

MORTGAGE-BACKED SECURITIES

Commercial Mortgage Market Monitor

April 2018 Remittances

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Foreword

The Commercial Mortgage Market Monitor provides a monthly snapshot of key risk metrics in the Commercial Mortgage Market. The primary sources of data include Intex and Moody's. The following definitions will facilitate the use of this report.

WATCH LIST

If the Master Servicer observes that a loan is headed for distress it may put the loan on “negative credit watch.” The loan typically remains on watch until the Master Servicer/Special Servicer has deemed that the acute credit risk has dissipated.

SPECIAL SERVICING

When a loan goes delinquent, servicing is transferred from the Master Servicer to the Special Servicer. Likewise, if the Master Servicer believes that delinquency is very likely and curing in a reasonable amount of time is unlikely a transfer to the Special Servicer will occur prior to delinquency. The Special Servicer's responsibility is to maximize the net present value of the proceeds realized from the loan. Typically, the Special Servicer has substantial commercial real estate experience and uses it to decide whether to initiate foreclosure and liquidate the loan or restructure the loan and return it to the Master Servicer.

DELINQUENCY

Any loan that is 30 days or more delinquent or is in Foreclosure or REO is flagged as “Delinquent” for the purposes of this report.

APPRAISAL REDUCTION

Typically, if a property is worth less than 90% of the loans unpaid balance, the Special Servicer is required to reset the principal loan amount to the new appraisal value. This is called appraisal reduction and is meant to preserve capital for senior certificates at the expense of junior classes. In this report we track the percentage of the CMBS loan universe that has received appraisal reductions.

MODIFICATION

As an alternative to liquidation through foreclosure the Special Servicer may modify the loan in accordance with the guidelines of the Pooling and Servicing Agreement. These modifications can include: maturity date extensions, change to the amortization structure, principal forgiveness, temporary rate reduction, capitalization of delinquent interest, or any combination of these modifications. In this report we track the percentage of the CMBS loan universe that has received modifications.

MOODY'S/REAL CPPI

The Moody's/REAL Commercial Property Index (CPPI) methodology was developed by the Massachusetts Institute of Technology Center for Real Estate industry partner Real Capital Analytics, Inc. The index is designed to track changes in price on commercial properties involved in two or more transactions over time. Appraisal valuations are not used as part of the index but each transaction carries the same weight. The national all-property index is published monthly. Historical data are available as far back as December 2000.

Overview

The CMBS 2.0 delinquency rate and special servicing rate increased modestly in April, to 0.46% and 0.99%, respectively.

One of the largest loans to newly enter special servicing was \$45.5MM Hotel Felix Chicago (4.6% WFRBS 2013-C18), secured by a 225-room boutique hotel in downtown Chicago, IL. The loan carried a 1.00x debt service coverage ratio (DSCR) as of year-end, with heavy competition and a 3.5x increase in property taxes eroding profitability. The loan is now 60-days delinquent and the borrower has requested a modification.

There was one CMBS 2.0 liquidation during the month, \$7.5MM Waterbury Crossing (0.6% JPMBB 2014-C21), secured by a 69,424 square foot (SF) two-tenant retail property in Waterbury, CT. The property's largest tenant filed for bankruptcy in June 2016, reducing occupancy to 37%. In May 2017, the loan moved into special servicing as the borrower was unable to re-tenant the vacant space. In July 2017, the property received an updated appraisal which implied a 47% haircut to origination value, from \$11.4MM (\$164 PSF) to \$6MM (\$86 PSF). The loan was liquidated during the month at a 52% severity to the trust (\$52 PSF recovery value).

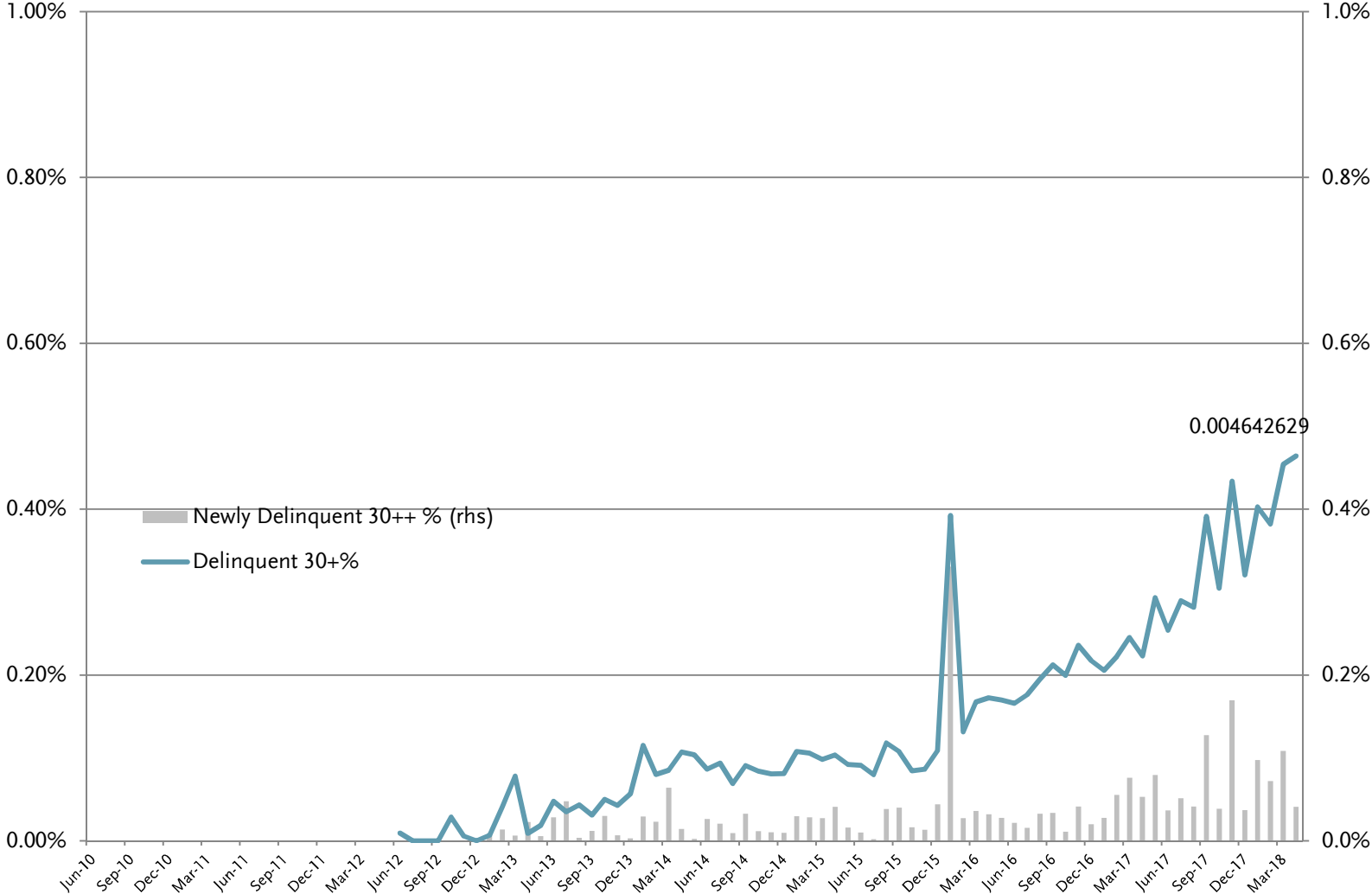
In new issue CMBS, four private label deals (\$2.8BN) priced, including three conduits (\$2.4BN) and one Single Asset Single Borrower (SASB) transaction (\$0.4BN). Two of the conduits used horizontal risk-retention structures with both LCF AAAs pricing at swaps +88bps. One conduit used a vertical risk-retention structure and the LCF AAAs priced at swaps +83bps. The only SASB deal issued was floating rate, with a two-year initial term and seven-year maximum term (five one-year extension options) secured by two adjacent office towers in San Francisco, CA; the AAAs priced at 77 DM.

Year-to-date private-label issuance totals \$22BN, which annualizes to \$66BN implied volume for 2018 – about 20% lower than 2017 issuance (\$83.5BN) and 10-15% lower than Street projections (around \$75BN).

