

June 5, 2019 - This report was republished to correct an error due to erroneous reporting in Intex that Jamestown CLO VI-R failed its weighted average recovery rate test. Jamestown CLO VI-R has been removed from the 'Deals with Collateral Quality Failures in the First Quarter of 2019' table on page 2.

CLO Snapshot

Performance Summary Covering Morningstar-Rated CLOs

First Quarter 2019

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Deal Performance

Across the 44 publicly rated collateralized loan obligations this snapshot captures, Morningstar Credit Ratings, LLC observed a higher number of transactions reporting an increase in overcollateralization versus transactions reporting an OC decline. There were 24 transactions that experienced an increase in OC quarter-over-quarter, typically by only a handful of basis points but also as high as 0.52%. A higher OC level gives a transaction more cushion to absorb potential losses. Meanwhile, 13 transactions (see table on page 2) experienced declines in OC, ranging from as low as 0.01% to as high as 0.45%. OC drops for several deals were primarily driven by defaulted assets, while for others, the decline was attributed to management trading. The average OC change in the first quarter of 2019 was 0.03%, compared with -0.06% in the fourth quarter of last year.

Nearly half of the Morningstar sample experienced a decline in interest coverage from the previous quarter (see table on page 2). IC declines were primarily in the range of 0.58% to 5.57%, with one outlier, Octagon Investment Partners 28, whose IC declined by nearly 16%. This decline, however, is not a cause for concern because the current value is well above the trigger level. The Octagon transaction had a higher IC in December due to its recent refinancing. Meanwhile, 19 transactions saw an IC increase, with six experiencing double-digit increases starting at 12% and reaching as high as 24%. A higher IC generally provides more protection in a transaction. 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 1.61%, a significant drop from fourth-quarter 2018's 5.31% average. Nonetheless, all sampled deals passed their respective IC and OC tests this quarter.

Deals with Negative OC Percent of Change		Deals with Negative IC Percent of Change	
Deal Name	Decline from Jan to March (%)	Deal Name	Decline from Jan to March (%)
KKR CLO 9	-0.45	Octagon Investment Partners 28	-15.95
Race Point X CLO	-0.42	Dryden 47 Senior Loan Fund	-5.57
Jamestown CLO VI-R	-0.31	Apidos CLO XXV	-5.49
Bain Capital Credit CLO 2018-2	-0.19	CBAM 2018-5	-5.28
Salem Fields CLO	-0.17	THL Credit Wind River 2016-2 CLO	-5.23
Hempstead II CLO	-0.17	THL Credit Wind River 2017-2 CLO	-4.85
Mariner CLO 6	-0.10	Hayfin Kingsland VIII	-4.62
Auburn CLO	-0.09	Ares XLVI CLO	-4.38
Bain Capital Credit CLO 2017-1	-0.06	Allegro CLO V	-4.04
Voya CLO 2016-4	-0.04	Maranon Loan Funding 2018-1	-4.04
Allegro CLO V	-0.02	Salem Fields CLO	-2.68
KKR CLO 11	-0.02	Auburn CLO	-2.56
Jamestown CLO X	-0.01	CBAM 2017-2	-2.42
		Peaks CLO 3	-2.16
		ICG US CLO 2017-2	-1.41
		Jamestown CLO X	-1.21
		Voya CLO 2017-4	-1.17
		Bain Capital Credit CLO 2017-1	-0.75
		Benefit Street Partners CLO XI	-0.59
		Mercer Field II CLO	-0.58

Note: Calculations based on lowest publicly rated tranche recording either OC and/or IC.

Source: Intex

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, ten transactions failed their WARF, WAS, or coupon tests, which are shown in the table below.

