MOODY'S ANALYTICS

RESEARCH/ WHITEPAPER

Author

Peter Sallerson,
Senior Director
peter.sallerson@moodys.com
+1.212.553.9447

Collateral Defaults vs. Issuer Defaults

Highlights

» CLO's report the collateral default percentage.

» Moody's Analytics also analyzed the percentage of the collateral that is defaulted assuming all obligations by an issuer are defaulted if any obligation is in default.

» The Issuer level default percentage under the more expansive definition of default is typically greater than the default percentage reported.

» Such difference is a useful indicator of the need for further collateral analysis of the Suspected Default collateral.

Defaulted securities in CLO portfolios are often an area of focus by CLO investors and managers. Returns to CLO investors are highly dependent on the credit risk of the underlying CLO portfolios and defaulted securities may be an important indicator of portfolio credit risk. In this paper, we analyze CLO default percentages under a broader definition of default to try to identify additional portfolio securities worth a closer look. Rather than just look at whether a particular issue is identified as defaulted by a CLO ("Identified Default" or "ID"), we also measured the current percentage of collateral that is in default by assuming if any obligation of an issuer is indicated as defaulted[1] in **any** CLO, then all obligations of that issuer are tagged Suspected Default ("SD"). The deal SD percentage is then tabulated. SDs could occur when collateral is considered defaulted by one CLO and not another as a result of varying default definitions in their respective CLO indentures. Alternatively, certain loan characteristics may allow some obligations of an issuer to be in default while others are not. It is important to note that all defaults are not alike. Particularly with leveraged loans which are senior secured obligations, being in default may not affect the timeliness of interest and principal payments. Some defaulted leveraged loans trade close to par.

Tables 1 & 2 show examples of collateral that is labeled SD and which ones are also in default in 2 different existing CLO's. For example, Edmentum Inc in CLO 1 is classified as SD since at least 1 other CLO has classified an obligation of the same issuer as defaulted yet CLO has not classified it as a default. The same could be said for US Foods in CLO 2.

Table 1: CLO 1 - SD Collateral

Suspected Default	Defaulted
Sabine Oil & Gas LLC - Second Lien Term Loan	Yes
Allied Security Holdings LLC - First Lien Closing Date Term Loan	No
Caesars Entertainment Resort Properties LLC - First Lien Term B Loan	No
FCA US LLC - Senior Secured Tranche B Term Loan	No
Gates Global LLC - Initial Dollar Term Loan	No
Southeast PowerGen LLC - Term B Loan	No
Texas Competitive Electric Holdings Company LLC - DIP Term Loan	No
US Foods Inc - Incremental Term Loan	No

Table 2: CLO 2 - SD Collateral

Suspected Default	Defaulted
Education Management II LLC Tranche A Term Loan	Yes
Education Management II LLC Tranche B Term Loan - PIK	Yes
Education Management II LLC Tranche B Term Loan Non-PIK	Yes
Affinion Group Initial Second Lien Term Loan	No
Affinion Group Tranche B Term Loan	No
Allied Security Holdings LLC First Lien Closing Date Term Loan	No
Caesars Entertainment Resort Properties LLC First Lien Term B Loan	No
Edmentum Inc First Lien Term Loan	No
FCA US LLC Senior Secured Tranche B Term Loan	No
FCA US LLC Tranche B Term Loan	No
Texas Competitive Electric Holdings Company LLC DIP Term Loan	No

[1] At least 500,000 of principal in the obligation's currency must be in default for all obligations of that Issuer to be considered SD.

US BSL CLO Market

The analysis of SD collateral as compared to ID collateral was done by vintage and currency. We have first focused on the US dollar market and the vintages with the greatest issuance. (Appendix I gives a breakdown of the CLO's analyzed per vintage & currency.).