Section A:

I. Delinquencies as a % of Unpaid Principal Balance

CMBS 2.0 Delinquency Percentage



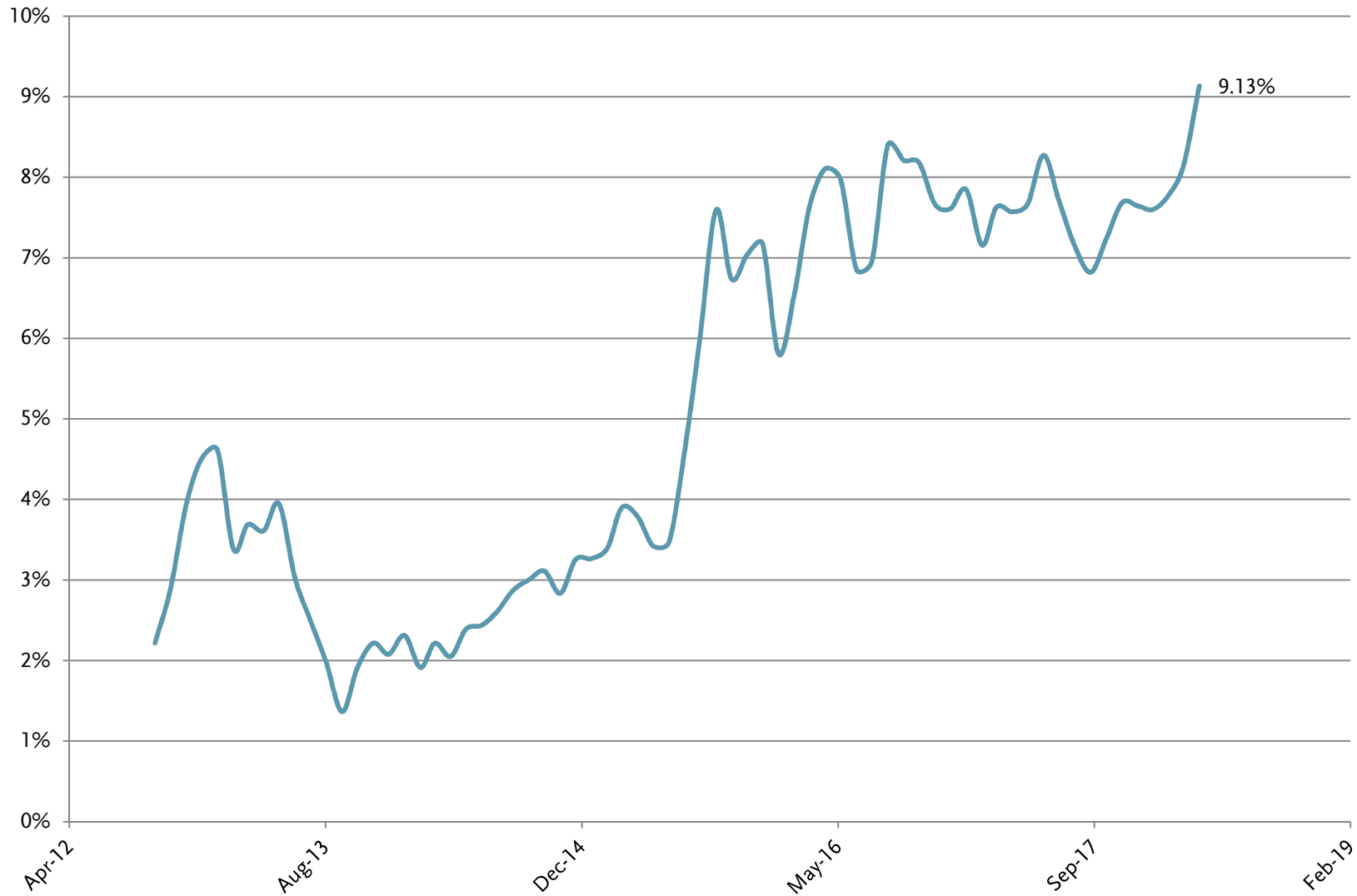
Exhibited by TCW from Intex Data

Top 10 Largest CMBS 2.0 Loans Entering Delinquency

Deal	Property Name	Type	Balance	% Deal	Tapedate	DQ Status	City
COM15C27	Sandalwood Portfolio	Multi-Family	60,241,661	6.6%	04/10/18	30 Days	San Antonio-New Braunfels, TX-41.83% Austin-
LCC17L26	55-59 Chrystie Street	Other	25,125,000	4.0%	04/10/18	30 Days	New York-Newark-Jersey City, NY-NJ-PA
WFC15C28	Flatiron Hotel	Hotel	22,500,000	2.0%	04/15/18	30 Days	New York-Newark-Jersey City, NY-NJ-PA
WFC16L25	381-383 Broadway	Other	14,669,412	1.5%	04/15/18	30 Days	New York-Newark-Jersey City, NY-NJ-PA
COM14C19	Gateway Oaks Office	Office	8,480,702	0.8%	04/10/18	30 Days	Sacramento--Roseville--Arden-Arcade, CA
CSI17CX9	Central Avenue Hotels	Hotel	7,717,040	0.9%	04/15/18	30 Days	Hot Springs, AR
WFC15C31	Champion Hills	Office	5,344,531	0.5%	04/15/18	30 Days	Memphis, TN-MS-AR
BACM15U7	Gateway Medical Plaza	Office	3,185,400	0.4%	04/15/18	30 Days	Tampa-St. Petersburg-Clearwater, FL
CLNY1401	313 W Arrellaga Street	Multi-Family	1,706,412	1.5%	04/20/18	30 Days	Santa Maria-Santa Barbara, CA
Total			148,970,158				

