

Single-Family Rental Research

Performance Summary Covering All Morningstar-Rated Securitizations

January 2018

Authors:

Monte Bays | Vice President | monte.bays@morningstar.com | +1 646 560-4536

Yash Agarwal | Analyst | yash.agarwal@morningstar.com | +91 22 61217208

Arindam Vatsa | Analyst | arindam.vatsa@morningstar.com | +91 22 61217213

Analytical Manager:

Brian Grow | Managing Director | brian.grow@morningstar.com | +1 646 560-4513

Introduction

Lease expirations across single-borrower, single-family rental securitizations rated by Morningstar Credit Ratings, LLC declined for the second-consecutive month to 4.5% in December from 5.2% in November. In addition, the average vacancy rate improved slightly for the second-consecutive month, declining to 5.2% in December from 5.6% in November, continuing the trend of improving in the winter months when tenants tend to be settled and are not looking to move. The average retention rate of expiring leases declined slightly, but remained strong, declining to 78.0% in November (the most recent data available) from a revised 79.2% in October. Among the top 20 metropolitan statistical areas, the Houston MSA continued to have the highest vacancy rate, though it did decline for the second straight month after six consecutive months of increases, to 8.8% in December from 9.4% in November. The Nashville, Tennessee, MSA's vacancy rate declined to 7.5% in December from 8.0% in November and it remained the second-highest. Rents in Houston remained stable with no change after declining for three consecutive months. The Morningstar monthly performance summary covers 24 single-borrower deals with over 88,000 properties.

Starting with this month's single-family rental performance summary, we have updated the multiborrower section to display deal performance by balance and count in a table format.

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 December. Page 4 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.

Table of Contents

Introduction.....	1
Single-Borrower Performance.....	4
Multiborrower Performance.....	5
Table 1 – Multiborrower Loan Performance by Percentage of Balance.....	6
Table 2 – Multiborrower Loan Performance by Loan Count.....	6
Single-Borrower Charts and Tables	7
Chart 1 – Single-Family Rental Rent Change Versus RentRange Year-Over-Year Rent Change	7
Chart 2 – Rental Changes for Renewals Versus Vacant-to-Occupied Properties	7
Chart 3 – December Average Contractual Rent Versus Property-Level RentRange Estimate by MSA.....	8
Chart 4 – MSA-Level Blended Rent Change*.....	9
Table 3 – Blended Rent Change (by Percentage) - Top MSAs	10
Table 4a – Month-End Vacancy (by Count)	10
Table 4b – Month-End Vacancy (by Percentage)	11
Table 4c – Month-End Vacancy (by Percentage) – Top MSAs	12
Chart 5 – MSA-Level Vacancy and Lease Expiration Percentage (by Count)*.....	13
Table 5a – Lease Expiration (by Count)	14
Table 5b – Lease Expiration (by Percentage)	15
Table 5c – Lease Expiration (by Percentage) – Top MSAs	16
Table 6a – Historical Months of Vacancy for December Vacancies (by Count)	17
Table 6b – Historical Months of Vacancy for December Vacancies (by Percentage)	18
Table 7 – Delinquency Definition	19
Table 8a – Month-End Delinquency (by Count).....	20
Table 8b – Month-End Delinquency (by Percentage)	21
Table 9 – Monthly Retention Rate of Expiring Leases	22
Table 10 – Monthly Retention Rate of MTM Leases	23
Table 11a – MTM Tenants (by Count)	24
Table 11b – MTM Tenants (by Percentage)	25
Table 12 – Monthly Turnover Rate	26
Appendix I – Vacancy Versus Lease Expiration	27
Appendix II – Description of Analysis	29
Chart 1 – Single-Family Rental Rent Change Versus RentRange Year-Over-Year Rent Change	29
Chart 2 – Rental Changes for Renewals Versus Vacant-to-Occupied Properties	29
Chart 3 – December Average Contractual Rent Versus Property-Level RentRange Estimate by MSA.....	30
Chart 4 – MSA-Level Blended Rent Change.....	30
Table 3 – Blended Rent Change (by Percentage) – Top MSAs	30
Tables 4a, 4b, and 4c – Month-End Vacancy	30
Chart 5 – MSA-Level Vacancy and Lease Expiration Percentage (by Count).....	30
Tables 5a, 5b, and 5c – Lease Expiration.....	30
Tables 6a and 6b – Historical Months of Vacancy	31
Table 7 – Delinquency Definition	31
Tables 8a and 8b – Month-End Delinquency	32
Table 9 – Monthly Retention Rate of Expiring Leases	32
Table 10 – Monthly Retention Rate of MTM Leases.....	32
Tables 11a and 11b – MTM Tenants	32
Table 12 – Monthly Turnover Rate.....	33

Single-Borrower Performance

The continued strength in the average retention rate on full-term leases is driven by the fact that even though the number of single-borrower securitizations with a retention rate below 70% increased to two in November, the latest month for which data is available, compared with one in October, the number of deals with average retention rates equal to or above 80.0% increased to 10 in November from six in October. The overall turnover rate declined for the third consecutive month to 2.5% in November, the latest month for which data is available, compared with 2.9% in October.

The average delinquency rate remained unchanged from November, at 0.9% for the third consecutive month with eight deals having delinquency rates at or above 1.0%, up from five the month prior. AMSR 2016-SFR1 had the highest delinquency rate at 2.7%, while PRD 2016-SFR2 and HPA 2016-1 saw month-over-month increases in delinquencies of 50 and 40 basis points, respectively. Please note that any review of delinquency should be viewed within the context of the delinquency definitions in Table 5.

Rents rose 2.4% in December compared with a revised increase of 2.7% in November. Chart 1 shows that the rent gains for securitized properties were slightly lower than their RentRange benchmarks for the second consecutive month. 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 November, the latest month for which data is available, the rent change for vacant-to-occupied properties was unchanged, while the rent change for renewal properties was at 3.9%. 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 2.8% 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 1 shows the MSA-level blended rent change for the past 12 months.

Multiborrower Performance

There have been eight multiborrower transactions: B2R 2015-1, B2R 2015-2, B2R 2016-1, FKL 2015-SFR1, CAF 2015-1, CAF 2016-1, CAF 2016-2, and CAF 2017-1. As of the most recent remittance report, these transactions were secured by 801 total loans. The number of loans 30-59 days delinquent remained the same at 12, while the number of loans 60-89 days delinquent increased to six from five, and the loans over 90 days delinquent increased to 15 from 14. Loans in foreclosure increased to three from two, and

loans in special servicing increased to 27 from 23. B2R 2015-2 and B2R 2016-1 each had one loan transferred to special servicing, and CAF 2017-1 had two loans transferred to special servicing.

Table 1 – Multiborrower Loan Performance by Percentage of Balance (%)

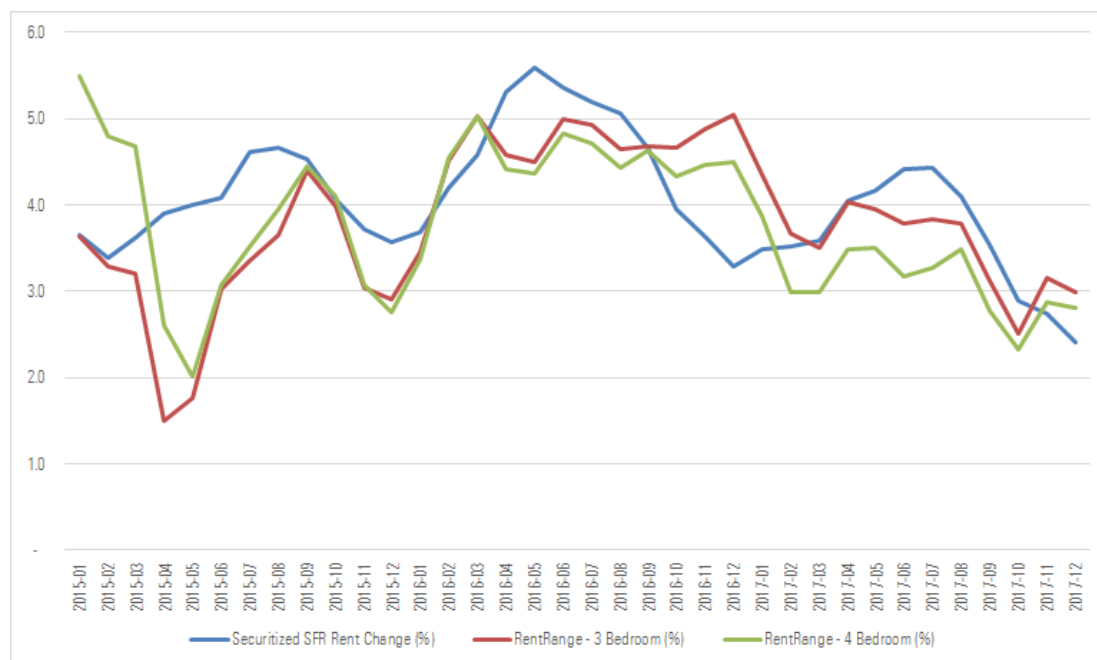
	30-59 Delinquent	60-89 Delinquent	90+ Delinquent	Foreclosure	Real Estate Owned	Special Servicing
B2R 2015-1	0.35	0.00	0.53	0.28	0.00	0.86
B2R 2015-2	1.27	0.46	0.49	0.19	0.00	0.93
B2R 2016-1	0.91	0.22	1.49	0.00	0.00	1.85
CAF 2015-1	0.00	0.00	1.15	0.00	0.00	5.50
CAF 2016-1	0.41	0.00	1.13	0.00	0.00	1.14
CAF 2016-2	0.22	0.00	1.47	0.36	0.00	3.71
FKL 2015-SFR1	0.00	0.00	0.00	0.00	0.00	1.78
CAF 2017-1	0.00	0.72	0.00	0.00	0.00	0.72