Deals with Collateral Quality Failures in the First Quarter of 2019

Deal	Test	Current			Threshold		
		Jan	Feb	March	Jan	Feb	March
Allegro CLO V	Weighted Average Rating Factor	2988	3042	2995	2945	2938	2938
ICG US CLO 2017-2	Weighted Average Rating Factor		2859	2872		2849	2843
Jamestown CLO X	Weighted Average Rating Factor	2816	2786	2782	2718	2756	2726
KKR CLO 9	Weighted Average Rating Factor		3107			3101	
Salem Fields CLO	Weighted Average Rating Factor		2831	2856		2783	2775
THL Credit Wind River 2017-2 CLO	Weighted Average Coupon	5.22	4.5		6.5	6.5	
THL Credit Wind River 2017-2 CLO	Weighted Average Rating Factor	2977	2947	2924	2911	2904	2911
THL Credit Wind River 2017-2 CLO	Weighted Average Spread	3.61	3.6		3.64	3.64	
Voya CLO 2016-4	Weighted Average Rating Factor	2766	2864	2865	2539	2539	2544
Voya CLO 2016-4	Weighted Average Spread	3.37	3.16	3.19	3.46	3.46	3.46

Source: Intex

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	2741	1.01	78	1.01	1.00	1.00	16.23	25.08
Allegro CLO V	2995	1.10	73	1.02	1.00	1.00	18.03	22.63
Allegro CLO IX	2930	1.08	71	1.03	1.00	1.00	17.76	21.94
Apidos CLO XXV	2829	1.04	88	0.98	1.00	1.00	16.25	22.41
Ares XXXIR CLO	2976	1.09	82	0.99	0.95	1.00	16.53	25.65
Ares XLVI CLO	2991	1.10	79	1.00	0.95	1.00	16.77	28.82
Auburn CLO	2864	1.05	64	1.06	1.00	1.00	17.81	22.05
Bain Capital Credit CLO 2017-1	2857	1.05	86	0.98	1.00	1.00	16.50	23.40
Bain Capital Credit CLO 2018-2	2823	1.04	87	0.98	1.00	1.00	16.26	23.80
Benefit Street Partners CLO XI	2794	1.03	89	0.97	1.00	1.00	16.00	21.58
Benefit Street Partners CLO XV	2759	1.01	85	0.98	1.00	1.00	15.99	21.50
CBAM 2017-1	2743	1.01	68	1.04	1.00	1.00	16.80	25.02
CBAM 2017-2	2762	1.02	68	1.04	1.00	1.00	16.92	21.33
CBAM 2018-5	2676	0.98	65	1.05	1.00	1.00	16.58	21.02
CBAM 2018-6	2651	0.97	67	1.05	1.00	1.00	16.30	20.62
CBAM 2018-7	2639	0.97	62	1.07	1.00	1.00	16.54	20.85
CBAM 2018-8	2810	1.03	56	1.09	1.00	1.00	18.07	21.11
Dryden 47 Senior Loan Fund	2802	1.03	97	0.95	0.95	1.00	14.92	24.39
Dryden 61 CLO	2660	0.98	94	0.96	0.95	1.00	14.28	18.60
Galaxy XX CLO	2829	1.04	83	0.99	1.00	1.00	16.49	21.33
Guggenheim MM CLO 2018-1	3381	1.24	33	1.25	1.00	1.00	19.96	43.34
Hayfin Kingsland VIII	2931	1.08	66	1.05	1.00	1.00	18.09	23.20
Hempstead II CLO	2972	1.09	75	1.02	1.00	1.00	17.77	23.35
HPS Loan Management 9-2016	2717	1.00	72	1.03	1.00	1.00	16.41	25.52
ICG US CLO 2017-2	2872	1.06	71	1.03	1.00	1.00	17.41	22.52
ICG US CLO 2018-3	2851	1.05	68	1.04	1.00	1.00	17.47	21.82
Jamestown CLO X	2782	1.02	81	1.00	1.00	1.00	16.31	21.06
Jamestown CLO VI-R	2884	1.06	85	0.98	1.00	1.05	17.55	22.63
KKR CLO 11	2943	1.08	76	1.01	1.00	1.00	17.54	21.70
KKR CLO 19	2924	1.08	71	1.03	1.00	1.00	17.72	21.66
KKR CLO 21	2956	1.09	72	1.03	1.00	1.00	17.85	21.30
KKR CLO 9	3047	1.12	75	1.02	1.00	1.00	18.22	22.77
Maranon Loan Funding 2018-1	N/A	N/A	N/A	N/A	1.00	1.00	N/A	40.96
Mariner CLO 6	2690	0.99	72	1.03	1.00	1.00	16.25	23.08
Mercer Field II CLO	3111	1.14	70	1.03	1.00	1.00	18.92	23.15
Octagon Investment Partners 28	2629	0.97	83	0.99	0.98	1.00	14.94	23.05
Parallel 2018-2	2738	1.01	76	1.01	1.00	1.00	16.33	19.66
Peaks CLO 3	2977	1.09	N/A	N/A	1.00	1.00	17.51	41.96
Race Point X CLO	2889	1.06	87	0.98	1.00	1.00	16.64	23.77
Salem Fields CLO	2856	1.05	68	1.04	1.00	1.00	17.50	22.82
THL Credit Wind River 2016-2 CLO	2841	1.04	84	0.99	1.00	1.00	16.51	22.06
THL Credit Wind River 2017-2 CLO	2924	1.08	76	1.01	1.00	1.00	17.42	21.20
Voya CLO 2016-4	2865	1.05	93	0.96	0.95	1.00	15.42	20.82
Voya CLO 2017-4	2691	0.99	92	0.97	0.95	1.00	14.52	24.05

