

CWC Capital Markets Update

Third Quarter 2017

In this Issue:

- Economy: Positive employment statistics, continued slow growth
- Cyclical highs and volatility in property prices
- Feature – CMBS conduit default study – asset class performance and pricing

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In this issue of the CWC Capital Markets Update, we focus on the fundamentals and trends affecting national commercial real estate debt markets. Our feature includes an 11-year CMBS conduit default study focusing on performance and pricing. We synthesize and present information gathered from various industry research, public resources, and our own research.

The Economy

- The September jobs report noted that on average, the economy has been creating 172,000 jobs per month over the past 12 months. Hurricanes Irma and Harvey contributed to a temporary decline in food and beverage service jobs along with related industries. As rebuilding begins, additional jobs are likely to be created.
- The unemployment rate declined to 4.2%, the lowest level since 2006. The participation rate was steady at 62.9%. Interestingly, BLS notes that of major MSAs, Denver, CO has the lowest unemployment rate while Cleveland, OH has the highest. Overall, average hourly earnings rose by 2.9% year over year, continuing a positive trend.
- The 10-year US Treasury yield at 2.33% is recently off post election lows. We have seen a 2/10 flattening of 40bps YTD. In the past 30 days, 10-yr yields have increased 30bp, but remain 10bp below 2016 year end level. Among the many factors that could influence interest rates in the near to medium term are the Federal Reserve's expected "unwinding" of its quantitative easing balance sheet, increased global growth and recovery, and the prospect of deficit funded tax reform. The Federal Reserve Bank of Atlanta forecasts 2017 US GDP growth at a slow 2.5%.

Property Markets

- Effective rent growth - National average of 2.72% year over year, slowing from prior quarters. Multi-family at 4.76%, retail at 1.40%, both lower than prior quarter growth.
- Vacancy rates - For the trailing 1 year period, vacancy rates were generally stable, with industrial showing the only improvement. Multifamily deliveries remain high and we expect continuing vacancy increases in selected areas.
- National property prices report declines and volatility in all sectors this year, although we remain near peak levels. Year over year results for the national retail sector has shown consistent declines every month this year.

Debt Capital Markets

- Q317 CMBS conduit issuance of \$12.6bn topped Q316 by some 7% as investors became more comfortable with risk retention requirements and the maturity wave. YTD2017 issuance of \$32.9bn also 6% ahead of YTD2016's \$31.1bn.
- CMBS risk retention pricing - Horizontal subordinates in the 14% area, L-shaped subordinates over 20% area.
- Current conduit delinquency is reported at 3.44% according to Trepp, with some 80% of such loans concentrated in the 2006/2007 vintages. We see approximately 21% of currently maturing loans remaining in default after 90 days.

Three trends we are watching

- Cyclical highs in property prices - national average hotel, retail, and office property prices experiencing volatility. Hotel risk premiums have widened out appreciably year to date. As property values increase, we see certain sponsors re-levering and extracting equity. Multifamily valuations and construction a concern.
- Impacts of Hurricanes - 2017 has seen two major hurricanes hit the continental US with the potential for performance disruptions as damage is assessed and repaired. Significant exposure including Agency Multifamily properties. Recoveries under business interruption, flood, and other property insurance policies will determine.
- CMBS conduit market share - in our July 2016 update, we noted the decline in market share of conduit CMBS. Only 62% of maturing loan volume was being replenished to the sector. Q317 showed year over year growth for the first time in years. At \$37.4bn, this years FHLMC CMBS issuance is 1.47x the volume of conduit CMBS, with Single Asset issuance gaining as well.

Feature – CMBS Conduit Default Study - Summary

We recently reviewed over 56,000 loans securitized between 2004 and late 2016. Our goal to put current markets into context by identifying simple relationships and data points which may be useful in assessing risk.

Key Findings:

- We observe an overall default rate of 18.4%, with the 2006 vintage reaching 28.9%.
- Overall severity rates at approximately 29.5%.
- Implied loss rates for all loans in the study average approximately 5.4%.
 - Suburban office, unanchored, and shadow anchored retail performed worst by a wide margin as measured by implied loss.
 - Manufactured housing, student housing, and single tenant retail generally performed more favorably (also as measured by implied loss), however there is no assurance that that will continue.
- Current 2016-2017 vintage property valuations (median Appraisal / NOI multiple) are higher than in the worst performing vintages on a historical basis.
 - Low interest and cap rates contribute to premium pricing for similar or slow growth cashflows. Although we do not expect a repeat of the financial crisis, higher yield pressures could present risk.
 - Suburban office and unanchored retail median multiples appear rich given historical performance.
 - Manufactured housing and hotel median multiples appear lowest with historical loss ranges at or below the average when compared to all loans.
 - Pre-crisis Mall properties have a default rate of almost 48% , while post-crisis malls (60% of our population) have been lower. Our analysis combines both. With the changing retail landscape, we expect post-crisis default rates to increase over time.