Table 2 – Multiborrower Loan Performance by Loan Count

	30-59 Delinquent	60-89 Delinquent	90+ Delinquent	Foreclosure	Real Estate Owned	Special Servicing
B2R 2015-1	1	0	2	1	0	4
B2R 2015-2	5	3	3	1	0	6
B2R 2016-1	4	1	5	0	0	7
CAF 2015-1	0	0	1	0	0	2
CAF 2016-1	1	0	1	0	0	1
CAF 2016-2	1	0	3	1	0	4
FKL 2015-SFR1	0	0	0	0	0	1
CAF 2017-1	0	2	0	0	0	2

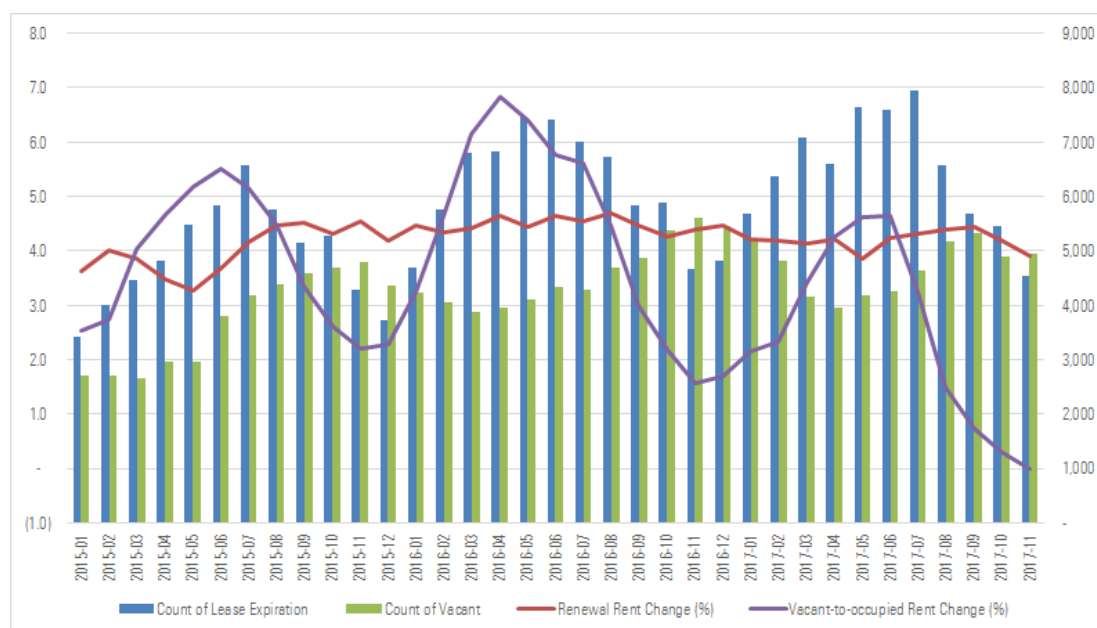
Single-Borrower Charts and Tables

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



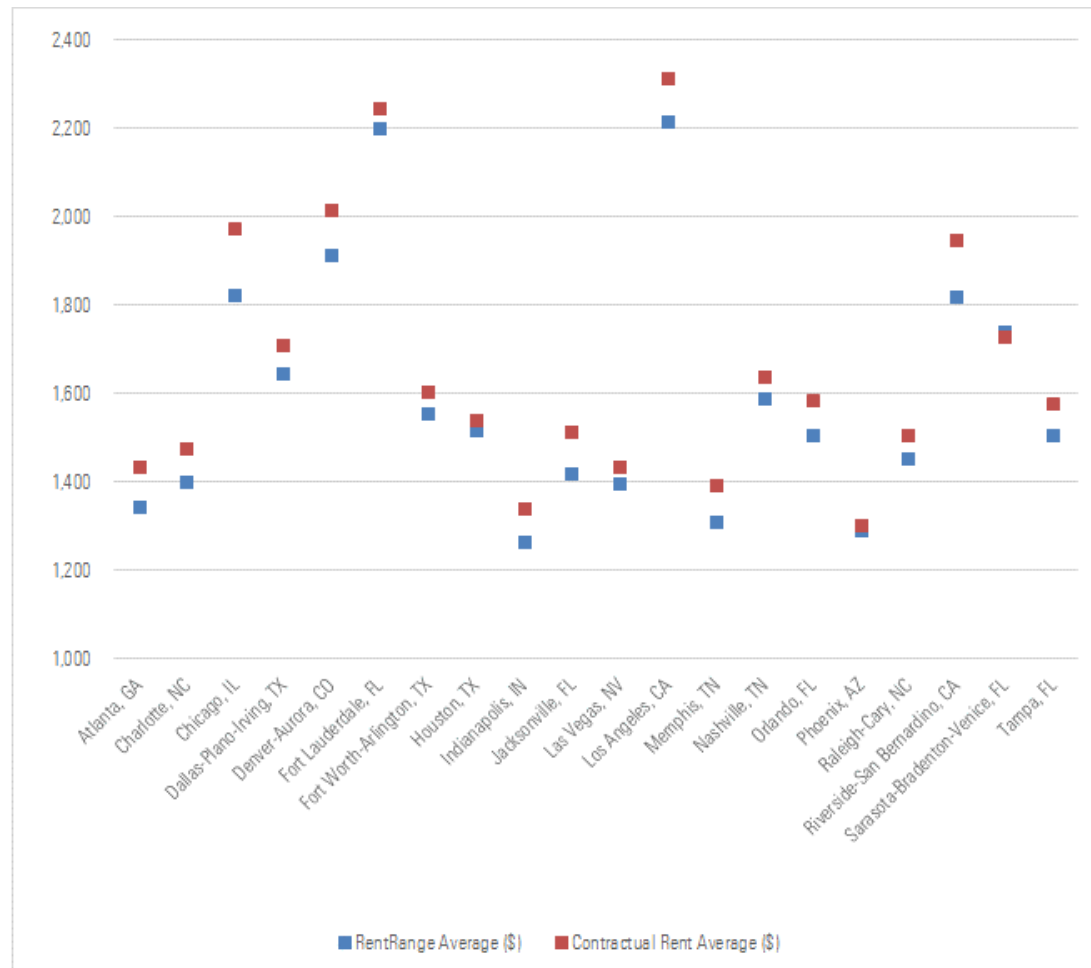
Sources: Morningstar Credit Ratings, LLC; RentRange

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



Source: Morningstar Credit Ratings, LLC

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



Sources: Morningstar Credit Ratings, LLC; RentRange

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 1.35% to 13.01%. Because of their proximity, the Fort Worth-Arlington, Texas, MSA is hidden behind the Dallas-Plano-Irving, Texas, MSA.

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

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Atlanta, GA		3.8	3.9	3.9	4.5	4.6	5.0	4.9	4.6	4.4	4.3	3.6	3.5
Charlotte, NC		2.2	2.7	2.9	4.1	4.1	4.3	4.1	3.2	3.0	2.7	2.0	1.0
Chicago, IL		0.8	1.4	1.9	1.7	2.7	2.7	2.2	2.1	0.8	0.8	-0.2	-0.6
Dallas-Plano-Irving, TX		2.7	3.6	3.8	4.4	4.9	5.2	5.2	4.3	4.1	2.8	2.8	2.4
Denver-Aurora, CO		6.3	5.4	6.3	6.7	5.9	7.0	6.2	6.2	4.2	1.7	2.4	3.8
Fort Lauderdale, FL		3.6	2.8	2.8	3.9	3.6	2.4	2.5	1.8	2.2	2.2	1.2	1.7
Fort Worth-Arlington, TX		3.4	3.8	4.1	4.5	4.3	4.7	4.6	4.5	4.4	3.3	3.2	2.8
Houston, TX		0.7	-0.1	0.5	1.9	1.7	1.1	1.5	1.6	-0.8	-0.4	-0.6	0.0
Indianapolis, IN		-2.8	0.4	0.7	1.6	2.4	3.4	3.0	3.1	2.0	1.8	0.4	0.2
Jacksonville, FL		1.5	2.0	1.7	2.2	2.9	3.6	4.3	3.5	3.7	3.3	2.6	2.3
Las Vegas, NV		4.4	4.4	4.6	4.8	5.4	5.6	5.4	5.9	5.1	3.1	4.5	4.0
Los Angeles, CA		6.1	8.2	7.1	7.3	7.2	8.2	8.0	7.5	6.3	6.5	6.0	6.3
Memphis, TN		1.9	0.5	0.2	0.5	0.8	2.1	2.3	2.7	2.4	1.0	0.2	-0.1
Nashville, TN		3.0	2.4	2.5	4.1	4.0	4.9	4.8	4.0	3.7	3.3	2.2	1.1
Orlando, FL		4.1	4.1	4.1	4.8	4.9	4.9	5.2	4.7	4.1	3.2	4.0	4.0
Phoenix, AZ		5.9	6.1	5.7	6.4	6.6	6.4	6.8	6.1	5.5	4.8	5.0	4.1
Raleigh-Cary, NC		2.0	3.0	3.1	4.2	3.5	3.7	3.7	3.3	3.4	2.6	2.1	0.5
Riverside-San Bernardino, CA		4.6	5.1	4.8	5.0	5.5	5.5	5.9	5.2	5.1	5.1	5.0	5.0
Sarasota-Bradenton-Venice, FL		2.9	1.8	2.3	2.3	2.7	2.9	2.1	1.4	1.0	0.4	1.0	0.4
Tampa, FL		2.9	2.7	2.7	3.4	3.1	3.7	3.6	3.2	2.6	1.7	2.4	2.1

