

Markets Update

FOURTH QUARTER 2019

IN THIS ISSUE:

Feature – Year in Review: 2019
Default Trends

Economy – slow and steady. Record budget and trade deficits in a time of record low unemployment.

Three trends we are watching

- Cyclical highs in property prices
- Sector overbuilding
- The Retail Purge

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In this issue of the CWCapital Markets Update, we focus on the **fundamentals and trends affecting national commercial real estate debt markets**. Our feature reviews 2019's credit performance and what we can infer about asset class default trends. We synthesize and present information gathered from various industry research, public resources, and our own research.

ECONOMY

The November jobs report noted that the economy continues to grow with 266,000 jobs created. Employment in the health care and professional and business services category again led in jobs creation as we may expect. Healthcare has added 414,000 jobs over the past 12 months, while professional and technical services added 278,000, while the financial services sector added 116,000 for the same period.

The unemployment rate remained stable at 3.5%, among the lowest levels since 1969. The participation rate also remained unchanged at 63.2%. Average hourly earnings showed some growth (3.1% year over year), continuing at a slow and steady pace. As of November 2019, El Centro CA, and Yuma AZ continue to have reported the highest unemployment in the nation, while the Dallas, TX, New York, and Los Angeles MSAs lead the nation in number of jobs created.

The 10-year US Treasury as of this writing was 1.77%, declining around 92bps from one year earlier. Much of the decline reflects **overall concern around global trade tensions, economic weakness abroad, and geopolitical uncertainty**. The 2/10 spread has now recovered to 27bp from inversion over the summer. In September 2019, the US budget deficit widened to almost \$1 trillion, with the US trade deficit also widening to \$884 billion. With record budget deficits at all-time lows in unemployment, **our outlook is cautious on the economy, interest rates, and commercial real estate values**.

PROPERTY MARKETS

Effective rent growth - National average shows an 1.72% one-year growth rate, the slowest growth rate in the past 5 years. Multi-family rents grew 3.1% for the year, while industrial was less than 1% year over year.

Vacancy rates - For the trailing 1-yr period, vacancy rates improved slightly in multi-family and retail properties, with deterioration in office and industrial properties. Estimated deliveries for 2019 increased by 4% for multi-family, but declined by 16%, 5%, and 16% for office, retail, and industrial properties respectively. Absorption was less than 1.0x for all property types. We expect continued vacancy increases as heavy construction pipelines are delivered.

National property prices for multi-family increased by 7.85% on a rolling 3-year basis, while hotel properties showed a 3.3% increase after 6 consecutive months of declines. Continuing its macro-decline, retail has lost value per unit (3yr basis) nearly every month for the past 3 years.

DEBT CAPITAL MARKETS

Credit spreads generally tighten in 2019 with CMBS BBB- coming in approximately 140bps for the year. Year-end 2019 CMBS conduit issuance of \$49.6bn is leading last year's issuance by approximately 23%. Competing products such as SASB, FHLMC, and CRE-CLO have seen \$45.4bn, \$69.5bn, and \$19.5bn of issuance at year-end 2019 respectively.

CMBS risk retention pricing - Horizontal subordinates in the 14% area, L-shaped subordinates imply pricing of the Non-Rated conduit bonds in the 16%-25% area.

Conduit delinquency rates dropped to 1.40% this month, reflecting continued improvement.

Three Trends we are watching...



CYCLICAL HIGHS IN PROPERTY PRICES

All property types experiencing price volatility at national level. Multi-family, hotel, and industrial building on a very robust pace. Over-levered properties finding their way into rated securitizations.



SECTOR OVERBUILDING

Hotels, student housing, multi-family, and now industrial are some of the most over-built asset classes across the market. Construction slowing somewhat relative to prior years. Helps absorption, however, we remain concerned about inventory already in the market.



THE RETAIL PURGE

Retail assets from malls to local unanchored centers, to single tenant, retail continues to struggle. Constitutes over half of all defaults in 2019. Maturing mall loans having difficulty refinancing even at lower leverage points.

FEATURE - YEAR IN REVIEW – 2019 DEFAULT TRENDS

One of the most common conversations among investment professionals begins with the question, “so what are you guys seeing”. Year-end 2019 gives us that opportunity to step back and take a look at the past year’s CMBS collateral performance and credit trends. This analysis helps us identify any consistent themes or patterns and helps to answer the common question.

Overall results are identified below:

We reviewed data on over **23,600 conduit loans**, identifying any loan which defaulted or transferred to the Special Servicer during the calendar year 2019.

Type	Conduit Universe 12/31/18				2019 Defaults			
	\$ Balance	Loan Count	Balance Pct of Total	Count Pct of Total	\$ Balance	Loan Count	Loan Count % of Total	Avg Mos to Default
Retail	105,229.6	6,954	28.6%	29.4%	2,567.2	85	39.9%	78
Office	95,697.5	3,632	26.0%	15.4%	1,053.1	31	14.6%	69
Lodging	49,609.7	3,110	13.5%	13.2%	627.3	55	25.8%	60
Multi-Family	37,999.7	3,727	10.3%	15.8%	334.5	22	10.3%	54
Self Storage	13,030.6	1,608	3.5%	6.8%	-	-	0.0%	-
Industrial	18,036.0	1,156	4.9%	4.9%	48.5	4	1.9%	68
Mixed Use	23,836.9	1,148	6.5%	4.9%	256.6	9	4.2%	-
Mobile Home	7,636.7	922	2.1%	3.9%	21.7	2	0.9%	83
Other	5,061.5	190	1.4%	0.8%	76.0	4	1.9%	21
Health Care	179.0	15	0.0%	0.1%	4.8	1	0.5%	161
Defeased	11,351.3	1,160	3.1%	4.9%	-	-	0.0%	-
Total	367,668.5	23,622	100%	100%	4,989.9	213	100.0%	69

By balance, nearly 70% of conduit market exposure consists of retail, office, and hotel properties. One may reasonably expect credit and default patterns to be consistent with collateral proportions.



Nearly **\$5 billion (1.4%) in current UPB defaulted** during calendar year 2019 consisting of 200 loans and participations.



Retail led the way, however what is surprising is the disproportionate level of defaults relative to the overall market. At \$2.6 billion, **retail accounted for over 50% of the dollar defaults and nearly 40% of loans by count.**



Office property defaults were \$1.1 billion (21%) in defaults across 31 (15%) loans, while hotels amounted to \$627 million in defaults, with a loan count of 55. **Hotels were the second highest by loan count** and made up over 25% of the year’s total defaults.



Time to default: on average, the retail, office, and hotel loans defaulted (or re-defaulted) **within 69 months or between 5 and 6 years from origination.** Defaults included loans with both 5-year and 10-year terms.

FEATURE - YEAR IN REVIEW – 2019 DEFAULT TRENDS

For a deeper look at 2019 default patterns and the all-important reason for default across the various asset types, we selected the top 10 loan defaults in each of Office, Retail, and Hotel. We analyzed the loan basis at default, current performance, debt yield, and primary reason as we could best determine from published servicer comments and other research.

