

**RESEARCH/
WHITEPAPER**

Defaulted Collateral in CLO's Today

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Highlights¹

- » US and European broadly syndicated CLO's own \$3.6 billion of defaulted collateral*
- » About \$2.9 billion are in US CLO's consisting of almost 130 issuers and over 90 CLO managers
 - Less than \$60 million are in the form of bonds
- » \$715 million equivalent are in Euro CLO's with over 65 issuers and nearly 40 CLO managers
 - \$30 million equivalent are Euro bonds

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* Data is of August 14, 2015.

CLO managers purchase collateral which they feel has good value and will not default. Even in today's low default environment, collateral occasionally defaults. The most recent example is Alpha Natural Resources in early August. As specific collateral is under stress or actually defaults, different managers and even the same manager, but for different CLO's, evaluate the position and determine whether it is best to sell or retain it. Some may decide that the highest value is achieved by immediately selling the positions while others determine that keeping it affords the best results. Prospectively, one cannot know which is the best course of action.

Defaulted collateral is typically not included in the collateral quality tests and its treatment for the overcollateralization tests generally is the lower of the market value (as reported by the CLO manager) and a predetermined assigned recovery level. When defaulted collateral trades at relatively high prices, selling the collateral will improve the results of the overcollateralization tests and many of the collateral quality tests. The benefits of such sales, however, would need to be balanced against the potential benefits of possible future appreciation of the asset.

This study looks at the retention of loans and bonds in broadly syndicated loan ("BSL") CLO's once the collateral defaults. Additionally, CLO's may own more than one position from the same defaulted issuer.

The data is based upon collateral reported as defaulted in recent deal surveillance reports with the exception of Alpha Natural Resources, which we treat as defaulted despite the default happening too recently to show up in most deal surveillance reports and had to be added manually.

US BSL CLO Market

Almost \$2.9 billion of defaulted loans and bonds across 126 different issuers are held by CLO's in the US BSL market. These balances represent less than 1% of the total collateral of the US BSL markets. Table 1 shows the ten largest defaulted issuers. Since the Alpha Natural Resource default was so recent, it is not surprising that it is in the list and that it is held so broadly.

Table 1: Top Ten Defaulted Issuers of Collateral in US BSL CLO's

Issuer	Sum of balance	# of Managers	# of CLO's
Energy Future Holdings Corp.	\$719,847,000	30	92
Alpha Natural Resources, Inc	\$308,508,000	26	113
Arch Coal, Inc.	\$140,111,000	14	44
Caesars Entertainment Corporation	\$135,938,000	19	49
H.E. Capital, Sa	\$132,937,000	1	13
CCS Medical Inc.	\$83,093,000	2	20
Walter Energy, Inc.	\$72,323,000	15	39
Red Fork Energy Ltd	\$68,359,000	1	1
Nelson Education Ltd.	\$68,237,000	10	31
Radioshack Corporation	\$65,000,000	1	1
Total for top 10	\$1,794,353,000		

Source: Moody's Analytics Structured Finance Portal

Interestingly, the top ten represent over 60% of all the defaulted issuers held by these CLO's. Four of the largest defaulted issuer positions are held by only one or two CLO managers and two of those are in only one CLO each. There is also a wide range of reported market prices for these ten Issuers. One is in the mid 20's with another in the mid-80's to mid-90's. The remainder is between the high 40's to the mid-70's. As expected, the particular circumstances of the issuer is a key determinant for collateral in default. Loan covenants could also play a role in determining the market price of defaulted loans.

Table 2 shows the top ten managers holding defaulted collateral regardless if the CLO was acquired subsequent to its closing. These managers also represent over 60% of the investment in defaulted

collateral. As we see in the table, some of the largest CLO managers would tend to own the most defaulted collateral if all else was equal, but. Nonetheless, a few of the managers on the list are small.

Table 2: Top Ten US BSL CLO Manager Investment in Defaulted Collateral

Managers	Sum of balance	# of CLO's
Highland Capital Management LP	\$723,658,000	24
KKR Financial Advisors LLC	\$323,741,000	4
Black Diamond Capital Management LLC	\$162,282,000	9
Guggenheim Investment Management LLC	\$103,966,000	6
Credit Suisse Asset Management	\$94,958,000	14
3i Group plc	\$89,565,000	9
Columbia Management Investment Advisors, LLC	\$87,047,000	13
Salus Capital Partners II, LLC	\$75,000,000	1
Apollo Credit Management LLC	\$72,964,000	17
MJX Asset Management LLC	\$69,710,000	11
Total for top 10	\$1,802,891,000	

Source: Moody's Analytics Structured Finance Portal

Bonds represent a small amount of the overall collateral in CLO's and only \$60 million of the defaulted collateral held by CLO's are bonds. The five largest defaulted bond holdings are slightly less than 50% of the total yet the five managers who own the largest amount of defaulted bonds own over 70% of them. Two of the top five managers are also in the top ten holders of defaulted overall which could represent a strategy they have or they may just own the bonds of the same companies in which they own the loans. Tables 3 & 4 show the bond names and the managers, respectively.

