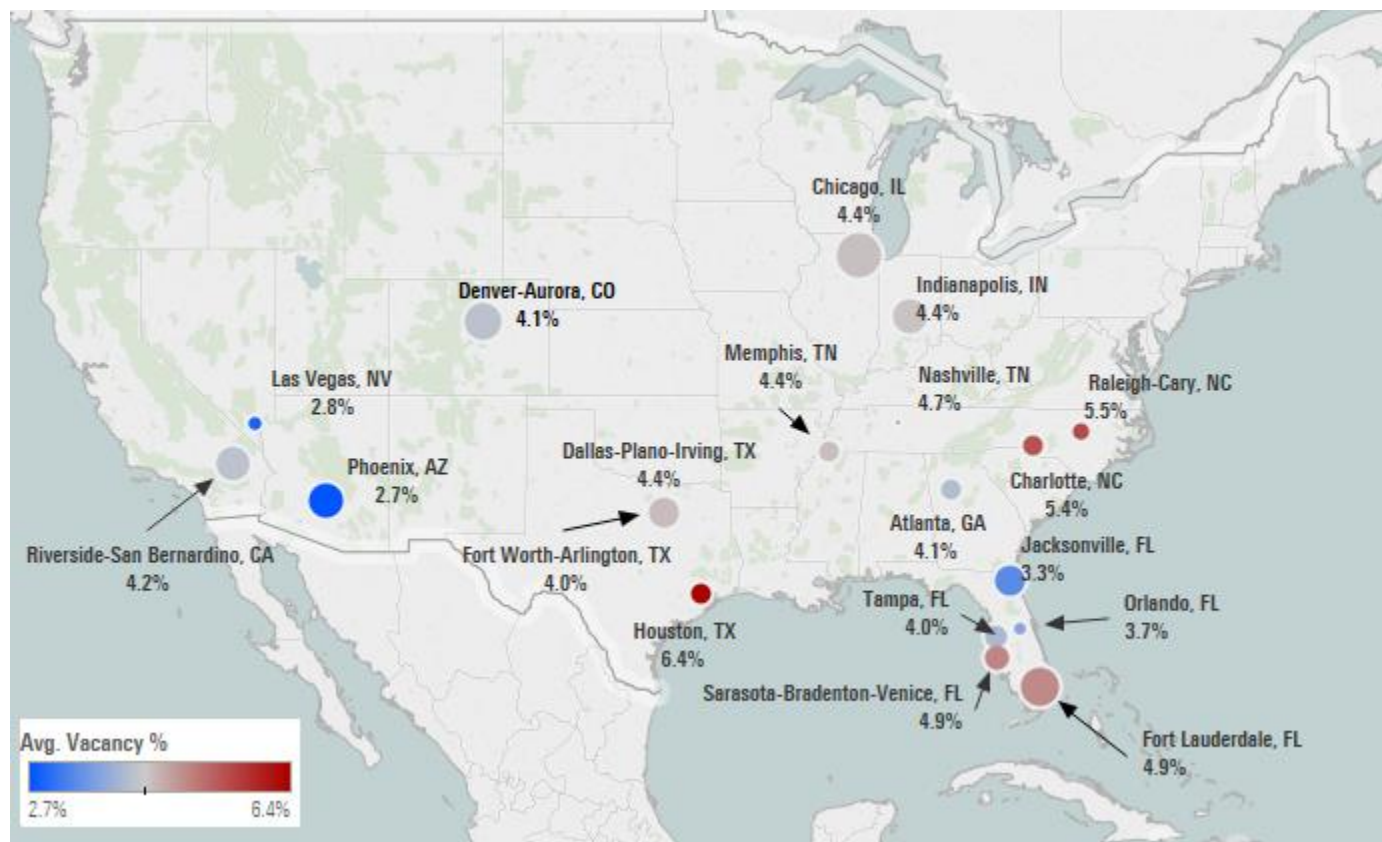
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Chart 5 – MSA-Level Vacancy and Lease Expiration Percentage (by Count)*

Sources: Morningstar Credit Ratings, LLC; Tableau Software
*The size of the circles represents the past three months of lease expirations by count as a percentage of each MSA, ranging from 17.1% to 23.7%. Because of their proximity, the Fort Worth-Arlington, Texas, MSA is hidden behind Dallas-Plano-Irving, Texas, MSA, and the West Palm Beach, Florida, MSA is hidden behind the Fort Lauderdale, Florida, MSA.

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Table 5a – Lease Expiration (by Count)

		Year 2017									Year 2018			Total Count
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
AH4R 2014-SFR2		387	518	399	371	331	264	201	189	161	310	346	368	4,481
AH4R 2014-SFR3		273	398	474	448	416	265	241	160	171	348	332	311	4,499
AH4R 2015-SFR1		215	249	382	488	423	336	313	251	235	360	354	291	4,658
AH4R 2015-SFR2		407	516	464	355	214	159	132	133	151	238	310	397	4,124
AMSR 2016-SFR1		355	382	439	281	225	186	193	178	167	178	271	300	4,262
CAH 2015-1		268	294	368	393	378	298	287	266	175	215	207	219	3,778
CSH 2016-1		331	282	337	340	273	264	234	191	170	197	220	276	3,537
CSH 2016-2		324	389	335	300	287	230	243	237	167	232	257	306	3,958
HPA 2016-2		212	276	386	179	11	5	6	10	16	14	12	106	1,324
HPA 2017-1					87	141	118	186	149	114	91	74	113	1,357
IH 2015-SFR1		166	138	164	209	191	162	220	185	164	221	234	224	2,987
IH 2015-SFR2		192	184	199	232	227	211	245	233	213	213	235	277	3,493
IH 2015-SFR3		395	368	405	446	499	388	537	464	375	470	522	522	6,925
IH 2017-SFR2											242	247	292	4,412
PRD 2015-SFR2		215	391	186	192	118	179	221	185	142	189	234	260	3,288
PRD 2015-SFR3		164	345	353	525	284	216	157	93	76	81	120	108	3,150
PRD 2016-SFR1		470	448	394	358	176	216	322	230	286	330	426	480	5,553
PRD 2016-SFR2		101	318	402	639	426	270	209	127	113	150	145	148	3,742
PRD 2017-SFR1						112	279	381	229	197	162	133	127	2,709
SWH 2017-1									210	204	284	385	418	4,433
TAH 2016-SFR1		309	296	280	301	238	171	221	107	92	124	159	197	3,438
TAH 2017-SFR1							276	261	206	171	241	229	241	3,480
TAH 2017-SFR2											141	161	197	2,621
Overall SFR		4,784	5,792	5,967	6,144	4,970	4,493	4,810	4,033	3,560	5,031	5,613	6,178	86,209