Results are presented below: **Top 10 Loan Defaults 2019**

Type	Subtype	Location	Balance	Basis / Unit	NCF	Approx DY	NCF / UWNCF	Maturity	Reason
Retail									
Starwood Mall Portfolio	Mall	FL,VA,NC,MI	680.80	242	54.50	8.0%	0.80x	11/19	Maturity Default - Refi / Extension Issue
Franklin Mills	Mall	Philadelphia	269.47	179	17.50	6.5%	0.86x	06/24	Maturity Default - Extended
South Towne Center	Mall	Sandy, UT	247.19	232	10.80	4.4%	0.77x	11/19	Maturity Default
Colonie Center	Mall	Albany, NY	188.34	248	9.66	5.1%	1.19x	11/19	Maturity Default - Sale unsuccessful
Park Plaza	Mall	Little Rock, AR	78.34	276	7.36	9.4%	0.75x	04/21	Decl Sales, Low DSCR
North Riverside Park Mall	Mall	Chicago	68.88	161	6.93	10.1%	0.99x	10/19	Maturity Default
Harborplace	Mall	Baltimore	65.80	442	2.50	3.8%	0.33x	12/22	Low Occupancy, Operating Shortfalls
Greenbrier Mall	Mall	Chesapeake, VA	64.50	72	7.13	11.1%	0.74x	12/19	Maturity Default - Unable to Refi
Greece Ridge Center	Mall	Rochester, NY	64.30	62	6.60	10.3%	0.83x	10/20	Upcoming Maturity -Possible mod
Mall at Johnson City	Mall	Johnson City, TN	48.10	84	6.70	13.9%	1.01x	05/20	Maturity Default - Unable to Refi
Office									
Two North LaSalle	CBD	Chicago	127.44	184	1.69	1.3%	0.19x	11/19	Maturity Default - Ext, new lease w/City
Wellpoint Office Tower	Sub	Los Angeles	112.14	250	6.50	5.8%	0.79x	12/19	Maturity Default - Single tenant relocates
Koger Center	Urban	Tallahassee	105.48	124	11.16	10.6%	1.15x	02/20	Maturity - State of Fla vacating
Aegon Center	CBD	Louisville	103.09	136	4.93	4.8%	0.43x	04/19	Maturity Default - Low Occ, Local Market
One Stamford Forum	CBD	Stamford, CT	101.93	202	13.62	13.4%	1.15x	07/26	Purdue Pharma BK
State House Square	CBD	Hartford, CT	87.55	105	6.00	6.9%	0.84x	02/20	Tenant Travelers vacates 16% GLA, no refi
6100 Wilshire	Urban	Los Angeles	57.55	269	5.89	10.2%	1.29x	08/24	Cash mgt issue. Tenant BMG vacating (11%)
Hamilton Crossing	Sub	Carmel, IN	52.78	89	5.64	10.7%	0.96x	02/27	Tenant ADESA vacated (38%)
Sea Harbor Office Center	Sub	Orlando, FL	40.00	111	4.98	12.4%	1.33x	06/25	Tenant credit rating
Canyon Corporate Plaza	Sub	Phoenix, AZ	30.70	101	4.36	14.2%	1.63x	04/21	Tenant termination option, vacancy
Hotel									
Marriott Houston West	FullSvc	Houston, TX	69.89	116,490	4.45	6.4%	0.66x	12/19	Low DSCR, mod 2x, market supply
Doral Arrowwood Hotel	FullSvc	Rye Brook, NY	58.62	156,742	3.07	5.2%	0.25x	02/20	Pfizer Learning Ctr lease terminated
Crowne Plaza - LaGuardia	FullSvc	New York	58.26	162,724	4.40	7.6%	0.79x	11/23	Previously Spec Svc, modified, sponsor
DoubleTree San Diego	FullSvc	San Diego	33.90	154,815	2.28	6.7%	0.65x	04/25	Franchise default, underperform
Hilton College Station	FullSvc	College Station, TX	32.67	107,815	1.78	5.5%	0.48x	11/24	Low DSCR, market supply
DoubleTree - Cleveland	FullSvc	Cleveland, OH	27.40	72,307	1.84	6.7%	0.60x	02/26	Low DSCR, market supply, local economy
Oklahoma Hotel Portfolio	FullSvc	Various, OK	25.26	78,929	2.17	8.6%	0.63x	04/24	Franchise default, underperform
DoubleTree Beachwood	FullSvc	Cleveland, OH	25.25	62,492	0.53	2.1%	0.21x	10/24	Low DSCR, market supply, local economy
Holiday Inn - Matteson	FullSvc	Chicago	12.70	62,888	1.88	14.8%	0.79x	08/28	Franchise default
SpringHill - Lake Charles	LtdSvc	Lake Charles, LA	12.26	113,560	0.92	7.5%	0.52x	06/19	Low DSCR, market supply

Several observations can be made regarding 2019 credit and performance after reviewing this data.

RETAIL

Over 73% of all retail default dollars came from malls in 2019. All of the Top 10 retail defaults were malls. Almost all of the mall defaults were maturity defaults (some 5yr loans, some 10yr, some previously modified). Nearly all were significantly underperforming underwriting, and **even with debt yields of over 10%-12%, malls appear to have a very tough time refinancing in today's market.** Beyond the Top 10, retail bankruptcies and single tenant properties with exposure to those credits resulted in numerous defaults in 2019.

OFFICE

Over 70% of all office default dollars were contained in only 10 loans in 2019. Defaults spread across CBD, Urban, and Suburban locations. **The most common default driver is the departure, bankruptcy, or termination option afforded to single or large proportion tenants.** Loans written with maturity dates at or close to lease end dates contain a binary risk profile. Properties can go from full-value to no-value depending on tenant plans.

HOTEL

By loan count, over 25% of all defaulted loans were hotels. Smaller loan sizes and higher property counts can sometimes make this category seem the largest. **In over 50% of the default cases, borrowers cited local market overbuilding and added competition as the main reason for underperformance.**

Lower room rates and occupancies lead to unfinished improvements, franchise defaults, and properties in disrepair, further **reducing their competitive position in a crowded market.**