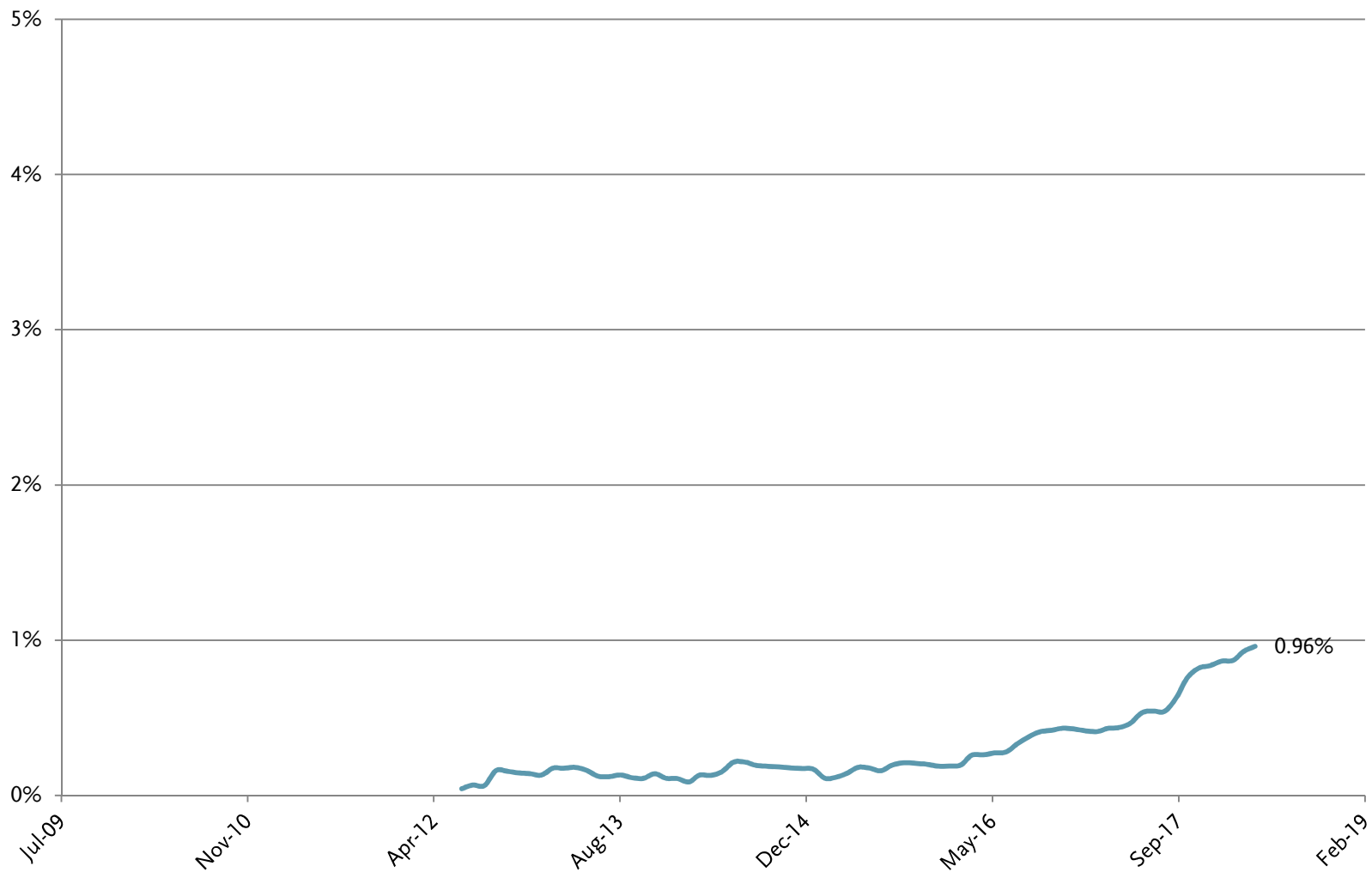
II. Watch List Exposure

CMBS 2.0 Watch List Exposure Percentage



III. Special Servicing Exposure

CMBS 2.0 Special Servicing Exposure Percentage

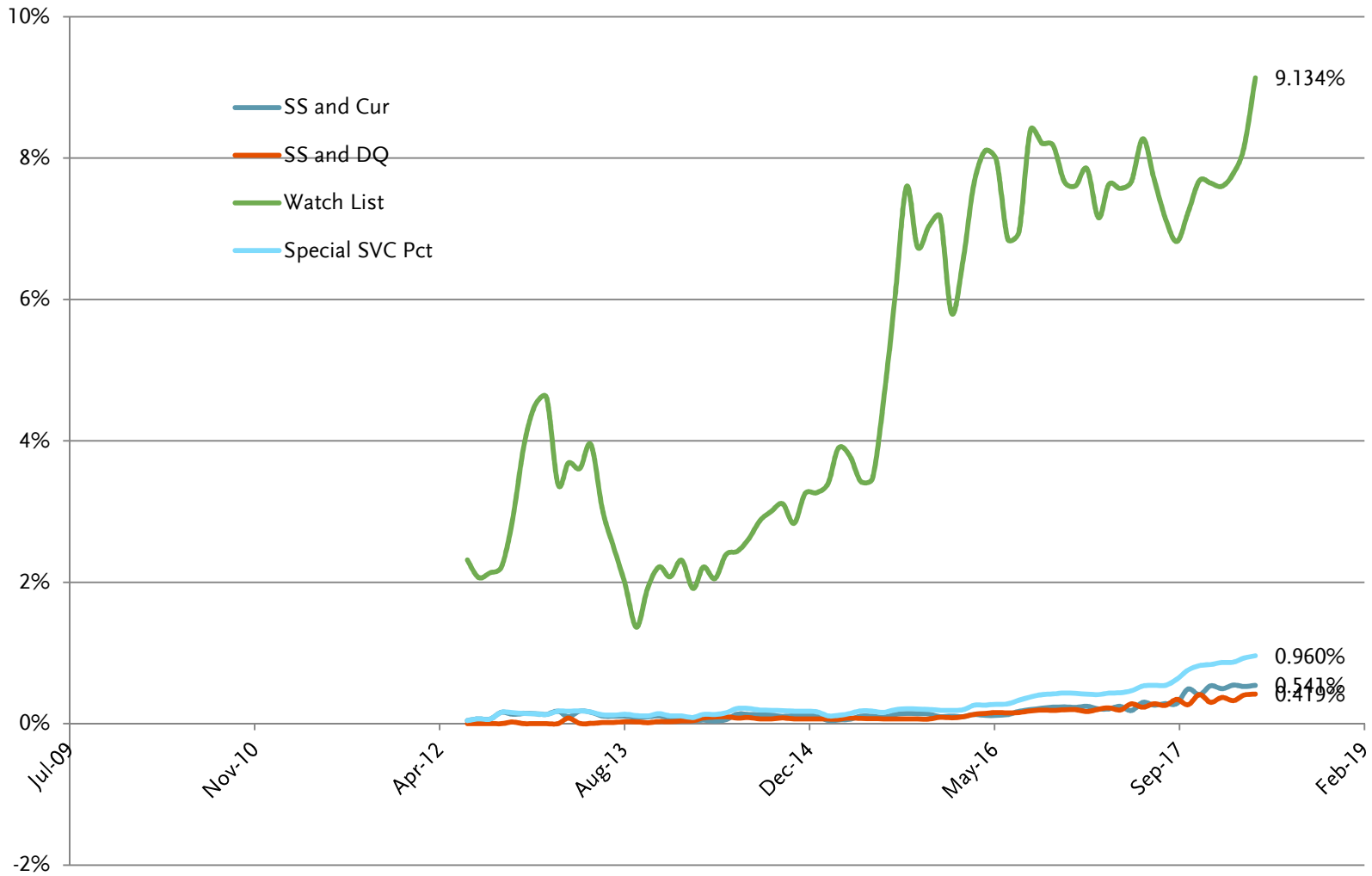


Exhibited by TCW from Intex Data

Top 10 Largest CMBS 2.0 Loans Entering Special Servicing

Deal	Property Name	Type	Balance	% Deal	Tapdate	DQStatus	City
WFR13C18	Hotel Felix Chicago	Hotel	45,545,251	4.6%	04/15/18	60 Days	Chicago-Naperville-Elgin, IL-IN-WI
COM15C26	Crossroads Office Portfolio	Office	43,065,081	4.0%	04/10/18	60 Days	New York-Newark-Jersey City, NY-NJ-PA
COM14C14	McKinley Mall	Retail	26,126,208	2.0%	04/10/18	<30 Days	Buffalo-Cheektowaga-Niagara Falls, NY
WFC16C35	San Fernando Value Square	Retail	23,600,000	2.3%	04/15/18	Current	Los Angeles-Long Beach-Anaheim, CA
MSB15C25	Lycoming Crossing Shopping Center	Retail	21,600,000	1.9%	04/15/18	Current	Williamsport, PA
MSB13C13	1200 Howard Blvd.	Office	15,406,070	1.6%	04/15/18	<30 Days	Philadelphia-Camden-Wilmington, PA-NJ-DE-
GSM212G6	Coconut Grove Courtyard by Marriott	Hotel	12,312,966	1.3%	04/10/18	<30 Days	Miami-Fort Lauderdale-West Palm Beach, FL
WFC15SG1	Hampton Inn & Applebee's, Westampton	Hotel	9,921,049	1.4%	04/15/18	60 Days	Philadelphia-Camden-Wilmington, PA-NJ-DE-
GS215G28	7 Becker	Office	7,958,160	0.9%	04/10/18	Current	New York-Newark-Jersey City, NY-NJ-PA
JPC17JP5	St. Albans & Camino Commons	Retail	6,297,925	0.6%	04/15/18	60 Days	Philadelphia-Camden-Wilmington, PA-NJ-DE-
Total			211,832,709				

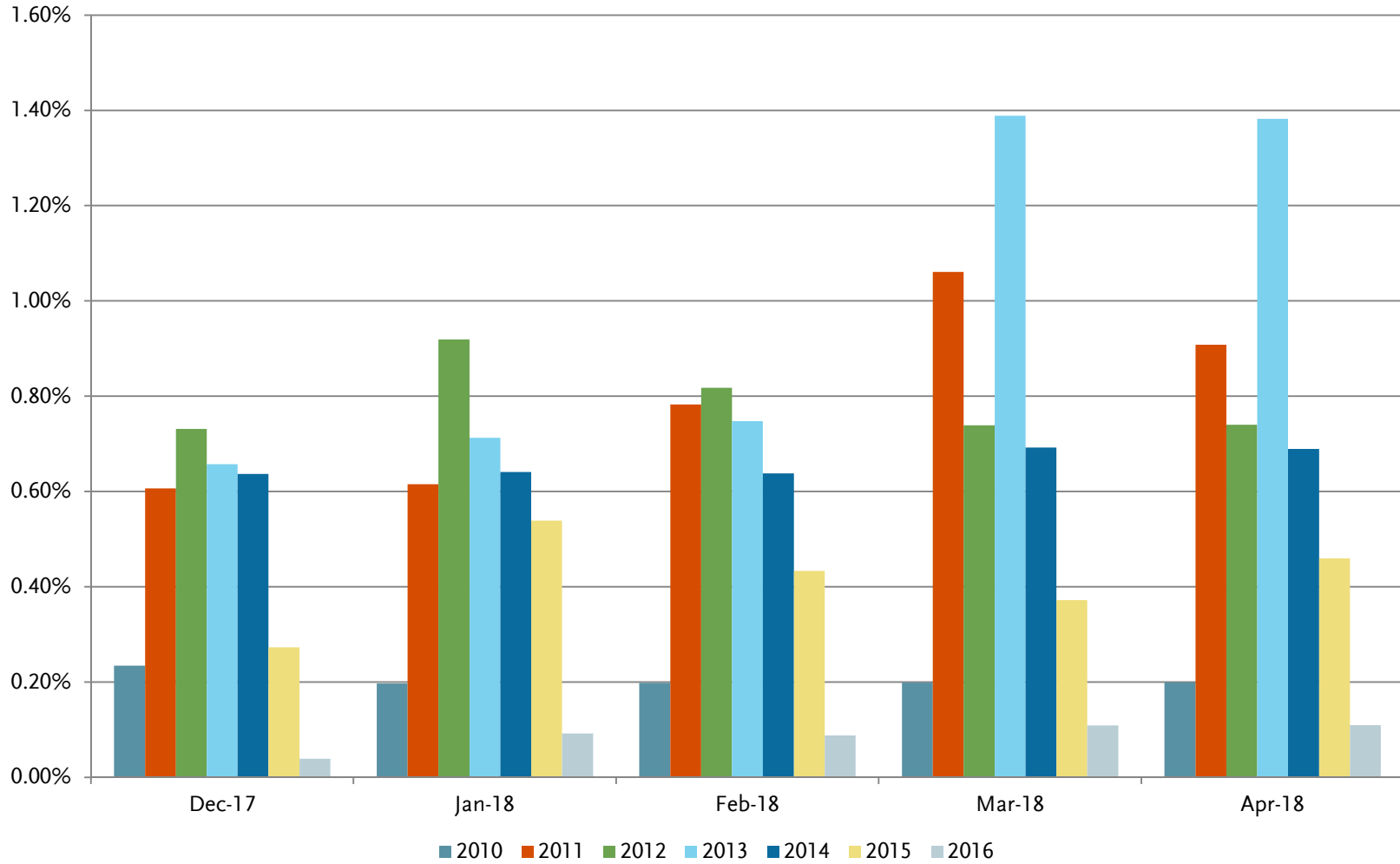
Watch List and Special Servicing Summary