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Table 5b – Lease Expiration (by Percentage)

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		8.6	11.6	8.9	8.3	7.4	5.9	4.5	4.2	3.6	6.9	7.7	8.2
AH4R 2014-SFR3		6.1	8.8	10.5	10.0	9.2	5.9	5.4	3.6	3.8	7.7	7.4	6.9
AH4R 2015-SFR1		4.6	5.3	8.2	10.5	9.1	7.2	6.7	5.4	5.0	7.7	7.6	6.2
AH4R 2015-SFR2		9.9	12.5	11.3	8.6	5.2	3.9	3.2	3.2	3.7	5.8	7.5	9.6
AMSR 2016-SFR1		8.3	9.0	10.3	6.6	5.3	4.4	4.5	4.2	3.9	4.2	6.4	7.0
CAH 2015-1		6.9	7.6	9.6	10.3	9.9	7.8	7.5	7.0	4.6	5.7	5.5	5.8
CSH 2016-1		9.3	7.9	9.5	9.5	7.7	7.4	6.6	5.4	4.8	5.6	6.2	7.8
CSH 2016-2		8.1	9.7	8.4	7.5	7.2	5.8	6.1	5.9	4.2	5.8	6.4	7.7
HPA 2016-2		15.5	20.2	28.6	13.3	0.8	0.4	0.4	0.7	1.2	1.1	0.9	8.0
HPA 2017-1					6.3	10.2	8.6	13.6	10.9	8.4	6.7	5.4	8.3
IH 2015-SFR1		5.5	4.6	5.5	7.0	6.4	5.4	7.3	6.2	5.5	7.4	7.8	7.5
IH 2015-SFR2		5.5	5.2	5.7	6.6	6.5	6.0	7.0	6.6	6.1	6.1	6.7	7.9
IH 2015-SFR3		5.5	5.1	5.8	6.4	7.2	5.6	7.7	6.7	5.4	6.8	7.5	7.5
IH 2017-SFR2											5.5	5.6	6.6
PRD 2015-SFR2		6.5	11.9	5.6	5.8	3.6	5.4	6.7	5.6	4.3	5.7	7.1	7.9
PRD 2015-SFR3		5.2	10.9	11.2	16.6	9.0	6.9	5.0	3.0	2.4	2.6	3.8	3.4
PRD 2016-SFR1		8.4	8.0	7.1	6.4	3.2	3.9	5.8	4.1	5.1	5.9	7.7	8.6
PRD 2016-SFR2		2.7	8.5	10.7	17.1	11.4	7.2	5.6	3.4	3.0	4.0	3.9	4.0
PRD 2017-SFR1						4.1	10.3	14.1	8.5	7.3	6.0	4.9	4.7
SWH 2017-1									4.7	4.6	6.4	8.7	9.4
TAH 2016-SFR1		9.0	8.6	8.1	8.8	6.9	5.0	6.4	3.1	2.7	3.6	4.6	5.7
TAH 2017-SFR1							7.9	7.5	5.9	4.9	6.9	6.6	6.9
TAH 2017-SFR2											5.4	6.1	7.5
Overall SFR		7.1	8.6	8.8	8.9	6.9	6.0	6.4	5.1	4.5	5.8	6.5	7.2

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Table 5c – Lease Expiration (by Percentage) – Top MSAs

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Atlanta, GA		7.2	8.4	8.9	8.8	6.7	6.3	6.0	5.2	4.6	5.8	6.3	6.5
Charlotte, NC		6.9	7.7	8.5	9.2	7.7	7.4	7.2	5.0	4.4	5.2	6.1	7.3
Chicago, IL		7.6	9.3	8.3	9.1	7.4	5.9	5.0	3.0	3.0	6.6	8.8	8.2
Dallas-Plano-Irving, TX		7.2	9.0	10.4	9.7	7.0	5.8	6.7	4.9	4.7	5.8	6.5	7.9
Denver-Aurora, CO		9.8	7.7	10.0	10.0	8.3	7.2	6.2	4.8	5.2	5.1	7.3	9.2
Fort Lauderdale, FL		8.5	6.6	7.7	6.8	6.0	6.2	7.9	6.6	5.4	7.8	6.3	7.9
Fort Worth-Arlington, TX		8.0	9.6	11.5	8.7	6.5	6.0	6.4	5.2	4.5	4.8	6.4	8.1
Houston, TX		6.9	7.6	8.6	9.1	6.1	5.5	5.2	5.0	4.4	5.2	6.2	7.2
Indianapolis, IN		9.1	10.5	9.6	11.6	7.4	5.1	5.0	2.3	1.9	6.9	7.3	7.1
Jacksonville, FL		5.9	8.0	7.0	9.2	5.6	5.6	8.6	6.5	5.5	6.9	6.9	6.3
Las Vegas, NV		7.8	8.4	9.4	9.9	7.7	6.4	6.8	5.2	4.4	5.4	5.8	6.4
Memphis, TN		6.3	11.0	8.7	8.5	6.4	5.4	6.0	3.3	3.1	5.2	5.2	8.1
Miami, FL		7.4	6.8	5.8	7.6	6.5	6.4	7.2	6.1	6.7	7.4	7.2	6.6
Nashville, TN		7.9	9.8	10.3	8.5	6.4	5.4	7.4	4.6	4.1	5.3	5.4	6.4
Orlando, FL		6.9	9.8	9.1	9.8	8.0	6.4	7.1	5.6	5.1	6.1	5.7	5.8
Phoenix, AZ		5.8	7.8	7.5	8.9	7.4	5.9	8.0	5.6	5.2	6.7	7.3	7.0
Raleigh-Cary, NC		6.1	10.7	9.8	10.0	7.7	6.8	7.6	5.2	4.0	4.3	6.6	7.1
Riverside-San Bernardino, CA		6.7	6.7	6.9	7.5	7.0	6.8	8.2	7.0	4.1	5.8	7.0	8.0
Sarasota-Bradenton-Venice, F		6.5	6.6	7.8	8.7	7.7	7.2	8.0	6.1	5.4	4.7	6.9	7.5
Tampa, FL		7.1	7.8	8.4	9.8	7.8	6.7	6.1	5.4	4.8	5.7	6.4	6.7

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Table 6a – Historical Months of Vacancy for March Vacancies (by Count)