SELECTED MARKET DATA

Economic and Real Estate Fundamentals and Trends

	2009	2014	2016	2017	2018	2019	1yr	5yr	10yr
Economic									
UNEMP	9.90	5.60	4.70	4.10	3.90	3.50	-0.40%	-2.10%	-6.40%
PART	64.60	62.70	62.70	62.70	63.10	63.20	0.10%	0.50%	-1.40%
GDP	14,567	17,616	18,869	19,831	20,898	21,543	3.09%	4.46%	4.79%
CPI-TTM	2.28%	-0.05%	1.91%	2.09%	1.40%	1.53%	0.14%	1.58%	-0.74%
UST IMPL INF	2.37%	1.68%	1.95%	1.96%	1.71%	1.51%	-0.20%	-0.17%	-0.86%
Interest Rate									
1M LIBOR	0.32%	0.17%	0.77%	1.56%	2.50%	2.02%	-0.49%	1.85%	1.70%
Eff Fed Funds	0.12%	0.12%	0.50%	1.31%	2.40%	1.90%	-0.50%	1.78%	1.78%
Prime	3.25%	3.25%	3.75%	4.50%	5.50%	5.00%	-0.50%	1.75%	1.75%
UST2	1.14%	0.67%	1.20%	1.89%	2.49%	1.62%	-0.87%	0.95%	0.48%
UST10	3.85%	2.17%	2.45%	2.40%	2.69%	1.66%	-1.03%	-0.51%	-2.19%
2/10 Spread	2.71%	1.50%	1.25%	0.51%	0.20%	0.04%	-0.16%	-1.46%	-2.67%
Real10	1.48%	0.49%	0.50%	0.44%	0.98%	0.15%	-0.83%	-0.34%	-1.33%
Vacancy (REIS)									
Multi	8.00%	4.20%	4.20%	4.50%	4.80%	4.70%	-0.10%	0.50%	-3.30%
Retail	10.60%	10.20%	9.90%	10.00%	10.20%	10.10%	-0.10%	-0.10%	-0.50%
Office	17.00%	16.70%	15.80%	16.40%	16.70%	16.80%	0.10%	0.10%	-0.20%
Industrial	n/a	11.20%	10.30%	8.90%	9.40%	9.80%	0.40%	-1.40%	n/a
Hotel									
Rents (REIS Effective)									
Multi	964	1,124	1,252	1,305	1,356	1,416	3.13%	13.63%	4.69%
Retail	16.75	17.16	17.89	18.24	18.53	18.79	1.18%	1.90%	1.22%
Office	22.43	24.19	25.93	26.43	27.04	27.67	1.99%	2.87%	2.34%
Industrial	n/a	4.46	4.66	4.96	5.08	\$5.19	0.58%	3.27%	n/a
Hotel									
National \$PSF (RCA)									
Multi	81,953	132,159	152,206	153,656	168,075	174,015	9.77%	6.33%	11.23%
Retail	144	198	200	177	171	201	5.94%	0.27%	3.97%
Office	152	223	235	241	268	315	12.33%	8.32%	10.80%
Industrial	47	69	78	79	88	110	11.18%	11.72%	13.23%
Hotel	59,012	134,398	153,841	143,596	146,341	140,068	-3.53%	0.84%	13.74%
National Cap Rate (RCA)									
MF	6.84%	6.05%	5.70%	5.62%	5.53%	5.44%	-0.09%	-0.61%	-1.39%
Ret	7.96%	6.63%	6.52%	6.60%	6.51%	6.59%	0.08%	-0.04%	-1.37%
Office	8.75%	6.75%	6.59%	6.73%	6.57%	6.72%	0.15%	-0.03%	-2.03%
Ind	8.37%	6.99%	6.80%	6.74%	6.48%	6.15%	-0.33%	-0.85%	-2.22%
Hotel	9.55%	8.14%	8.50%	8.51%	8.39%	8.66%	0.27%	0.52%	-0.89%
Risk Premium									
MF	2.99%	3.88%	3.25%	3.22%	2.85%	3.78%	0.94%	-0.10%	0.80%
Ret	4.11%	4.46%	4.07%	4.20%	3.83%	4.93%	1.10%	0.47%	0.82%
Office	4.90%	4.58%	4.14%	4.33%	3.89%	5.06%	1.17%	0.48%	0.16%
Ind	4.52%	4.82%	4.35%	4.34%	3.80%	4.49%	0.69%	-0.34%	-0.03%
Hotel	5.70%	5.97%	6.05%	6.11%	5.71%	7.00%	1.30%	1.03%	1.30%

CRE FUNDAMENTALS

Property Price, Vacancy, and Rent Growth Trends

National Average \$price / unit					
Year End	MF	Retail	Hotel	Ofc	Ind
2005	107,027.7	158.3	133,060.5	197.5	62.1
2006	113,416.2	174.3	136,504.5	232.4	66.7
2007	95,251.4	168.9	117,311.2	255.0	68.6
2008	84,671.0	181.3	89,940.8	199.7	63.1
2009	81,953.2	144.0	59,012.2	151.5	47.3
2010	99,502.6	152.1	138,350.5	222.2	51.3
2011	103,329.8	174.8	112,827.7	213.3	60.1
2012	120,788.9	228.0	121,202.3	225.8	62.1
2013	115,918.7	178.3	129,720.0	230.7	64.8
2014	132,159.3	198.4	134,397.7	222.6	69.3
2015	148,228.2	212.7	138,162.4	239.0	72.7
2016	152,206.0	199.6	153,841.0	234.9	77.7
2017	153,656.0	177.4	143,596.4	241.0	79.5
2018	168,075.2	171.4	146,340.9	268.0	88.0
2019E	199,186.0	213.0	165,102.0	315.0	109.0

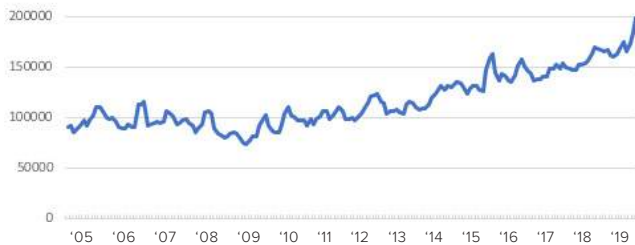
Peak	199,186.0	248.1	201,238.3	330.2	109.8
Trough	73,804.9	128.0	59,012.2	132.0	44.7
Fall fr '06	34.93%	26.55%	56.77%	43.20%	33.07%
Peak Date	Nov-19	Aug-16	Apr-15	Jul-19	Sep-19
Trough Date	Sep-09	Jun-10	Dec-09	Mar-10	Apr-10
Curr vs '06	75.6%	22.2%	20.9%	35.5%	63.4%
Curr vs Pk	0.0%	-14.1%	-18.0%	-4.6%	-0.8%
Curr vs Tr	2.70	1.66	2.80	2.39	2.44

5yr GR	7.7%	-0.8%	2.4%	3.0%	6.3%
10yr GR	7.1%	-0.6%	5.0%	3.0%	3.4%
Volatility	11.6%	13.6%	29.4%	17.1%	10.8%

Vacancy Trend					
Year End	MF	Retail	Hotel	Ofc	Ind
2005	5.70	6.80	-	14.70	-
2006	5.80	7.10	-	13.40	-
2007	5.70	7.50	-	12.60	-
2008	6.70	8.90	-	14.50	-
2009	8.00	10.60	-	17.00	-
2010	6.60	11.00	-	17.60	14.00
2011	5.30	11.00	-	17.40	13.20
2012	4.60	10.70	-	17.10	12.10
2013	4.30	10.40	-	16.90	11.60
2014	4.20	10.20	-	16.70	11.20
2015	4.40	10.00	-	16.20	10.60
2016	4.20	9.90	-	15.80	10.30
2017	4.50	10.00	-	16.40	8.90
2018	4.80	10.20	-	16.70	9.40
2019E	4.70	10.10	-	16.80	9.80