Exhibited by TCW from Intex Data

IV. Delinquency Broken Out by Vintage

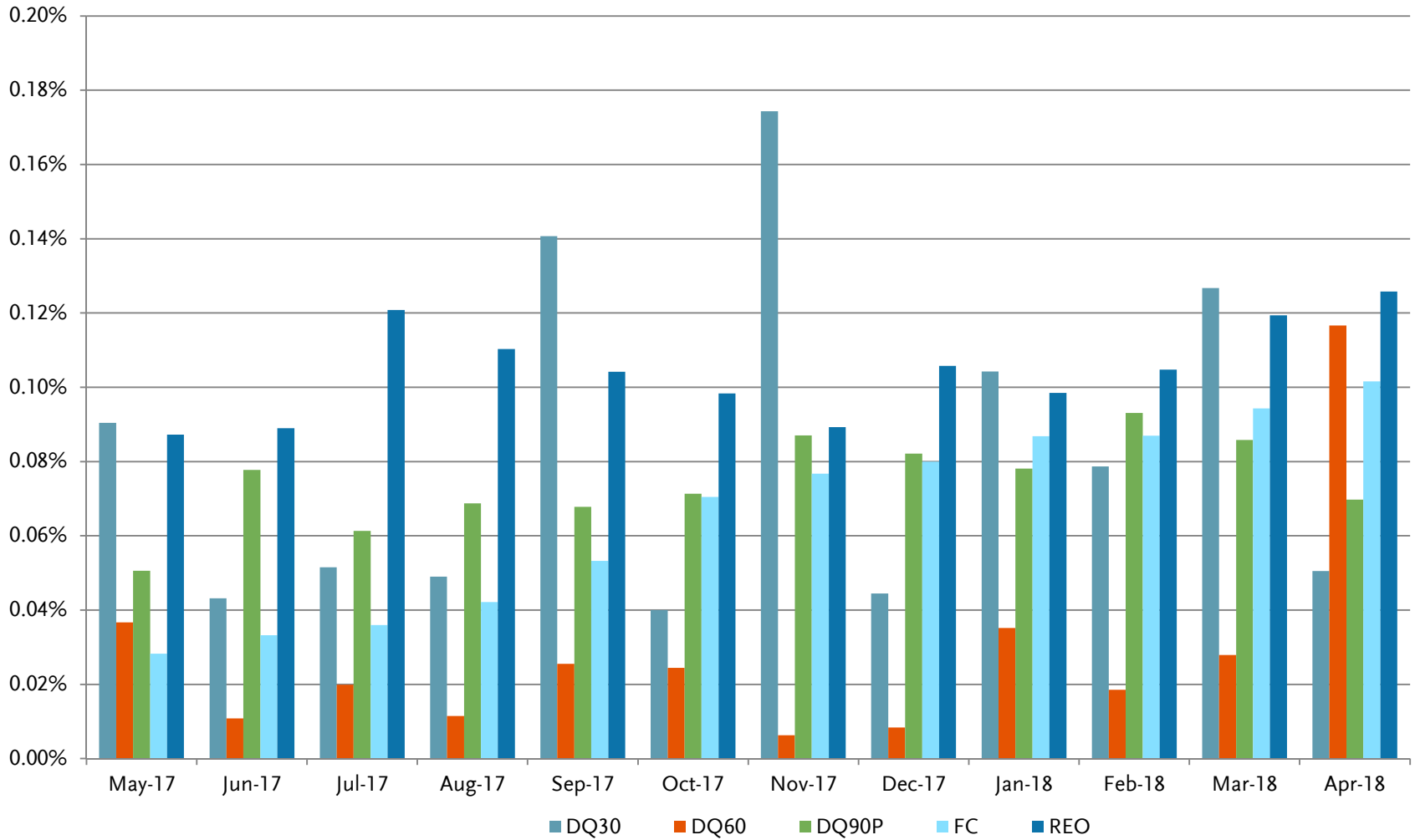
Monthly 30+ Delinquent % by Vintage



Exhibited by TCW from Intex Data

V. Delinquency Broken Out by Status

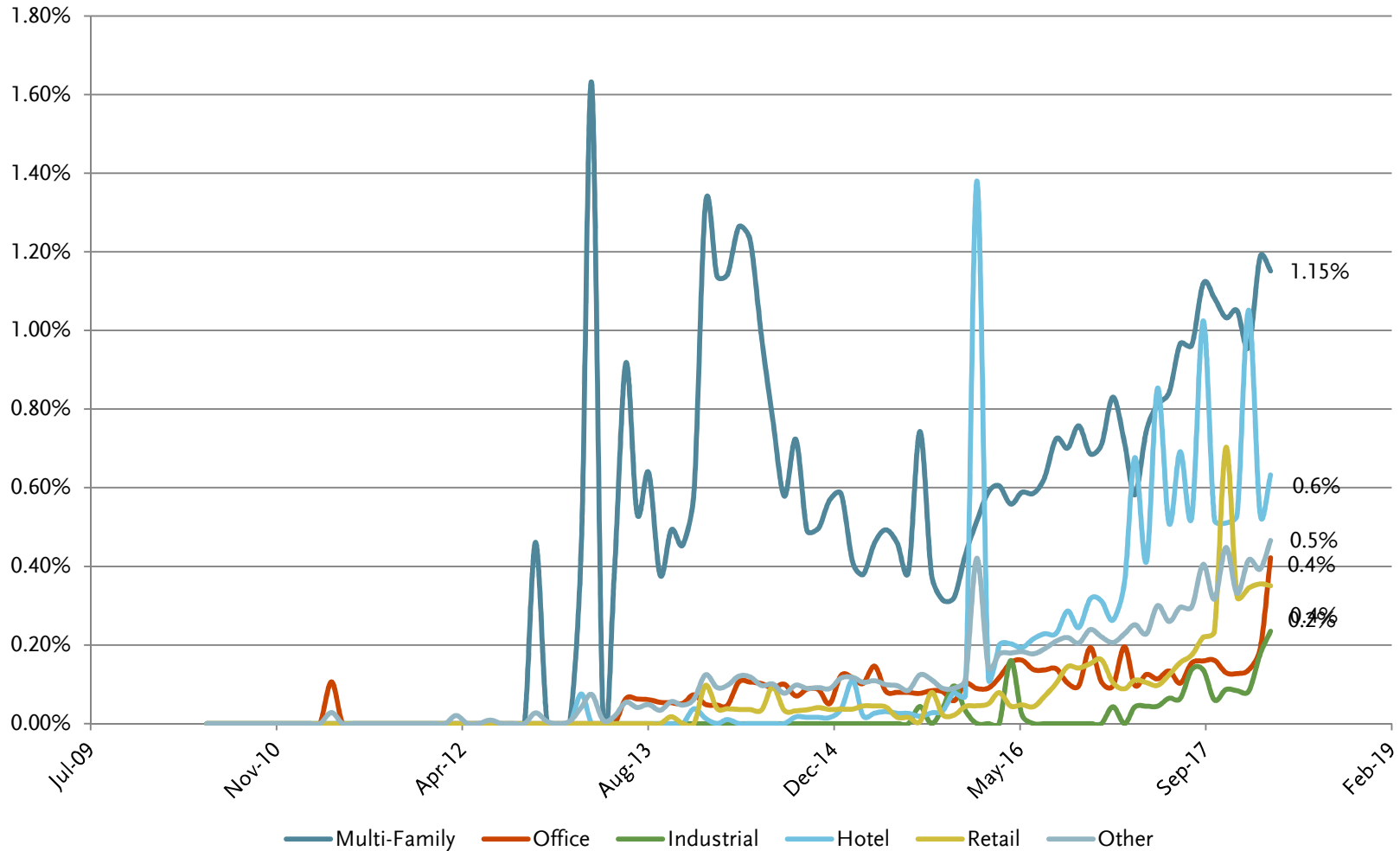
Monthly Delinquency % by Status



Exhibited by TCW from Intex Data

VI. Delinquency Broken Out by Property Type

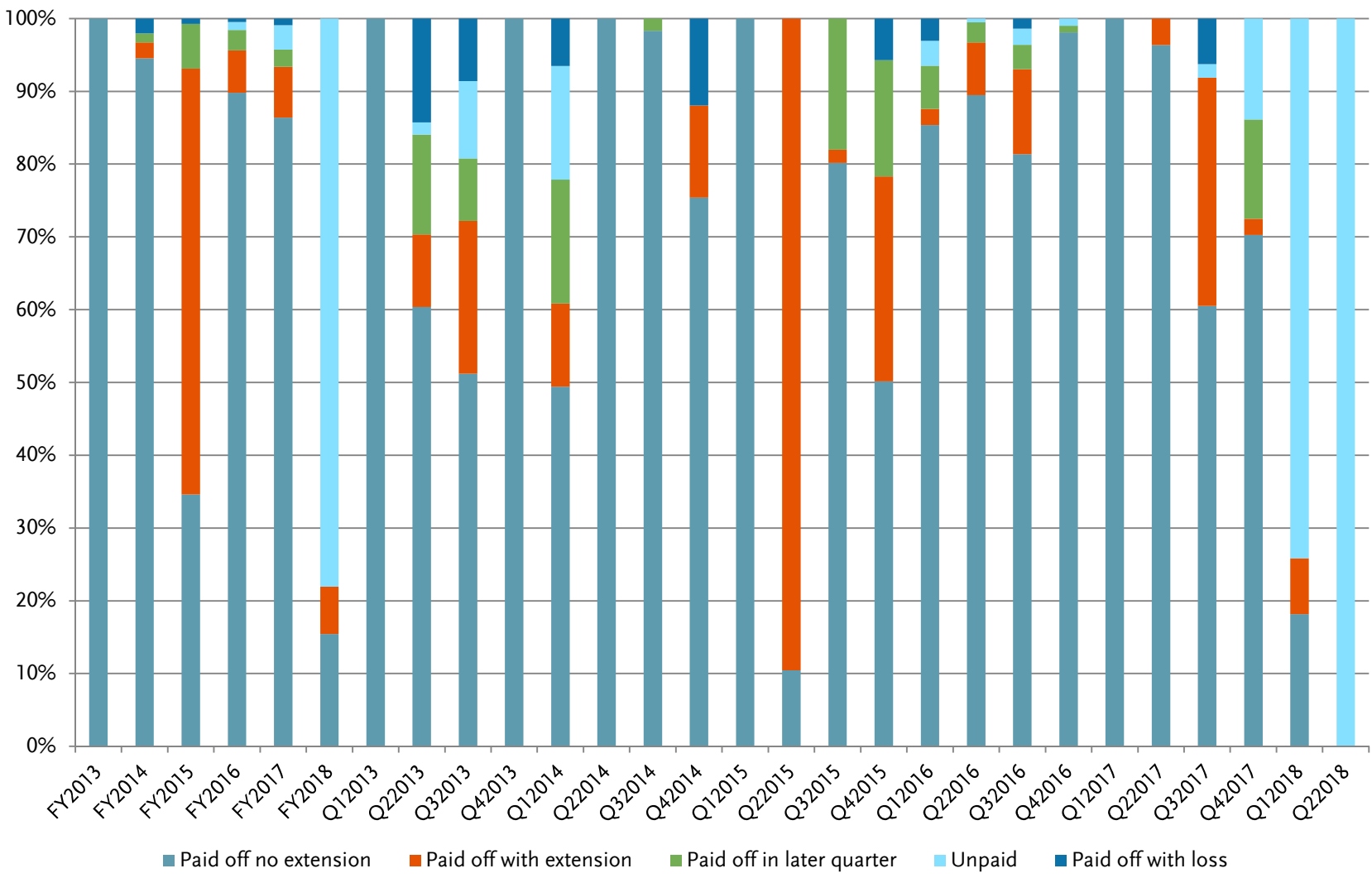
Property Type Monthly Delinquency: as Percentage of Property Type