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		28	23	26	32	33	14	14	7	5	1	0	3	186
AH4R 2014-SFR3		27	33	37	30	32	32	21	16	7	4	1	3	243
AH4R 2015-SFR1		27	37	37	40	40	21	22	13	10	4	1	1	253
AH4R 2015-SFR2		50	42	36	41	16	15	9	9	4	5	1	1	229
AMSR 2016-SFR1		82	33	49	35	30	19	12	5	7	4	1	2	279
CAH 2015-1		31	29	29	26	22	15	6	3	6	2	1	1	171
CSH 2016-1		66	31	35	17	12	7	7	3	5	2	2	2	189
CSH 2016-2		71	49	33	22	12	6	12	5	2	1	1	0	214
HPA 2016-2		12	12	9	3	4	0	0	0	0	0	0	1	41
HPA 2017-1		19	10	6	1	2	0	1	0	0	0			39
IH 2015-SFR1		14	33	19	18	15	9	8	1	3	3	1	0	124
IH 2015-SFR2		33	30	33	27	16	11	4	2	0	1	2	2	161
IH 2015-SFR3		66	67	55	40	21	16	8	7	7	0	2	1	290
IH 2017-SFR2		84	25	25	2									136
PRD 2015-SFR2		31	22	18	16	7	0	2	4	0	1	1	0	102
PRD 2015-SFR3		13	20	11	9	11	5	6	2	1	0	0	2	80
PRD 2016-SFR1		82	50	19	6	9	5	7	4	1	1	0	1	185
PRD 2016-SFR2		66	13	17	4	1	1	1	2	0	0	0	0	105
PRD 2017-SFR1		33	17	6	3	0	1	0	0	0				60
SWH 2017-1		126	57	27	14	15	0							239
TAH 2016-SFR1		55	39	31	18	12	3	2	0	2	0	0	0	162
TAH 2017-SFR1		78	31	13	1	0	0	1	0					124
TAH 2017-SFR2		56	22	15	1									94
Overall SFR		1,150	725	586	406	310	180	143	83	60	29	14	20	3,706

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Table 6b – Historical Months of Vacancy for March Vacancies (by Percentage)

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		15.1	12.4	14.0	17.2	17.7	7.5	7.5	3.8	2.7	0.5	0.0	1.6	100.0
AH4R 2014-SFR3		11.1	13.6	15.2	12.3	13.2	13.2	8.6	6.6	2.9	1.6	0.4	1.2	100.0
AH4R 2015-SFR1		10.7	14.6	14.6	15.8	15.8	8.3	8.7	5.1	4.0	1.6	0.4	0.4	100.0
AH4R 2015-SFR2		21.8	18.3	15.7	17.9	7.0	6.6	3.9	3.9	1.7	2.2	0.4	0.4	100.0
AMSR 2016-SFR1		29.4	11.8	17.6	12.5	10.8	6.8	4.3	1.8	2.5	1.4	0.4	0.7	100.0
CAH 2015-1		18.1	17.0	17.0	15.2	12.9	8.8	3.5	1.8	3.5	1.2	0.6	0.6	100.0
CSH 2016-1		34.9	16.4	18.5	9.0	6.3	3.7	3.7	1.6	2.6	1.1	1.1	1.1	100.0
CSH 2016-2		33.2	22.9	15.4	10.3	5.6	2.8	5.6	2.3	0.9	0.5	0.5	0.0	100.0
HPA 2016-2		29.3	29.3	22.0	7.3	9.8	0.0	0.0	0.0	0.0	0.0	0.0	2.4	100.0
HPA 2017-1		48.7	25.6	15.4	2.6	5.1	0.0	2.6	0.0	0.0	0.0			100.0
IH 2015-SFR1		11.3	26.6	15.3	14.5	12.1	7.3	6.5	0.8	2.4	2.4	0.8	0.0	100.0
IH 2015-SFR2		20.5	18.6	20.5	16.8	9.9	6.8	2.5	1.2	0.0	0.6	1.2	1.2	100.0
IH 2015-SFR3		22.8	23.1	19.0	13.8	7.2	5.5	2.8	2.4	2.4	0.0	0.7	0.3	100.0
IH 2017-SFR2		61.8	18.4	18.4	1.5									100.0
PRD 2015-SFR2		30.4	21.6	17.6	15.7	6.9	0.0	2.0	3.9	0.0	1.0	1.0	0.0	100.0
PRD 2015-SFR3		16.3	25.0	13.8	11.3	13.8	6.3	7.5	2.5	1.3	0.0	0.0	2.5	100.0
PRD 2016-SFR1		44.3	27.0	10.3	3.2	4.9	2.7	3.8	2.2	0.5	0.5	0.0	0.5	100.0
PRD 2016-SFR2		62.9	12.4	16.2	3.8	1.0	1.0	1.0	1.9	0.0	0.0	0.0	0.0	100.0
PRD 2017-SFR1		55.0	28.3	10.0	5.0	0.0	1.7	0.0	0.0	0.0				100.0
SWH 2017-1		52.7	23.8	11.3	5.9	6.3	0.0							100.0
TAH 2016-SFR1		34.0	24.1	19.1	11.1	7.4	1.9	1.2	0.0	1.2	0.0	0.0	0.0	100.0
TAH 2017-SFR1		62.9	25.0	10.5	0.8	0.0	0.0	0.8	0.0					100.0
TAH 2017-SFR2		59.6	23.4	16.0	1.1									100.0
Overall SFR		31.0	19.6	15.8	11.0	8.4	4.9	3.9	2.2	1.6	0.8	0.4	0.5	100.0

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Table 7 – Delinquency Definition

Issuer	Definition
American Homes 4 Rent	Past due one calendar month or more (not dependent on day count) and owing $200 or more
Amherst	Past due one calendar month or more (not dependent on day count) and owing $500 or more
Colony American Homes/Colony Starwood Homes/Starwood Waypoint Homes	Past due one calendar month or more (not dependent on day count) and owing $200 or more
Home Partners of America	Past due 30 days or more (not dependent on calendar month) and owing $500 or more
Invitation Homes	Past due 30 days or more (not dependent on calendar month) and owing 25% of one month's rent or more
Progress Residential	Past due 30 days or more (not dependent on calendar month) and owing $200 or more[1]
Tricon American Homes	Past due 30 days or more (not dependent on calendar month) and owing $500 or more[2]

[1] Includes Section 8 rent, pet fees, and MTM fees, but excludes late fees and damage fees.
[2] Based on total receivables.