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

		Year 2017												Total Count
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
AH4R 2014-SFR2		162	193	164	165	194	209	209	230	251	248	235	214	4,482
AH4R 2014-SFR3		206	236	223	219	194	223	234	310	298	317	299	284	4,499
AH4R 2015-SFR1		258	239	198	183	175	197	198	243	282	312	331	305	4,659
AH4R 2015-SFR2		182	198	195	226	232	256	267	253	268	276	252	238	4,124
AMSR 2016-SFR1		291	288	251	230	237	297	355	335	350	339	366	374	4,262
CAH 2014-1		155	125	125	140	180	216	210	207	202	190	183	187	3,239
CAH 2014-2		160	152	152	164	190	220	194	200	199	196	214	194	3,599
CAH 2015-1		184	164	160	194	224	249	239	261	225	214	226	230	3,791
CSH 2016-1		161	153	155	183	176	176	194	215	207	214	207	207	3,547
CSH 2016-2		193	168	173	186	184	189	241	266	241	230	254	257	3,989
HPA 2016-1		59	52	46	48	53	62	75	91	120	123	105	75	2,004
HPA 2016-2		22	20	29	37	48	62	80	63	48	36	42	46	1,336
HPA 2017-1								19	26	36	50	64	57	1,361
IH 2015-SFR1		151	153	124	118	104	103	128	142	139	140	141	129	2,994
IH 2015-SFR2		183	155	145	138	161	157	171	187	160	165	171	178	3,499
IH 2015-SFR3		389	346	315	298	270	287	315	317	352	320	345	350	6,950
PRD 2015-SFR2		255	201	140	139	155	132	130	149	180	197	148	113	3,291
PRD 2015-SFR3		191	149	86	93	133	190	222	269	259	245	206	160	3,150
PRD 2016-SFR1		414	346	232	238	229	239	279	314	311	304	277	244	5,556
PRD 2016-SFR2		186	140	84	101	108	144	181	282	265	238	162	122	3,744
PRD 2017-SFR1									131	187	203	183	150	2,710
SWH 2017-1												184	209	4,433
TAH 2016-SFR1		175	188	183	164	178	188	187	169	199	186	178	156	3,439
TAH 2017-SFR1										173	162	164	146	3,480
Overall SFR		3,977	3,666	3,180	3,264	3,425	3,796	4,128	4,660	4,952	4,905	4,937	4,625	88,138

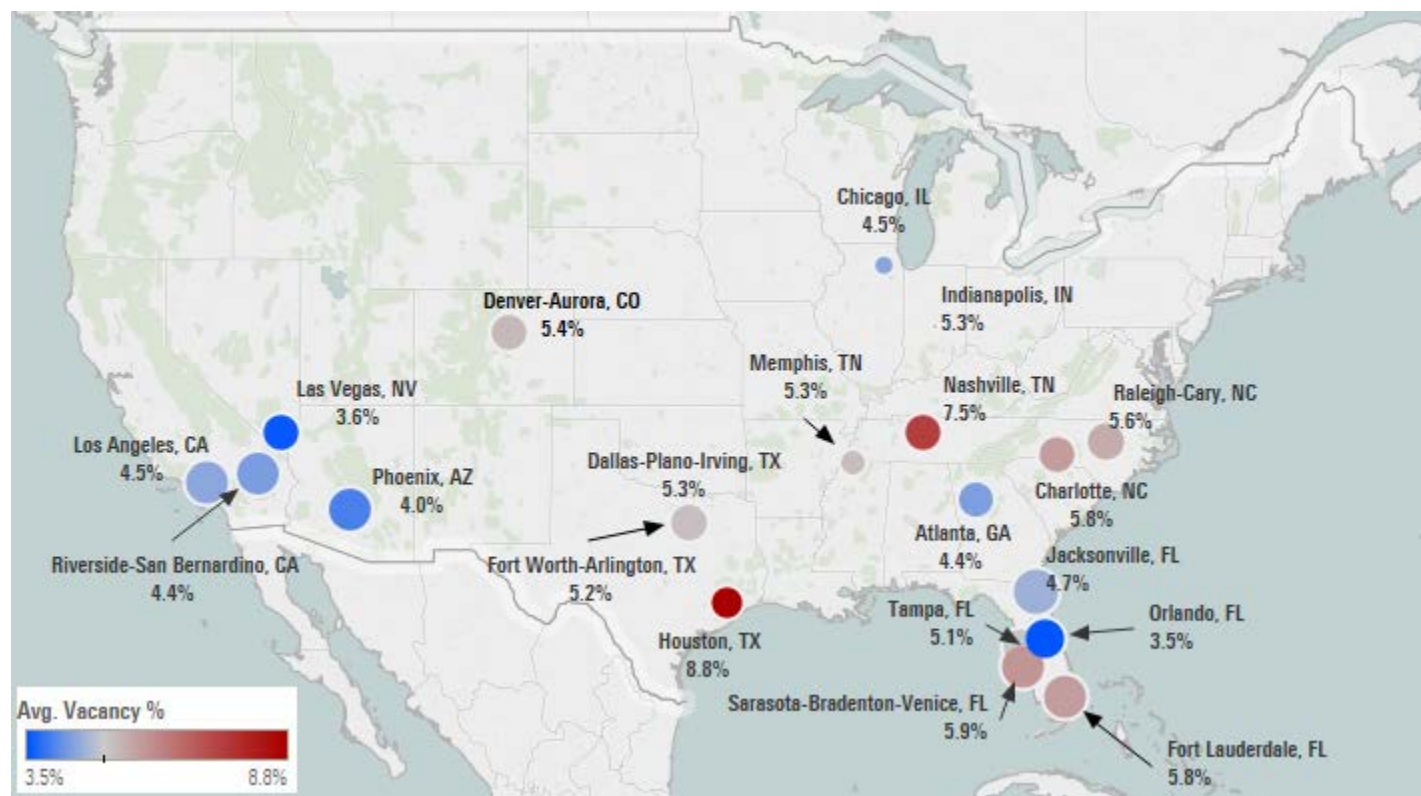
**Table 4b – Month-End Vacancy (by Percentage)**

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		3.6	4.3	3.7	3.7	4.3	4.7	4.7	5.1	5.6	5.5	5.2	4.8
AH4R 2014-SFR3		4.6	5.2	5.0	4.9	4.3	5.0	5.2	6.9	6.6	7.0	6.6	6.3
AH4R 2015-SFR1		5.5	5.1	4.2	3.9	3.8	4.2	4.2	5.2	6.1	6.7	7.1	6.5
AH4R 2015-SFR2		4.4	4.8	4.7	5.5	5.6	6.2	6.5	6.1	6.5	6.7	6.1	5.8
AMSR 2016-SFR1		6.8	6.8	5.9	5.4	5.6	7.0	8.3	7.9	8.2	8.0	8.6	8.8
CAH 2014-1		4.6	3.7	3.7	4.2	5.4	6.5	6.4	6.3	6.2	5.8	5.6	5.8
CAH 2014-2		4.3	4.1	4.1	4.5	5.2	6.0	5.4	5.5	5.5	5.4	5.9	5.4
CAH 2015-1		4.8	4.2	4.1	5.0	5.8	6.5	6.2	6.8	5.9	5.6	6.0	6.1
CSH 2016-1		4.5	4.3	4.4	5.1	4.9	4.9	5.4	6.0	5.8	6.0	5.8	5.8
CSH 2016-2		4.8	4.2	4.3	4.7	4.6	4.7	6.0	6.7	6.0	5.8	6.4	6.4
HPA 2016-1		2.8	2.5	2.2	2.3	2.6	3.0	3.7	4.5	5.9	6.1	5.2	3.7
HPA 2016-2		1.6	1.4	2.1	2.7	3.5	4.6	6.0	4.7	3.6	2.7	3.1	3.4
HPA 2017-1								1.4	1.9	2.6	3.6	4.7	4.2
IH 2015-SFR1		5.0	5.1	4.1	3.9	3.4	3.4	4.3	4.7	4.6	4.7	4.7	4.3
IH 2015-SFR2		5.2	4.4	4.1	3.9	4.6	4.5	4.9	5.3	4.6	4.7	4.9	5.1
IH 2015-SFR3		5.4	4.8	4.4	4.2	3.8	4.1	4.5	4.5	5.0	4.6	5.0	5.0
PRD 2015-SFR2		7.7	6.1	4.2	4.2	4.7	4.0	3.9	4.5	5.5	6.0	4.5	3.4
PRD 2015-SFR3		6.0	4.7	2.7	2.9	4.2	6.0	7.0	8.5	8.2	7.8	6.5	5.1
PRD 2016-SFR1		7.4	6.2	4.2	4.3	4.1	4.3	5.0	5.6	5.6	5.5	5.0	4.4
PRD 2016-SFR2		5.0	3.7	2.2	2.7	2.9	3.8	4.8	7.5	7.1	6.4	4.3	3.3
PRD 2017-SFR1									4.8	6.9	7.5	6.8	5.5
SWH 2017-1												4.2	4.7
TAH 2016-SFR1		5.1	5.5	5.3	4.8	5.2	5.5	5.4	4.9	5.8	5.4	5.2	4.5
TAH 2017-SFR1										5.0	4.7	4.7	4.2
Overall SFR		5.2	4.8	4.1	4.3	4.5	5.0	5.3	5.8	5.9	5.9	5.6	5.2

