

CLO Snapshot

Performance Summary Covering Morningstar-Rated CLOs

Second Quarter 2019

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Deal Performance

Across the 50 publicly rated collateralized loan obligations this snapshot captures, Morningstar Credit Ratings, LLC observed 29 transactions that experienced a decrease in OC quarter-over-quarter. The OC declines were marginal, ranging from as low as 0.01% and topping out at 0.72%. OC drops for several deals were primarily driven by defaulted assets, while for others, the decline was attributed to management trading. Meanwhile, 18 transactions experienced increases in OC--mostly by only a handful of basis points but some in double-digits and as high as 0.39%. The average OC change in the second quarter of 2019 was -0.07%, compared with 0.03% in the first quarter of this year.

Declines were less frequent in terms of interest coverage. Roughly 78% of the Morningstar sample experienced an increase in interest coverage. While IC increases were as low as 0.03% and as high as 33.46%, the majority saw increases in the 1% to 5% range. It's worth noting that some of the transactions may still be in their ramp-up period. Meanwhile four transactions (Bain Capital Credit CLO 2017-1, CBAM 2018-6, CBAM 2018-7, and Hempstead II CLO) saw IC declines ranging from 0.41% to 3.21%. This, however, is not a cause for concern because the current values are well above trigger levels. If an IC or OC test fails, proceeds are usually diverted from the waterfall to pay down principal balances in order to restore the minimum thresholds. The average IC change was 4.77%, an increase from the 1.61% average reported in the first quarter. Nonetheless, all sampled deals passed their respective IC and OC tests this quarter.

Deals with Declining OC

Deal Name	Quarter-Over-Quarter Change (%)
CBAM 2018-7	-0.72
CBAM 2017-2	-0.51
CBAM 2017-1	-0.49
CBAM 2018-5	-0.43
CBAM 2018-6	-0.41
CBAM 2018-8	-0.29
Jamestown CLO VI-R	-0.26
Mercer Field II CLO	-0.24
THL Credit Wind River 2016-2 CLO	-0.21
Hempstead II CLO	-0.20
Octagon Investment Partners 28	-0.19
Benefit Street Partners CLO XI	-0.18
Salem Fields CLO	-0.13
Galaxy XX CLO	-0.12
Jamestown CLO X	-0.12
Allegro CLO V	-0.11
Peaks CLO 3	-0.09
KKR CLO 19	-0.08
KKR CLO 21	-0.06
Auburn CLO	-0.05
Ares XXXIR CLO	-0.05
KKR CLO 11	-0.04
Parallel 2018-2	-0.04
THL Credit Wind River 2017-2 CLO	-0.04
Voya CLO 2016-4	-0.02
HPS Loan Management 9-2016	-0.02
Magnetite XXI	-0.01
Apidos CLO XXV	-0.01
Voya CLO 2017-4	-0.01

Deals with Declining IC

Deal Name	Quarter-Over-Quarter Change (%)
Hempstead II CLO	-3.21
CBAM 2018-7	-2.18
Bain Capital Credit CLO 2017-1	-1.14
CBAM 2018-6	-0.41

Note: Calculations based on lowest publicly rated tranche recording IC.