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Table 8a – Month-End Delinquency (by Count)

		Year 2017							Year 2018					Total Count
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
AH4R 2014-SFR2		14	12	10	13	15	9	21	19	20	20	22	8	4,481
AH4R 2014-SFR3		11	8	9	7	11	7	21	12	14	19	20	7	4,499
AH4R 2015-SFR1		12	10	10	12	14	21	26	28	26	22	29	13	4,658
AH4R 2015-SFR2		3	6	7	7	6	10	17	24	10	21	18	6	4,124
AMSR 2016-SFR1		67	78	114	171	78	66	97	111	114	98	95	80	4,262
CAH 2015-1		17	17	18	17	22	30	28	31	32	20	23	26	3,778
CSH 2016-1		17	20	15	24	21	29	28	26	29	33	26	21	3,537
CSH 2016-2		21	17	30	27	23	43	34	40	48	37	36	24	3,958
HPA 2016-2		8	6	6	9	12	19	17	12	16	9	10	9	1,324
HPA 2017-1					9	13	17	12	11	7	10	10	5	1,357
IH 2015-SFR1		22	21	36	33	36	29	45	41	44	37	30	25	2,987
IH 2015-SFR2		38	28	33	42	32	45	38	39	40	34	26	23	3,493
IH 2015-SFR3		75	71	80	99	115	89	94	100	120	101	59	42	6,925
IH 2017-SFR2											33	30	19	4,412
PRD 2015-SFR2		18	15	14	19	14	26	25	23	24	28	21	18	3,288
PRD 2015-SFR3		8	9	8	16	19	22	23	17	22	29	25	20	3,150
PRD 2016-SFR1		26	20	24	28	29	27	43	45	44	39	40	31	5,553
PRD 2016-SFR2		10	14	18	20	16	24	23	19	39	41	0	26	3,742
PRD 2017-SFR1						14	20	19	16	17	17	22	16	2,709
SWH 2017-1									34	36	45	45	31	4,433
TAH 2016-SFR1		29	26	15	9	5	3	2	15	15	18	23	10	3,438
TAH 2017-SFR1							25	19	14	12	10	12	2	3,480
TAH 2017-SFR2											7	9	4	2,621
Overall SFR		396	378	447	562	495	561	632	677	729	728	631	466	86,209

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Table 8b – Month-End Delinquency (by Percentage)

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.4	0.4	0.4	0.5	0.2
AH4R 2014-SFR3		0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.3	0.3	0.4	0.4	0.2
AH4R 2015-SFR1		0.3	0.2	0.2	0.3	0.3	0.5	0.6	0.6	0.6	0.5	0.6	0.3
AH4R 2015-SFR2		0.1	0.1	0.2	0.2	0.1	0.2	0.4	0.6	0.2	0.5	0.4	0.1
AMSR 2016-SFR1		1.6	1.8	2.7	4.0	1.8	1.5	2.3	2.6	2.7	2.3	2.2	1.9
CAH 2015-1		0.4	0.4	0.5	0.4	0.6	0.8	0.7	0.8	0.8	0.5	0.6	0.7
CSH 2016-1		0.5	0.6	0.4	0.7	0.6	0.8	0.8	0.7	0.8	0.9	0.7	0.6
CSH 2016-2		0.5	0.4	0.8	0.7	0.6	1.1	0.9	1.0	1.2	0.9	0.9	0.6
HPA 2016-2		0.6	0.4	0.4	0.7	0.9	1.4	1.3	0.9	1.2	0.7	0.8	0.7
HPA 2017-1					0.6	0.9	1.2	0.9	0.8	0.5	0.7	0.7	0.4
IH 2015-SFR1		0.7	0.7	1.2	1.1	1.2	1.0	1.5	1.4	1.5	1.2	1.0	0.8
IH 2015-SFR2		1.1	0.8	0.9	1.2	0.9	1.3	1.1	1.1	1.1	1.0	0.7	0.7
IH 2015-SFR3		1.0	1.0	1.1	1.4	1.6	1.3	1.3	1.4	1.7	1.5	0.9	0.6
IH 2017-SFR2											0.7	0.7	0.4
PRD 2015-SFR2		0.5	0.5	0.4	0.6	0.4	0.8	0.8	0.7	0.7	0.9	0.65	0.5
PRD 2015-SFR3		0.3	0.3	0.3	0.5	0.6	0.7	0.7	0.5	0.7	0.9	0.8	0.6
PRD 2016-SFR1		0.5	0.4	0.4	0.5	0.5	0.5	0.8	0.8	0.8	0.7	0.7	0.6
PRD 2016-SFR2		0.3	0.4	0.5	0.5	0.4	0.6	0.6	0.5	1.0	1.1	0.0	0.7
PRD 2017-SFR1							0.5	0.7	0.7	0.6	0.6	0.6	0.8	0.6
SWH 2017-1									0.8	0.8	1.0	1.0	0.7
TAH 2016-SFR1		0.8	0.8	0.4	0.3	0.1	0.1	0.1	0.4	0.4	0.5	0.7	0.3
TAH 2017-SFR1							0.7	0.5	0.4	0.3	0.3	0.3	0.1
TAH 2017-SFR2											0.3	0.3	0.2
Overall SFR		0.6	0.6	0.7	0.8	0.7	0.7	0.8	0.9	0.9	0.8	0.7	0.5

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Table 9 – Monthly Retention Rate of Expiring Leases

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		75.2	74.1	73.2	76.0	73.1	74.6	78.6	75.1	75.2	77.4	78.9	TBD
AH4R 2014-SFR3		83.2	71.1	75.5	71.4	72.6	73.6	71.0	78.1	78.9	76.7	81.9	TBD
AH4R 2015-SFR1		72.1	69.1	73.0	74.8	74.9	75.9	75.7	77.3	76.2	75.3	74.9	TBD
AH4R 2015-SFR2		75.4	73.6	69.2	72.7	67.3	62.9	78.0	68.4	76.2	76.1	80.3	TBD
AMSR 2016-SFR1		82.3	80.1	77.2	83.3	79.6	87.1	86.0	87.1	85.6	88.8	83.0	TBD
CAH 2015-1		76.1	75.2	72.8	76.1	73.5	80.2	81.5	74.4	77.1	83.3	75.8	TBD
CSH 2016-1		78.5	77.7	76.0	76.2	75.5	76.1	83.3	73.8	79.4	76.6	82.7	TBD
CSH 2016-2		80.2	76.6	75.8	68.0	68.3	73.0	78.6	67.5	73.1	78.9	80.9	TBD
HPA 2016-2		85.8	81.9	76.2	84.4	63.6	100.0	66.7	90.0	81.3	78.6	75.0	TBD
HPA 2017-1					81.6	85.1	80.5	82.3	89.3	83.3	87.9	79.7	TBD
IH 2015-SFR1		80.7	81.9	76.2	77.0	75.4	85.8	77.3	78.9	78.7	83.3	78.6	TBD
IH 2015-SFR2		77.6	71.2	70.4	73.3	82.8	77.3	78.8	80.7	76.5	73.2	76.2	TBD
IH 2015-SFR3		75.4	78.0	80.2	75.1	78.6	78.6	79.5	80.0	79.5	83.0	79.9	TBD
IH 2017-SFR2											78.1	80.6	TBD
PRD 2015-SFR2		74.9	77.7	72.0	75.5	70.3	72.1	78.7	80.0	83.1	79.9	76.5	TBD
PRD 2015-SFR3		73.8	73.3	71.4	71.4	66.9	67.1	73.9	77.4	73.7	72.8	75.8	TBD
PRD 2016-SFR1		77.4	81.0	76.6	69.8	65.9	68.5	79.5	77.0	76.9	80.9	78.4	TBD
PRD 2016-SFR2		77.2	81.1	80.8	75.6	70.4	77.0	79.4	80.3	80.5	87.3	81.4	TBD
PRD 2017-SFR1						69.6	73.1	79.8	76.0	76.1	82.1	81.2	TBD
SWH 2017-1									74.8	84.8	81.3	75.8	TBD
TAH 2016-SFR1		81.2	81.8	77.9	82.7	85.3	81.3	82.8	78.5	84.8	81.5	83.6	TBD
TAH 2017-SFR1							77.2	82.8	84.0	88.3	79.3	82.5	TBD
TAH 2017-SFR2											76.6	81.4	TBD
Overall SFR		78.1	76.7	75.1	75.0	74.1	75.9	79.4	77.9	79.2	79.7	79.3	TBD