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

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Atlanta, GA		5.1	4.5	4.1	4.1	5.6	5.1	4.4	4.9	4.8	5.0	4.8	4.4
Charlotte, NC		5.2	4.6	3.7	4.2	4.4	4.4	5.2	5.8	6.6	6.6	6.1	5.8
Chicago, IL		4.7	4.5	4.3	4.3	4.0	4.5	4.8	5.0	5.0	5.7	5.2	4.5
Dallas-Plano-Irving, TX		4.2	3.9	3.5	4.0	5.1	4.8	5.0	5.6	5.5	5.5	4.9	5.3
Denver-Aurora, CO		5.4	4.2	5.3	5.2	4.4	4.5	5.8	6.5	5.4	4.9	4.7	5.4
Fort Lauderdale, FL		6.6	6.7	5.8	6.7	5.9	6.0	6.3	6.3	6.7	6.8	6.1	5.8
Fort Worth-Arlington, TX		5.1	4.5	4.1	3.7	4.8	5.5	5.2	5.0	4.8	4.9	5.9	5.2
Houston, TX		6.2	6.2	6.0	5.8	6.2	6.9	7.9	9.2	9.8	10.0	9.4	8.8
Indianapolis, IN		6.2	5.2	4.3	4.8	4.1	5.1	6.3	6.7	6.7	6.2	5.6	5.3
Jacksonville, FL		6.6	4.8	3.5	4.1	4.1	3.7	4.4	5.1	6.4	5.8	5.2	4.7
Las Vegas, NV		3.4	3.3	3.0	4.1	3.6	4.3	4.3	4.4	4.5	3.8	3.5	3.6
Los Angeles, CA		2.4	2.7	3.2	3.9	4.4	5.1	5.1	4.6	4.6	4.9	5.2	4.5
Memphis, TN		8.1	7.8	5.0	4.1	4.5	5.5	6.3	6.7	7.3	7.3	6.2	5.3
Nashville, TN		5.5	5.9	4.3	3.6	4.1	5.3	6.2	7.1	7.1	7.6	8.0	7.5
Orlando, FL		4.0	3.8	3.3	3.4	3.8	3.9	4.5	4.8	4.8	4.5	3.8	3.5
Phoenix, AZ		3.6	3.0	2.9	3.3	3.6	4.4	5.2	5.5	4.5	4.8	4.8	4.0
Raleigh-Cary, NC		5.1	5.8	4.6	5.2	5.1	5.5	4.9	6.1	7.1	7.1	6.8	5.6
Riverside-San Bernardino, CA		4.0	4.5	4.3	4.3	3.3	4.2	3.3	3.6	3.4	3.8	3.7	4.4
Sarasota-Bradenton-Venice, FL		7.4	6.1	5.1	6.6	7.1	6.7	7.0	7.7	7.7	7.0	7.3	5.9
Tampa, FL		5.3	4.4	4.0	4.1	3.9	4.2	5.1	6.3	6.7	6.3	5.9	5.1

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 9.24% to 20.65%. Because of their proximity, the Fort Worth-Arlington, Texas, MSA is hidden behind Dallas-Plano-Irving, Texas, MSA.

Table 5a – Lease Expiration (by Count)

		Year 2017												Total Count
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
AH4R 2014-SFR2		290	334	362	387	518	399	371	331	264	201	189	162	4,482
AH4R 2014-SFR3		295	287	306	273	398	474	448	416	265	241	160	171	4,499
AH4R 2015-SFR1		319	272	242	215	249	382	488	423	336	313	251	235	4,659
AH4R 2015-SFR2		245	355	466	407	516	464	355	214	159	132	133	151	4,124
AMSR 2016-SFR1		200	294	314	355	382	439	281	225	186	193	178	167	4,262
CAH 2014-1		175	189	190	214	216	269	338	342	307	244	213	158	3,239
CAH 2014-2		269	286	322	328	303	263	273	243	255	251	231	202	3,599
CAH 2015-1		220	178	200	268	294	368	393	378	298	287	266	175	3,791
CSH 2016-1		174	253	294	331	282	337	340	273	264	234	191	170	3,547
CSH 2016-2		242	266	308	324	389	335	300	287	230	243	237	167	3,989
HPA 2016-1		64	71	116	165	168	221	249	228	212	142	72	61	2,004
HPA 2016-2		6	2	139	212	276	386	179	11	5	6	10	16	1,336
HPA 2017-1								87	141	118	186	149	114	1,361
IH 2015-SFR1		255	213	192	166	138	164	209	191	162	220	185	164	2,994
IH 2015-SFR2		221	247	258	192	184	199	232	227	211	245	233	213	3,499
IH 2015-SFR3		522	530	520	395	368	405	446	499	388	537	464	375	6,950
PRD 2015-SFR2		179	217	266	215	391	186	192	118	179	221	185	142	3,291
PRD 2015-SFR3		42	55	68	164	345	353	525	284	216	157	93	76	3,150
PRD 2016-SFR1		353	358	502	470	448	394	358	176	216	322	230	286	5,556
PRD 2016-SFR2		70	79	87	101	318	402	639	426	270	209	127	113	3,744
PRD 2017-SFR1									112	279	381	229	197	2,710
SWH 2017-1												210	204	4,433
TAH 2016-SFR1		122	218	190	309	296	280	301	238	171	221	107	92	3,439
TAH 2017-SFR1										276	261	206	171	3,480
Overall SFR		4,263	4,704	5,342	5,491	6,479	6,720	7,004	5,783	5,267	5,447	4,549	3,982	88,138

Table 5b – Lease Expiration (by Percentage)

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		6.5	7.4	8.1	8.6	11.6	8.9	8.3	7.4	5.9	4.5	4.2	3.6
AH4R 2014-SFR3		6.6	6.4	6.8	6.1	8.8	10.5	10.0	9.2	5.9	5.4	3.6	3.8
AH4R 2015-SFR1		6.8	5.8	5.2	4.6	5.3	8.2	10.5	9.1	7.2	6.7	5.4	5.0
AH4R 2015-SFR2		5.9	8.6	11.3	9.9	12.5	11.3	8.6	5.2	3.9	3.2	3.2	3.7
AMSR 2016-SFR1		4.7	6.9	7.4	8.3	9.0	10.3	6.6	5.3	4.4	4.5	4.2	3.9
CAH 2014-1		5.2	5.7	5.7	6.4	6.5	8.1	10.3	10.5	9.4	7.5	6.6	4.9
CAH 2014-2		7.3	7.8	8.8	8.9	8.3	7.2	7.5	6.7	7.1	7.0	6.4	5.6
CAH 2015-1		5.7	4.6	5.2	6.9	7.6	9.6	10.3	9.9	7.8	7.5	7.0	4.6
CSH 2016-1		4.9	7.1	8.3	9.3	7.9	9.5	9.5	7.7	7.4	6.6	5.4	4.8
CSH 2016-2		6.1	6.7	7.7	8.1	9.7	8.4	7.5	7.2	5.8	6.1	5.9	4.2
HPA 2016-1		3.1	3.4	5.6	8.0	8.2	10.8	12.2	11.2	10.5	7.1	3.6	3.0
HPA 2016-2		0.4	0.1	10.0	15.5	20.2	28.6	13.3	0.8	0.4	0.4	0.7	1.2
HPA 2017-1								6.3	10.2	8.6	13.6	10.9	8.4
IH 2015-SFR1		8.4	7.1	6.4	5.5	4.6	5.5	7.0	6.4	5.4	7.3	6.2	5.5
IH 2015-SFR2		6.3	7.0	7.3	5.5	5.2	5.7	6.6	6.5	6.0	7.0	6.6	6.1
IH 2015-SFR3		7.3	7.4	7.3	5.5	5.1	5.8	6.4	7.2	5.6	7.7	6.7	5.4
PRD 2015-SFR2		5.4	6.6	8.1	6.5	11.9	5.6	5.8	3.6	5.4	6.7	5.6	4.3
PRD 2015-SFR3		1.3	1.7	2.2	5.2	10.9	11.2	16.6	9.0	6.9	5.0	3.0	2.4
PRD 2016-SFR1		6.3	6.4	9.0	8.4	8.0	7.1	6.4	3.2	3.9	5.8	4.1	5.1
PRD 2016-SFR2		1.9	2.1	2.3	2.7	8.5	10.7	17.1	11.4	7.2	5.6	3.4	3.0
PRD 2017-SFR1									4.1	10.3	14.1	8.5	7.3
SWH 2017-1												4.7	4.6
TAH 2016-SFR1		3.5	6.3	5.5	9.0	8.6	8.1	8.8	6.9	5.0	6.4	3.1	2.7
TAH 2017-SFR1										7.9	7.5	5.9	4.9
Overall SFR		5.5	6.1	7.0	7.2	8.4	8.8	9.0	7.2	6.3	6.5	5.2	4.5