Table 3: Top Five Defaulted Issuers of Bonds in US BSL CLO's

Issuer - (Bonds)	Sum of balance	# of Managers	# of CLO's
Alpha Natural Resources, Inc	9,625,000	3	6
Venture Holdings Company LLC	6,250,000	1	1
Xinergy Ltd.	5,050,000	1	6
Dairy Mart Convenience Stores, Inc.	5,000,000	1	1
Quicksilver Resources Inc.	3,470,000	1	2
Total for top 5	\$29,395,000		

Source: Moody's Analytics Structured Finance Portal

Four of the five bonds on the list are owned by only one asset manager and 2 of them are in only one CLO. The only issuer which is relatively broadly held is Alpha Natural Resources and that is likely a result of the of the default occurring so recently.

Table 4: Top Five Investment in Defaulted Bonds by CLO Manager

Managers - (Bonds)	Sum of balance	# of CLO's
Highland Capital Management LP	13,295,000	1
Credit Suisse Asset Management	13,048,672	9
Airlie CDO Capital Management LP	6,778,000	1
Allianz Global Investors Capital LLC	5,000,000	2
Carlyle Investment Management LLC	4,500,000	1
Total for top 5	\$42,621,672	

Source: Moody's Analytics Structured Finance Portal

Looking at table 4, Airlie and Allianz manage fewer CLO assets than most CLO managers with each having three or less CLO's outstanding yet they are on the top five table. Allianz owns 2 bonds from one issuer.

Only CSAM owns defaulted bonds across a large number of CLO's, but they are also one of the largest issuers of CLO's.

European CLO Market

Approximately \$715 million equivalent of defaulted loans and bonds across 70 different issuers are held by the smaller European CLO's. This collateral balance represents about 1.2% of the total European CLO market. Give the smaller Euro CLO market, each table focuses on a smaller group. Table 5 shows the five largest defaulted issuers.

Table 5: Top Five Defaulted Issuers of Collateral in Euro CLO's

Issuer	Sum of balance	# of Managers	# of CLO's
Vgg Holdco B.V.	\$229,064,000	12	46
Iberostar, S.A.	\$133,258,000	10	27
Bodybell Center S.L.	\$57,731,000	5	13
Novartex	\$41,060,000	5	13
La Seda De Barcelona SA	\$19,414,000	5	6
Total for top 5	\$480,527,000		

Source: Moody's Analytics Structured Finance Portal

While for the US market, the top ten Issuers represented about 60% of the defaulted collateral held by CLO's, in Europe, the top five represent 67%. Unlike the US market, all the defaults are held by multiple managers. The top two are held most broadly across both managers and CLO's. Table 6 shows the top five managers who own the most defaulted collateral.

Table 6: Top Five Euro CLO Manager Investment in Defaulted Collateral

Managers	Sum of balance	# of CLO's
Alcentra Inc.	\$113,665,000	10
Intermediate Capital Group plc	\$94,045,000	10
3i Group plc	\$85,906,000	11
Halcyon Loan Investors LP	\$46,175,000	5
Carlyle Investment Management LLC	\$40,708,000	10
Total for top 5	\$380,499,000	

Source: Moody's Analytics Structured Finance Portal

As with the US market, some of the biggest Euro CLO managers hold the most defaults. Three of these managers have over 8 Euro CLO's outstanding while the other 2 managers have 4 or less. These five managers' CLO's are invested in over 50% of the total Euro defaulted positions.

Tables 7 and 8 show the defaulted Euro bonds and the managers of the CLO's in which they are held.

Table 7: Top Three Defaulted Issuers of Bonds in Euro CLO's

Issuer - (Bonds)	Sum of balance	# of Managers	# of CLO's
Hellas Telecommunications li S.A.R.L.	\$10,200,000	1	2
Novartex	\$6,603,000	2	2
Regie Linge Holding	\$5,144,000	1	2
Total for top 3	\$21,947,000		

Source: Moody's Analytics Structured Finance Portal

These three issuers make up over 70% of the defaulted bonds held in the Euro CLO's. However, there are only 8 defaulted bond issuers in the whole market and no more than two CLO's own any one bond. No CLO manager owns more than 2 defaulted bonds across their portfolio.

Table 8: Top Three Investment in Defaulted Bonds by Euro CLO Manager

Managers - (Bonds)	Sum of balance	# of CLO's
Carlyle Investment Management LLC	\$10,200,000	2
Halcyon Loan Investors LP	\$6,726,000	2
Prudential Investment Management Inc.	\$5,144,000	2
Total for top 3	\$22,070,000	

Source: Moody's Analytics Structured Finance Portal

Conclusion

A small percentage of all CLO collateral has defaulted in recent years. Often managers sell such collateral before or shortly after it defaults. Less than 1% and about 1.2% of CLO collateral is currently in default in the US and Europe, respectively and most of it is in the form of loans. Given that collateral managers balance the benefits of selling defaulted collateral versus holding on to their defaults to generate higher sale prices in the future, it is not surprising to note that at times managers elect to retain defaulted collateral particularly when they consider it undervalued by the market. Some of the largest CLO managers, many with a long track record of managing CLO assets, house the largest balances of defaulted loans. This report shows the extent of such retained collateral as well as provides transparency on the CLO's and asset managers who are retaining investments in defaulted bonds and loans. Use of sophisticated analytical tools allow such analysis along with further in-depth evaluation of such positions.

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