Rent Growth Trend					
Year End	MF	Retail	Hotel	Ofc	Ind
2005	2.89	3.23	-	3.19	-
2006	4.38	3.37	-	8.93	-
2007	4.73	2.39	-	10.54	-
2008	1.95	(1.02)	-	0.24	-
2009	(2.92)	(3.68)	-	(8.86)	-
2010	2.39	(1.43)	-	(1.52)	-
2011	2.43	(0.06)	-	2.04	(0.48)
2012	3.86	0.48	-	1.95	1.91
2013	3.33	1.51	-	2.22	1.64
2014	3.69	1.96	-	3.02	2.76
2015	5.16	2.21	-	3.18	2.02
2016	5.83	2.00	-	3.84	2.42
2017	4.23	1.96	-	1.93	6.44
2018	3.94	1.20	-	1.80	3.41
2019E	3.13	1.18	-	1.99	0.58

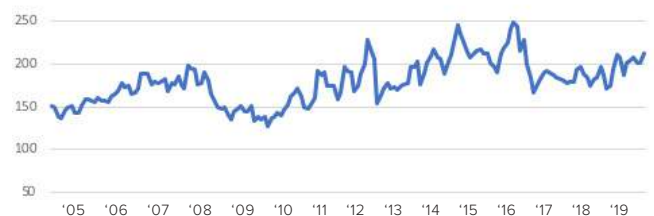
Multifamily (price/unit)



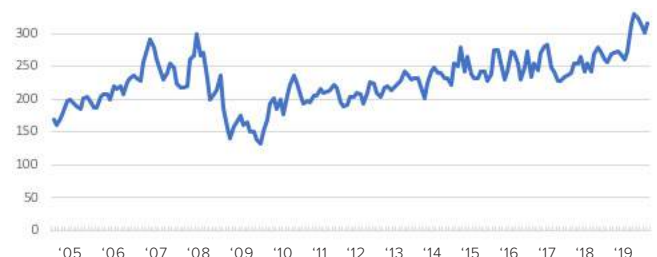
Hotel (price/unit)



Retail (price/unit)



Office (price/unit)

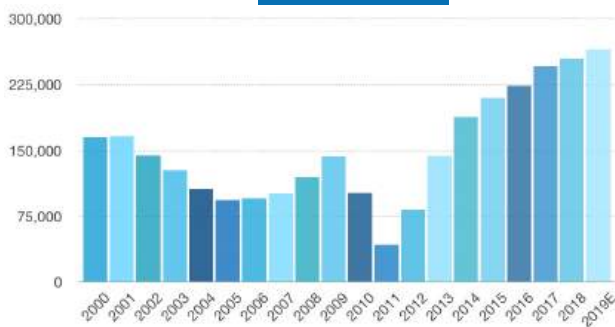


CRE FUNDAMENTALS

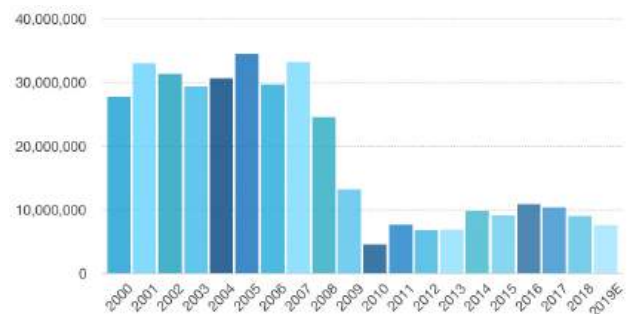
Commercial Property Deliveries and Absorption

Year	Deliveries				Net Absorption				Notes
	Multi	Retail	Office	Ind / Whse	Multi	Retail	Office	Ind / Whse	
1999	206,040	25,126,000	120,280,000	-	-	-	-	-	MULTIFAMILY - The building continues - Forecast deliveries highest in 20yr - Net absorption approx <1.0x, for last 6 consecutive years.
2000	164,674	27,727,000	111,061,000	-	1.34x	1.42x	(1.02)	-	
2001	166,124	33,013,000	134,904,000	-	0.12x	0.59x	(0.28)	-	
2002	143,957	31,369,000	81,422,000	-	(0.04)	0.87x	(0.15)	-	
2003	127,591	29,416,000	41,016,000	-	0.35x	0.97x	0.99x	-	
2004	106,144	30,596,000	35,475,000	-	0.48x	1.06x	1.91x	-	RETAIL - Deliveries continue to decline. - Declines ~17% vs 2018 - Net absorption catching up
2005	93,699	34,438,000	39,792,000	-	0.35x	1.03x	1.43x	-	
2006	95,205	29,627,000	49,879,000	-	(0.03)	0.75x	1.08x	-	
2007	100,630	33,254,000	59,902,000	-	0.99x	0.71x	(0.69)	-	
2008	119,630	24,545,000	65,450,000	-	0.10x	(0.27)	(1.18)	-	
2009	143,130	13,142,000	50,548,000	-	0.02x	(1.64)	(0.42)	-	OFFICE - Deliveries relatively stable - Net absorption <1.0x for 5 years - Slow, steady ~2% rent growth
2010	101,268	4,499,000	23,375,000	10,017,000	2.27x	(0.71)	0.71x	(3.51)	
2011	42,606	7,625,000	15,440,000	13,388,000	4.03x	0.83x	1.01x	4.83x	
2012	82,679	6,778,000	12,443,000	22,585,000	1.67x	1.67x	1.86x	3.82x	
2013	143,227	6,883,000	25,959,000	38,740,000	1.14x	1.84x	1.08x	1.73x	
2014	188,125	9,776,000	28,287,000	76,678,000	0.95x	1.36x	1.36x	1.27x	INDUSTRIAL/WAREHOUSE - Deliveries slowing slightly - Market anticipating major demand - Net absorption appears to be lagging
2015	209,409	9,088,000	36,642,000	78,848,000	0.96x	1.36x	0.79x	1.46x	
2016	223,840	10,815,000	36,659,000	95,459,000	0.96x	1.07x	0.63x	1.42x	
2017	246,140	10,318,000	39,048,000	137,428,000	0.76x	0.68x	0.74x	1.15x	
2018	254,733	8,986,000	47,426,000	140,190,000	0.87x	0.14x	0.53x	0.73x	
2019E	265,199	7,515,000	45,119,000	117,757,000	0.88x	0.91x	0.61x	0.49x	

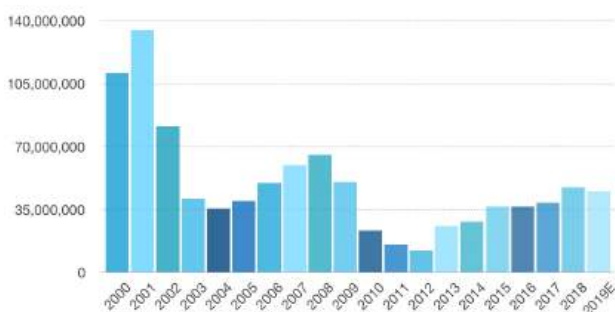
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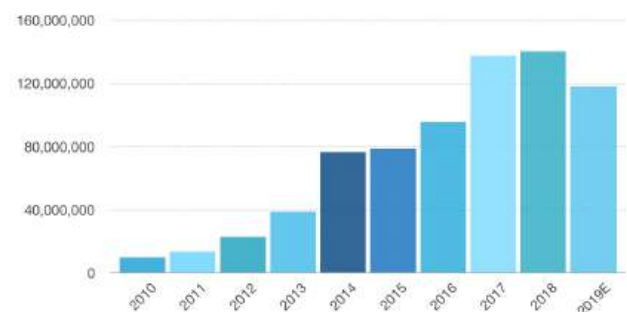
RETAIL