Methodology:

- Population includes 56,175 conduit loans issued between 2004 and late 2016, where we were able to access data. Based on publicly available data and obtained from Intex, Bloomberg, and Trepp.
- Default probabilities based on loan count and whether or not a loan was specially serviced at any point.
- Loss severity assigned for resolved loans based on reported loss.
- Loss severity for currently specially serviced loans assigned assuming most recent appraisal reduction.
- We computed property and cost multiples (Appraisal / NOI) to assess relative premiums and comparisons between vintages. The appraisal and most recent NOI information is based on that available at securitization.
- Although not all loans in the study have a completed life-cycle, we include them in the overall statistics. Rationale is that early or completed vintages (72% by count) are pre-financial crisis vintages with unique circumstances. Including current loans may help to normalize the overall statistics.

Category	Subtype	Median Appr / NOI	Loan Count	Defaults	Orig Balance (\$bn)	Loss or ARA (\$bn)	Prob of Default	Severity	Implied Loss
2004	Vintage	12.9x	6,518	1,126	71,262.1	2,572.8	17.28%	20.90%	3.61%
2005	Vintage	14.1x	10,330	2,309	136,277.4	8,034.8	22.35%	26.38%	5.90%
2006	Vintage	14.7x	11,845	3,424	162,204.6	15,553.8	28.91%	33.17%	9.59%
2007	Vintage	15.1x	11,755	3,311	191,753.0	18,340.9	28.17%	33.96%	9.56%
2010	Vintage	12.8x	211	6	5,133.4	2.1	2.84%	1.46%	0.04%
2011	Vintage	13.6x	966	27	24,524.8	86.3	2.80%	12.59%	0.35%
2012	Vintage	14.0x	1,719	29	32,215.1	41.3	1.69%	7.60%	0.13%
2013	Vintage	14.5x	3,050	40	53,621.0	73.5	1.31%	10.46%	0.14%
2014	Vintage	15.0x	3,484	36	56,798.2	113.8	1.03%	19.39%	0.20%
2015	Vintage	15.7x	4,324	21	61,433.4	23.9	0.49%	8.01%	0.04%
2016	Vintage	15.8x	1,973	-	32,525.3	-	0.00%	0.00%	0.00%
Grand Total			56,175	10,329	827,748.4	44,843.3	18.39%	29.46%	5.42%



Feature – CMBS Conduit Default Study - Property Level Results

Our property level results are presented below. Property type performance is aggregated from 2004 to late 2016, and are rank ordered from worst to least implied loss. Property types classified on best available information and may cross some categories.

For context, we also present 2016 median market multiples in the chart below for “price” comparison to multi-year asset class default and loss history.

Since each commercial property is unique, statistical generalizations can only provide a broad benchmark for comparative purposes. Property specific factors and risks can and do vary widely. A full underwriting and credit assessment must be conducted and completed before considering any investment.

Category	Subtype	2016	Loan Count	Defaults	Orig Balance (\$bn)	Loss or ARA (\$bn)	Prob of Default	Severity	Implied Loss
Office	Suburban	16.1x	6,215	1,937	102,405.3	10,639.3	31.17%	33.34%	10.39%
Retail	Unanchored	15.8x	5,278	1,352	31,325.6	3,187.6	25.62%	39.72%	10.18%
Other	Spec Purpose	15.7x	86	16	3,266.0	302.5	18.60%	49.79%	9.26%
Retail	Shadow Anchored	15.2x	2,127	483	12,904.0	1,071.4	22.71%	36.56%	8.30%
Special	Parking	18.4x	82	15	820.8	59.7	18.29%	39.75%	7.27%
Industr	Whse / Flex	15.2x	3,230	617	35,123.9	2,128.7	19.10%	31.73%	6.06%
Retail	Anchored	15.6x	8,077	1,487	152,632.8	9,204.3	18.41%	32.76%	6.03%
Hotel	Full Service	12.6x	1,499	289	48,419.9	2,756.4	19.28%	29.53%	5.69%
Hotel	Limited Service	11.9x	2,817	545	32,561.7	1,763.4	19.35%	27.99%	5.42%
Multi	Garden	16.3x	9,317	1,654	99,456.2	4,691.9	17.75%	26.57%	4.72%
Mixed	Mixed Use	18.5x	2,406	458	43,844.2	2,024.9	19.04%	24.26%	4.62%
Office	Medical	15.6x	988	140	10,046.9	411.8	14.17%	28.93%	4.10%
Senior	Senior Housing	-	240	45	4,051.6	157.3	18.75%	20.70%	3.88%
Multi	High Rise	21.2x	256	41	8,238.6	300.8	16.02%	22.80%	3.65%
Retail	Mall	20.1x	383	58	33,764.8	1,174.3	15.14%	22.97%	3.48%
MfgHsg	Mobile Home	14.5x	2,122	180	18,118.2	520.0	8.48%	33.83%	2.87%
Office	CBD	19.2x	2,321	455	126,447.1	3,641.2	19.60%	14.69%	2.88%
Industr	Data Center	16.2x	31	3	1,362.5	34.2	9.68%	25.92%	2.51%
Multi	Student	16.3x	465	53	7,323.2	134.7	11.40%	16.14%	1.84%
Hotel	Extended Stay	12.1x	341	25	5,840.9	93.6	7.33%	21.86%	1.60%
Industr	Freezer	15.5x	27	3	1,666.3	25.5	11.11%	13.79%	1.53%
Retail	Single Tenant	17.0x	3,167	195	17,193.8	248.2	6.16%	23.44%	1.44%
Special	Recreation	16.3x	135	14	1,991.6	23.5	10.37%	11.37%	1.18%
SelfStor	All	17.1x	3,365	238	21,726.3	240.8	7.07%	15.67%	1.11%
Multi	Co-Op	20.6x	1,009	17	3,065.4	3.3	1.68%	6.44%	0.11%
Special	Ground Lease	20.4x	191	9	4,150.8	4.0	4.71%	2.06%	0.10%
Grand Total			56,175	10,329	827,748.4	44,843.3	18.39%	29.46%	5.42%