Exhibited by TCW from Intex Data

VII. Maturing Loans Summary

Maturing Loans Summary

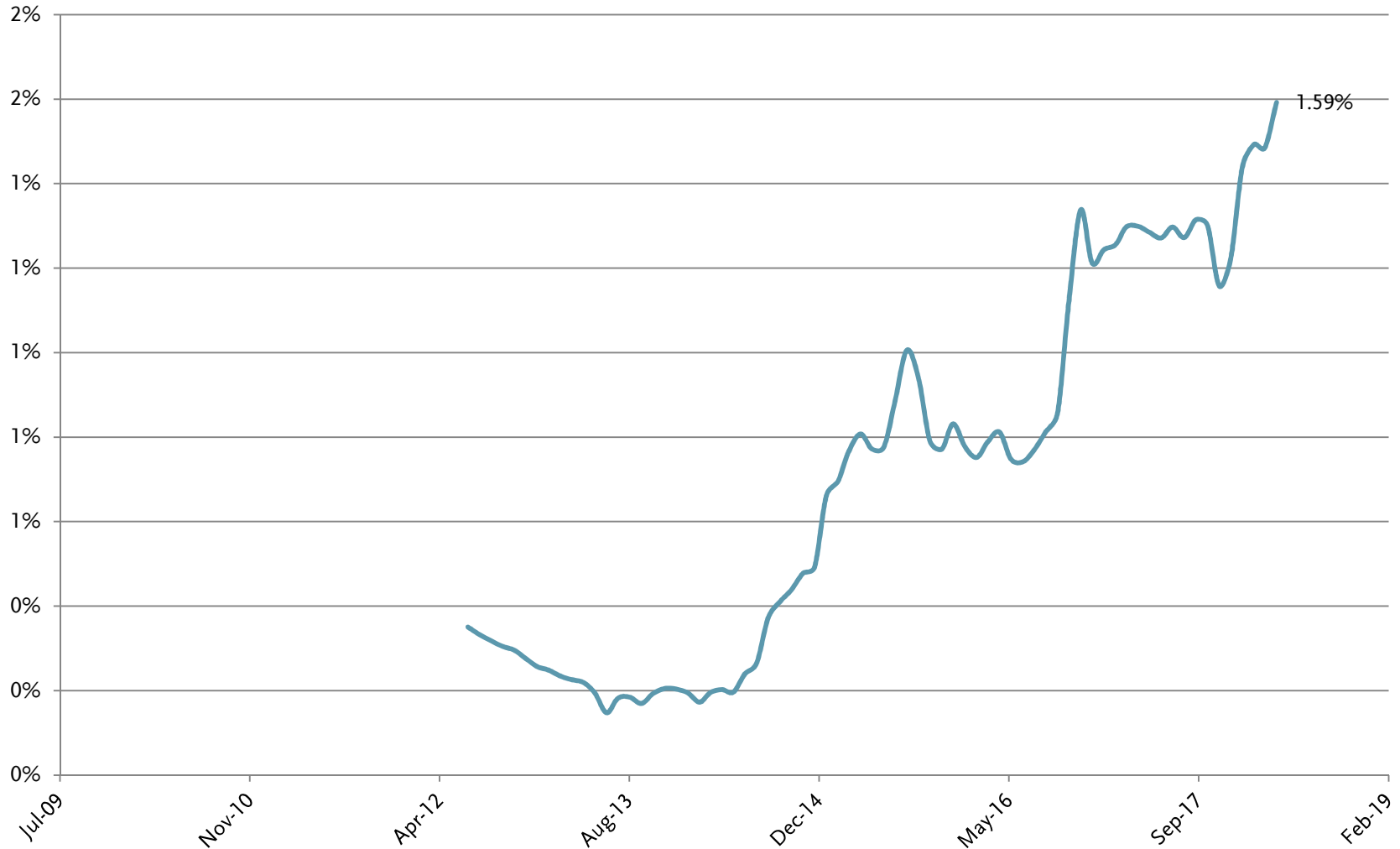


Top 10 Largest Loans Maturing without Payoff

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VIII. Defeased Loan Trends

Outstanding Defeased Loan Balance as % of CMBS Universe

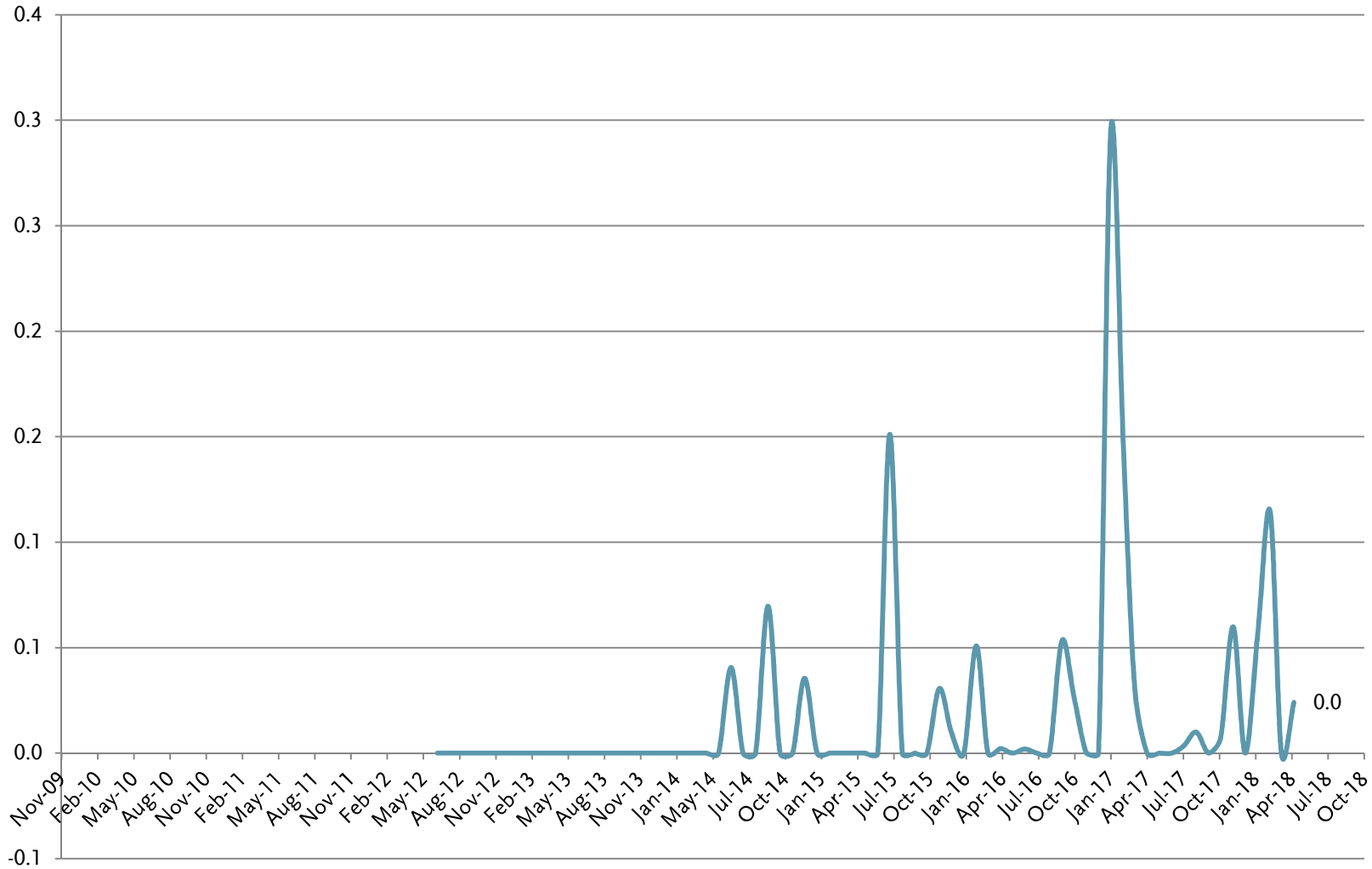


Exhibited by TCW from Intex Data

Section B: Losses

I. CDRs

CMBS Universe CDRs



Exhibited by TCW from Intex Data

II. Loan Level Losses

Loans with Losses Greater than 2%

Deal	Property Name	Type	Balance	Pct of Deal	Loss	LossPct	Tapedate	City	State
JPB14C21	Waterbury Crossing	Retail	7,518,024	0.6%	3,912,153	52.0%	04/15/18	New Haven-Milford,	
Subtotals			7,518,024		3,912,153	52.0%			