Collateral Quality, Adjustment, and Break-Even CDR Analysis

Deal Name	WARF	WARF Adj.	Diversity	Diversity Adj.	Manager Adj.	Additional Adj.1	Adjusted Target BE CDR (AAA) ²	Class A BE CDR ³
AIG CLO 2018-1	2792	1.03	77.00	1.01	1.00	1.00	16.58	25.63
AIG CLO 2019-1	2798	1.03	76.00	1.01	1.00	1.00	16.67	24.07
Allegro CLO V	2977	1.09	76.00	1.01	1.00	1.00	17.74	22.74
Allegro CLO IX	2910	1.07	73.00	1.02	1.00	1.00	17.51	22.24
Apidos CLO XXV	2809	1.03	89.00	0.97	1.00	1.00	16.09	22.62
Ares XXXIR CLO	2987	1.10	83.00	0.99	0.95	1.00	16.54	27.07
Ares XLVI CLO	3007	1.11	81.00	1.00	0.95	1.00	16.75	29.84
Auburn CLO	2827	1.04	67.00	1.05	1.00	1.00	17.38	22.25
Bain Capital Credit CLO 2017-1	2868	1.05	88.00	0.98	1.00	1.00	16.47	23.84
Bain Capital Credit CLO 2018-2	2825	1.04	91.00	0.97	1.00	1.00	16.09	24.50
Barings Middle Market CLO 2018-I	N/A	N/A	N/A	N/A	1.00	1.00	N/A	35.16
Benefit Street Partners CLO XI	2767	1.02	90.00	0.97	1.00	1.00	15.80	21.99
Benefit Street Partners CLO XV	2790	1.03	87.00	0.98	1.00	1.00	16.07	22.07
Buckhorn Park CLO	2914	1.07	60.00	1.07	0.95	1.00	17.50	26.31
CBAM 2017-1	2725	1.00	70.00	1.03	1.00	1.00	16.57	25.09
CBAM 2017-2	2758	1.01	70.00	1.03	1.00	1.00	16.77	21.67
CBAM 2018-5	2684	0.99	67.00	1.05	1.00	1.00	16.50	21.23
CBAM 2018-6	2661	0.98	69.00	1.04	1.00	1.00	16.24	20.92
CBAM 2018-7	2638	0.97	64.00	1.06	1.00	1.00	16.41	20.87
CBAM 2018-8	2803	1.03	60.00	1.07	1.00	1.00	17.72	21.26
CBAM 2019-9	2687	0.99	57.00	1.09	1.00	1.00	17.20	20.32
Dryden 47 Senior Loan Fund	2846	1.05	98.00	0.95	0.95	1.00	15.12	24.73
Dryden 61 CLO	2732	1.00	95.30	0.96	0.95	1.00	14.61	20.85
Galaxy XX CLO	2854	1.05	81.00	1.00	1.00	1.00	16.74	21.58
Guggenheim MM CLO 2018-1	N/A	N/A	33.00	1.25	1.00	1.00	N/A	41.64
Hayfin Kingsland VIII	2891	1.06	69.00	1.04	1.00	1.00	17.65	23.27
Hempstead II CLO	2926	1.08	76.00	1.01	1.00	1.00	17.43	23.37
HPS Loan Management 9-2016	2697	0.99	73.00	1.02	1.00	1.00	16.23	25.76
ICG US CLO 2017-2	2893	1.06	71.00	1.03	1.00	1.00	17.53	23.14
ICG US CLO 2018-3	2799	1.03	69.00	1.04	1.00	1.00	17.08	22.09
Jamestown CLO X	2747	1.01	81.00	1.00	1.00	1.00	16.11	21.15
Jamestown CLO VI-R	2832	1.04	85.00	0.98	1.00	1.05	17.23	22.57
KKR CLO 9	3092	1.14	77.00	1.01	1.00	1.00	18.36	22.99
KKR CLO 11	2983	1.10	77.00	1.01	1.00	1.00	17.72	22.11
KKR CLO 19	2948	1.08	73.00	1.02	1.00	1.00	17.74	22.19
KKR CLO 21	2977	1.09	73.00	1.02	1.00	1.00	17.92	21.99
Maranon Loan Funding 2018-1	N/A	N/A	N/A	N/A	1.00	1.00	N/A	40.84
Mariner CLO 6	2727	1.00	73.00	1.02	1.00	1.00	16.41	23.57
Mercer Field II CLO	2981	1.10	73.00	1.02	1.00	1.00	17.94	22.84
Octagon Investment Partners XXIV	2772	1.02	86.00	0.98	0.98	1.00	15.61	24.39
Octagon Investment Partners 28	2643	0.97	86.00	0.98	0.98	1.00	14.89	23.21
Parallel 2018-2	2711	1.00	76.35	1.01	1.00	1.00	16.13	19.85
Peaks CLO 3	2958	1.09	N/A	N/A	1.00	1.00	N/A	41.80
Race Point X CLO	2891	1.06	91.00	0.97	1.00	1.00	16.47	24.08
Salem Fields CLO	2723	1.00	69.00	1.04	1.00	1.00	16.62	22.84
THL Credit Wind River 2016-2 CLO	2870	1.06	83.00	0.99	1.00	1.00	16.73	22.29
THL Credit Wind River 2017-2 CLO	2954	1.09	76.00	1.01	1.00	1.00	17.60	21.45
Voya CLO 2016-4	2837	1.04	93.00	0.96	0.95	1.00	15.27	22.31
Voya CLO 2017-4	2733	1.00	90.00	0.97	0.95	1.00	14.83	24.90

¹ Additional adjustments are made to account for unknown portfolio or structure characteristics, assuming worse-than-average portfolio characteristics.

² Adjusted Target Break-Even CDR = Base-Case Target CDR*WARF Adjustment*Diversity Adjustment*Manager Adjustment*Additional Adjustment.

³ Calculation based on a AAA stressed forward high interest rate curve, with a base case CDR of 16.00 multiplied by all adjustments.