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

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Atlanta, GA		5.5	5.9	6.8	7.2	8.4	8.9	8.8	6.7	6.3	6.0	5.2	4.6
Charlotte, NC		4.6	4.8	6.0	6.9	7.7	8.5	9.2	7.7	7.4	7.2	5.0	4.4
Chicago, IL		5.6	6.2	7.5	7.6	9.3	8.3	9.1	7.4	5.9	5.0	3.0	3.0
Dallas-Plano-Irving, TX		5.1	5.7	6.9	7.2	9.0	10.4	9.7	7.0	5.8	6.7	4.9	4.7
Denver-Aurora, CO		4.7	5.0	7.6	9.8	7.7	10.0	10.0	8.3	7.2	6.2	4.8	5.2
Fort Lauderdale, FL		7.9	6.4	8.8	8.5	6.6	7.7	6.8	6.0	6.2	7.9	6.6	5.4
Fort Worth-Arlington, TX		4.7	5.2	7.6	8.0	9.6	11.5	8.7	6.5	6.0	6.4	5.2	4.5
Houston, TX		4.2	6.4	6.5	6.9	7.6	8.6	9.1	6.1	5.5	5.2	5.0	4.4
Indianapolis, IN		4.9	4.5	6.3	9.1	10.5	9.6	11.6	7.4	5.1	5.0	2.3	1.9
Jacksonville, FL		5.7	5.9	6.3	5.9	8.0	7.0	9.2	5.6	5.6	8.6	6.5	5.5
Las Vegas, NV		5.7	6.3	6.5	7.8	8.4	9.4	9.9	7.7	6.4	6.8	5.2	4.4
Los Angeles, CA		4.9	5.0	7.1	7.9	6.9	7.3	7.1	7.3	6.8	7.0	6.9	6.0
Memphis, TN		4.7	5.2	7.0	6.3	11.0	8.7	8.5	6.4	5.4	6.0	3.3	3.1
Nashville, TN		4.7	5.3	7.2	7.9	9.8	10.3	8.5	6.4	5.4	7.4	4.6	4.1
Orlando, FL		5.0	6.0	6.5	6.9	9.8	9.1	9.8	8.0	6.4	7.1	5.6	5.1
Phoenix, AZ		6.4	6.9	7.1	5.8	7.8	7.5	8.9	7.4	5.9	8.0	5.6	5.2
Raleigh-Cary, NC		4.4	7.1	6.5	6.1	10.7	9.8	10.0	7.7	6.8	7.6	5.2	4.0
Riverside-San Bernardino, CA		6.0	6.4	7.9	6.7	6.7	6.9	7.5	7.0	6.8	8.2	7.0	4.1
Sarasota-Bradenton-Venice, F		5.2	5.0	7.4	6.5	6.6	7.8	8.7	7.7	7.2	8.0	6.1	5.4
Tampa, FL		5.3	5.9	6.2	7.1	7.8	8.4	9.8	7.8	6.7	6.1	5.4	4.8

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

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		31	34	41	30	25	25	11	7	6	2	1	1	214
AH4R 2014-SFR3		25	47	59	44	40	29	19	10	6	4	0	1	284
AH4R 2015-SFR1		38	57	48	52	47	31	19	7	1	3	2	0	305
AH4R 2015-SFR2		38	45	50	40	27	19	11	4	2	1	1	0	238
AMSR 2016-SFR1		68	64	64	65	40	40	18	5	7	1	2	0	374
CAH 2014-1		23	33	22	30	25	19	15	5	6	2	5	2	187
CAH 2014-2		23	32	36	30	25	17	11	6	7	3	2	2	194
CAH 2015-1		42	39	47	32	33	17	9	6	2	1	0	2	230
CSH 2016-1		45	44	40	37	19	12	3	4	0	1	0	2	207
CSH 2016-2		70	76	40	35	20	7	7	1	0	0	0	1	257
HPA 2016-1		13	25	18	11	4	3	0	1	0	0	0	0	75
HPA 2016-2		11	22	6	5	1	0	0	0	0	0	0	1	46
HPA 2017-1		15	28	8	5	1	0	0						57
IH 2015-SFR1		24	29	22	20	13	9	8	2	0	0	0	2	129
IH 2015-SFR2		29	41	46	23	13	8	8	4	3	0	0	3	178
IH 2015-SFR3		70	74	66	60	39	20	5	6	1	3	3	3	350
PRD 2015-SFR2		32	23	22	11	8	4	8	2	1	0	0	2	113
PRD 2015-SFR3		19	25	20	32	20	22	8	5	9	0	0	0	160
PRD 2016-SFR1		81	50	31	40	27	4	3	3	2	2	1	0	244
PRD 2016-SFR2		42	33	26	10	6	4	1	0	0	0	0	0	122
PRD 2017-SFR1		76	43	13	14	3	1							150
SWH 2017-1		92	113	4										209
TAH 2016-SFR1		38	53	34	19	3	7	0	0	1	0	0	1	156
TAH 2017-SFR1		60	48	31	7	0								146
Overall SFR		1,005	1,078	794	652	439	298	164	78	54	23	17	23	4,625

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

		1	2	3	4	5	6	7	8	9	10	11	12+	Total
AH4R 2014-SFR2		14.5	15.9	19.2	14.0	11.7	11.7	5.1	3.3	2.8	0.9	0.5	0.5	100.0
AH4R 2014-SFR3		8.8	16.5	20.8	15.5	14.1	10.2	6.7	3.5	2.1	1.4	0.0	0.4	100.0
AH4R 2015-SFR1		12.5	18.7	15.7	17.0	15.4	10.2	6.2	2.3	0.3	1.0	0.7	0.0	100.0
AH4R 2015-SFR2		16.0	18.9	21.0	16.8	11.3	8.0	4.6	1.7	0.8	0.4	0.4	0.0	100.0
AMSR 2016-SFR1		18.2	17.1	17.1	17.4	10.7	10.7	4.8	1.3	1.9	0.3	0.5	0.0	100.0
CAH 2014-1		12.3	17.6	11.8	16.0	13.4	10.2	8.0	2.7	3.2	1.1	2.7	1.1	100.0
CAH 2014-2		11.9	16.5	18.6	15.5	12.9	8.8	5.7	3.1	3.6	1.5	1.0	1.0	100.0
CAH 2015-1		18.3	17.0	20.4	13.9	14.3	7.4	3.9	2.6	0.9	0.4	0.0	0.9	100.0
CSH 2016-1		21.7	21.3	19.3	17.9	9.2	5.8	1.4	1.9	0.0	0.5	0.0	1.0	100.0
CSH 2016-2		27.2	29.6	15.6	13.6	7.8	2.7	2.7	0.4	0.0	0.0	0.0	0.4	100.0
HPA 2016-1		17.3	33.3	24.0	14.7	5.3	4.0	0.0	1.3	0.0	0.0	0.0	0.0	100.0
HPA 2016-2		23.9	47.8	13.0	10.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	2.2	100.0
HPA 2017-1		26.3	49.1	14.0	8.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
IH 2015-SFR1		18.6	22.5	17.1	15.5	10.1	7.0	6.2	1.6	0.0	0.0	0.0	1.6	100.0
IH 2015-SFR2		16.3	23.0	25.8	12.9	7.3	4.5	4.5	2.2	1.7	0.0	0.0	1.7	100.0
IH 2015-SFR3		20.0	21.1	18.9	17.1	11.1	5.7	1.4	1.7	0.3	0.9	0.9	0.9	100.0
PRD 2015-SFR2		28.3	20.4	19.5	9.7	7.1	3.5	7.1	1.8	0.9	0.0	0.0	1.8	100.0
PRD 2015-SFR3		11.9	15.6	12.5	20.0	12.5	13.8	5.0	3.1	5.6	0.0	0.0	0.0	100.0
PRD 2016-SFR1		33.2	20.5	12.7	16.4	11.1	1.6	1.2	1.2	0.8	0.8	0.4	0.0	100.0
PRD 2016-SFR2		34.4	27.0	21.3	8.2	4.9	3.3	0.8	0.0	0.0	0.0	0.0	0.0	100.0
PRD 2017-SFR1		50.7	28.7	8.7	9.3	2.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0
SWH 2017-1		44.0	54.1	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
TAH 2016-SFR1		24.4	34.0	21.8	12.2	1.9	4.5	0.0	0.0	0.6	0.0	0.0	0.6	100.0
TAH 2017-SFR1		41.1	32.9	21.2	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Overall SFR		21.7	23.3	17.2	14.1	9.5	6.4	3.5	1.7	1.2	0.5	0.4	0.5	100.0

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	Past due one calendar month or more (not dependent on day count) and owing \$200 or more
Waypoint Homes	
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

¹Includes Section 8 rent, pet fees, and MTM fees, but excludes late fees and damage fees.

²Based on total receivables.

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

		Year 2017												Total Count
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
AH4R 2014-SFR2		16	28	21	14	12	10	13	15	9	21	19	20	4,482
AH4R 2014-SFR3		15	15	12	11	8	9	7	11	7	21	12	14	4,499
AH4R 2015-SFR1		16	12	20	12	10	10	12	14	21	26	28	26	4,659
AH4R 2015-SFR2		19	15	12	3	6	7	7	6	10	17	24	10	4,124
AMSR 2016-SFR1		106	94	56	67	78	114	171	78	66	97	111	114	4,262
CAH 2014-1		39	28	17	18	22	15	22	20	28	31	25	28	3,239
CAH 2014-2		44	47	37	27	31	21	26	29	37	31	32	29	3,599
CAH 2015-1		40	27	23	17	17	18	17	22	30	28	31	32	3,791
CSH 2016-1		35	29	22	17	20	15	24	21	29	28	26	29	3,547
CSH 2016-2		33	42	40	21	17	30	27	23	43	34	40	48	3,989
HPA 2016-1		19	16	12	12	7	16	9	13	19	21	17	24	2,004
HPA 2016-2		20	20	11	8	6	6	9	12	19	17	12	16	1,336
HPA 2017-1								9	13	17	12	11	7	1,361
IH 2015-SFR1		23	28	25	22	21	36	33	36	29	45	41	44	2,994
IH 2015-SFR2		22	25	33	38	28	33	42	32	45	38	39	40	3,499
IH 2015-SFR3		74	82	63	75	71	80	99	115	89	94	100	120	6,950
PRD 2015-SFR2		19	20	13	18	15	14	19	14	26	25	23	24	3,291
PRD 2015-SFR3		15	17	4	8	9	8	16	19	22	23	17	22	3,150
PRD 2016-SFR1		40	42	24	26	20	24	28	29	27	43	45	44	5,556
PRD 2016-SFR2		27	16	11	10	14	18	20	16	24	23	19	39	3,744
PRD 2017-SFR1									14	20	19	16	17	2,710
SWH 2017-1												34	36	4,433
TAH 2016-SFR1		68	59	31	29	26	15	9	5	3	2	15	15	3,439
TAH 2017-SFR1										25	19	14	12	3,480
Overall SFR		690	662	487	453	438	499	619	557	645	715	751	810	88,138