OFFICE



INDUSTRIAL/WAREHOUSE



SECURITIZED MARKETS

2019 CMBS Issuance, Conduit and SASB

Type		SERIES	Pricing	AMOUNT	SERVICER	SPSERV	B-PIECE	#PROP	#LOAN	RR Type	RR Yld
CMBS	Q1-19	Various	-	9,098.15	-	-	-	-	-	-	-
	Q2-19	Various	-	9,508.85	-	-	-	-	-	-	-
		MSC 2019-H7	07/15/19	746.99	Midland	LNR Partners	Argentic	81	53	HRZ	13.75
		BMARK 2019-B12	07/19/19	1,429.27	Midland	Midland	KKR	117	47	L	16.69
		BANK 2019-BNK19	07/23/19	1,302.47	Wells Fargo	LNR Partners	Seer / LNR	76	73	VERT	-
		CGCMT 2019-GC41	08/05/19	1,276.64	Midland	Rialto Capital	Rialto Capital	100	43	L	17.71
		WFCM 2019-C52	08/05/19	900.24	Wells Fargo	LNR Partners	Argentic	126	67	HRZ	14.07
		BBCMS 2019-C4	08/09/19	937.34	Wells Fargo	Rialto Capital	Rialto Capital	377	73	L	26.25
		CD 2019-CD8	08/09/19	811.12	Midland	Midland	Eightfold	58	33	L	18.05
		BANK 2019-BNK20	09/13/19	1,237.48	Wells Fargo	Midland	Eightfold	95	72	VERT	-
		GSMS 2019-GC42	09/16/19	1,060.43	Midland	Midland	KKR	94	36	L	15.60
		CSAIL 2019-C17	09/17/19	800.42	Midland	Midland	3650 REIT	81	37	HRZ	14.35
		BMARK 2019-B13	09/20/19	951.71	Midland	CWCAM	Eightfold	48	40	L	17.97
		UBSCM 2019-C17	09/26/19	807.34	Wells Fargo	Rialto Capital	Rialto Capital	97	70	L	23.02
		CF 2019-CF2	09/26/19	832.91	KeyBank	LNR Partners	LNR Partners	136	48	L	23.99
		BANK 2019-BNK21	09/27/19	1,181.00	Wells Fargo	Rialto Capital	Rialto Capital	87	49	VERT	-
		WFCM 2019-C53	10/22/19	702.17	Wells Fargo	Midland	KKR	85	58	HRZ	14.53
		GSMS 2019-GSA1	10/30/19	864.24	Midland	LNR Partners	Argentic	84	49	L	17.10
		BANK 2019-BNK22	10/25/19	1,202.15	Wells Fargo	KeyBank	Ellington	131	58	VERT	-
		CGCMT 2019-GC43	10/29/19	936.87	Wells Fargo	Rialto Capital	Rialto Capital	75	34	L	20.93
		BMARK 2019-B14	11/05/19	1,468.65	Midland	Midland	KKR	112	53	L	16.00
		BBCMS 2019-C5	11/05/19	1,001.32	KeyBank	KeyBank	Prime / Eightfold	115	55	L	14.5/23.7
		MSC 2019-L3	11/08/19	1,021.17	Wells Fargo	LNR Partners	LNR Partners	100	51	L	21.50
		WFCM 2019-C54	11/08/19	669.83	Wells Fargo	LNR Partners	Argentic	88	44	HRZ	13.80
		JPMDB 2019-COR6	11/14/19	807.18	Midland	Midland	LoanCore	117	32	L	15.75
		COMM 2019-GC44	11/19/19	1,151.80	Midland	Rialto Capital	Rialto Capital	55	43	L	18.16
		CSAIL 2019-C18	11/20/19	689.01	Midland	Rialto Capital	Rialto Capital	80	55	L	25.26
		BANK 2019-BNK23	11/21/19	1,287.02	Wells Fargo	KeyBank	Prime Finance	100	47	VERT	-
		BMARK 2019-B15	11/25/19	846.61	Midland	Midland	Eightfold	87	32	L	18.91
		CF 2019-CF3	12/09/19	789.13	Midland	Midland	KKR	67	48	L	16.38
		CGCMT 2019-C7	12/12/19	1,264.15	Wells Fargo	LNR Partners	LNR Partners	113	55	L	16.9/25.1
		UBSCM 2019-C18	12/11/19	743.57	Wells Fargo	Rialto Capital	Rialto Capital	127	55	L	25.99
		BANK 2019-BNK24	12/11/19	1,225.92	Wells Fargo	Midland	Eightfold	104	71	VERT	-
				49,553.12							

(Continued)