Selected Market Data – Economic and Real Estate Fundamentals and Trends

	2006	2010	2011	2015	2016	Q3-17	1yr	5yr	10yr
Economic									
UNEMP	4.40	9.30	8.50	5.00	4.70	4.20	-0.80%	-3.60%	-0.50%
PART	66.40	64.30	64.00	62.60	62.70	63.10	0.20%	-0.50%	-2.90%
GDP	14,066	15,230	15,785	18,223	18,869	19,250	3.08%	3.92%	3.35%
CPI-TTM	1.77%	1.15%	2.47%	1.44%	1.91%	1.37%	-0.14%	-0.84%	-1.95%
UST IMPL INF	2.30%	2.30%	1.96%	1.54%	1.95%	1.84%	0.24%	-0.58%	-0.48%
Interest Rate									
1M LIBOR	5.35%	0.32%	0.35%	0.43%	0.77%	1.23%	0.70%	0.93%	-4.27%
Eff Fed Funds	5.24%	0.18%	0.07%	0.24%	0.50%	1.05%	0.77%	0.91%	-3.89%
Prime	8.25%	3.25%	3.25%	3.37%	3.75%	4.25%	0.75%	1.00%	-3.78%
UST2	4.82%	0.61%	0.25%	1.06%	1.20%	1.49%	0.72%	1.26%	-2.48%
UST10	4.71%	3.30%	1.89%	2.27%	2.45%	2.33%	0.73%	0.68%	-2.26%
2/10 Spread	-0.11%	2.69%	1.64%	1.21%	1.25%	0.85%	0.02%	-0.57%	0.23%
Real10	2.41%	1.00%	-0.07%	0.73%	0.50%	0.49%	0.49%	1.26%	-1.78%
Vacancy (REIS)									
Multi	5.80%	6.60%	5.30%	4.40%	4.20%	4.40%	0.00%	-0.40%	-1.30%
Retail	7.10%	11.00%	11.00%	10.00%	9.90%	10.00%	0.00%	-0.80%	2.50%
Office	13.40%	17.60%	17.40%	16.20%	15.80%	16.00%	0.00%	-1.20%	3.40%
Industrial	n/a	14.00%	13.20%	10.60%	10.30%	9.70%	-0.80%	-2.70%	n/a
Hotel									
Rents (REIS Effective)									
Multi	930	987	1,010	1,183	1,252	1,277	4.76%	4.49%	3.11%
Retail	17.16	16.51	16.50	17.54	17.89	18.05	1.40%	1.80%	0.27%
Office	22.21	22.09	22.54	24.97	25.93	26.14	2.55%	2.93%	0.65%
Industrial	n/a	4.21	4.19	4.55	4.66	4.72	2.16%	2.21%	n/a
Hotel									
National \$PSF (RCA)									
Multi	113,416	99,503	103,330	148,228	152,206	157,087	10.33%	10.35%	5.11%
Retail	174	152	175	213	200	193	-21.00%	2.17%	0.90%
Office	232	222	213	239	235	234	1.51%	2.64%	-0.37%
Industrial	67	51	60	73	78	90	12.50%	9.07%	2.47%
Hotel	136,505	138,350	98,187	138,162	153,841	155,643	4.65%	6.11%	4.20%
National Cap Rate (RCA)									
MF	6.23%	6.55%	6.26%	5.91%	5.70%	5.60%	-0.01%	-0.59%	-0.70%
Ret	6.66%	7.61%	7.41%	6.48%	6.52%	6.30%	-0.13%	-0.85%	-0.18%
Office	6.69%	7.57%	7.32%	6.70%	6.59%	6.56%	0.16%	-0.71%	-0.05%
Ind	7.14%	8.23%	7.69%	6.61%	6.80%	6.50%	-0.30%	-1.00%	-0.33%
Hotel	8.92%	8.21%	7.94%	8.38%	8.50%	8.80%	0.30%	0.68%	-0.09%
Risk Premium									
MF	1.52%	3.25%	4.37%	3.64%	3.25%	3.27%	-0.74%	-1.28%	1.56%
Ret	1.95%	4.31%	5.52%	4.21%	4.07%	3.97%	-0.87%	-1.53%	2.07%
Office	1.98%	4.27%	5.43%	4.43%	4.14%	4.22%	-0.58%	-1.39%	2.21%
Ind	2.43%	4.93%	5.80%	4.34%	4.35%	4.17%	-1.03%	-1.69%	1.92%
Hotel	4.21%	4.91%	6.05%	6.11%	6.05%	6.47%	-0.43%	-0.01%	2.16%