TBD – To Be Determined

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Table 10 – Monthly Retention Rate of MTM Leases

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		87.2	81.3	78.5	78.9	80.4	82.4	83.7	87.4	86.8	89.7	87.3	TBD
AH4R 2014-SFR3		83.0	84.3	77.7	78.6	81.9	86.0	83.2	81.4	89.2	90.0	85.8	TBD
AH4R 2015-SFR1		82.5	79.0	80.8	81.4	81.3	81.3	81.0	87.1	84.9	86.5	82.3	TBD
AH4R 2015-SFR2		82.1	77.5	75.9	79.3	81.1	81.2	87.0	80.9	88.8	86.4	85.5	TBD
AMSR 2016-SFR1		96.7	94.7	90.6	94.2	92.4	96.7	95.7	95.0	93.7	98.2	95.2	TBD
CAH 2015-1		61.9	67.5	62.5	77.8	81.1	72.5	80.0	74.4	78.0	72.5	91.7	TBD
CSH 2016-1		76.9	65.9	73.2	66.0	75.6	78.9	67.5	75.0	79.3	77.8	78.6	TBD
CSH 2016-2		73.0	81.1	62.9	70.2	78.4	57.5	62.9	70.4	74.1	75.0	75.8	TBD
HPA 2016-2				100.0	100.0	100.0	100.0						TBD
HPA 2017-1													TBD
IH 2015-SFR1		92.7	77.8	74.5	78.6	80.4	87.8	88.4	91.7	92.0	90.0	86.3	TBD
IH 2015-SFR2		79.1	77.8	85.7	70.7	93.3	87.2	91.8	88.9	84.8	79.2	81.0	TBD
IH 2015-SFR3		78.6	73.9	80.3	83.5	82.1	83.5	84.5	86.0	82.0	87.4	86.4	TBD
IH 2017-SFR2											91.0	78.4	TBD
PRD 2015-SFR2		83.6	80.3	73.3	72.6	72.7	82.6	81.0	78.6	79.5	80.6	89.2	TBD
PRD 2015-SFR3		82.5	78.3	65.0	75.9	73.7	78.6	75.7	75.5	76.7	83.3	80.6	TBD
PRD 2016-SFR1		79.7	81.5	73.6	79.5	80.0	80.7	88.0	81.8	81.9	85.0	80.9	TBD
PRD 2016-SFR2		81.4	81.4	74.6	78.3	73.9	77.2	78.8	76.8	81.8	100.0	65.8	TBD
PRD 2017-SFR1							81.3	73.5	76.3	66.7	91.4	82.1	91.2	TBD
SWH 2017-1									61.3	80.8	75.0	71.4	TBD
TAH 2016-SFR1		93.1	92.7	92.7	92.2	91.3	93.6	95.1	95.5	92.9	95.5	94.4	TBD
TAH 2017-SFR1							88.1	92.5	93.5	87.0	90.2	87.6	TBD
TAH 2017-SFR2											98.2	93.1	TBD
Overall SFR		86.2	84.0	81.2	83.7	84.6	86.9	88.2	88.1	88.5	91.7	88.3	TBD

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Table 11a – MTM Tenants (by Count)

	Year 2017									Year 2018			Total Count
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
AH4R 2014-SFR2	216	256	273	251	245	217	185	178	175	170	190	206	4,481
AH4R 2014-SFR3	190	210	222	227	216	199	180	168	148	155	188	220	4,499
AH4R 2015-SFR1	202	202	189	221	229	227	198	195	187	184	204	220	4,658
AH4R 2015-SFR2	186	238	239	215	207	179	147	156	143	143	150	183	4,124
AMSR 2016-SFR1	479	514	576	574	600	605	648	684	709	696	733	747	4,262
CAH 2015-1	42	40	40	36	37	40	40	43	41	40	36	42	3,778
CSH 2016-1	39	41	41	47	41	38	40	36	29	27	28	30	3,537
CSH 2016-2	37	53	62	47	37	40	35	27	27	28	33	32	3,958
HPA 2016-2	0	0	1	1	1	1	0	0	0	0	0	0	1,324
HPA 2017-1				0	0	0	0	0	0	0	0	0	1,357
IH 2015-SFR1	64	64	68	67	54	57	61	65	63	55	69	88	2,987
IH 2015-SFR2	90	81	77	79	51	69	63	79	87	78	78	81	3,493
IH 2015-SFR3	162	163	146	149	137	131	149	160	164	158	166	191	6,925
IH 2017-SFR2										92	95	115	4,412
PRD 2015-SFR2	97	119	96	76	71	63	66	64	49	55	58	65	3,288
PRD 2015-SFR3	67	91	96	112	115	110	87	60	52	49	50	41	3,150
PRD 2016-SFR1	203	187	170	151	125	116	122	111	120	119	127	127	5,553
PRD 2016-SFR2	58	95	103	122	137	123	99	85	70	71	201	59	3,742
PRD 2017-SFR1					47	62	76	67	49	46	47	47	2,709
SWH 2017-1								31	26	24	28	34	4,433
TAH 2016-SFR1	287	298	311	348	371	379	360	377	339	257	252	261	3,438
TAH 2017-SFR1						207	197	217	225	195	197	184	3,480
TAH 2017-SFR2										229	195	194	2,621
Overall SFR	2,419	2,652	2,710	2,723	2,721	2,863	2,753	2,803	2,703	2,871	3,125	3,167	86,209