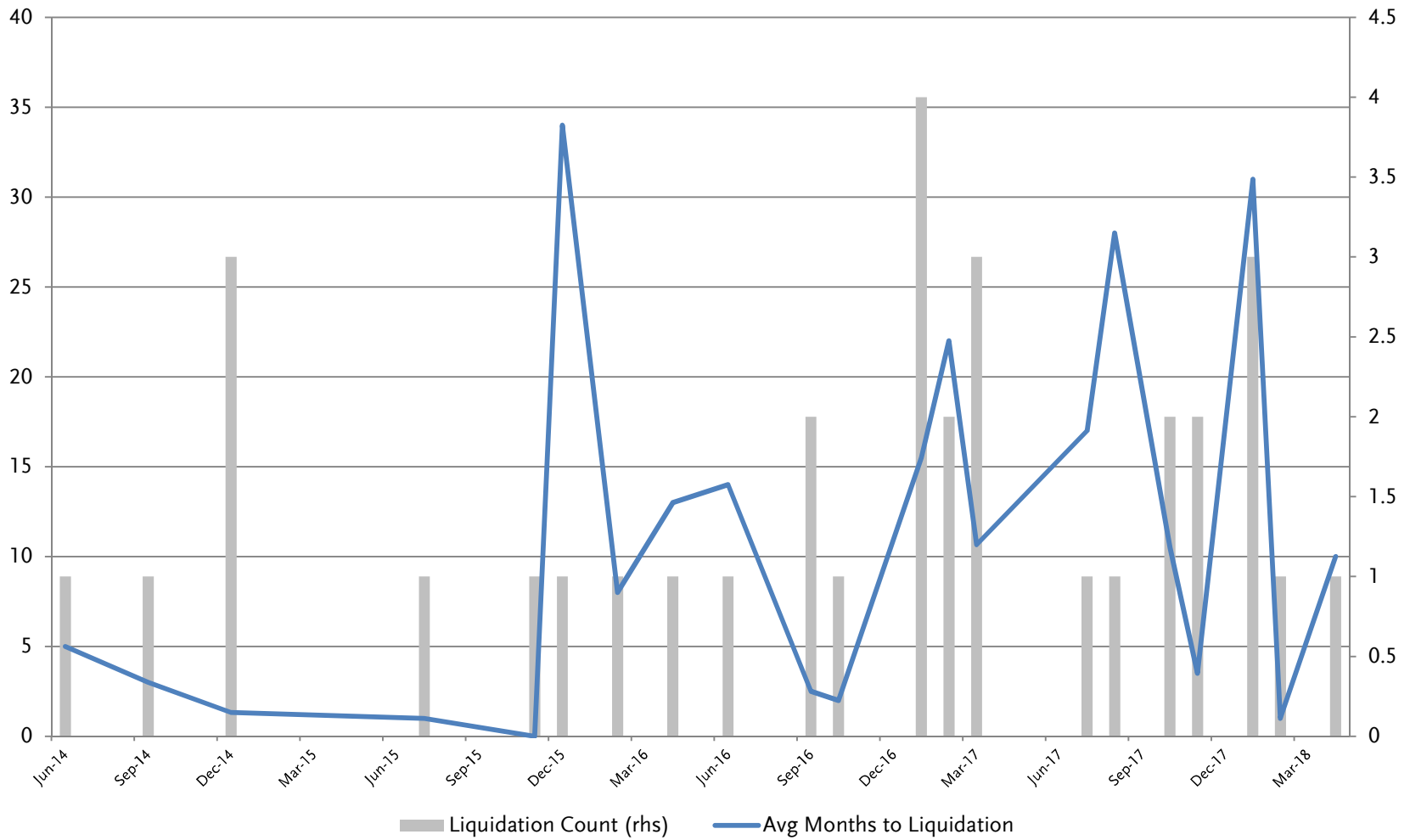
Loans with Losses Less than 2%

Deal	Property Name	Type	Balance	Pct of Deal	Loss	LossPct	Tapedate	City	State
Subtotals			-		-	#DIV/0!			
Aggregate Totals			7,518,024		3,912,153	52.0%			

III. Aggregate Severity Greater than 2%

Totals	Balance	Loss Amt	Avg Severity	Count
Apr-18	7,518,024	3,912,153	52.0%	1
Jan-18	15,438,934	8,943,647	55.0%	2
Nov-17	17,942,540	8,643,041	49.6%	2
Aug-17	2,887,128	2,211,043	76.6%	1
Jul-17	937,061	720,934	76.9%	1
Mar-17	7,184,789	3,063,581	70.1%	2
Feb-17	37,715,064	14,686,944	39.0%	2
Jan-17	76,640,608	49,503,297	56.6%	4
Jun-16	498,663	170,444	34.2%	1
Feb-16	12,397,817	7,105,002	57.3%	1

Average Number of Months to Liquidation



IV. Average Severity by Property Type

All Loans

Prop Type	Balance	Loss	Severity	Count
Retail	7,518,024	3,912,153	52.0%	1

Total	7,518,024	3,912,153	52.0%	1
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Loans with severity greater than 2%

Prop Type	Balance	Loss	Severity	Count
Retail	7,518,024	3,912,153	52.0%	1

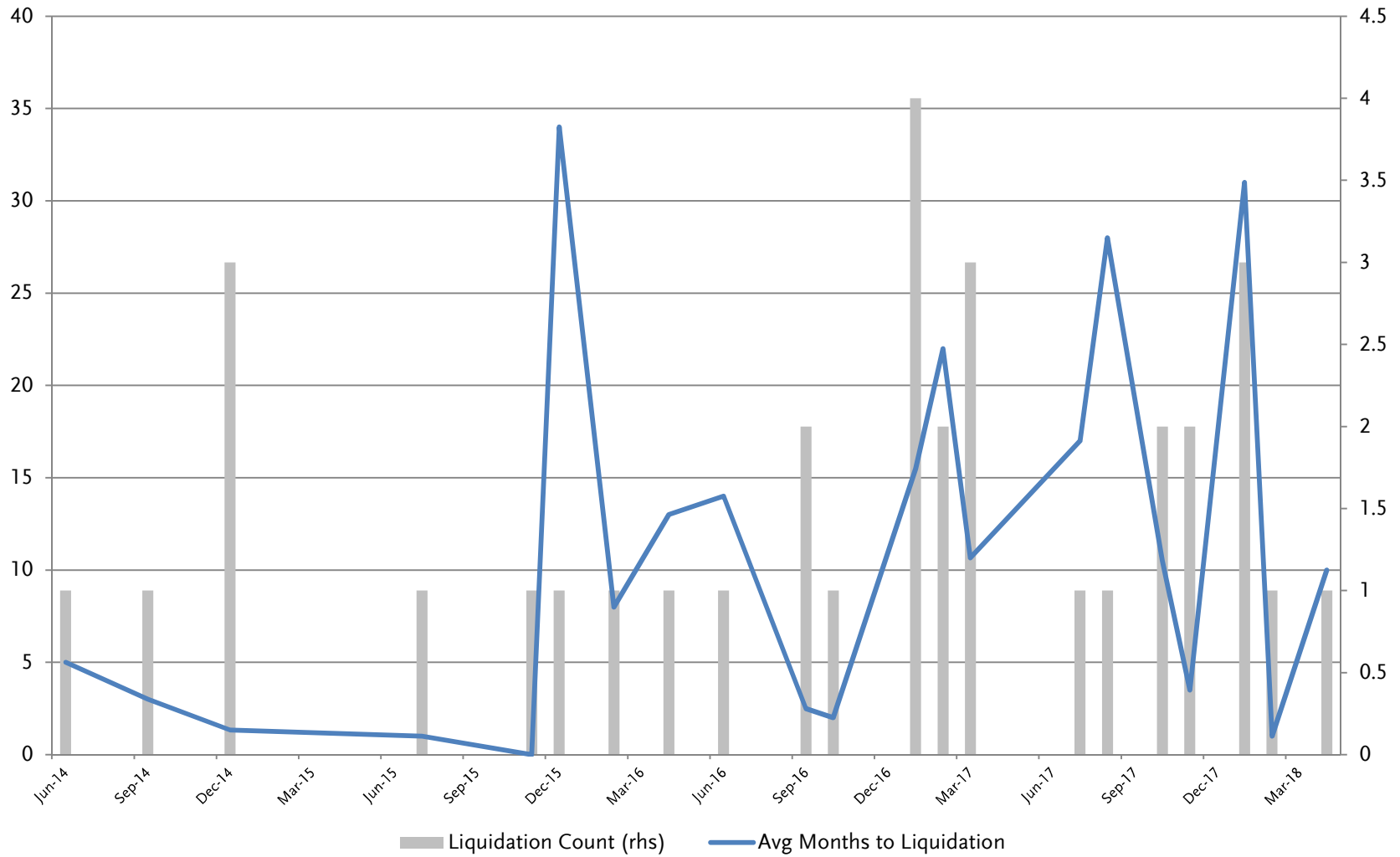
Total	7,518,024	3,912,153	52.0%	1
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Loans with severity less than 2%