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

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		0.4	0.6	0.5	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.4	0.4
AH4R 2014-SFR3		0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.3	0.3
AH4R 2015-SFR1		0.3	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.5	0.6	0.6	0.6
AH4R 2015-SFR2		0.5	0.4	0.3	0.1	0.1	0.2	0.2	0.1	0.2	0.4	0.6	0.2
AMSR 2016-SFR1		2.5	2.2	1.3	1.6	1.8	2.7	4.0	1.8	1.5	2.3	2.6	2.7
CAH 2014-1		1.2	0.8	0.5	0.5	0.7	0.5	0.7	0.6	0.9	1.0	0.8	0.9
CAH 2014-2		1.2	1.3	1.0	0.7	0.8	0.6	0.7	0.8	1.0	0.9	0.9	0.8
CAH 2015-1		1.0	0.7	0.6	0.4	0.4	0.5	0.4	0.6	0.8	0.7	0.8	0.8
CSH 2016-1		1.0	0.8	0.6	0.5	0.6	0.4	0.7	0.6	0.8	0.8	0.7	0.8
CSH 2016-2		0.8	1.1	1.0	0.5	0.4	0.8	0.7	0.6	1.1	0.9	1.0	1.2
HPA 2016-1		0.9	0.8	0.6	0.6	0.3	0.8	0.4	0.6	0.9	1.0	0.8	1.2
HPA 2016-2		1.4	1.4	0.8	0.6	0.4	0.4	0.7	0.9	1.4	1.3	0.9	1.2
HPA 2017-1								0.6	0.9	1.2	0.9	0.8	0.5
IH 2015-SFR1		0.8	0.9	0.8	0.7	0.7	1.2	1.1	1.2	1.0	1.5	1.4	1.5
IH 2015-SFR2		0.6	0.7	0.9	1.1	0.8	0.9	1.2	0.9	1.3	1.1	1.1	1.1
IH 2015-SFR3		1.0	1.1	0.9	1.0	1.0	1.1	1.4	1.6	1.3	1.3	1.4	1.7
PRD 2015-SFR2		0.6	0.6	0.4	0.5	0.5	0.4	0.6	0.4	0.8	0.8	0.7	0.7
PRD 2015-SFR3		0.5	0.5	0.1	0.3	0.3	0.3	0.5	0.6	0.7	0.7	0.5	0.7
PRD 2016-SFR1		0.7	0.8	0.4	0.5	0.4	0.4	0.5	0.5	0.5	0.8	0.8	0.8
PRD 2016-SFR2		0.7	0.4	0.3	0.3	0.4	0.5	0.5	0.4	0.6	0.6	0.5	1.0
PRD 2017-SFR1									0.5	0.7	0.7	0.6	0.6
SWH 2017-1												0.8	0.8
TAH 2016-SFR1		2.0	1.7	0.9	0.8	0.8	0.4	0.3	0.1	0.1	0.1	0.4	0.4
TAH 2017-SFR1										0.7	0.5	0.4	0.3
Overall SFR		0.9	0.9	0.6	0.6	0.6	0.7	0.8	0.7	0.8	0.9	0.9	0.9

Table 9 – Monthly Retention Rate of Expiring Leases

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		74.8	78.4	84.8	75.2	74.1	73.2	76.0	73.1	74.6	78.6	75.1	TBD
AH4R 2014-SFR3		78.0	78.7	73.9	83.2	71.1	75.5	71.4	72.6	73.6	71.0	78.1	TBD
AH4R 2015-SFR1		77.4	76.1	75.6	72.1	69.1	73.0	74.8	74.9	75.9	75.7	77.3	TBD
AH4R 2015-SFR2		78.8	74.1	77.9	75.4	73.6	69.2	72.7	67.3	62.9	78.0	68.4	TBD
AMSR 2016-SFR1		79.5	83.0	83.8	82.3	80.1	77.2	83.3	79.6	87.1	86.0	87.1	TBD
CAH 2014-1		80.6	77.2	80.0	79.4	74.5	72.9	71.6	81.9	78.2	78.3	82.2	TBD
CAH 2014-2		80.7	79.7	82.9	82.9	78.5	74.1	80.2	76.5	81.2	78.1	75.8	TBD
CAH 2015-1		80.5	80.3	80.0	76.1	75.2	72.8	76.1	73.5	80.2	81.5	74.4	TBD
CSH 2016-1		85.1	78.3	82.0	78.5	77.7	76.0	76.2	75.5	76.1	83.3	73.8	TBD
CSH 2016-2		75.2	79.3	75.6	80.2	76.6	75.8	68.0	68.3	73.0	78.6	67.5	TBD
HPA 2016-1		82.8	88.7	78.4	80.0	82.1	78.7	76.7	72.8	77.8	78.9	80.6	TBD
HPA 2016-2		100.0	100.0	88.5	85.8	81.9	76.2	84.4	63.6	100.0	66.7	90.0	TBD
HPA 2017-1								81.6	85.1	80.5	82.3	89.3	TBD
IH 2015-SFR1		78.4	80.3	82.3	80.7	81.9	76.2	77.0	75.4	85.8	77.3	78.9	TBD
IH 2015-SFR2		78.3	84.6	79.8	77.6	71.2	70.4	73.3	82.8	77.3	78.8	80.7	TBD
IH 2015-SFR3		77.6	81.3	79.4	75.4	78.0	80.2	75.1	78.6	78.6	79.5	80.0	TBD
PRD 2015-SFR2		78.8	77.4	77.8	74.9	77.7	72.0	75.5	70.3	72.1	78.7	80.0	TBD
PRD 2015-SFR3		69.0	72.7	73.5	73.8	73.3	71.4	71.4	66.9	67.1	73.9	77.4	TBD
PRD 2016-SFR1		76.5	77.9	81.9	77.4	81.0	76.6	69.8	65.9	68.5	79.5	77.0	TBD
PRD 2016-SFR2		75.7	78.5	72.4	77.2	81.1	80.8	75.6	70.4	77.0	79.4	80.3	TBD
PRD 2017-SFR1									69.6	73.1	79.8	76.0	TBD
SWH 2017-1												74.8	TBD
TAH 2016-SFR1		86.9	80.7	78.9	81.2	81.8	77.9	82.7	85.3	81.3	82.8	78.5	TBD
TAH 2017-SFR1										77.2	82.8	84.0	TBD
Overall SFR		78.5	79.3	79.9	78.5	76.8	75.1	75.1	74.6	76.4	79.2	78.0	TBD

TBD – To Be Determined

Table 10 – Monthly Retention Rate of MTM Leases

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		89.9	86.3	85.9	87.2	81.3	78.5	78.9	80.4	82.4	83.7	87.4	TBD
AH4R 2014-SFR3		83.6	79.6	88.2	83.0	84.3	77.7	78.6	81.9	86.0	83.2	81.4	TBD
AH4R 2015-SFR1		89.5	86.3	82.5	82.5	79.0	80.8	81.4	81.3	81.3	81.0	87.1	TBD
AH4R 2015-SFR2		85.9	84.8	81.4	82.1	77.5	75.9	79.3	81.1	81.2	87.0	80.9	TBD
AMSR 2016-SFR1		96.0	93.6	94.8	96.7	94.7	90.6	94.2	92.4	96.7	95.7	95.2	TBD
CAH 2014-1		84.2	66.1	79.5	83.8	74.4	68.4	63.9	68.6	74.3	70.3	73.3	TBD
CAH 2014-2		88.9	72.9	53.7	84.6	72.9	69.1	58.5	68.4	70.6	96.6	75.0	TBD
CAH 2015-1		77.3	71.1	80.0	61.9	67.5	62.5	77.8	81.1	72.5	80.0	74.4	TBD
CSH 2016-1		76.7	67.9	68.8	76.9	65.9	73.2	66.0	75.6	78.9	67.5	75.0	TBD
CSH 2016-2		70.5	64.4	72.7	73.0	81.1	62.9	70.2	78.4	57.5	62.9	70.4	TBD
HPA 2016-1									100.0	50.0	100.0	100.0	TBD
HPA 2016-2							100.0	100.0	100.0	100.0			TBD
HPA 2017-1													TBD
IH 2015-SFR1		78.3	81.3	68.5	92.7	77.8	74.5	78.6	80.4	87.8	88.4	91.7	TBD
IH 2015-SFR2		85.4	89.1	86.7	79.1	77.8	85.7	70.7	93.3	87.2	91.8	88.9	TBD
IH 2015-SFR3		83.3	74.4	86.7	78.6	73.9	80.3	83.5	82.1	83.5	84.5	86.0	TBD
PRD 2015-SFR2		80.7	77.8	73.8	83.6	80.3	73.3	72.6	72.7	82.6	81.0	78.6	TBD
PRD 2015-SFR3		92.7	90.9	75.5	82.5	78.3	65.0	75.9	73.7	78.6	75.7	75.5	TBD
PRD 2016-SFR1		80.2	82.1	79.3	79.7	81.5	73.6	79.5	80.0	80.7	88.0	81.8	TBD
PRD 2016-SFR2		91.1	84.0	82.2	81.4	81.4	74.6	78.3	73.9	77.2	78.8	76.8	TBD
PRD 2017-SFR1									81.3	73.5	76.3	66.7	TBD
SWH 2017-1												61.3	TBD
TAH 2016-SFR1		90.6	92.9	95.3	93.1	92.7	92.7	92.2	91.3	93.6	95.1	95.5	TBD
TAH 2017-SFR1										88.1	92.5	93.5	TBD
Overall SFR		87.8	84.7	85.4	86.1	83.6	80.7	82.9	84.1	86.5	88.0	87.8	TBD