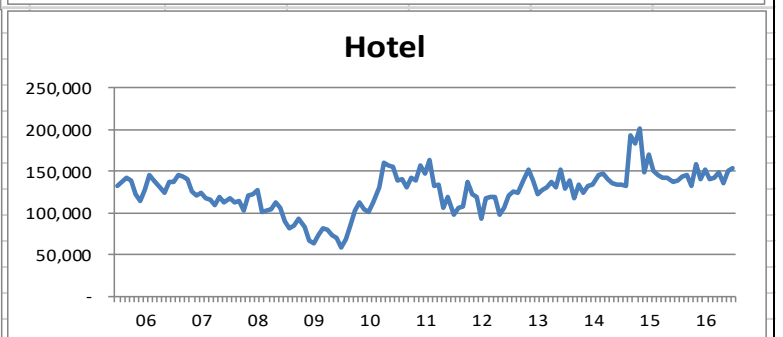
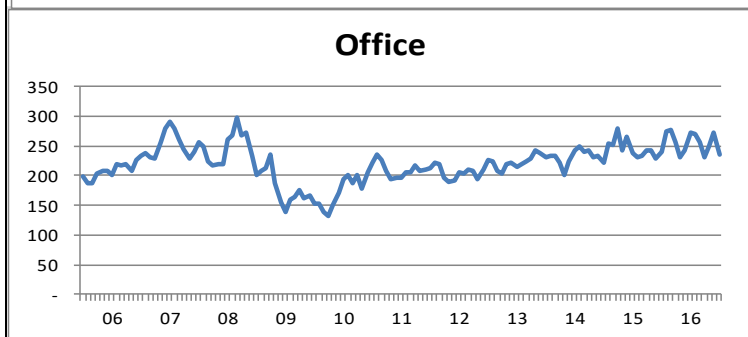
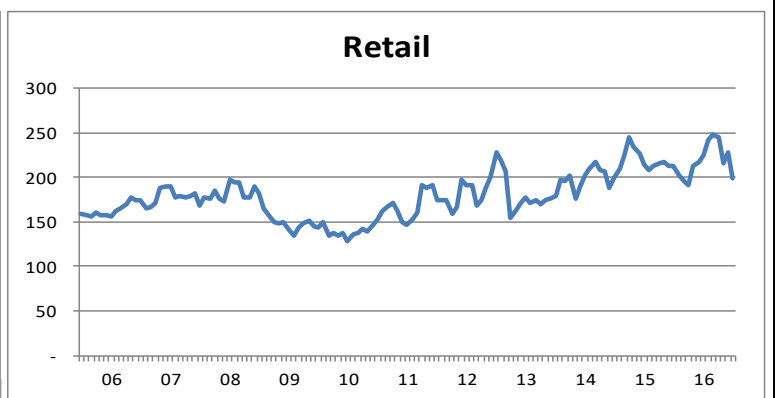
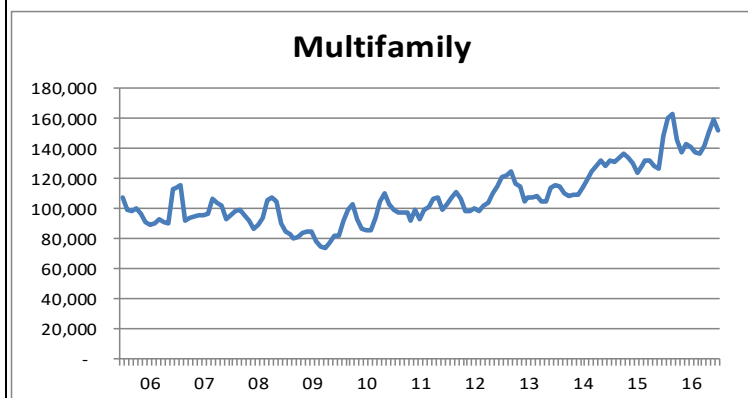
CRE Fundamentals – Property Price, Vacancy, and Rent Growth Trends

Year End	National Average Sprice / unit				
	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	98,186.8	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
3Q17	157,087.0	193.0	155,643.0	234.5	90.0
Peak	163,281.9	248.1	201,238.3	298.5	90.0
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	Feb-16	Aug-16	Apr-15	Aug-08	Aug-17
Trough Date	Sep-09	Jun-10	Dec-09	Mar-10	Apr-10
Curr vs '06	38.5%	10.7%	14.0%	0.9%	34.9%
Curr vs Pk	-3.8%	-22.2%	-22.7%	-21.4%	0.0%
Curr vs Tr	112.8%	50.8%	163.7%	77.6%	101.5%

Year End	Vacancy Trend				
	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
1H17	4.40	10.00	-	16.00	9.70