SECURITIZED MARKETS

2019 CMBS Issuance, Conduit and SASB

Type		SERIES	Pricing	AMOUNT	SELLER	SPSERV	Risk Retention	Asset	RR Type	RR Yld
SASB	Q1-19	Various	-	7,438.30	-	-	-	-	-	-
	Q2-19	Various	-	12,713.28	-	-	-	-	-	-
		CGCMT 2019-PRM	07/11/19	278.00	Prime Group Holdings	Midland	Citi	2 Self Storage Facilities	VERT	-
		JPMCC 2019-BOLT	07/16/19	202.39	Occidental Mgt	KeyBank	JPMorgan	Sprint HQ Bldg - Kansas Cty	VERT	-
		OBP 2019-OBP	08/07/19	950.00	Durst, BOA	Wells Fargo	NYState Teachers	One Bryant Park - BOA	HRZ	~L+233
		CF 2019-MF1	08/08/19	167.35	Arbor Realty	CWCAM	-	34 Multifamily props	HRZ	-
		BX 2019-MMP	08/15/19	271.70	Blackstone, Fairstead	Trimont	Morgan Stanley	11 NYC apt bldgs	VERT	-
		BHPT 2019-BXHP	08/16/19	415.00	Blackstone	Midland	-	Pentagon City Marriott	HRZ	L+432
		GSCG 2019-600C	08/20/19	240.00	We Co., Rhone Group	Midland	Goldman	600 California, San Francisco	VERT	-
		NCMS 2019-FAME	08/29/19	211.30	GAW, DJM Capital	KeyBank	Natixis	Hollywood and Highland	VERT	-
		GSMS 2019-SMP	09/10/19	218.85	Starwood Capital	KeyBank	Goldman	4 Mariott Hotels, AZ, GA	VERT	-
		WFCM 2019-JWDR	09/19/19	403.00	Elliott Mgt, Trinity	CWCAM	Wells Fargo	JWMarriott Phoenix Desrt Rig	VERT	-
		JPMCC 2019-BROOK	09/24/19	382.50	Brookwood Financial	KeyBank	Waterfall	27 Office - Brookwood	HRZ	L+725
		SGCMS 2019-PREZ	09/27/19	157.60	Post Brothers, Ackman	Aegon	SocGen	Presidential City - Phila	VERT	-
		AFHT 2019-FAIR	09/27/19	300.00	Manchester, Colony	Berkadia	BOA	Fairmont Austin	VERT	-
		BFLD 2019-DPLO	10/02/19	460.00	Brookfield	Situs	KSL	Diplomat Beach Resort	HRZ	L+425
		GSMS 2019-70P	10/04/19	386.00	DTH, Rose Associates	Situs	Prima Capital	70 Pine St NYC	HRZ	L+375
		BX 2019-XL	10/09/19	5,600.00	Blackstone	Aegon	Prima Capital	3 Industrial Props	HRZ	L+375
		JPMCC 2019-PCC	10/11/19	135.00	Brookfield	Midland	JPMorgan	Park City Mall - Lancaster, Pa	VERT	-
		DCOT 2019-MTC	10/16/19	404.00	Carr Properties	CWCAM	WF, BOA, GS	FNMA Headqtrs, Washington	VERT	-
		COMM 2019-WCM	10/17/19	415.00	Blackstone	Situs	Deutsche Bank	10 Multifamily, CA, WA, AZ	VERT	-
		BX 2019-ATL	10/18/19	243.70	Blackstone	CWCAM	Citibank	Hyatt Regency Atlanta	VERT	-
		NCMS 2019-1776	10/18/19	218.07	KB Financial	Midland	Natixis	Patriots Pk Ofc, Reston, Va	VERT	-
		CPTS 2019-CPT	10/31/19	825.00	J.P. Morgan, Hines	Situs	WF, DB, MS	Century Plaza, Los Angeles	VERT	-
		JAX 2019-LIC	11/07/19	725.00	Tishman Speyer	Aegon	BOA, WF	JacksonPk Multfam, Queens	VERT	-
		CGDB 2019-MOB	11/12/19	490.00	Starwood Property	KeyBank	Citibank, Deutsche	34 Medical Office	VERT	-
		BBCMS 2019-BWAY	11/18/19	350.00	Shorenstein Properties	KeyBank	Blackrock	1407 Broadway, NYC	HRZ	L+525
		MSC 2019-MEAD	11/15/19	615.00	Brookfield Property	Midland	Morgan Stanley	Park Meadows Mall, Colorado	VERT	-
		FMBT 2019-FBLU	11/22/19	975.00	Fontainebleau Dev	Situs	KSL	Fontainebleau Miami	HRZ	Fixed
		CLNY 2019-IKPR	11/27/19	755.00	Colony, Chatham	CWCAM	MS, BOA, JPM	46 hotels in 16 states	VERT	-
		BX 2019-CALM	11/22/19	394.00	Blackstone	Situs	Barclays, SocGen	7 multifamily, SoCal	VERT	-
		BAMLL 2019-BPR	11/27/19	895.00	Brookfield	Aegon	BOA	Natick Mall, Merrick Pk Mall	VERT	-
		HY 2019-55HY	12/02/19	810.50	Related, Oxford, Mitsui	CWCAM	WF, DB, MS	55 Hudson Yards, NYC	VERT	-
		MAD 2019-650M	12/05/19	214.20	Vornado, Oxford	LNR Partners	Citibank, GS, BB	650 Madison Ave, NYC	VERT	-
		BX 2019-OC11	12/06/19	1,910.00	Blackstone, MGM	Situs	MS, Citi, JPM	Belagio - Las Vegas	VERT	-
		MBRT 2019-MBR	12/06/19	370.00	Ohana RE	Situs	Goldman, WF	Monarch Beach Resort	VERT	-
		MRCD 2019-PARK	12/05/19	955.00	Maximus RE Ptnr	KeyBank	Oaktree	Parkmerced Multifamily, SF	HRZ	10.15
		GWT 2019-WOLF	12/11/19	1,700.00	Blackstone, Centerbridge	Situs	KSL	Great Wolf Resorts	HRZ	L+500
		BWAY 2019-1633	12/13/19	250.00	Paramount Group	Situs	Prima Capital	1633 Broadway, NYC	HRZ	Fixed
		MSC 2019-NUGS	12/12/19	277.10	Beacon Capital	KeyBank	Morgan Stanley	Wells Fargo Arena, Denver	VERT	-
		CSMC 2019-UVIL	12/11/19	305.00	Stuart M. Sloan	Cohen Financial	Square Mile	Univ Village Retail - Seattle	HRZ	5.80
		NCMS 2019-MILE	12/19/19	408.17	Onni Group	Midland	Natixis	Willshire Ctyd Ofc, LosAngeles	VERT	-
				45,435.006						

Subordinate Buyer	Conduit	SASB	Total	Special Servicers	Conduit	SASB	Total	Type	Balance	Deals
Rialto Capital	11,732.23	-	11,732.23	Midland	19,185.63	5,872.82	25,058.45	Conduit		
KKR	9,286.48	1,380.00	10,666.48	Situs	-	13,566.58	13,566.58			
Eightfold	7,364.27	-	7,364.27	Keybank	5,667.09	7,690.66	13,357.75			
Prime Finance	3,606.55	-	3,606.55	LNR Partners	11,286.98	1,364.20	12,651.18		14,457.22	13
Prime / LNR	883.52	-	883.52	Rialto Capital	11,732.23	390.00	12,122.23		11,874.65	16
Prime / Ellington	974.84	-	974.84	Aegon	-	7,795.10	7,795.10		23,221.25	24
Prime / Eightfold	1,001.32	-	1,001.32	CWCAM	951.71	4,025.75	4,977.46		49,553.12	53
Ellington / Prime	833.03	-	833.03	Trimont	-	3,174.90	3,174.90			
LNR Partners	3,876.19	-	3,876.19	Wells Fargo	-	950.00	950.00			
Argentica	3,181.29	-	3,181.29	C-III	729.48	-	729.48			
LoanCore	2,279.91	-	2,279.91	Cohen Financial	-	305.00	305.00	SASB		
Seer / LNR	1,302.47	-	1,302.47	Berkadia	-	300.00	300.00		21,166.87	27
3650 REIT	1,629.67	-	1,629.67	None	-	-	-		24,268.13	21
Ellington	1,202.15	-	1,202.15		-	-	-		-	-
Ready Capital	399.21	-	399.21		-	-	-	L	45,435.01	48
RR Holders>	-	44,055.01	44,055.01							
Total	49,553.12	45,435.01	94,988.12		49,553.12	45,435.01	94,988.12		94,988.12	

