

## RESEARCH / WHITEPAPER

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# CLO Rankings by Vintage (updated as of June 30, 2016)

Any ranking system of structured finance instruments is generally subject to some level of subjectivity. When ranking CLO's, for example, does one look primarily to equity performance, performance of the notes or performance of the collateral? If the methodology is a blend, how does one weigh the various measures? Any attempt to "rank" CLO's is just one of many alternative methods to provide such scoring. Alternative methods would generally yield different results. Given the nature of any ranking system, the results should be interpreted accordingly.

In this report, Moody's Analytics has updated the prior deal rankings of the non-terminated 2006–2015 CLO's by vintage using a variety of scoring factors. CLO's that have had at least two payment periods are included.<sup>1</sup> The ranking is a function of equity returns (with a slight emphasis on recent returns), the standard deviation of those returns, junior overcollateralization test cushion, the number of collateral quality tests which are failing, the Moody's WARF test cushion, the ratio of the market value of the collateral to the par value of the tranches, the difference between Suspected Defaults<sup>2</sup> and current defaults, the average cushion of the Diversity Score, Moody's WARF, Weighted Average Life and Weighted Average Recovery Rate tests.<sup>3</sup>

These multiple factors are the basis of the ranking to better balance the debt and equity performance. (The Moody's Analytics MESR<sup>4</sup> is an equity based ranking of CLO's.) The analysis includes 776 US CLO's and 150 European deals. The frequency a manager shows up is a function of the performance and the number of CLO's they manage as well as which CLO's have not been redeemed. Strongly performing CLO's may have been redeemed which is more likely to affect CLO 1.0's. We list the top CLO's for each vintage alphabetically.

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<sup>1</sup> 2016 will be included once there are enough deals for an useful ranking.

<sup>2</sup> See "[Collateral Defaults vs Issuer Defaults](#)" 6-19-15.

<sup>3</sup> The cushions were normalized to reflect the typical numerical difference between a Diversity Cushion and a WARF Cushion, for example. In order to mitigate any unusual results from highly amortized CLO's, the deal factor was incorporated into the analysis. Annualized par build was removed from this analysis, but a greater emphasis has been placed on the ratio of the MV of collateral to the par of CLO tranches.

<sup>4</sup> Moody's Analytics Equity Score Report CDO Deal Summary Performance as of April 7, 2016.

## US BSL CLO's

CLO's from 2008 - 2011 are not included in the analysis due to the limited number of outstanding CLO's from those vintages. Some of the manager ranking changes are a result of fewer deals displayed from these vintages. Additionally, the number of CLO 1.0's dropped due to deal redemptions. The most frequently ranked managers of US broadly syndicated loan ("BSL") CLO's are CSAM and BlueMountain. CSAM has two or three of the top CLO's in 2006-07 and 2014-15. The only other manager that has three CLO's within the top ten of any of vintage in Apollo. CSAM is in the top group in four of the six vintages with a total of nine CLO ranked. BlueMountain's seven deals represent 50% of their non-terminated deals from the selected vintages. Of the managers with at least 3 CLO's in the vintages, only Eaton Vance has a higher percentage ranked at 67% (2 of 3 CLO's). Apollo and LCM have four ranked deals and MJX, Och-Ziff, Carlyle and Symphony have three. Six managers have at least two deals within the top in any one vintage. Six managers represent 50% of the top ranked deals. For managers with at least four deals outstanding from the indicated vintages, BlueMountain, CSAM, LCM and Marathon have at least 1/3 of their deals in the tables. Seven managers only have ranked 1.0 CLO's while fourteen have only 2.0 CLO's. There are 28 different ranked managers out of 75 with CLO's outstanding in the indicated vintages. Twelve managers are no longer in the top group while eight have been added since the last report<sup>5</sup>. Interestingly, 70% of the 2007 vintage top ten are from three managers which is more concentrated than any other vintage.