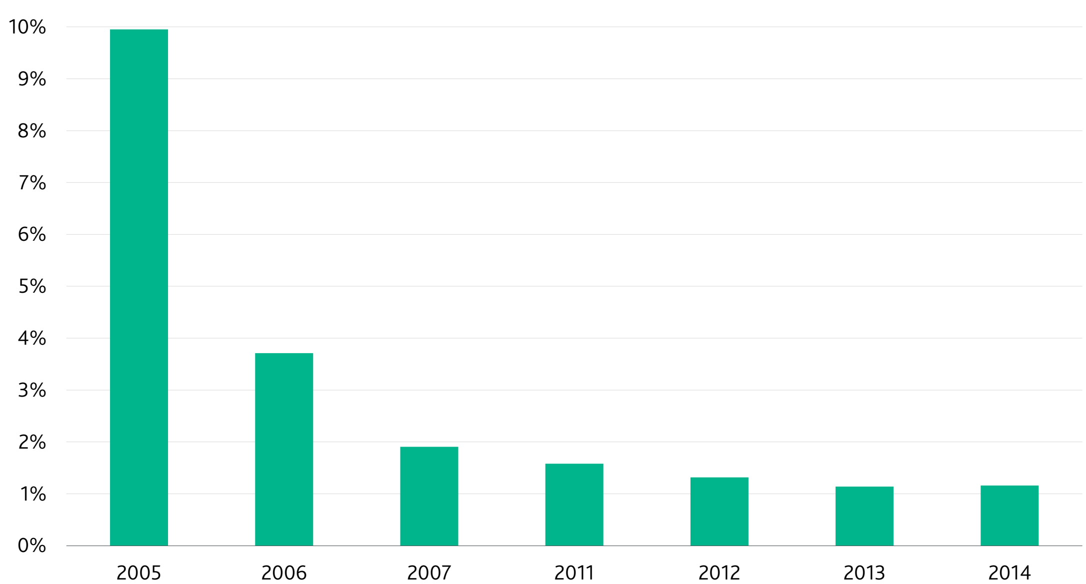
Table 3: US ID vs SD by Vintage

	Indicated Defaults ("ID")			Suspected Defaults ("SD")			Difference Between ID & SD Defaults		
Vintage	Average	Max	Min	Average	Max	Min	Average	Max	Min
2005	30.17%	100.00%	0.00%	40.12%	100.00%	0.00%	9.95%	97.48%	0.00%
2006	5.58%	100.00%	0.00%	9.30%	100.00%	0.00%	3.71%	100.00%	0.00%
2007	2.11%	100.00%	0.00%	4.02%	100.00%	0.00%	1.91%	8.72%	0.00%
2011	0.41%	3.81%	0.00%	1.99%	7.17%	0.00%	1.58%	3.61%	0.00%
2012	0.29%	6.36%	0.00%	1.61%	10.03%	0.00%	1.32%	5.87%	0.00%
2013	0.23%	8.90%	0.00%	1.37%	10.38%	0.00%	1.14%	4.82%	0.00%
2014	0.07%	1.00%	0.00%	1.23%	4.24%	0.00%	1.16%	4.24%	0.00%
Grand Total	**2.30%**	**100.00%**	**0.00%**	**4.28%**	**100.00%**	**0.00%**	**1.97%**	**100.00%**	**0.00%**

As you can see from the table, there are larger differences between SD and ID levels, the older the CLO vintage. This observation is not unusual given that performing collateral tends to get redeemed, matures or is sold by the late stages of a CLO's life cycle. The average ID level for the 2005 vintage is over 30% and over 40% when you measure SD's. However, there is a very limited amount of CLO's remaining from the 2005 vintage and much of that is likely a result of adverse selection bias. There are even some 2005-2007 CLO's where all of the remaining collateral is ID. Conversely, 75% of the 2007 Vintage (US & Euro CLO's) have a ID level of 3.1% or less despite the interim recession.

Let's focus on the CLO 2.0 deals (Vintage 2011-2014). The average ID balance is very small with a range of 0.07% to 0.4%. The SD's are between 1.23% and 1.99% with the largest CLO's having over 10%. These higher numbers may not result in higher losses, but CLO investors and collateral managers may want to undertake further analysis of those issuers to determine if there is a potential problem with the related collateral. If so, early action could enhance CLO investment performance. Chart 1 shows the difference of the Average SD vs ID levels by vintage. The difference declines significantly in the CLO 2.0 vintages.

Chart 1: Average Difference Between Defaulted and SD Percentage (USD)



Source: Moody's Analytics

Up until this point we have focused on relatively wide differences between ID and SD balances. But what does it mean when the difference between SD and ID levels is relatively narrow? For such CLOs, it is very possible that the narrow difference between SD and ID could be indicative of a more restrictive definition of what is a "defaulted" security and thus could be an important indicator not just for assessing the current portfolio but also that future portfolios may be more conservatively reported. Alternatively, the collateral manager may be focused on avoiding collateral where the obligation may not be in default, but the issuer's other issues are defaulted. Further CLO/Manager review is likely warranted.