Note: Results are based on Intex CDI/CDU files with interest rates as of June 30, 2019.

Most transactions passed the collateral quality tests, such as Weighted Average Rating Factor, or WARF; Weighted Average Spread, or WAS; Diversity, and Weighted Average Recovery Rate. However, nine transactions failed their WARF, WAS, or coupon tests, as the table below shows.

Deals with Collateral Quality Failures in the Second Quarter of 2019

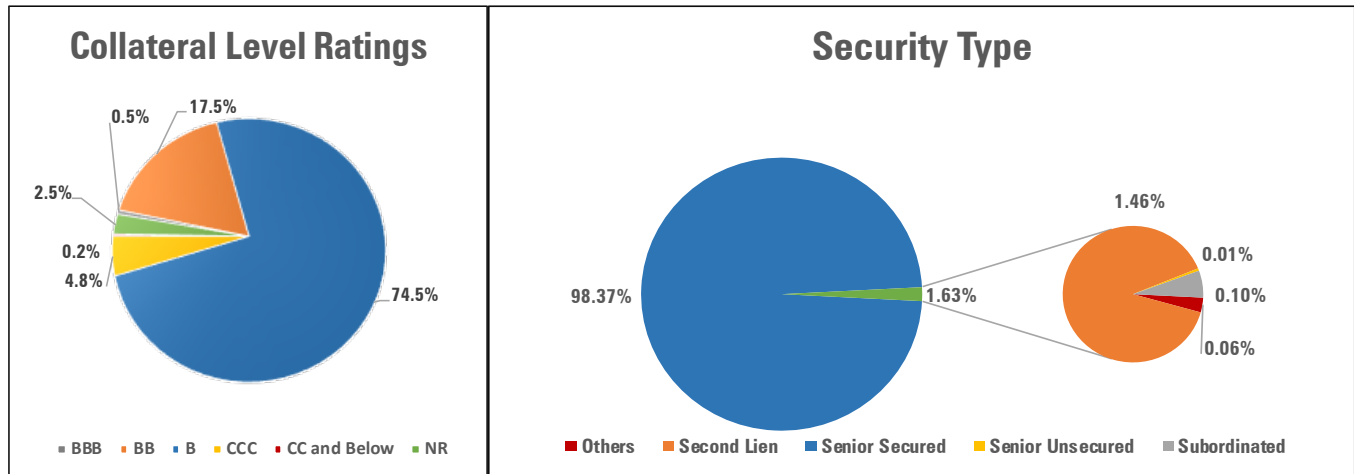
Deal Name	Test	Actual			Threshold		
		June	May	April	June	May	April
Allegro CLO V	Weighted Average Rating Factor	2977	2973	2991	2924	2924	2931
ICG US CLO 2017-2	Weighted Average Rating Factor	2893	2901	2886	2861	2855	2849
KKR CLO 9	Weighted Average Rating Factor	3092	3105	3091	3066	3066	3066
Salem Fields CLO	Weighted Average Rating Factor	2723	2749	2783	2728	2728	2753
THL Credit Wind River 2017-2 CLO	Weighted Average Rating Factor	2954	2951	2952	2917	2911	2917
Voya CLO 2016-4	Weighted Average Rating Factor	2837	2837	2852	2544	2544	2548
THL Credit Wind River 2017-2 CLO	Weighted Average Coupon	4.5	4.5	4.5	6.5	6.5	6.5
THL Credit Wind River 2017-2 CLO	Weighted Average Spread	3.6	3.6	3.63	3.64	3.64	3.64
Voya CLO 2016-4	Weighted Average Spread	3.25	3.25	3.29	3.46	3.46	3.46

Second-Lien and Covenant-Lite Loans

The percentage of second-lien loans in the collateral pool remained below the threshold value for all transactions in our sample. Broadly syndicated loan CLOs generally have a 10% cap for second-lien loans, whereas middle market loan CLO thresholds can vary. Peaks CLO 3 had a significantly higher percentage of second-lien loans than the rest of the sample, with its June value reported at 11.4%. Second-lien loans have a lower priority of repayment in the event of a borrowing entity's bankruptcy and eventually, liquidation.