Prop Type	Balance	Loss	Severity	Count
Total	-	-	#DIV/0!	-

V. Average Number of Months to Liquidation

Average Number of Months to Liquidation



Section C: Prepayments

I. Top 10 Largest Legacy Refinancings

Deal	Property Name	Type	Balance	Pct	Prepay Action	State
CTG14G23	Cedar Ridge East Townhomes	Multi-Family	2,048,296	0%	Disposition / Liquidation	Dallas-Fort Worth-
	Total		2,048,296			

Exhibited by TCW from Intex Data

II. Top 10 Largest Legacy Refinancings with Yield Maintenance

Deal	Property Name	Type	Balance	Pct	Date	DispositionType	DQStatus	City
JPC11C03	Sterling Estates - Lautrec	Other	12,776,384	2%	04/01/18	Payoff With Yield	Current	Detroit-Warren-Dearborn, MI
JPC12C06	Home Depot Plaza	Retail	10,750,000	1%	03/20/18	Payoff With Yield	Current	New Haven-Milford, CT
JPC11C05	Kensington Place MHC	Other	8,151,011	1%	04/01/18	Payoff With Yield	Current	Detroit-Warren-Dearborn, MI
JPC11C03	Marsh Run - Lautrec	Other	7,587,981	1%	04/01/18	Payoff With Yield	Current	Washington-Arlington-
MSB15C26	Park Place Apartments	Multi-Family	6,845,000	1%	03/30/18	Payoff With Yield	Current	Dallas-Fort Worth-Arlington,
MSC15UB	Lakeview Terrace MHC	Other	6,565,051	1%	04/01/18	Payoff With Yield	Current	Kansas City, MO-KS
WFR12C10	Hampton Inn Columbia	Hotel	6,335,450	1%	03/29/18	Payoff With Yield	Current	Columbia, MO
JPC13L11	1522 2nd Street	Office	5,944,212	1%	04/01/18	Payoff With Yield	Current	Los Angeles-Long Beach-
JPB14C21	Emerald Bay Apartments	Multi-Family	5,690,950	0%	03/28/18	Payoff With Yield	Current	Charlotte-Concord-Gastonia,
MSB14C15	Waters Landing	Multi-Family	5,260,307	1%	03/30/18	Payoff With Yield	Current	Dallas-Fort Worth-Arlington,
Total			75,906,345					

III. Top 10 Largest Legacy Refinancings with Prepayment Penalties

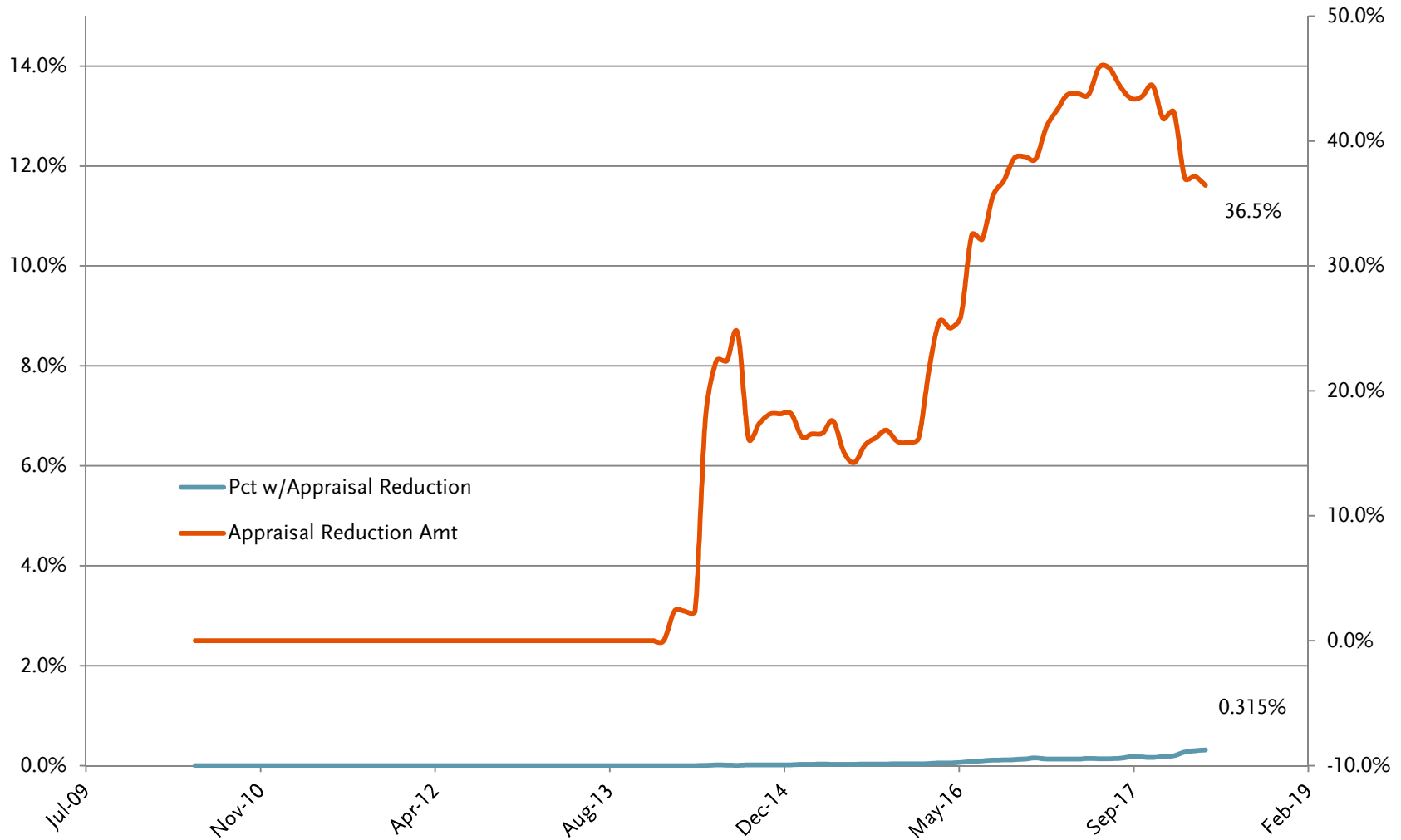
Deal	Property Name	Type	Balance	Pct	Date	DispositionType	DQStatus	City
RCAP1401	724 & 809 Ann Avenue	Multi-Family	700,408	1%	02/28/18	Payoff With Penalty	Current	Dallas-Fort Worth-Arlington,
Total			700,408					