Collateral managers ("Manager 1") extensively analyze the assets of their CLO's. Many, however, do not focus on the collateral of other CLO's. The knowledge of collateral which other CLO's list as ID, but are not ID in their portfolios may provide trading opportunities. On the one hand, the "other CLO" may be more inclined to sell such collateral creating a buying opportunity if Manager 1 is bullish on the obligation. Conversely, if Manager 1 sees such obligations as ID in many CLO's and that manager is also worried about it, Manager 1 may want to sell the obligation early to "get ahead" of the potential selling by other CLO's.

European CLO Market

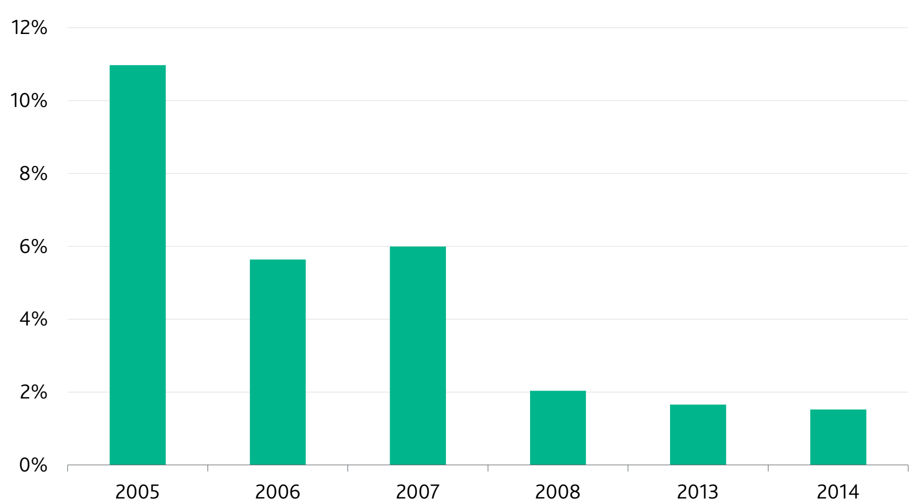
Table 4: European Defaults vs SD by Vintage

	Indicated Defaults ("ID")			Suspected Defaults ("SD")			Difference Between ID & SD Defaults		
Vintage	**Average**	**Max**	**Min**	**Average**	**Max**	**Min**	**Average**	**Max**	**Min**
2005	4.07%	18.86%	0.00%	15.04%	39.99%	1.08%	10.97%	39.66%	1.05%
2006	5.43%	99.98%	0.00%	11.07%	100.00%	0.00%	5.64%	15.48%	0.00%
2007	2.91%	33.81%	0.00%	8.90%	71.70%	0.00%	5.99%	46.69%	0.00%
2008	9.44%	99.99%	0.00%	11.47%	100.00%	0.00%	2.03%	7.51%	0.00%
2013	0.09%	0.98%	0.00%	1.74%	4.30%	0.00%	1.65%	4.30%	0.00%
2014	0.11%	2.69%	0.00%	1.62%	4.21%	0.00%	1.52%	4.21%	0.00%
Grand Total	**3.50%**	**99.99%**	**0.00%**	**8.40%**	**100.00%**	**0.00%**	**4.90%**	**46.69%**	**0.00%**

The European vintages we have focused on are 2005-2008 & 2013-2014. Appendix I gives a breakdown of the number of CLO's per vintage.

Again and as anticipated, the older deals tend to have the higher default percentages. As with the US CLO's, there is a significant difference between the indicated default holdings and that of the SD's. Interestingly, the 2013-2014 vintages have almost no ID's yet have SD's of 1.6% to 1.7%. Chart 2 depicts the difference between the average of each for the displayed vintages.

Chart 2: Average Difference Between Defaulted and SD Percentage (Euro)



Source: Moody's Analytics

As with the US CLO's, the 2.0 CLO's have the lowest differential. However, the 2008 vintage is also only has a moderate difference.

Conclusion

One purpose of the various tools developed by Moody's Analytics is to add transparency to the CLO market. Many participants review the defaulted collateral in a portfolio. In this paper, we introduce a measure of the current percentage of collateral that is "SD" i.e., if any obligation of any issuer in any CLO is in default, then all obligations of that issuer is SD. This metric could indicate collateral which may warrant further analysis. By determining the level of impairment of such collateral (if any), analysts can further differentiate CLO performance and potential investment or divestiture opportunities. Additionally, by knowing which collateral is ID in other CLO's, opportunistic trading possibilities may arise for asset managers

Appendix I Outstanding CLO's by Vintage & Currency in the Sample