Deal Name	Vintage	Currency	Collateral Manager
Carlyle Global Market Strategies CLO 2015-3, Ltd.	2015	USD	Carlyle Investment Management LLC
Halcyon Loan Advisors Funding 2015-2 Ltd.	2015	USD	Halcyon Loan Investors LP
LCM XVIII Limited Partnership	2015	USD	LCM Asset Management LLC
LCM XX Limited Partnership	2015	USD	LCM Asset Management LLC
Madison Park Funding XVII, Ltd.	2015	USD	Credit Suisse Asset Management
Madison Park Funding XVIII, Ltd.	2015	USD	Credit Suisse Asset Management
Magnetite XIV, Limited	2015	USD	BlackRock Financial Management
OZLM XIII, Ltd.	2015	USD	Och-Ziff Loan Management LP
THL Credit Wind River 2015-2 CLO Ltd.	2015	USD	THL Credit Senior Loan Strategies LLC
Venture XX CLO, Limited	2015	USD	MJX Asset Management LLC

Deal Name	Vintage	Currency	Collateral Manager
Atrium XI	2014	USD	Credit Suisse Asset Management
BlueMountain CLO 2014-1 Ltd.	2014	USD	BlueMountain Capital Management LLC
BlueMountain CLO 2014-3 Ltd.	2014	USD	BlueMountain Capital Management LLC
Cedar Funding IV CLO, Ltd.	2014	USD	AEGON USA Investment Management, LLC
Dryden 33 Senior Loan Fund	2014	USD	Prudential Investment Management Inc.
Highbridge Loan Management 4-2014, Ltd.	2014	USD	Highbridge Principal Strategies LLC
Madison Park Funding XV, Ltd.	2014	USD	Credit Suisse Asset Management
Marathon CLO VI Ltd.	2014	USD	Marathon Asset Management LP
Staniford Street CLO, Ltd.	2014	USD	Feingold O'Keefe
Zais CLO 1, Limited	2014	USD	ZAIS Group Inc.

<sup>5</sup> The Prior report had 70 deals in the ranking vs. 60 currently ranked.

Deal Name	Vintage	Currency	Collateral Manager
ALM VII(R), LTD.	2013	USD	Apollo Credit Management LLC
BlueMountain CLO 2013-2, Ltd	2013	USD	BlueMountain Capital Management LLC
BlueMountain CLO 2013-3, Ltd.	2013	USD	BlueMountain Capital Management LLC
Carlyle Global Market Strategies 2013-2, LTD.	2013	USD	Carlyle Investment Management LLC
Catamaran CLO 2013-1 Ltd	2013	USD	Trimaran Advisors LLC
Eaton Vance CLO 2013-1, Ltd	2013	USD	Eaton Vance Management
Kingsland VI	2013	USD	Kingsland Capital Management LLC
LCM XIV Limited Partnership	2013	USD	LCM Asset Management LLC
Marathon CLO V Ltd.	2013	USD	Marathon Asset Management LP
OZLM Funding IV, Ltd.	2013	USD	Och-Ziff Loan Management LP

Deal Name	Vintage	Currency	Collateral Manager
ALM V, Ltd.	2012	USD	Apollo Credit Management LLC
ALM VI, Ltd.	2012	USD	Apollo Credit Management LLC
ALM VII, LTD.	2012	USD	Apollo Credit Management LLC
Bluemountain CLO 2012-1 Ltd.	2012	USD	BlueMountain Capital Management LLC
BlueMountain CLO 2012-2, Ltd.	2012	USD	BlueMountain Capital Management LLC
Carlyle Global Market Strategies CLO 2012-2, Ltd.	2012	USD	Carlyle Investment Management LLC
Cent CLO 16 Limited	2012	USD	Columbia Management Investment Advisors, LLC
Golub Capital Partners CLO 14, Ltd.	2012	USD	Golub Capital Management LLC
LCM XI LP	2012	USD	LCM Asset Management LLC
OZLM Funding, Ltd.	2012	USD	Och-Ziff Loan Management LP