Exhibited by TCW from Intex Data

Section D: Appraisal Reductions

I. Percentage of Balance with Appraisal Reduction

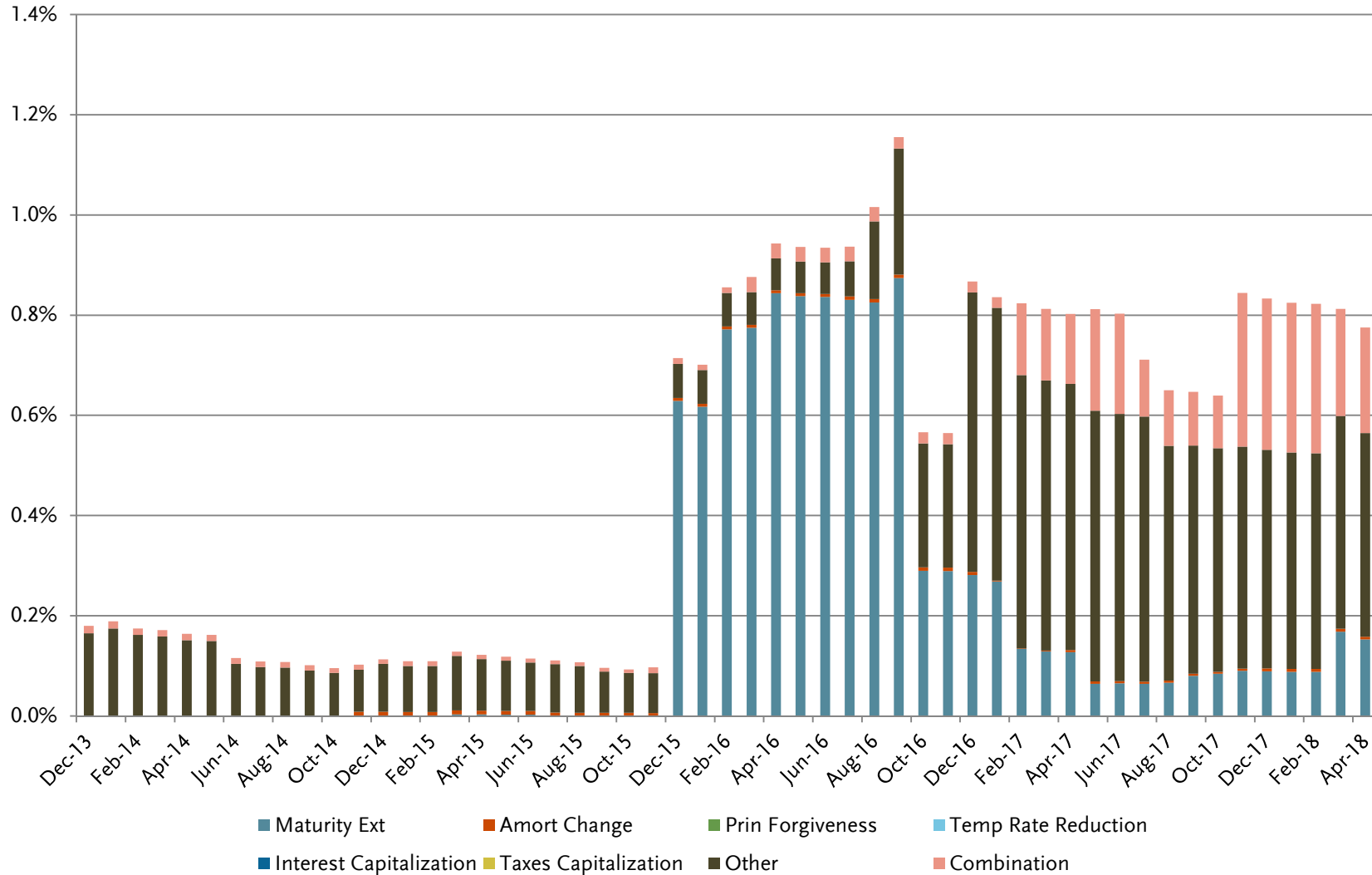
Appraisal Reduction on CMBS Universe



Section E: Modifications

I. Modifications by Type

Percent CMBS Universe with Modification



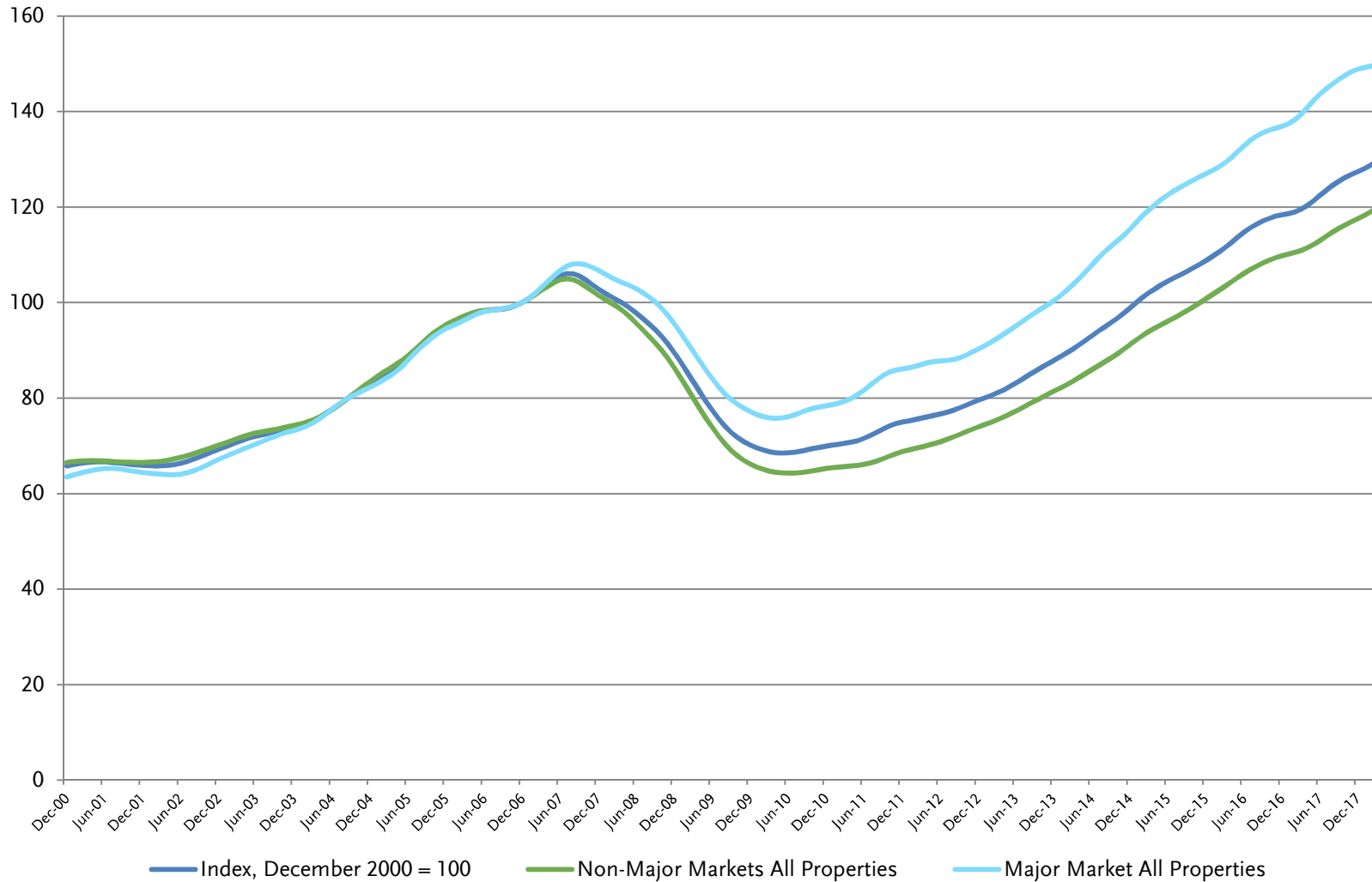
Top 10 Largest Legacy Loans Modified

Exhibited by TCW from Intex Data

Section F: Commercial Property Prices

I. **Moody's Commercial Property Price Index (CPPI)**

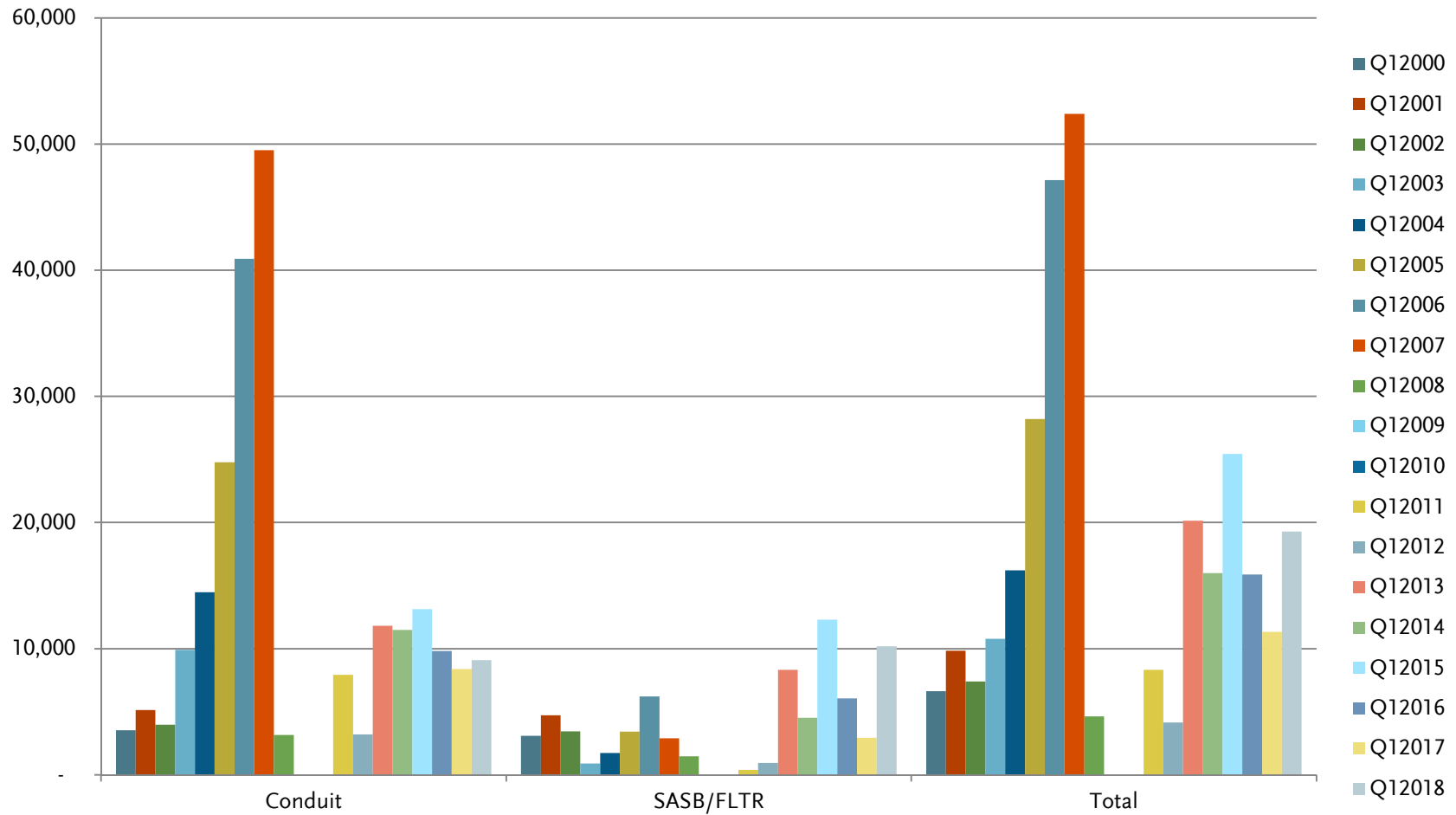
Moody's Commercial Property Price Index (CPPI)



Exhibited by TCW from Moody's

Section G: CMBS Securitization Volumes

Quarterly CMBS Origination Volume in Millions



Exhibited by TCW from Bloomberg

Annual CMBS Origination Volume in Millions