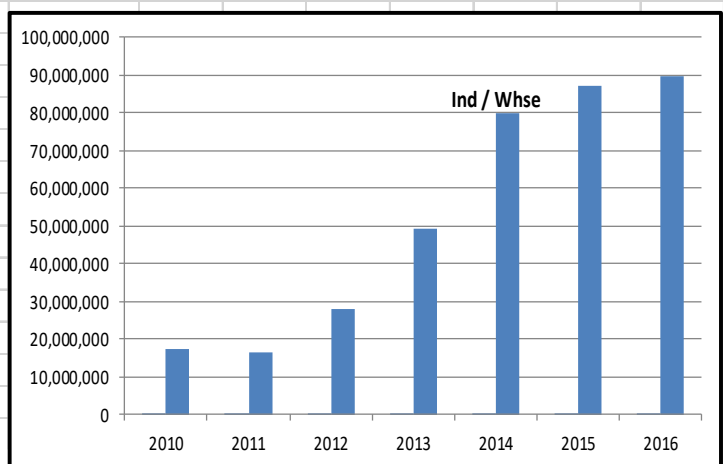
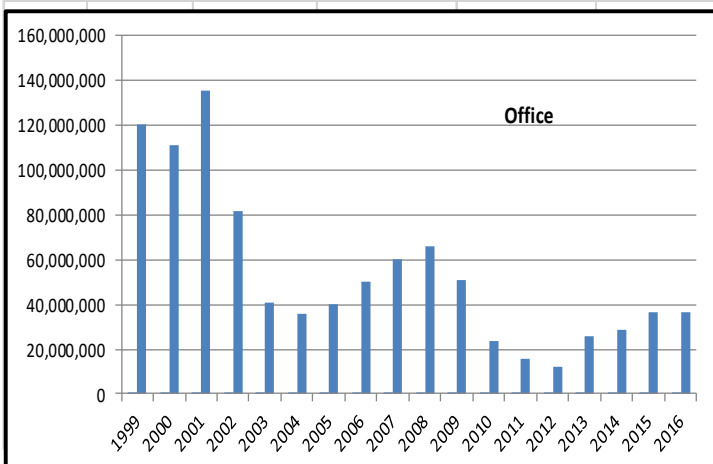
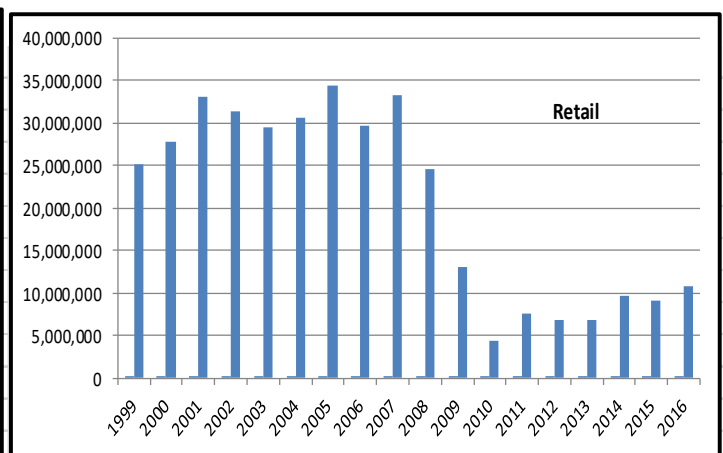
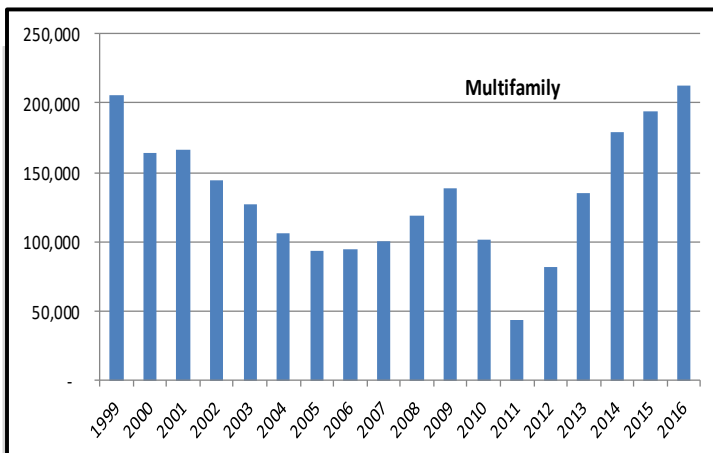
Year End	Rent Growth Trend				
	MF	Retail	Hotel	Ofc	Ind
2005	2.89	3.23	-	3.19	-
2006	4.38	3.37	-	8.93	-
2007	4.73	2.39	-	10.54	-
2008	1.95	(1.02)	-	0.24	-
2009	(2.92)	(3.68)	-	(8.86)	-
2010	2.39	(1.43)	-	(1.52)	-
2011	2.43	(0.06)	-	2.04	(0.48)
2012	3.86	0.48	-	1.95	1.91
2013	3.33	1.51	-	2.22	1.64
2014	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

5yr GR	8.1%	2.7%	9.4%	1.9%	5.3%
10yr GR	3.0%	1.4%	1.2%	0.1%	1.5%
Volatility	12.4%	14.0%	31.6%	17.9%	11.2%