Deal Name	Vintage	Currency	Collateral Manager
Apidos Cinco CDO	2007	USD	CVC Credit Partners LLC
CIFC Funding 2007-I, Ltd.	2007	USD	CIFC Asset Management LLC
GoldenTree Loan Opportunities III, Limited	2007	USD	GoldenTree Asset Management LP
GoldenTree Loan Opportunities IV, Limited	2007	USD	GoldenTree Asset Management LP
Madison Park Funding IV, Ltd.	2007	USD	Credit Suisse Asset Management
Madison Park Funding V, Ltd.	2007	USD	Credit Suisse Asset Management
Madison Park Funding VI, Ltd.	2007	USD	Credit Suisse Asset Management
Symphony CLO III, Ltd.	2007	USD	Symphony Asset Management LLC
Symphony CLO V, Ltd.	2007	USD	Symphony Asset Management LLC
Venture VIII CDO, Limited	2007	USD	MJX Asset Management LLC

Deal Name	Vintage	Currency	Collateral Manager
Atrium V	2006	USD	Credit Suisse Asset Management
Blue Mountain CLO II Ltd.	2006	USD	BlueMountain Capital Management LLC
Cent CDO 12 Limited	2006	USD	Columbia Management Investment Advisors, LLC
Eaton Vance CDO VIII, Ltd.	2006	USD	Eaton Vance Management
Landmark VIII CLO Ltd.	2006	USD	Sound Harbor Partners LLC
Madison Park Funding III, Ltd.	2006	USD	Credit Suisse Asset Management
Sapphire Valley CDO I, Ltd.	2006	USD	Babson Capital Management LLC
Symphony CLO II, Ltd.	2006	USD	Symphony Asset Management LLC
Venture VII CDO Limited	2006	USD	MJX Asset Management LLC
Wasatch CLO Ltd.	2006	USD	Invesco Inc.

Note: Unpriced loans are assumed to have a market price equal to the average of that type of loan in the market. Unpriced bonds are priced based upon seniority and if they are performing while equity is essentially valued at zero. Outlying values for certain factors have been capped or floored. Reasonable approximations have been used where selected data fields are not reported.

### Manager Frequency for US\$ CLO's by Vintage

Collateral Manager	2006	2007	2012	2013	2014	2015	Total
Credit Suisse Asset Management	2	3			2	2	9
BlueMountain Capital Management LLC	1		2	2	2		7
LCM Asset Management LLC			1	1		2	4
Apollo Credit Management LLC			3	1			4
MJX Asset Management LLC	1	1				1	3
Och-Ziff Loan Management LP			1	1		1	3
Carlyle Investment Management LLC			1	1		1	3
Symphony Asset Management LLC	1	2					3
Marathon Asset Management LP				1	1		2
Columbia Management Investment Advisors, LLC	1		1				2
Eaton Vance Management	1			1			2
GoldenTree Asset Management LP		2					2
BlackRock Financial Management						1	1
Sound Harbor Partners LLC	1						1
CIFC Asset Management LLC		1					1
ZAIS Group Inc.					1		1
THL Credit Senior Loan Strategies LLC						1	1
Halcyon Loan Investors LP						1	1
CVC Credit Partners LLC		1					1
Highbridge Principal Strategies LLC					1		1
Prudential Investment Management Inc.					1		1
Invesco Inc.	1						1
Feingold O'Keeffe					1		1
Kingsland Capital Management LLC				1			1
Trimaran Advisors LLC				1			1
Babson Capital Management LLC	1						1
AEGON USA Investment Management, LLC					1		1
Golub Capital Management LLC			1				1
<b>Total</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>60</b>

## Euro CLO's

The same updated analysis was completed for Euro denominated CLO's. Since the European CLO market is much smaller, only the top five within each vintage is displayed. Several vintages were excluded given the limited number of issues in those years (2008- 2013). Carlyle has the most ranked deals at four (2 in each of 2014 & 2015) which represents 36% of their European CLO's from these vintages. None of the other managers have 2 CLO's in the top five in one vintage. Babson is in the top group in three of the four vintages and 60% of their Euro CLO's are in the top ranking. If the two GSO entities are combined, they will also have three ranked CLO's. As a proportion of CLO's outstanding from the selected vintages, Oak Hill, Prudential and Babson have the highest percent of their deals on the list for those managers with 2 of more Euro CLO's outstanding. There are 13 different managers in the ranking out of the 20 positions and four managers represent over 50% of the total. It is also noteworthy that none of the managers most often in the top five ranking exclusively issue in the European market. Only 38% of the managers in the European top ranking are also in the US top ranking. However, most of the Euro Managers also issue US CLO's. Six managers only had 1.0 CLO's ranked and six are only in the 2.0 CLO ranking. Two managers are now in these tables and ten are no longer in the top five as compared to the last report.