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.

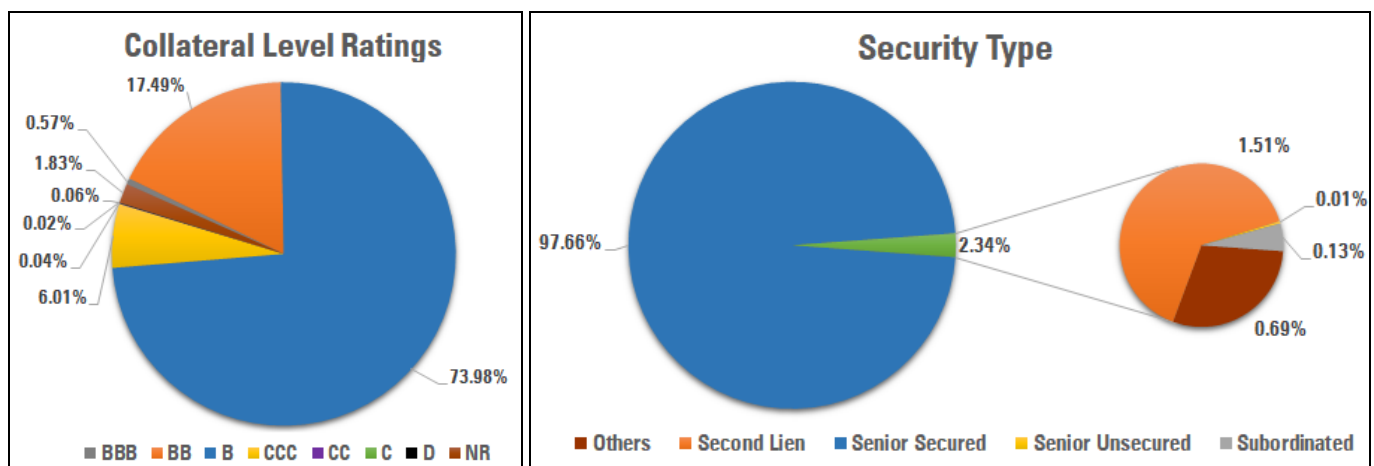
Note: Results are based on Intex CDI/CDU files with interest rates as of March 31st, 2019.

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 March value reported at 12.8%. Second-lien loans have a lower priority of repayment in the event of a borrowing entity’s bankruptcy and eventually, liquidation.

The percentage of covenant-lite loans in most deals continued to increase quarter-over-quarter, with four deals having disproportionately larger concentrations. Dryden 47 Senior Loan Fund once again had the highest percentage of covenant-lite loans in its collateral, at 88.4%, followed by Ares XLVI CLO at 82.6%, Octagon Investment Partners 28 at 81.6%, Ares XXXIR CLO at 80.1%, and HPS Loan Management 9-2016 at 76.9%. However, these percentages were materially higher than the covenant-lite proportions in other CLOs in the sample, with the next highest being approximately 58.2% and the median at 19.4%. The absence of a universally used standard definition of covenant-lite across deals may result in some transactions understating their actual covenant-lite exposure. Nonetheless, all transactions reported covenant-lite values within set limits. 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

While most (92%) of the underlying collateral was rated B- and above, there was a slight uptick in the concentration of low non-investment-grade credits, which can often be a precursor to defaults. Ratings at the CCC or below level accounted for about 6% at the end of March, a marginal increase from the roughly 5% reported at the end of December. 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 8.5% in March.