CRE Fundamentals – New Construction and Delivery Trends

Year	Multi	Retail	Office	Ind / Whse	Notes
1999	205,818	25,126,000	120,280,000	-	
2000	164,674	27,727,000	111,061,000	-	
2001	166,124	33,013,000	134,904,000	-	* Record Multifamily deliveries. REIS expects 35% Year/Year growth in 2017.
2002	143,957	31,369,000	81,422,000	-	
2003	127,591	29,416,000	41,016,000	-	* Steady retail deliveries in the last 3 years (approx 9-10mm sqft)
2004	106,144	30,596,000	35,475,000	-	
2005	93,227	34,438,000	39,792,000	-	* YTD 2017 vs 2016 (annualized):
2006	95,205	29,627,000	49,879,000	-	
2007	100,630	33,254,000	59,902,000	-	-New retail deliveries down 16% relative to 2016's seven year high at 10.8mm sqft
2008	119,330	24,545,000	65,450,000	-	
2009	138,775	13,142,000	50,548,000	-	
2010	101,691	4,499,000	23,375,000	17,234,000	-Industrial deliveries trending lower by 10% relative to 2016's high of 89mm sqft
2011	43,489	7,625,000	15,440,000	16,598,000	
2012	81,399	6,778,000	12,443,000	28,002,000	
2013	135,614	6,883,000	25,959,000	49,178,000	-Multifamily some 18% lower from 2016, however, 2016 recorded the highest level of deliveries in 18 years.
2014	179,358	9,776,000	28,287,000	80,009,000	Multifamily has been on a 6 year run of increased deliveries.
2015	194,459	9,088,000	36,642,000	86,962,000	New household formation and rent vs own preference driving.
2016	213,243	10,815,000	36,659,000	89,732,000	
1H17	87,706	4,550,000	17,061,000	40,356,000	





Securitized Markets - 2017

Type	SERIES	Pricing	AMOUNT	SERVICER	SPSERV	B-PIECE	#PROP	#LOAN	RR Type	RR Yld	
CMBS	Conduit	Various	Q1-17	9,405.26	Various	Various	648	455			
		Various	Q2-17	12,077.53	Various	Various	1,363	675			
		BANK 2017-BNK6	07/14/17	933.25	Wells Fargo	Midland	Prime Group	189	72	VERT	
		JPMCC 2017-JP7	07/21/17	811.00	Wells Fargo	CWCAM	MassMutual	168	37	HRZ	13.75
		CD 2017-CD5	07/24/17	931.65	Wells Fargo	Rialto Capital	Rialto Capital	134	48	L	21.20
		UBSCM 2017-C2	07/31/17	898.68	Midland	Midland	KKR	204	59	HRZ	14.15
		WFCM 2017-C39	08/10/17	1,132.84	Wells Fargo	LNR Partners	Silverpeak	149	64	HRZ	13.72
		GSMS 2017-GS7	08/11/17	1,081.64	Wells Fargo	Rialto Capital	Rialto Capital	35	32	HRZ	14.34
		CGCMT 2017-B1	08/15/17	941.58	Wells Fargo	LNR Partners	Elliott Mgt	69	48	VERT	
		UBSCM 2017-C3	08/17/17	708.63	Midland	Midland	KKR	64	42	HRZ	14.10
		CGCMT 2017-P8	09/18/17	1,087.12	Wells Fargo	KeyBank	Prime Group	167	53	VERT	
		BANK 2017-BNK7	09/19/17	1,213.82	Wells Fargo	Rialto Capital	Rialto Capital	83	65	VERT	
		CSAIL 2017-CX9	09/19/17	858.88	KeyBank	Rialto Capital	Rialto Capital	70	31	L	29.01
		COMM 2017-COR2	09/21/17	916.48	Midland	Midland	Jefferies LoanCore	55	42	HRZ	14.00
		UBSCM 2017-C4	09/29/17	818.34	Wells Fargo	Rialto Capital	Rialto Capital	85	50	VERT	
		WFCM 2017-C40	10/05/17	705.38	Wells Fargo	C-III	Resource Capital	150	65	VERT	

34,522.06

SASB	SERIES	Pricing	AMOUNT	SERVICER	SPSERV	Seller		RR Type	RR Yld	
						#PROP	#LOAN			
	Various	Q1-17	2,928.60	Various	Various	Various	10	5		
	Various	Q2-17	9,419.00	Various	Various	Various	303	17		
	WTOWN 2017-KNOX	07/11/17	150.00	Wells Fargo	Wells Fargo	Simon / TIAA	1	1	VERT	
	MSDB 2017-712F	07/13/17	300.00	Wells Fargo	Wells Fargo	Paramount Group	1	1	VERT	
	CSMC 2017-MOON	07/14/17	125.70	KeyBank	Aegon	Hana Financial	1	1	HRZ	
	CGMS 2017-MDDR	07/14/17	706.66	Wells Fargo	Wells Fargo	Madison Int / DDR	52	3	VERT	
	JPMCC 2017-MAUI	07/24/17	469.00	KeyBank	Aegon	MSD Capital	1	1	HRZ	
	GSMS 2017-500K	07/26/17	334.00	Wells Fargo	Wells Fargo	Blackstone	1	1	HRZ	
	BX 2017-SLCT	07/27/17	1,393.50	KeyBank	KeyBank	Blackstone	96	1	VERT	
	MAD 2017-330M	07/28/17	500.00	Wells Fargo	Aegon	ADIA, Vornado	1	1	VERT	
	GSMS 2017-STAY	07/28/17	200.00	Wells Fargo	Cohen Financial	Starwood Capital	40	1	HRZ	
	BX 2017-APPL	08/01/17	800.00	KeyBank	KeyBank	Blackstone	51	1	VERT	
	CGDBB 2017-BIOC	08/03/17	825.00	KeyBank	Aegon	Blackstone	15	1	VERT	
	MSSG 2017-237P	08/11/17	477.80	Wells Fargo	Wells Fargo	RXR Realty	1	1	HRZ	
	BXP 2017-CC	08/15/17	350.00	Wells Fargo	Aegon	Boston Props	1	1	VERT	
	BBCMS 2017-DELC	08/17/17	507.60	KeyBank	Aegon	Blackstone	1	1	HRZ	
	CGCMT 2017-1500	08/18/17	240.00	Wells Fargo	Cohen Financial	Nightingale Props	1	1	HRZ	
	MOTEL 2017-MTL6	08/31/17	2,075.00	KeyBank	KeyBank	Blackstone	460	1	VERT	
	SMPT 2017-STONE	09/08/17	800.00	Midland	Midland	Stonemont Fin	95	1	VERT	
	GSMS 2017-375H	09/19/17	400.00	Wells Fargo	Aegon	Trinity Real Estate	1	1	VERT	
	PRK 2017-280P	09/19/17	1,075.00	Wells Fargo	Wells Fargo	SL Green / Vornado	1	1	HRZ	
	GWT 2017-WOLF	09/26/17	1,000.00	KeyBank	Aegon	Centerbridge Ptnrs	12	1	HRZ	
	COMM 2017-DLTA	09/26/17	283.00	Wells Fargo	Aegon	Blackstone	56	1	VERT	