Deal Name	Vintage	Currency	Collateral Manager
Cadogan Square CLO VI B.V.	2015	EUR	Credit Suisse Asset Management
Cairn CLO V B.V.	2015	EUR	Cairn Capital Ltd.
Carlyle Global Market Strategies Euro CLO 2015-1 Ltd	2015	EUR	Carlyle Investment Management LLC
Carlyle Global Market Strategies Euro CLO 2015-2 Ltd	2015	EUR	Carlyle Investment Management LLC
Orwell Park CLO Limited	2015	EUR	GSO Capital Partners LP

Deal Name	Vintage	Currency	Collateral Manager
BABSON EURO CLO 2014-2 B.V.	2014	EUR	Babson Capital Management LLC
Carlyle Global Market Strategies Euro CLO 2014-2 Ltd	2014	EUR	Carlyle Investment Management LLC
Carlyle Global Market Strategies Euro CLO 2014-3 Ltd	2014	EUR	Carlyle Investment Management LLC
Dryden 32 Euro CLO 2014 B.V.	2014	EUR	Prudential Investment Management
Harvest CLO IX Limited	2014	EUR	3i Group plc

Deal Name	Vintage	Currency	Collateral Manager
Harbourmaster Pro-Rata CLO 3 B.V.	2007	EUR	GSO / Blackstone Debt Funds Management
Laurelin II B.V.	2007	EUR	GoldenTree Asset Management LP
Malin CLO B.V.	2007	EUR	Babson Capital Management LLC
OAK HILL EUROPEAN CREDIT PARTNERS II P.L.C.	2007	EUR	Oak Hill Advisors LP
Wood Street CLO VI B.V.	2007	EUR	Alcentra Inc.

Deal Name	Vintage	Currency	Collateral Manager
ADAGIO III CLO P.L.C.	2006	EUR	AXA Investment Managers
Duchess VI CLO B.V.	2006	EUR	Babson Capital Management LLC
Harbourmaster CLO 7 B.V.	2006	EUR	GSO / Blackstone Debt Funds Management
Lombard Street CLO I P.L.C.	2006	EUR	KKR Financial Advisors LLC
OAK HILL EUROPEAN CREDIT PARTNERS I P.L.C.	2006	EUR	Oak Hill Advisors LP

Note: Unpriced loans are assumed to have a market price equal to the average of that type of loan in the market. Unpriced bonds are priced based upon seniority and if they are performing while equity is essentially valued at zero. Outlying values for certain factors have been capped or floored. Reasonable approximations have been used where selected data fields are not reported.

### Manager Frequency for Euro CLO's by Vintage

Collateral Manager	2006	2007	2014	2015	Total
Carlyle Investment Management LLC			2	2	4
Babson Capital Management LLC	1	1	1		3
GSO / Blackstone Debt Funds Management	1	1			2
Oak Hill Advisors LP	1	1			2
GoldenTree Asset Management LP		1			1
GSO Capital Partners LP				1	1
AXA Investment Managers	1				1
KKR Financial Advisors LLC	1				1
Cairn Capital Ltd.				1	1
Alcentra Inc.		1			1
Prudential Investment Management Inc.			1		1
3i Group plc			1		1
Credit Suisse Asset Management				1	1
<b>Total</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>20</b>

While no ranking system by definition is perfect, we offer a possible approach to viewing CLO performance which incorporates both the debt and the equity. In our analysis, the CLO's are ranked by a variety of factors beyond their equity returns in an effort to balance the interests of the equity with that of the debt investors. As a result, deals that ranked moderately in regards to equity returns, may jump up to make the above tables given their strength in other factors. Conversely, CLO's that ranked high solely based upon their equity returns, may drop out of the table through a combination of other issues. When analyzing CLO performance, the factors selected and relative weight one gives to the various factors will cause differing CLO's to be more attractive as buy or sell opportunities. Careful and complete analysis will highlight these differences.

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