TBD – To Be Determined

Table 11a – MTM Tenants (by Count)




























		Year 2017												Total Count
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
AH4R 2014-SFR2		140	159	176	216	256	273	251	245	217	185	178	175	4,482
AH4R 2014-SFR3		159	174	174	190	210	222	227	216	199	180	168	148	4,499
AH4R 2015-SFR1		181	206	208	202	202	189	221	229	227	198	195	187	4,659
AH4R 2015-SFR2		111	133	171	186	238	239	215	207	179	147	156	143	4,124
AMSR 2016-SFR1		393	421	433	479	514	576	574	600	605	648	684	710	4,262
CAH 2014-1		57	56	44	37	39	38	36	35	35	37	30	34	3,239
CAH 2014-2		36	48	41	39	48	55	53	38	34	29	36	36	3,599
CAH 2015-1		44	45	45	42	40	40	36	37	40	40	43	41	3,791
CSH 2016-1		30	28	32	39	41	41	47	41	38	40	36	29	3,547
CSH 2016-2		44	45	44	37	53	62	47	37	40	35	27	27	3,989
HPA 2016-1		0	0	0	0	0	0	0	1	4	1	1	0	2,004
HPA 2016-2		0	0	0	0	0	1	1	1	1	0	0	0	1,336
HPA 2017-1								0	0	0	0	0	0	1,361
IH 2015-SFR1		76	67	66	64	64	68	67	54	57	61	65	63	2,994
IH 2015-SFR2		61	64	86	90	81	77	79	51	69	63	79	87	3,499
IH 2015-SFR3		164	173	169	162	163	146	149	137	131	149	160	163	6,950
PRD 2015-SFR2		85	94	96	97	119	96	76	71	63	66	64	49	3,291
PRD 2015-SFR3		51	55	60	67	91	96	112	115	110	87	60	52	3,150
PRD 2016-SFR1		142	163	182	203	187	170	151	125	116	122	111	120	5,556
PRD 2016-SFR2		58	61	54	58	95	103	122	137	123	99	85	70	3,744
PRD 2017-SFR1									47	62	76	67	49	2,710
SWH 2017-1												31	26	4,433
TAH 2016-SFR1		249	258	278	287	298	311	348	371	379	360	377	339	3,439
TAH 2017-SFR1										207	197	217	225	3,480
Overall SFR		2,081	2,250	2,359	2,495	2,739	2,803	2,812	2,795	2,936	2,820	2,870	2,773	88,138

Table 11b – MTM Tenants (by Percentage)

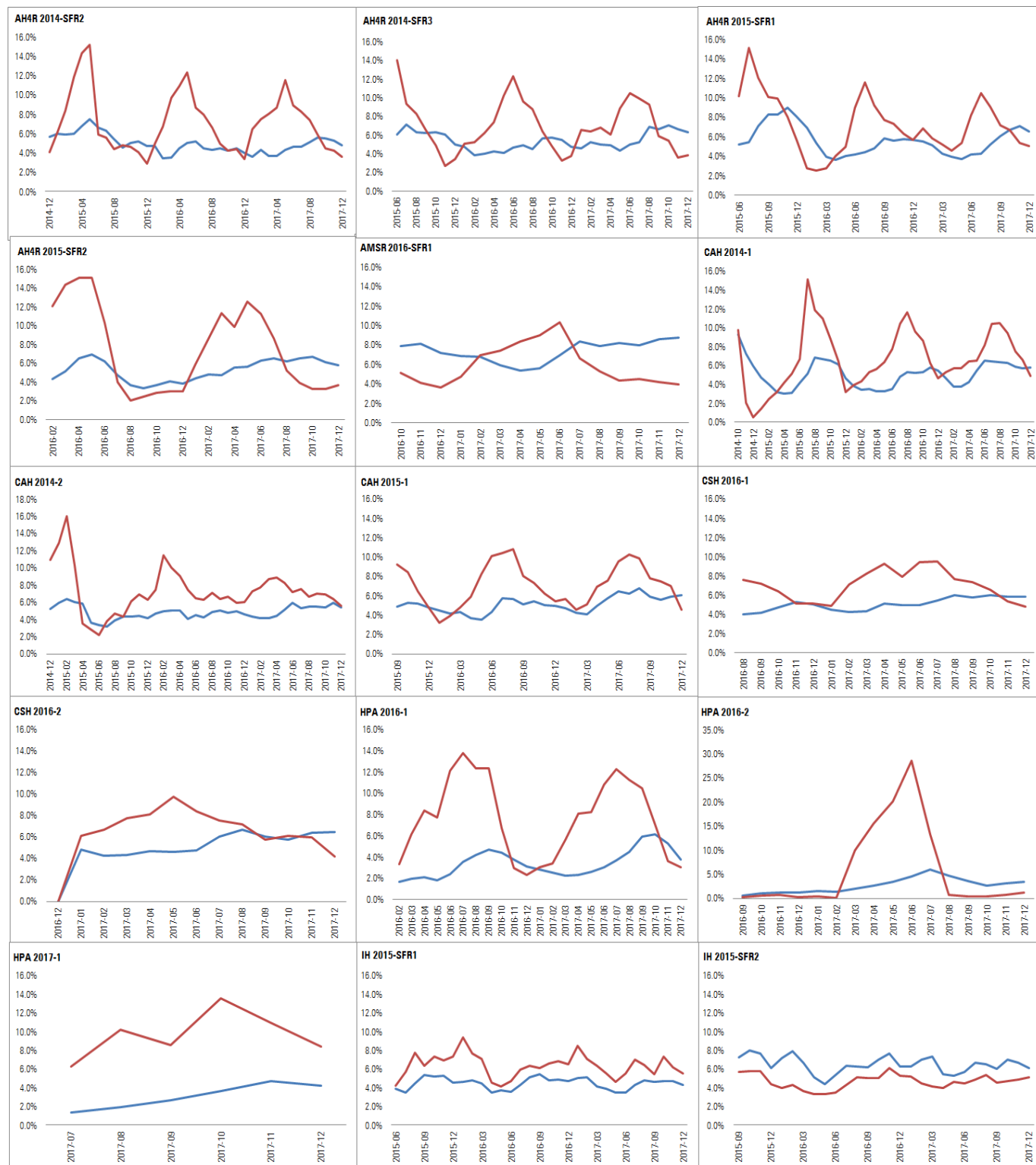
		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		3.1	3.5	3.9	4.8	5.7	6.1	5.6	5.5	4.8	4.1	4.0	3.9
AH4R 2014-SFR3		3.5	3.9	3.9	4.2	4.7	4.9	5.0	4.8	4.4	4.0	3.7	3.3
AH4R 2015-SFR1		3.9	4.4	4.5	4.3	4.3	4.1	4.7	4.9	4.9	4.2	4.2	4.0
AH4R 2015-SFR2		2.7	3.2	4.1	4.5	5.8	5.8	5.2	5.0	4.3	3.6	3.8	3.5
AMSR 2016-SFR1		9.2	9.9	10.2	11.2	12.1	13.5	13.5	14.1	14.2	15.2	16.0	16.7
CAH 2014-1		1.7	1.7	1.3	1.1	1.2	1.1	1.1	1.1	1.1	1.1	0.9	1.0
CAH 2014-2		1.0	1.3	1.1	1.1	1.3	1.5	1.5	1.1	0.9	0.8	1.0	1.0
CAH 2015-1		1.1	1.2	1.2	1.1	1.0	1.0	0.9	1.0	1.0	1.1	1.1	1.1
CSH 2016-1		0.8	0.8	0.9	1.1	1.2	1.2	1.3	1.2	1.1	1.1	1.0	0.8
CSH 2016-2		1.1	1.1	1.1	0.9	1.3	1.6	1.2	0.9	1.0	0.9	0.7	0.7
HPA 2016-1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
HPA 2016-2		0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
HPA 2017-1								0.0	0.0	0.0	0.0	0.0	0.0
IH 2015-SFR1		2.5	2.2	2.2	2.1	2.1	2.3	2.2	1.8	1.9	2.0	2.2	2.1
IH 2015-SFR2		1.7	1.8	2.4	2.6	2.3	2.2	2.3	1.5	2.0	1.8	2.3	2.5
IH 2015-SFR3		2.3	2.4	2.4	2.3	2.3	2.1	2.1	2.0	1.9	2.1	2.3	2.3
PRD 2015-SFR2		2.6	2.9	2.9	2.9	3.6	2.9	2.3	2.2	1.9	2.0	1.9	1.5
PRD 2015-SFR3		1.6	1.7	1.9	2.1	2.9	3.0	3.5	3.6	3.5	2.8	1.9	1.7
PRD 2016-SFR1		2.5	2.9	3.3	3.6	3.4	3.1	2.7	2.2	2.1	2.2	2.0	2.2
PRD 2016-SFR2		1.5	1.6	1.4	1.5	2.5	2.8	3.3	3.7	3.3	2.6	2.3	1.9
PRD 2017-SFR1									1.7	2.3	2.8	2.5	1.8
SWH 2017-1												0.7	0.6
TAH 2016-SFR1		7.2	7.5	8.1	8.3	8.7	9.0	10.1	10.8	11.0	10.5	11.0	9.9
TAH 2017-SFR1										5.9	5.7	6.2	6.5
Overall SFR		2.7	2.9	3.1	3.2	3.6	3.7	3.6	3.5	3.5	3.4	3.3	3.1