25,359.86

Subordinate Buyer	Conduit	SASB	Total	Special Service	Conduit	SASB	Total	Type	Balance	Deals
Rialto Capital	11,187.26	-	11,187.26	Midland	10,064.43	2,045.00	12,109			
KKR	6,354.55	-	6,354.55	Rialto Capital	11,187.26	-	11,187	<u>Conduit</u>		
Eightfold	2,114.34	-	2,114.34	CWCAM	4,044.73	-	4,045	L	10,662.73	11
Prime Group	3,175.02	-	3,175.02	LNR Partners	4,882.18	-	4,882	VERT	12,579.38	14
MassMutual	1,854.46	-	1,854.46	C-III	1,342.94	-	1,343	HRZ	<u>11,279.95</u>	<u>12</u>
Silverpeak	2,847.62	-	2,847.62	Hudson	758.77	-	759		34,522.06	37
LNR Partners	1,092.98	-	1,092.98	Wells Fargo	-	5,653.46	5,653			
Blackrock	977.09	-	977.09	Trimont	-	1,795.00	1,795			
Colony Northstar	958.99	-	958.99	Keybank	2,241.77	6,010.50	8,252	<u>SASB</u>		
Elliott Mgt	941.58	-	941.58	Aegon	-	8,425.90	8,426	VERT	13,595.16	21
Jefferies LoanCore	916.48	-	916.48	Cohen Financial	-	625.00	625	HRZ	11,764.70	22
Lone Star Funds	758.77	-	758.77	Strategic Asset	-	805.00	805	L	-	-
Resource Capital	705.38	-	705.38						25,359.86	43
C-III	637.56	-	637.56							
	-	25,359.86	25,359.86							
Total	34,522.06	25,359.86	59,881.92		34,522.06	25,359.86	59,882		59,881.92	