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Table 11b – MTM Tenants (by Percentage)

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		4.8	5.7	6.1	5.6	5.5	4.8	4.1	4.0	3.9	3.8	4.2	4.6
AH4R 2014-SFR3		4.2	4.7	4.9	5.0	4.8	4.4	4.0	3.7	3.3	3.4	4.2	4.9
AH4R 2015-SFR1		4.3	4.3	4.1	4.7	4.9	4.9	4.2	4.2	4.0	4.0	4.4	4.7
AH4R 2015-SFR2		4.5	5.8	5.8	5.2	5.0	4.3	3.6	3.8	3.5	3.5	3.6	4.4
AMSR 2016-SFR1		11.2	12.1	13.5	13.5	14.1	14.2	15.2	16.0	16.6	16.3	17.2	17.5
CAH 2015-1		1.1	1.0	1.0	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.1
CSH 2016-1		1.1	1.2	1.2	1.3	1.2	1.1	1.1	1.0	0.8	0.8	0.8	0.8
CSH 2016-2		0.9	1.3	1.6	1.2	0.9	1.0	0.9	0.7	0.7	0.7	0.8	0.8
HPA 2016-2		0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
HPA 2017-1					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IH 2015-SFR1		2.1	2.1	2.3	2.2	1.8	1.9	2.0	2.2	2.1	1.8	2.3	2.9
IH 2015-SFR2		2.6	2.3	2.2	2.3	1.5	2.0	1.8	2.3	2.5	2.2	2.2	2.3
IH 2015-SFR3		2.3	2.3	2.1	2.1	2.0	1.9	2.1	2.3	2.4	2.3	2.4	2.8
IH 2017-SFR2											2.1	2.2	2.6
PRD 2015-SFR2		2.9	3.6	2.9	2.3	2.2	1.9	2.0	1.9	1.5	1.7	1.8	2.0
PRD 2015-SFR3		2.1	2.9	3.0	3.5	3.6	3.5	2.8	1.9	1.7	1.6	1.6	1.3
PRD 2016-SFR1		3.6	3.4	3.1	2.7	2.2	2.1	2.2	2.0	2.2	2.1	2.3	2.3
PRD 2016-SFR2		1.5	2.5	2.8	3.3	3.7	3.3	2.6	2.3	1.9	1.9	5.4	1.6
PRD 2017-SFR1							1.7	2.3	2.8	2.5	1.8	1.7	1.7
SWH 2017-1									0.7	0.6	0.5	0.6	0.8
TAH 2016-SFR1		8.3	8.7	9.0	10.1	10.8	11.0	10.5	11.0	9.9	7.5	7.3	7.6
TAH 2017-SFR1							5.9	5.7	6.2	6.5	5.6	5.7	5.3
TAH 2017-SFR2											8.7	7.4	7.4
Overall SFR		3.6	3.9	4.0	4.0	3.8	3.8	3.7	3.5	3.4	3.3	3.6	3.7

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Table 12 – Monthly Turnover Rate

		Year 2017									Year 2018		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
AH4R 2014-SFR2		3.5	4.9	4.6	3.9	3.9	2.9	2.9	2.5	2.2	2.8	2.4	TBD
AH4R 2014-SFR3		2.5	3.9	4.3	5.1	4.3	3.4	3.1	2.1	2.4	2.6	2.4	TBD
AH4R 2015-SFR1		2.9	3.9	4.2	4.2	4.1	3.9	3.4	2.8	2.8	3.4	3.2	TBD
AH4R 2015-SFR2		3.9	5.0	5.8	4.4	3.7	3.3	2.5	2.3	2.9	2.5	2.6	TBD
AMSR 2016-SFR1		2.3	2.8	3.5	3.3	2.5	2.1	2.1	2.0	2.2	2.8	1.7	TBD
CAH 2015-1		3.1	4.0	4.6	3.8	4.1	2.7	3.2	2.8	2.3	1.9	2.6	TBD
CSH 2016-1		3.5	3.4	3.9	3.4	3.6	2.9	2.9	2.6	2.1	2.2	2.3	TBD
CSH 2016-2		3.1	4.1	3.4	4.3	4.5	3.0	3.2	3.0	2.4	2.6	2.5	TBD
HPA 2016-2		2.8	4.4	7.5	3.6	1.9	1.0	1.6	2.2	1.2	1.7	1.5	TBD
HPA 2017-1					2.2	2.5	2.3	3.6	2.3	1.7	1.6	1.9	TBD
IH 2015-SFR1		2.7	2.3	2.6	3.6	3.6	2.2	3.1	2.5	2.2	2.4	3.3	TBD
IH 2015-SFR2		2.4	3.2	3.6	3.4	3.8	2.1	3.0	2.8	2.5	2.8	2.8	TBD
IH 2015-SFR3		2.4	2.7	3.0	3.0	3.4	2.8	2.6	2.8	2.3	2.6	2.4	TBD
IH 2017-SFR2											2.4	2.2	TBD
PRD 2015-SFR2		3.2	4.2	3.7	3.0	3.2	3.1	2.9	2.5	2.2	2.4	2.5	TBD
PRD 2015-SFR3		2.1	4.1	5.5	7.1	4.6	4.2	3.0	2.4	2.0	2.0	2.0	TBD
PRD 2016-SFR1		3.4	3.6	4.0	3.5	3.2	3.2	2.9	2.4	2.6	2.6	2.8	TBD
PRD 2016-SFR2		2.2	2.9	4.2	5.2	5.3	3.2	3.0	1.7	1.7	2.0	2.2	TBD
PRD 2017-SFR1							7.5	4.3	4.1	3.8	3.5	2.4	1.8	TBD
SWH 2017-1									2.0	2.3	2.4	3.0	TBD
TAH 2016-SFR1		2.4	3.1	3.4	3.1	2.8	3.5	2.2	2.5	1.7	2.1	1.7	TBD
TAH 2017-SFR1							6.6	3.3	2.7	2.0	3.1	2.4	TBD
TAH 2017-SFR2											6.3	1.3	TBD
Overall SFR		2.9	3.6	4.1	3.9	3.8	3.2	2.9	2.5	2.3	2.6	2.4	TBD

TBD – To Be Determined

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Appendix I – Vacancy Versus Lease Expiration