Obligor Defaults

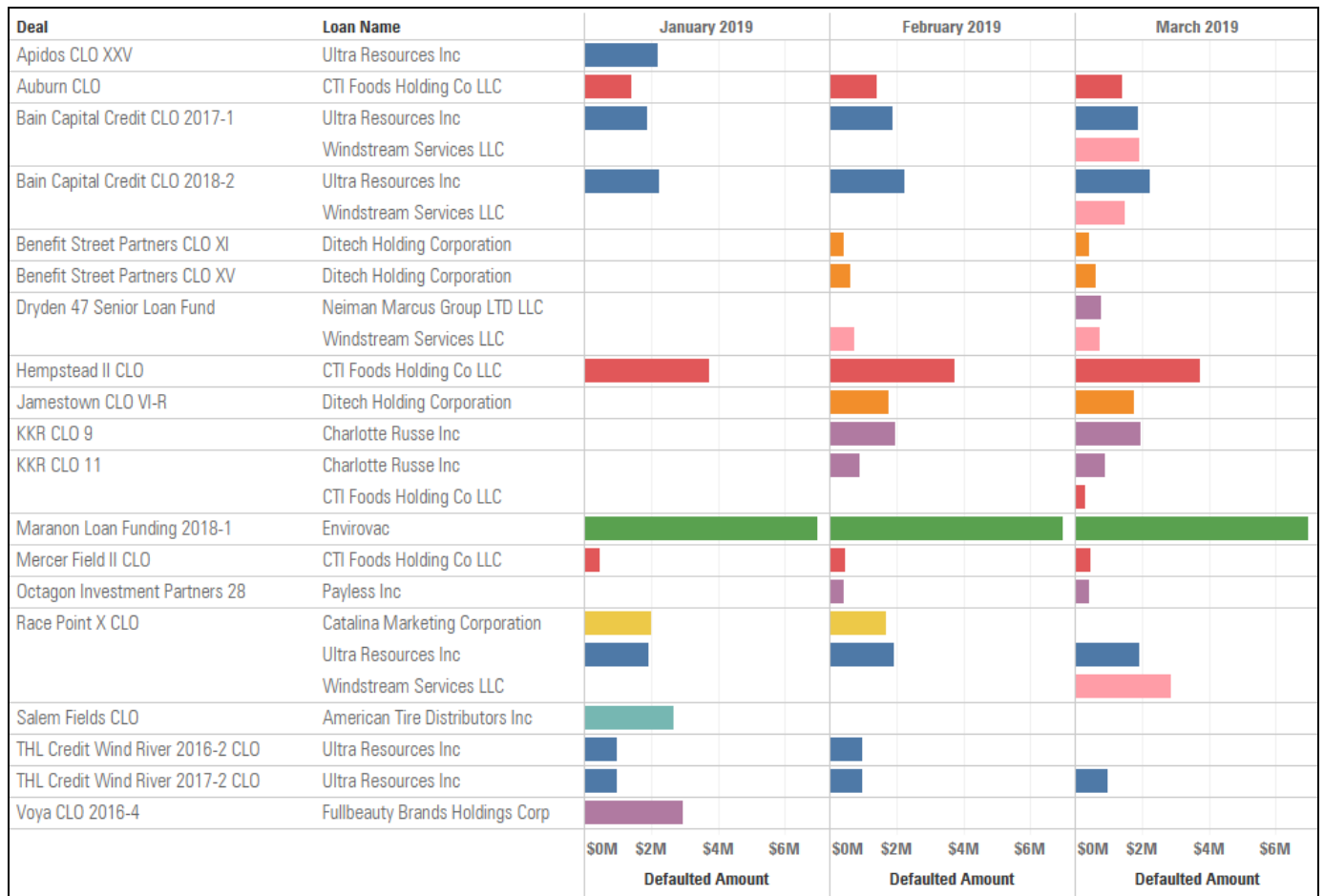
The number of obligor defaults rose marginally in the first quarter, with 15 transactions having underlying loan defaults in their portfolios, compared with 14 in the prior quarter. However, the total defaulted value fell to \$33.90 million in March, down from \$44.49 million in December. We did not expect to see a large uptick in defaults this quarter because all the deals in our sample are in their reinvestment phase, thereby giving managers the ability to trade out or exchange these defaulted securities with better collateral for the deal.