SECURITIZED MARKETS

2019 FHLMC Issuance

Type		SERIES	PRICING	AMOUNT	SERVICER	SPSERV	B-PIECE	#PROP	#LOAN
1H-19		Various	30	28,113.24	Various	Various	Various	2,389	2,391
FREM F	7-Year	FREM F 2019-K735 FREM F 2019-K736	07/17/19 09/04/19	1,410.94 1,479.50	Wells Fargo Midland	Wells Fargo Wells Fargo	Bridge Berkshire Group	49 43	49 43
FREM F	10-Year	FREM F 2019-K94 FREM F 2019-K95 FREM F 2019-K96 FREM F 2019-K97 FREM F 2019-K98 FREM F 2019-K99 FREM F 2019-K100 FREM F 2019-K101 FREM F 2019-K102 FREM F 2019-K103	07/09/19 08/01/19 08/13/19 09/10/19 10/02/19 10/23/19 11/05/19 11/20/19 12/03/19 12/11/19	1,330.28 1,266.54 1,376.21 1,469.23 1,435.31 1,541.07 1,379.69 1,459.70 1,368.29 1,276.32	Wells Fargo Wells Fargo Wells Fargo KeyBank KeyBank KeyBank Midland Wells Fargo KeyBank Wells Fargo Midland	Wells Fargo Wells Fargo Wells Fargo KeyBank KeyBank KeyBank Wells Fargo KeyBank Wells Fargo Wells Fargo	Morgan Prop NYMT Bridge NexPoint Advisors Bayview NexPoint Advisors NYMT RREEF America Morgan Prop NYMT	69 53 59 57 63 54 70 58 46 46	65 53 59 57 59 54 70 58 46 46
	15-Year	FREM F 2019-K1512 FREM F 2019-K1513 FREM F 2019-K1514	07/22/19 10/18/19 12/05/19	754.69 796.85 719.66	KeyBank Wells Fargo Midland	KeyBank CWCAM CWCAM	Priderock Ang Gordon / McDowell Related Cos.	24 47 29	24 47 29
	Floater	FREM F 2019-KF64 FREM F 2019-KF65 FREM F 2019-KF66 FREM F 2019-KF67 FREM F 2019-KF68 FREM F 2019-KF69 FREM F 2019-KF70 FREM F 2019-KF71 FREM F 2019-KF72 FREM F 2019-KF73	07/23/19 08/07/19 08/14/19 09/11/19 10/03/19 10/24/19 10/31/19 11/06/19 11/19/19 12/12/19	770.86 831.93 853.62 798.37 795.27 854.62 839.20 821.33 782.19 850.72	KeyBank KeyBank Midland KeyBank KeyBank Midland KeyBank Midland Wells Fargo Wells Fargo	CWCAM CWCAM CWCAM KeyBank CWCAM CWCAM KeyBank CWCAM KeyBank CWCAM	Blackstone Related Cos. Kayne Anderson Harbor Berkshire Group Kayne Anderson Axonic Capital Greystar NexPoint Advisors Kayne Anderson	26 26 30 21 30 33 32 34 27 38	26 26 30 21 29 33 32 34 27 38
	Jr Lien	FREM F 2019-KJ25 FREM F 2019-KJ26 FREM F 2019-KJ27	09/18/19 10/16/19 11/20/19	454.82 324.96 213.63	Freddie Mac Freddie Mac Freddie Mac	Midland KeyBank KeyBank	Related Cos. Harbor Berkshire Group	79 62 48	79 62 39
	Small Bal	FRESB 2019-SB64 FRESB 2019-SB65 FRESB 2019-SB66 FRESB 2019-SB67 FRESB 2019-SB68 FRESB 2019-SB69	07/11/19 08/15/19 09/11/19 10/10/19 11/14/19 12/11/19	442.62 617.22 574.37 604.41 536.45 458.92	Freddie Mac Freddie Mac Freddie Mac Freddie Mac Freddie Mac Freddie Mac	KeyBank KeyBank CWCAM KeyBank Newmark KeyBank	Tilden Park Axonic Capital Bayview Tolis Advisors Sabal Financial Axonic Capital	163 219 219 195 194 179	163 219 219 195 194 179
	Wkforce	FREM F 2019-KW09 FREM F 2019-KW10	07/26/19 11/14/19	626.81 526.81	Midland Wells Fargo	CWCAM Wells Fargo	Morgan Prop Bridge	43 39	43 39
	Large	FREM F 2019-KL05	08/06/19	1,073.98	Midland	KeyBank	Axonic / Harbor	22	22
	Prepay	FREM F 2019-KC04 FREM F 2019-KC05 FREM F 2019-KC06 FREM F 2019-KC07	06/05/19 10/30/19 11/14/19 12/05/19	560.32 669.48 608.36 666.36	Midland Wells Fargo Midland Midland	CWCAM Wells Fargo CWCAM KeyBank	Blackstone Not Identified Ang Gordon / McDowell Redwood Trust	17 26 25 31	17 26 25 31
	Senior	FREM F 2019-KS11 FREM F 2019-KS12 FREM F 2019-KS13	08/09/19 09/19/19 11/07/19	438.11 1,300.00 498.00	Wells Fargo Wells Fargo Wells Fargo	Wells Fargo CWCAM Midland	Bridge Harbor KKR	42 49 27	2 3 2
	Misc	MF1 2019-Q009 BOC 2019-Q010 FREM F 2019-KI04 FREM F 2019-KLU2 FREM F 2019-KG02	07/09/19 07/25/19 08/08/19 10/10/19 10/10/19	562.92 573.34 532.69 768.32 544.14	Freddie Mac Freddie Mac Freddie Mac Freddie Mac Midland	KeyBank Situs CWCAM CWCAM CWCAM	MF1 REIT Not Identified Kayne Anderson Kayne Anderson Morgan Prop	24 168 18 17 17	22 168 18 17 17
			79	69,552.66					

Subordinate Buyer	Deals	Deal Balance			
Bridge	9	9,512.82	Axon Capital / Harbor	1	1,073.98
Kayne Anderson	8	6,927.71	Tilden Park	2	1,065.10
NYMT	5	6,225.32	Connor / Ares	1	702.38
Berkshire Group	5	5,321.44	Redwood Trust	1	666.36
Morgan Prop	5	5,313.78	MF1 REIT	1	562.92
NexPoint Advisors	4	4,801.73	KKR	1	498.00
RREEF America	3	3,618.96	Total	79	69,552.66
Harbor	5	3,614.79			
Axon Capital	5	3,155.23	Spec Svc	Deals	Deal Balance
Related Cos.	4	2,877.42	Wells Fargo	20	22,988.49
Bayview	3	2,493.38	KeyBank	28	22,880.91
Blackstone	3	2,261.73	CWCAM	23	18,969.34
Priderock	2	1,754.00	Midland	3	1,823.84
Sabal Financial	3	1,691.48	Situs	2	1,198.00
Greystar	2	1,538.27	Newmark	2	1,066.82
Ang Gordon / McDowell	2	1,405.21	LNR Partners	1	625.27
Not Identified	2	1,242.82		79	69,552.66
Tolis Advisors	2	1,227.83			