Charts showing Vacancy Versus Lease Expiration for the following securitizations: AH4R 2014-SFR2, AH4R 2014-SFR3, AH4R 2015-SFR1, AH4R 2015-SFR2, AMSR 2016-SFR1, CAH 2015-1, CSH 2016-1, CSH 2016-2, HPA 2016-2, HPA 2017-1, IH 2015-SFR1, IH 2015-SFR2, IH 2015-SFR3, IH 2017-SFR2, PRD 2015-SFR2.
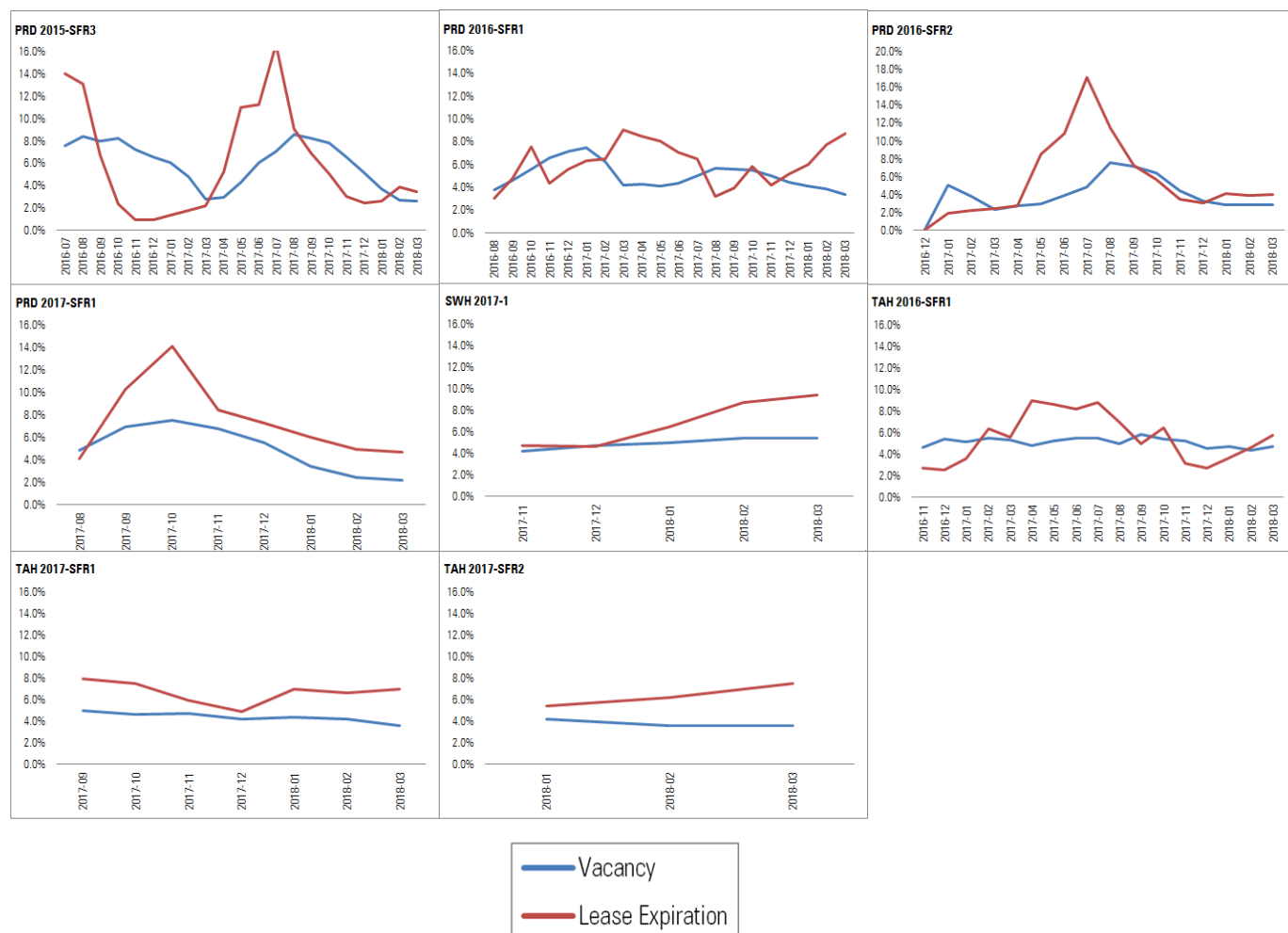
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Appendix II – Description of Analysis

Morningstar tracks key metrics to gauge the performance of single-borrower, single-family rental transactions that Morningstar rates. There are several ways to view these metrics. For example, the vacancy rate might be calculated based on property count, by cash flow, or by days of occupancy. To account for different reporting across issuers, Morningstar seeks commonality across the single-borrower issuers' monthly reporting to derive its calculations.

Multiborrower deals are similar to single-borrower transactions in that the underlying collateral is generally single-family rental properties. They differ, though, in that single-borrower deals are backed by one loan, while multiborrower deals have many loans. As such, the monthly reporting for multiborrower deals is different from the data reported in the single-borrower sector. For example, delinquency reported in Tables 8a and 8b are tenants that are past due on rental payments at a property level. For multiborrower transactions, delinquency is measured by borrowers that are past due on payments at the loan level.

Table 1 – Multiborrower Loan Performance by Percentage of Balance

To calculate the percentage of loans delinquent, in foreclosure, and/or in special servicing, Morningstar takes the respective balance divided by the current deal balance.

Table 2 – Multiborrower Loan Performance by Loan Count

Morningstar shows the total loan count in a securitization and the number of loans 30-59 days delinquent, 60-89 days delinquent, over 90 days delinquent, in foreclosure, real estate owned, and in special servicing.

Chart 1 – Single-Family Rental Rent Change Versus RentRange Year-Over-Year Rent Change

To calculate the rent change across single-borrower, single-family rental transactions, Morningstar isolated the leases starting in a given period and compared the contractual rent in that period with the prior occupied contractual rent. Morningstar then compared this rent change with the year-over-year change in three- and four-bedroom median rents from RentRange. Morningstar weighted the RentRange median rents by geography to match the MSA concentration of the Morningstar single-family rental database.

Chart 2 – Rental Changes for Renewals Versus Vacant-to-Occupied Properties

Morningstar calculated the rent change using the contractual rent for the corresponding period versus the prior occupied contractual rent. To determine the lease expiration sample, Morningstar used the logic outlined in the Tables 5a, 5b, and 5c – Lease Expiration section. Morningstar then looked at the property tape to determine the renewed properties and compared that contractual rent with

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the prior contractual rent. For vacant properties subsequently occupied by new tenants, Morningstar isolated those properties that were vacant in a given month and occupied in the next month and again compared the current contractual rent with the prior contractual rent.

Chart 3 – February Average Contractual Rent Versus Property-Level RentRange Estimate by MSA

Chart 3, which shows some of the MSAs most frequently found in single-family rental securitizations, takes a snapshot of the March contractual rents in the Morningstar single-family rental database and compares these rents with their property-specific rent estimates from RentRange.