Leveraged Loan Default Holdings by Deal – March 2019

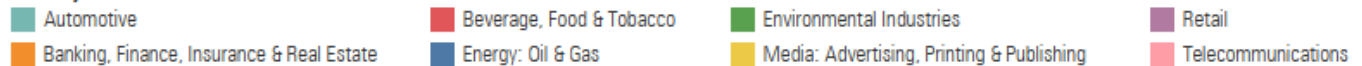
Deal Name	Defaulted Loan Amount (\$)	Total Asset Amount (\$)	%
Race Point X CLO	4,805,598	403,751,031	1.19
Maranon Loan Funding 2018-1	6,978,565	625,001,228	1.12
Bain Capital Credit CLO 2017-1	3,827,890	507,619,894	0.75
Hempstead II CLO	3,759,964	588,466,866	0.64
Bain Capital Credit CLO 2018-2	3,742,366	612,952,887	0.61
KKR CLO 9	1,952,443	493,621,758	0.40
Auburn CLO	1,400,228	485,676,241	0.29
Jamestown CLO VI-R	1,772,298	751,647,088	0.24
KKR CLO 11	1,203,289	542,246,534	0.22
Dryden 47 Senior Loan Fund	1,514,455	705,822,832	0.21
THL Credit Wind River 2017-2 CLO	1,000,000	504,650,590	0.20
Benefit Street Partners CLO XV	624,913	505,853,649	0.12
Benefit Street Partners CLO XI	436,709	606,910,443	0.07
Octagon Investment Partners 28	419,347	701,287,720	0.06
Mercer Field II CLO	467,575	850,217,532	0.05

*Note: Leveraged loan defaults identified in Intex.

Leveraged Loan Default Holdings – As of First Quarter 2019



Industry

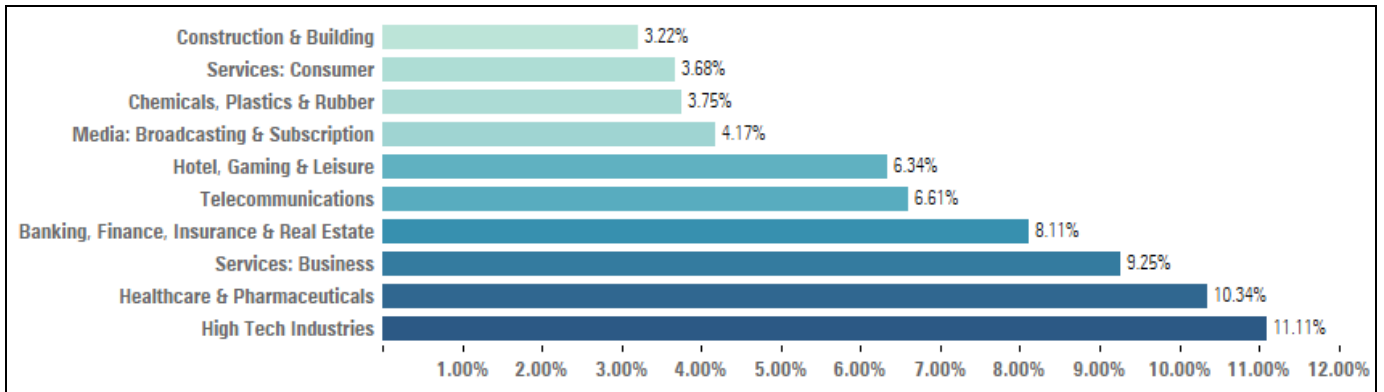


*Note: Leveraged loan defaults identified in Intex.

Industry Distribution

The underlying collateral in the Morningstar sample spread across 32 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% to 11%.

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

[Fourth Quarter 2018 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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