The elevated level of covenant-lite loans in portfolios remains a concern among investors. However, the absence of a universally used standard definition of covenant-lite across deals may result in some deviations in actual covenant-lite exposure. Nonetheless, all transactions in our sample reported covenant-lite values within set limits despite most transactions reporting increases in covenant-lite exposure. Dryden 47 Senior Loan Fund had the highest percentage of covenant-lite loans in its collateral, at 88.9%, followed by Ares XLVI CLO at 83.8%, Ares XXXIR CLO at 83.7%, Octagon Investment Partners 28 at 81.0%, and HPS Loan Management 9-2016 at 77.5%. These five transactions were materially higher than the covenant-lite proportions in other CLOs in the sample, with the next highest being approximately 54.9% and the median at 19.8%. Morningstar will continue to monitor the trend of increasing proportions of less credit worthy borrowers accessing the market, along with potentially lower recovery rates.

Collateral Level Ratings and Security Type



Source: Intex

Ratings Distribution

Relatively unchanged from the prior quarter, the ratings composition of the underlying collateral was mostly rated B- and above (92%). Ratings at the CCC or below level accounted for about 5% at the end of June, a marginal decrease from the 6% reported at the end of March. Morningstar looks at the CCC exposure in aggregate, without any exclusivity to any rating agency.

Most CLOs in our sample allow for a maximum of 7.5% of such loans. Collateral in the CCC bucket remained below the threshold for all transactions, except for Salem Fields CLO, whose value reached 8.7% in June.

Obligor Defaults

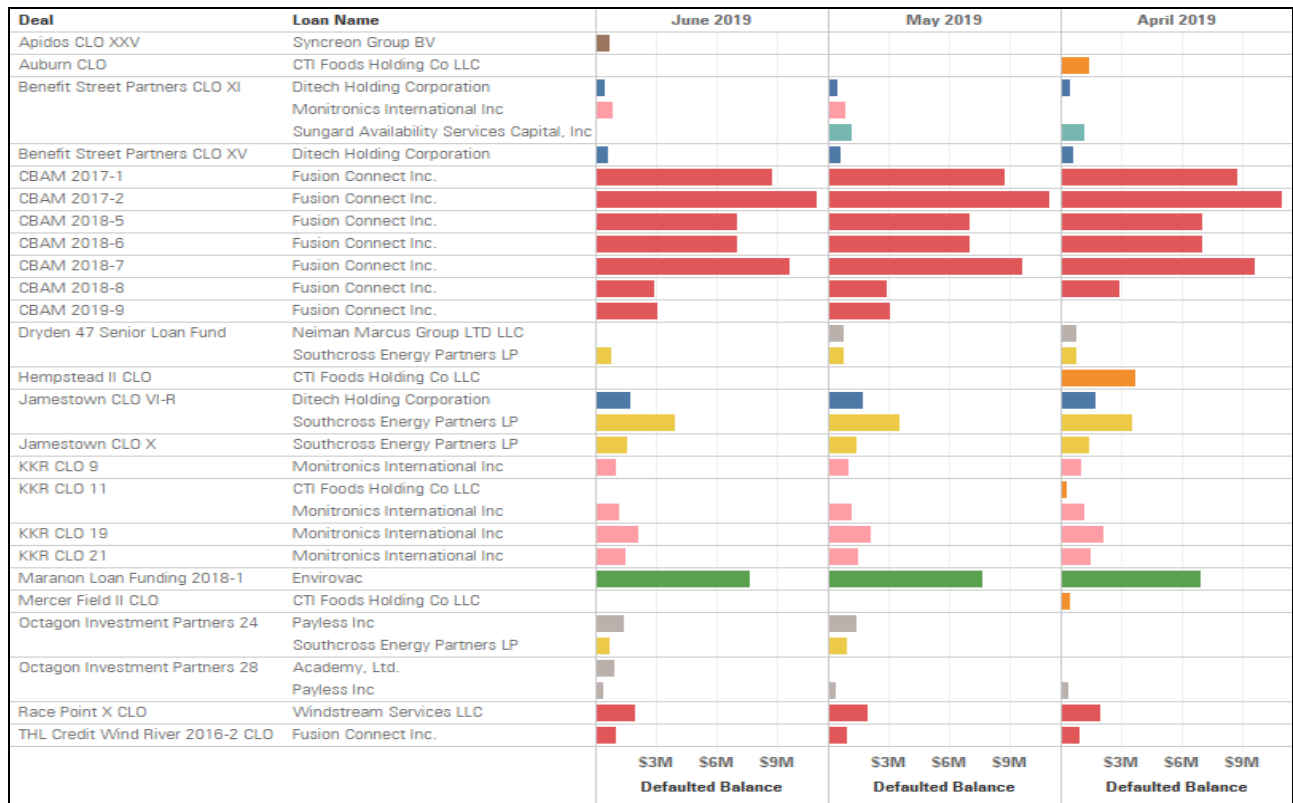
The number of obligor defaults rose in the second quarter, with 22 transactions having underlying loan defaults in their portfolios, compared with 15 in the prior quarter. In addition, the total defaulted value rose sharply, increasing to \$80.34 million in June, up from \$33.91 million in March. Most of the leveraged loan defaults emanated from the telecommunications and consumer services sectors, while both the oil & gas and retail sectors have also experienced increasing defaults as the economy has weakened.