Chart 4 – MSA-Level Blended Rent Change

Chart 4 shows the blended rent change of some of the MSAs frequently found in single-family rental securitizations. The size of each circle represents the percentage of properties by count in each MSA from Morningstar's database. MSAs in red are below the overall average rent change for the month, while those in blue are above.

Table 3 – Blended Rent Change (by Percentage) – Top MSAs

Table 3 shows the MSA-level blended rent change for the past 12 months using the same rent change calculation used in Chart 1 and Chart 4.

Tables 4a, 4b, and 4c – Month-End Vacancy

Table 4a displays deal-level vacancy by the month-end count of empty properties. Table 4b shows the deal-level vacancy as a percentage of the total properties in each pool. Table 4c shows the MSA-level vacancy percentage for some of the MSAs frequently found in single-family rental securitizations. The vacancy rate is heavily influenced by the number of lease expirations in each month. Generally, the more leases expiring in a given month, the higher the vacancy rate will be. Because each transaction or MSA has a distinct lease expiration schedule, the vacancy rate should not be viewed at one point in time, but rather in the context of its lease expiration cycle, as reported in Tables 5a, 5b, and 5c and as seen in the charts in Appendix I.

Chart 5 – MSA-Level Vacancy and Lease Expiration Percentage (by Count)

Chart 5 shows the vacancy rate of some of the MSAs frequently found in single-family rental securitizations. The size of each circle represents the percentage of leases expiring in the past three months. MSAs in red are above the overall average vacancy percentage for the month, while those in blue are below. Typically, the more leases expiring, the higher the vacancy rate.

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Tables 5a, 5b, and 5c – Lease Expiration

Because lease expiration profiles change over time as tenants renew or new tenants occupy vacant properties, Morningstar seeks to rely on more recently published reporting of lease expirations, rather than solely using the lease expiration schedule from the cutoff date. To determine March lease expirations, Morningstar looks for all March lease expirations in the December property tape. Morningstar looks three months back to set a lease expiration sample that more accurately captures tenants who renew their leases in months before their scheduled lease expiration. Certain issuers have indicated that they proactively work to renew tenants a few months before the lease expiration date. Because Morningstar is looking three months back to determine its sample, there are instances when tenants vacate properties between the time Morningstar determines its sample and the month in which the tenant must make a decision to stay in the property. Morningstar excludes those vacated properties from its lease expiration sample and its retention rate calculation in Table 9. In the current example, properties that become vacant or that have move out dates in either January or February are removed from the March lease expiration count.

Tables 6a and 6b – Historical Months of Vacancy

Tables 6a and 6b show the number of months of vacancy the March unoccupied properties have experienced. In other words, if a property is unoccupied as of the March property tape, these tables summarize the number of total months the property has been vacant since the transaction cutoff date. Depending on the length of performance history, the overall vacancy may be in line with the number of consecutive vacant months, but this might not always be the case for those properties that have gone through multiple leasing cycles. Table 6a shows historical months of vacancy by count, and Table 6b is as a percentage of the March vacancies.

Table 7 – Delinquency Definition

Morningstar's calculation of delinquency is based on the number of properties flagged as delinquent in the monthly property-level data. Each issuer uses its own criteria for classifying a tenant as delinquent. Table 7 summarizes the delinquency definition for each issuer and contains details on the length of time that must pass from a tenant's due date to be considered delinquent. The length of time is either based on a count of 30 days or is based on the calendar month. The slight distinction, for example, either results in a property with payment due on March 1 considered as delinquent after 30 days or as delinquent on April 1. None of the issuers factor a grace period into their delinquency definition, meaning their respective measures of past due begin if payment has not been received by the stated due date. In addition to timing, these conditions can also differ by the total dollar threshold an issuer uses to classify a tenant as delinquent and by the types of overdue payments that the issuer uses to count toward that threshold. For example, most issuers use only base rent to determine the dollar amount of delinquency. However, Tricon American Homes counts total receivables to determine the past due amount. Progress Residential includes certain fees above base rent but not total receivables.

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Tables 8a and 8b – Month-End Delinquency

Table 8a shows the month-end count of delinquencies based on the definition in Table 7, and Table 8b shows delinquency as a percentage of the total number of properties in each pool. Any review of delinquency should be viewed within the context of the delinquency definitions in Table 7.

Table 9 – Monthly Retention Rate of Expiring Leases

When evaluating an issuer's ability to keep tenants in a property, Morningstar considers a retention rate. Once again, differences in monthly reporting affect the calculation that Morningstar uses. Typically, a renewal rate would review those tenants who signed a full-term lease. Considering the different methods issuers use to designate tenants with either a renewal or an MTM status, Morningstar opted to report the retention rate instead of the renewal rate. The retention rate is defined as those properties that retained previous tenants, whether on full-term or MTM leases, divided by the total number of leases due to expire in that period, as reported in Table 5a and explained in Appendix II. If there is not enough seasoning in the deal to look three months back to determine the lease expiration sample, Morningstar relies on the cutoff tape lease expiration profile. As a result, the first three months of retention rate reported in Table 9 will use the cutoff tape to find the sample of lease expirations. After isolating the applicable lease expiration sample, Morningstar looks at the most recent property tape to determine the lease status of the properties. In this report, Morningstar uses the March property tape to determine the lease status for February expirations. Morningstar relies on the issuer's labeling of vacant, renewal, new lease, or MTM, to the extent that these notations are available in each tape.

Table 10 – Monthly Retention Rate of MTM Leases

In Table 10, Morningstar reviews the retention rate of those properties in an MTM status. This table looks at previous tenants who went to an MTM status and either renewed or remained in the property on an MTM basis. For the MTM retention rate, Morningstar looks for MTM tenants in the previous month's property tape, and then looks to the current month for their occupancy status. For example, the February 2018 retention rates are the March statuses of February MTM tenants.

Tables 11a and 11b – MTM Tenants

In Tables 11a and 11b, Morningstar shows the count and percentage of properties with MTM tenants. Securitizations with higher concentrations of MTM tenants typically report higher retention rates of their MTM leases. MTM tenants are usually subject to a monthly fee, which may encourage them to eventually sign full-term leases.

Table 12 – Monthly Turnover Rate

In evaluating how effective an issuer is at retaining tenants, Morningstar considers the monthly turnover rate. For this metric, Morningstar strives to apply a consistent calculation given the differences in issuers' reporting. Morningstar considers a property turned over if it meets one of three criteria:

- The property is vacant but was occupied in the previous month and the move-out date, if available, is on or after the first day of the current month;
- The move-out date is on or after the first day of the current month, including the last day of the current month; or
- The property was occupied in the prior month and a tenant has signed a new lease that starts on or after the second day of the current month.

Disclaimer

MORNINGSTAR®