Securitized Markets - 2017

Type	SERIES	Pricing	AMOUNT	SERVICER	SPSERV	B-PIECE	#PROP	#LOAN		
FREMF	7-Year	FREMF 2017-K724	01/13/17	1,172.94	Midland	Midland	Related Cos.	58	58	
		FREMF 2017-K725	04/12/17	1,181.40	Midland	Wells Fargo	Ares Management	52	52	
		FREMF 2017-K726	06/21/17	1,132.04	Midland	KeyBank	Berkshire Group	49	49	
		FREMF 2017-K727	09/15/17	1,423.35	Midland	Wells Fargo	Ares Management	51	51	
10-Year		FREMF 2017-K61	01/19/17	1,261.09	Wells Fargo	Wells Fargo	Berkshire Group	69	69	
		FREMF 2017-K62	02/17/17	1,444.06	KeyBank	Midland	Cyrus Capital	67	67	
		FREMF 2017-K63	03/07/17	1,520.16	KeyBank	Wells Fargo	New York Mtg Tru:	46	46	
		FREMF 2017-K64	05/03/17	1,550.00	Wells Fargo	Wells Fargo	Bridge	71	71	
		FREMF 2017-K65	07/12/17	1,307.27	Wells Fargo	Midland	Related Cos.	72	72	
		FREMF 2017-K66	08/09/17	1,297.45	Wells Fargo	Keybank	Berkshire Group	61	61	
		FREMF 2017-K67	09/22/17	1,436.11	Wells Fargo	Situs	Pensam	67	67	
	15-Year	FREMF 2017-K1503	04/19/17	878.08	KeyBank	CWCAM	Ang Grdn, McDowe	44	44	
Floater		FREMF 2017-KF27	02/07/17	1,401.99	Wells Fargo	Wells Fargo	Bridge	55	55	
		FREMF 2017-KF28	03/02/17	1,311.50	Wells Fargo	CWCAM	Kayne Anderson	61	61	
		FREMF 2017-KF29	04/04/17	1,460.76	Midland	KeyBank	Prideroock	54	54	
		FREMF 2017-KF30	05/09/17	1,295.76	KeyBank	KeyBank	Harbor Group	56	56	
		FREMF 2017-KF31	06/01/17	1,244.35	KeyBank	CWCAM	Kayne Anderson	45	45	
		FREMF 2017-KF32	07/20/17	1,296.27	KeyBank	Wells Fargo	Bridge	58	58	
		FREMF 2017-KF33	08/02/17	1,401.04	Midland	CWCAM	Kayne Anderson	61	58	
		FREMF 2017-KF34	09/14/17	1,450.22	Midland	KeyBank	Harbor Group	48	48	
		FREMF 2017-KF35	10/03/17	1,467.94	Midland	Wells Fargo	Bridge	54	54	
	Jr Lien		FREMF 2017-KJ11	01/31/17	265.16	Freddie Mac	Wells Fargo	Waterton	62	66
			FREMF 2017-KJ12	02/28/17	302.23	Freddie Mac	CWCAM	Kayne Anderson	65	65
		FREMF 2017-KJ13	04/05/17	345.32	Freddie Mac	Wells Fargo	Berkshire Group	60	61	
		FREMF 2017-KJ14	06/14/17	285.78	Freddie Mac	CWCAM	Kayne Anderson	53	53	
		FREMF 2017-KJ15	07/25/17	342.34	Freddie Mac	Wells Fargo	Ares Management	54	55	
		FREMF 2017-KJ16	09/14/17	138.73	Freddie Mac	Wells Fargo	Waterton	28	28	
Small Bal		FRESB 2017-SB26	01/18/17	220.57	Freddie Mac	Sabal Financial	Sabal Financial	84	84	
		FRESB 2017-SB27	02/15/17	246.33	Freddie Mac	Arbor	Axonic Capital	93	93	
		FRESB 2017-SB28	03/15/17	322.96	Freddie Mac	Trimont	Garrison	151	151	
		FRESB 2017-SB29	04/06/17	217.19	Freddie Mac	Hunt Mortgage	Hunt Mortgage	100	100	
		FRESB 2017-SB30	05/04/17	306.94	Freddie Mac	Sabal Financial	Sabal Financial	132	132	
		FRESB 2017-SB31	05/19/17	263.90	Freddie Mac	KeyBank	Axonic Capital	98	98	
		FRESB 2017-SB32	06/07/17	322.21	Freddie Mac	Trimont	Garrison	144	144	
		FRESB 2017-SB33	06/16/17	219.85	Freddie Mac	KeyBank	Sutherland	108	108	
		FRESB 2017-SB34	07/12/17	327.37	Freddie Mac	Arbor	Axonic Capital	125	125	
		FRESB 2017-SB35	07/21/17	316.97	Freddie Mac	Sabal Financial	Sabal Financial	114	114	
		FRESB 2017-SB36	08/10/17	350.38	Freddie Mac	KeyBank	Axonic Capital	131	131	
		FRESB 2017-SB37	09/07/17	316.64	Freddie Mac	KeyBank	Harbor Group	137	137	
		FRESB 2017-SB38	09/19/17	259.01	Freddie Mac	Hunt Mortgage	Hunt Mortgage	105	105	
		FRESB 2017-SB39	10/05/17	263.81	Freddie Mac	Arbor	Prime	95	95	
SASB		FREMF 2017-KIR2	05/18/17	384.01	Midland	Freddie Mac	Irvine Co.	4	4	
		FREMF 2017-KSW2	07/18/17	1,112.63	Midland	CWCAM	Kayne Anderson	36	36	
Wkforce		FREMF 2017-KW02	03/22/17	501.96	Wells Fargo	Wells Fargo	Bridge	52	52	
		FREMF 2017-KW03	09/11/17	542.02	KeyBank	KeyBank	Harbor Group	75	75	
Senior		FREMF 2017-KS08	05/16/17	734.99	Wells Fargo	CWCAM	Kayne Anderson	36	36	
		FREMF 2017-KL01	05/26/17	511.56	Wells Fargo	Wells Fargo	Bridge	2	2	
LIHTC		FRETE 2017-ML02	06/14/17	20.57	Freddie Mac	Midland	-	3	3	

37,375.19

Subordinate Buyer	Deals	Deal Balance	Special Service	Deals	Deal Balance
Bridge	6	6,729.72	Wells Fargo	14	13,207.27
Kayne Anderson	7	6,392.51	KeyBank	10	8,329.02
Berkshire Group	4	4,035.90	CWCAM	8	7,270.59
Harbor Group	4	3,604.64	Midland	4	3,944.84
Ares Management	3	2,947.08	Situs	1	1,436.11
Related Cos.	2	2,480.22	Sabal Financial	3	844.47
New York Mtg Trust	1	1,520.16	Arbor	3	837.51
Prideroock	1	1,460.76	Trimont	2	645.17
Cyrus Capital	1	1,444.06	Hunt Mortgage	2	476.21
Pensam	1	1,436.11	Freddie Mac	1	384.01
Axonic Capital	4	1,187.98			
Ang Grdn, McDowell	1	878.08			
Sabal Financial	3	844.47			
Garrison	2	645.17			
Hunt Mortgage	2	476.21			
Waterton	2	403.89			
Irvine Co.	1	384.01			
Prime	1	263.81			
Sutherland	1	219.85			
-	1	20.57			
	48	37,375.19		48	37,375.19

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Sources

The third-party Information set forth herein is derived from the following sources:

Bloomberg

CBRE Capital Markets

Citibank Research

Commercial Mortgage Alert

CRE Direct

FHLMC

Intex Solutions

Maximus Ten-X

Morningstar Research

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Real Capital Analytics

REIS

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US Bureau of Labor Statistics

US Census Bureau

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