Leveraged Loan Default Holdings by Deal – June 2019

Deal Name	Defaulted Loan Amount (\$)	Total Asset Amount (\$)	%
CBAM 2018-7	9,625,000	746,391,446	1.29
Maranon Loan Funding 2018-1	7,716,577	612,601,370	1.26
Jamestown CLO VI-R	5,725,447	752,904,795	0.76
CBAM 2017-1	8,822,283	1,240,738,533	0.71
CBAM 2018-5	7,057,634	992,656,486	0.71
CBAM 2018-6	7,057,634	992,745,628	0.71
CBAM 2017-2	11,010,756	1,550,839,289	0.71
CBAM 2018-8	2,890,824	496,220,900	0.58
CBAM 2019-9	3,086,445	598,723,122	0.52
Race Point X CLO	1,995,409	407,377,362	0.49
KKR CLO 19	2,101,334	527,916,012	0.40
Jamestown CLO X	1,604,201	605,101,643	0.27
KKR CLO 21	1,503,528	605,304,332	0.25
Octagon Investment Partners XXIV	2,113,031	854,756,352	0.25
Benefit Street Partners CLO XI	1,330,969	604,808,914	0.22
KKR CLO 9	1,056,625	497,633,569	0.21
KKR CLO 11	1,162,288	553,889,608	0.21
Octagon Investment Partners 28	1,372,672	694,524,116	0.20
THL Credit Wind River 2016-2 CLO	1,012,276	651,356,122	0.16
Benefit Street Partners CLO XV	624,913	498,633,303	0.13
Dryden 47 Senior Loan Fund	756,094	706,351,070	0.11
Apidos CLO XXV	717,479	706,311,476	0.10

*Note: Leveraged loan defaults identified in Intex.

Leveraged Loan Default Holdings – As of Second-Quarter 2019

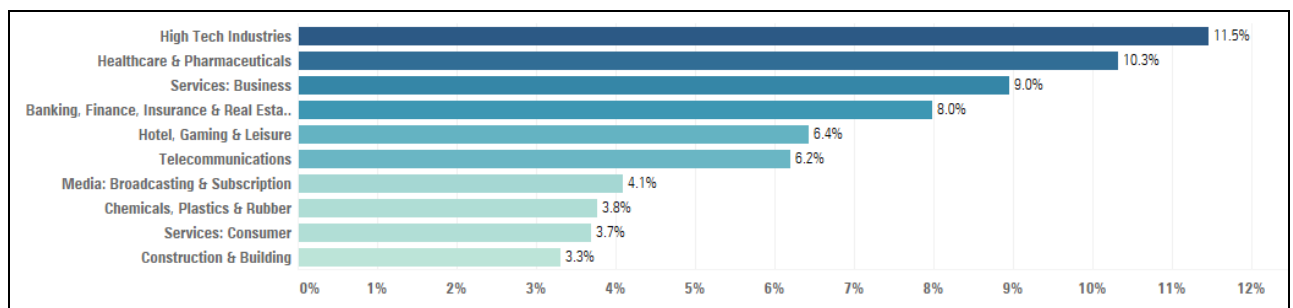


*Notes: Leveraged loan defaults identified in Intex. Reports for CBAM 2019-9 and Octagon Investment Partners 24 were not available for April.

Industry Distribution

The underlying collateral in the Morningstar sample spread across a wide variety of different sectors, with the top 10 of them accounting for two-thirds of the total collateral par. The top three sectors--namely, high tech industries, healthcare and pharmaceuticals, and business services--each accounted for approximately 9.0% to 11.5%.

Top 10 Industries



Source: Intex

Background

Morningstar's CLO Snapshot is a quarterly report of key trends and metrics across CLOs that Morningstar publicly rates for which at least one month's performance data is available. The report gives market participants summarized asset-level information and deal statistics on such CLOs.

Related Research

[First Quarter 2019 CLO Snapshot](#)

[Frequently Asked Questions About CLO Combination Notes](#)

[Weakened Loan Documents Leave Non-Investment-Grade CLO Debt on Potentially Shaky Ground in 2019](#)

[Implied CLO Rankings Exhibit Strong Performance](#)

[Push for Higher Equity Returns Leads to Weaker Structural Features in CLOs](#)

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