SECURITIZED MARKETS

2018 / 2019 CLO Issuance

Year	ISSUER	SERIES	DATE	AMOUNT	SELLER	SERVICER	COLMGR
2018	VMC Finance LLC	2018-FL1	01/26/18	368.09	Varde Partners	Trimont	Varde Partners
2018	TPG Real Estate Finance	2018-FL1	02/05/18	932.38	TPG	Wells Fargo	TPG
2018	Bridge Debt Strategies	2018-FL1	02/13/18	510.23	Bridge	Wells Fargo	Bridge
2018	AREIT Trust	2018-CRE1	02/14/18	480.38	Silverpeak	Wells Fargo	Silverpeak
2018	Bancorp Commercial Mortgage Trust	2018-CRE3	03/13/18	304.27	Bancorp Bank	Wells Fargo	Bancorp Bank
2018	BSPRT Ltd.	2018-FL3	03/23/18	610.00	Benefit Street	Situs	Benefit Street
2018	GPMT Ltd.	2018-FL1	04/26/18	826.57	Granite Point	Wells Fargo	Granite Point Mtg
2018	LoanCore Ltd.	2018-CRE1	05/18/18	1,052.91	LoanCore Capital	Situs	LoanCore Capital
2018	Arbor Realty Commercial Ltd.	2018-FL1	05/23/18	560.00	Arbor Realty	Arbor	Arbor Realty
2018	Exantas Capital Corp.	2018-RSO6	06/07/18	514.23	RCC Real Estate	C-III	Exantas Capital
2018	Ready Capital Mortgage Financing LLC	2018-FL2	06/15/18	278.28	ReadyCap	KeyBank	ReadyCap
2018	Marathon CRE Ltd	2018-FL1	06/22/18	470.00	Marathon Asset Mgt	KeyBank	Marathon Asset Mgt
2018	M360 Ltd.	2018-CRE1	07/18/18	329.74	M360 Advisors	Wells Fargo	M360 Advisors
2018	Shelter Growth CRE Ltd.	2018-FL1	07/20/18	415.13	Shelter Growth Cap	Wells Fargo	Shelter Growth
2018	BDS Ltd.	2018-FL2	07/25/18	420.02	Bridge Investment	Wells Fargo	Bridge Investment
2018	Hunt CRE Ltd.	2018-FL2	08/03/18	285.00	Hunt Mortgage	KeyBank	Hunt Mortgage
2018	Greystone Commercial Ltd	2018-HC1	09/11/18	300.00	Greystone	Greystone	Greystone
2018	Bancorp Commercial Mortgage Trust	2018-CRE4	09/17/18	341.00	Bancorp Bank	Wells Fargo	Bancorp Bank
2018	BSPRT Ltd.	2018-FL4	09/27/18	868.40	Benefit Street	Situs	Benefit Street
2018	VMC Finance LLC	2018-FL2	10/19/18	462.30	VMC Lender	Trimont	Varde Partners
2018	AREIT Trust	2018-CRE2	10/30/18	596.31	Silverpeak	Wells Fargo	Silverpeak
2018	KREF Ltd.	2018-FL1	11/07/18	1,000.00	KKR	Midland	KKR
2018	TRTX Ltd.	2018-FL2	11/15/18	1,000.17	TPG Real Estate	Situs	TPG Real Estate
2018	OREC Ltd.	2018-CRE1	11/20/18	350.00	ORIX	RED Mtg Capital	ORIX
2018	FORT CRE LLC	2018-1	11/28/18	600.00	Fortress	Wells Fargo	Fortress
2018 - Year to Date				13,875.40			

2019	BDS Ltd.	2019-FL3	01/28/19	600.00	Bridge Investment	Wells Fargo	Bridge Investment
2019	GPMT Ltd.	2019-FL2	02/14/19	825.00	Granite Point	Wells Fargo	Granite Point
2019	NLY Ltd.	2019-FL2	02/15/19	857.30	Annaly	Trimont	Annaly
2019	Bancorp Commercial Mortgage Trust	2019-CRE5	03/08/19	518.30	Bancorp Bank	KeyBank	Bancorp Bank
2019	LMREC LLC	2019-CRE3	03/26/19	500.00	LaSalle Mtg Real Est	Northmarq	LaSalle Mtg Real Est
2019	Ready Capital Mortgage Financing LLC	2019-FL3	03/29/19	320.80	ReadyCap	KeyBank	ReadyCap
2019	Exantas Capital Corp.	2019-RSO7	04/04/19	687.20	Exantas	C-III	Exantas
2019	PFP Ltd.	2019-5	04/11/19	764.20	Prime Finance	Wells Fargo	Prime Finance
2019	LoanCore Ltd.	2019-CRE2	05/07/19	1,057.23	LoanCore Capital	Situs	LoanCore Capital
2019	Arbor Realty Commercial Real Estate Notes Ltd.	2019-FL1	05/14/19	650.00	Arbor Realty	Arbor Multifamily	Arbor Realty
2019	Grand Avenue CRE Ltd.	2019-FL1	05/16/19	625.00	DoubleLine Capital	Wells Fargo	DoubleLine Capital
2019	BSPRT Ltd.	2019-FL5	05/20/19	810.00	Benefit Street	Situs	Benefit Street
2019	Shelter Growth CRE Ltd.	2019-FL2	05/21/19	453.70	Shelter Growth	Situs	Shelter Growth
2019	LoanCore Ltd.	2019-CRE3	05/23/19	415.85	LoanCore Capital	Situs	LoanCore Capital
2019	BDS Ltd.	2019-FL4	07/17/19	525.00	Bridge Investment	Wells Fargo	Bridge Investment
2019	STWD Ltd.	2019-FL1	07/26/19	1,100.00	Starwood Property	Wells Fargo	Starwood Property
2019	A10 Bridge Asset Financing LLC	2019-B	07/29/19	320.00	A10 Capital	A10 Capital	A10 Capital
2019	AREIT Trust	2019-CRE3	08/09/19	717.92	Argentic	Wells Fargo	Argentic
2019	M360 Ltd.	2019-CRE2	08/14/19	360.00	M360 Advisors	Wells Fargo	M360 Advisors
2019	Greystone CRE Notes Ltd.	2019-FL2	08/14/19	600.00	Greystone	Greystone	Greystone
2019	Bancorp Commercial Mortgage Trust	2019-CRE6	09/13/19	778.24	Bancorp Bank	Midland	Bancorp Bank
2019	VMC Finance LLC	2019-FL3	09/18/19	627.54	VMC Lender	Trimont	Varde Partners
2019	Prima Capital CRE Securitization Ltd.	2019-7	10/01/19	283.36	Prima Capital Adv	Midland	Prima Capital Adv
2019	CLNC Ltd.	2019-FL1	10/10/19	1,006.50	Colony	KeyBank	Colony
2019	TRTX Ltd.	2019-FL3	10/10/19	1,230.33	TPG Real Estate	Situs	TPG Real Estate
2019	Arbor Realty Commercial Real Estate Notes Ltd.	2019-FL2	11/01/19	635.00	Arbor Realty	Arbor Multifamily	Arbor Realty
2019	FS Rialto Ltd.	2019-FL1	11/18/19	426.23	FS Credit RE	Wells Fargo	FS Credit
2019	PFP Ltd.	2019-6	11/20/19	760.11	Prime Finance	Wells Fargo	Prime Finance
2019	MF1 Ltd.	2019-FL2	11/25/19	670.00	MF1 REIT	KeyBank	MF1 REIT
2019	ACAM Ltd.	2019-FL1	12/10/19	400.27	Amherst Capital	Wells Fargo	Amherst Capital

2019 - Year to Date

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SOURCES

The third-party Information set forth herein may be derived from any of the following sources:

Bloomberg	National Real Estate Investor
CBRE Capital Markets	Real Capital Analytics
Citibank Research	REIS
Commercial Mortgage Alert	Trepp Information Systems
CoStar	US Bureau of Economic Analysis
CRE Direct	US Bureau of Labor Statistics
FHLMC	US Census Bureau
International Council of Shopping Centers	US Federal Reserve
Intex Solutions	US Treasury
Morningstar Research	Wells Fargo Research
Moody's / RCA CPPI	

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