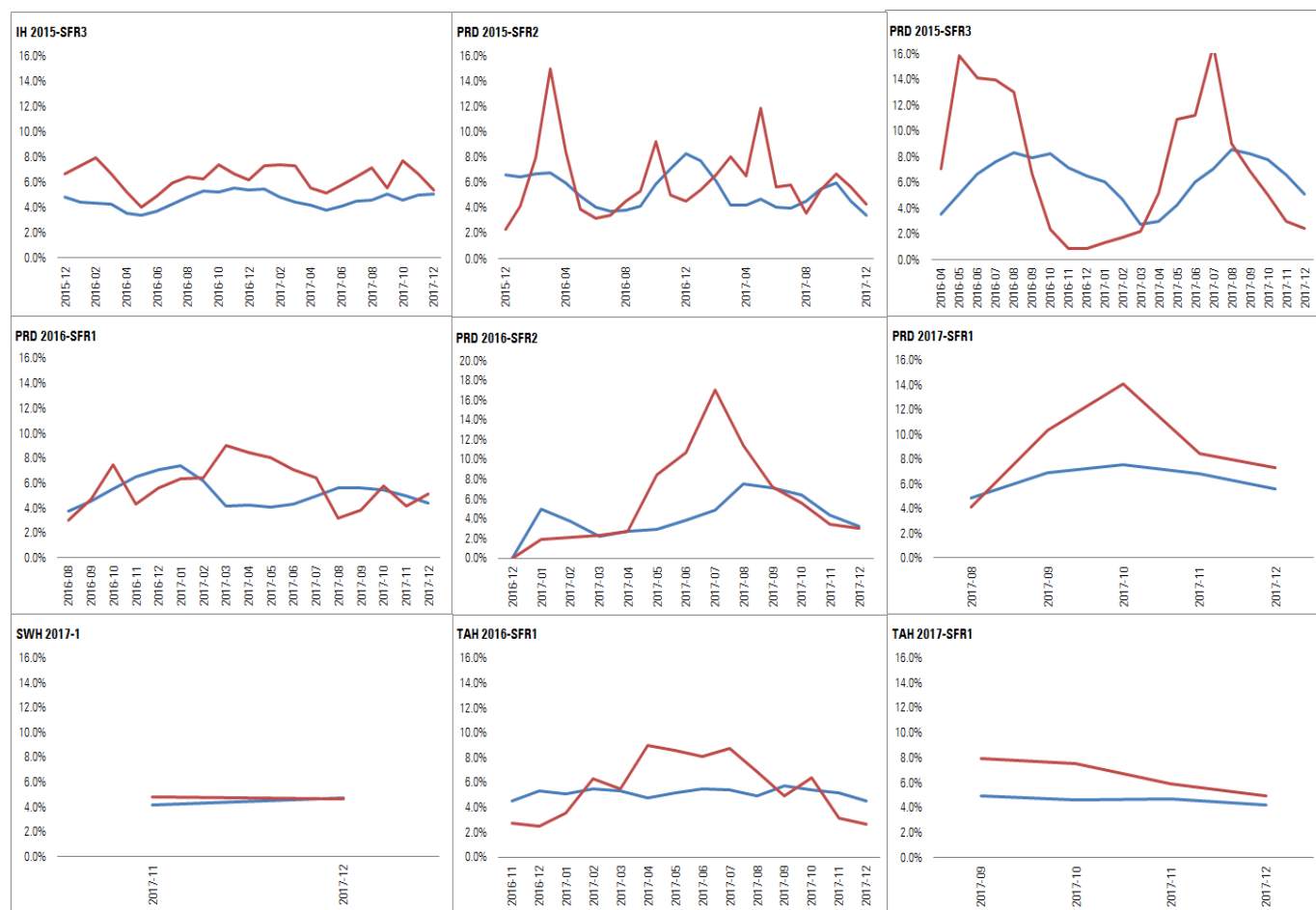
Table 12 – Monthly Turnover Rate

		Year 2017											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
AH4R 2014-SFR2		2.5	3.0	2.5	3.5	4.9	4.6	3.9	3.9	2.9	2.9	2.5	TBD
AH4R 2014-SFR3		2.9	2.9	3.2	2.5	3.9	4.3	5.1	4.3	3.4	3.1	2.1	TBD
AH4R 2015-SFR1		3.1	2.6	2.9	2.9	3.9	4.2	4.2	4.1	3.9	3.4	2.8	TBD
AH4R 2015-SFR2		2.5	3.3	4.3	3.9	5.0	5.8	4.4	3.7	3.3	2.5	2.3	TBD
AMSR 2016-SFR1		2.6	2.5	2.7	2.3	2.8	3.5	3.3	2.5	2.1	2.1	2.0	TBD
CAH 2014-1		2.5	2.3	2.7	2.3	4.7	3.9	4.2	3.7	3.2	3.0	2.5	TBD
CAH 2014-2		2.4	2.9	3.0	3.1	4.0	3.9	3.2	3.5	2.9	2.9	2.8	TBD
CAH 2015-1		2.3	2.2	2.3	3.1	4.0	4.6	3.8	4.1	2.7	3.2	2.8	TBD
CSH 2016-1		2.0	3.0	2.8	3.5	3.4	3.9	3.4	3.6	2.9	2.9	2.6	TBD
CSH 2016-2		3.1	2.5	3.5	3.1	4.1	3.4	4.3	4.5	3.0	3.2	3.0	TBD
HPA 2016-1		1.7	1.4	2.2	3.0	2.6	3.3	3.5	5.1	3.4	3.2	2.0	TBD
HPA 2016-2		0.8	1.0	2.1	2.8	4.4	7.5	3.6	1.9	1.0	1.6	2.2	TBD
HPA 2017-1								2.2	2.5	2.3	3.6	2.3	TBD
IH 2015-SFR1		2.9	2.8	2.7	2.7	2.3	2.6	3.6	3.6	2.2	3.1	2.5	TBD
IH 2015-SFR2		2.7	2.0	2.9	2.4	3.2	3.6	3.4	3.8	2.1	3.0	2.8	TBD
IH 2015-SFR3		2.7	2.7	3.1	2.4	2.7	3.0	3.0	3.4	2.8	2.6	2.8	TBD
PRD 2015-SFR2		2.6	2.5	3.6	3.2	4.2	3.7	3.0	3.2	3.1	2.9	2.5	TBD
PRD 2015-SFR3		1.6	1.4	2.4	2.1	4.1	5.5	7.1	4.6	4.2	3.0	2.4	TBD
PRD 2016-SFR1		3.0	2.5	3.6	3.4	3.6	4.0	3.5	3.2	3.2	2.9	2.4	TBD
PRD 2016-SFR2		1.8	1.3	2.1	2.2	2.9	4.2	5.2	5.3	3.2	3.0	1.7	TBD
PRD 2017-SFR1									7.5	4.3	4.1	3.8	TBD
SWH 2017-1												2.0	TBD
TAH 2016-SFR1		1.5	2.4	2.8	2.4	3.1	3.4	3.1	2.8	3.5	2.2	2.5	TBD
TAH 2017-SFR1										6.6	3.3	2.7	TBD
Overall SFR		2.5	2.5	2.9	2.8	3.7	4.0	3.9	3.9	3.2	2.9	2.5	TBD

TBD – To Be Determined

Appendix I – Vacancy Versus Lease Expiration





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. B2R 2015-1 is secured by 133 loans; B2R 2015-2, 197 loans; B2R 2016-1, 159 loans; FKL 2015-SFR1, 15 loans; CAF 2015-1, 61 loans; CAF 2016-1, 78 loans; CAF 2016-2, 71 loans; and CAF 2017-1, 87 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 7a and 7b 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.

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 section, Tables 4a, 4b, and 4c – Lease Expiration. Morningstar then looked at the property tape to determine the renewed properties and compared that contractual rent with 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 – November 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 December 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.

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 December lease expirations, Morningstar looks for all December lease expirations in the October 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 October or November are removed from the December lease expiration count.

Tables 6a and 6b – Historical Months of Vacancy

Tables 6a and 6b show the number of months of vacancy the November unoccupied properties have experienced. In other words, if a property is unoccupied as of the December 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 December 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.

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 December property tape to determine the lease status for November 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 November 2017 retention rates are the December statuses of November 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

Copyright © 2018 by Morningstar Credit Ratings, LLC ("Morningstar"). Reproduction or transmission in whole or in part is prohibited except by permission. All rights reserved. The opinions expressed herein are solely those of the authors as of the date hereof and do not necessarily represent the opinions of Morningstar or its affiliates. The content and analysis contained herein are solely statements of opinion and not statements of fact or recommendations to purchase, hold, or sell any securities or make any other investment decisions. THE CONTENT AND ANALYSIS IS PROVIDED "AS IS" AND NOT SUBJECT TO ANY GUARANTEES OR ANY WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE.

To reprint, translate, or use the data or information other than as provided herein, contact Vanessa Sussman (+1 646 560-4541) or by email to: vanessa.sussman@morningstar.com.