

RESEARCH

10 NOVEMBER 2015

Authors

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

Contact Us

Americas
+1.212.553.165
clientservices@moodys.com

Europe
+44.20.7772.5454
clientservices.emea@moodys.com

Asia (Excluding Japan)
+85.2.2916.1121
clientservices.asia@moodys.com

Japan
+81.3.5408.4100
clientservices.japan@moodys.com

Breakdown of CLO Collateral Marked 75 or Below

Highlights*

- » \$15.3 billion of CLO loan collateral is marked at 75 or below, the vast majority of which is in US CLO's.
- » Energy and then Metals/Mining industries dominate the low priced US collateral while the Retail Industry is the most prevalent in Europe.
- » US low priced Energy loans have 1/4 the default rate of the overall loans marked 75 or below generally.
- » Low priced Euro loans have a higher default rate, but lower Cov Lite and second lien percentages as compared to the US.

*This article is authored and published by Moody's Analytics, Inc. and does not in any way reflect the opinion of Moody's Investors Service, Inc., its affiliated credit rating agency. The data for this report is from the latest available monthly surveillance report as of October 27, 2015.

The Moody's Analytics SF Portal was used to analyze loan collateral marked¹ at 75 or below in the deal currency. Separate analysis was done for the US and European markets.

US CLO Market

Approximately \$13.5 billion (3.2% of the market) of collateral is marked at \$75 or below in US CLO's. This represents almost 6500 positions. As expected given the stress in the energy market, the Moody's Industries which combine to form the Energy Industry² represent over 40% of the stressed³ collateral with more than 2700 positions. The next two industries are Metals/Mining and Utilities⁴ holding 14.8% and 9.4%, respectively. Chart 1 shows a breakdown of all combined Moody's Industries representing over 2%.

CHART 1: US INDUSTRY OVERVIEW OF COLLATERAL MARKED AT 75 OR BELOW.

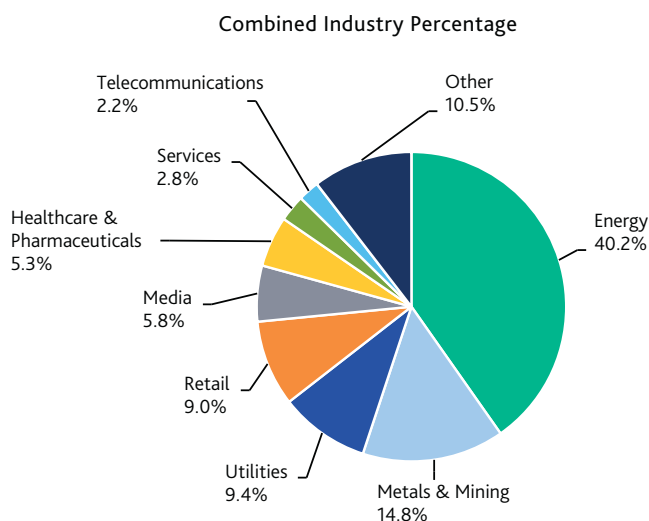


Table 1 shows the characteristics of this lower priced collateral. I will initially focus on the three industries topping the table as they comprise 65% of the total. Interestingly, while Energy dominates the results, the average⁵ rating/WARF and default percentage is better than the other industries near the top of the table. For example, these loans in the Energy Industry have an average WARF of 3664 (B3) while Metals/Mining and Utilities are a notch lower at Caa1 (4700 – 4800). The Energy default rate is 3.5% as compared to over 25% for the other two industries. While a relatively high rate of 16% of the Energy loans are second liens, the weighted average recovery rate ("WARR") is similar among the three industries. Only Automotive, Beverage/Food/Tobacco and Aerospace/Defense are majority second lien loans. Retail represents 9% of Table 1 and the average price of 71 is only slightly below the cutoff and the highest among the industries at the top of the table.

Table 2 shows the analysis of the commodity related industries vs. the others. A noteworthy item is that commodity industries have slightly lower priced collateral despite having a better WARF and a lower default rate. The market seems to be effectively projecting an increase in commodity related company defaults.

Two columns in the tables are unique to the SF Portal. These are Percent Suspected Default and Percent Suspected Cov Lite. Suspected Default and Suspected Cov Lite generally are those where the Issuer is listed

¹The marks were taken from the Moody's Analytics Structured Finance Portal ("SF Portal") as provided by Markit and Thomson Reuters. Matrix pricing was used for unpriced collateral.

² Energy is a combination of Energy: Oil & Gas and Energy: Utilities.

³ In this paper, "stressed" typically refers to a low market value.

⁴ Utilities is a combination of Utilities, Utilities: Oil & Gas and Utilities: Electric

⁵ Averages are numerical rather than weighted averages. Thus each position is counted equally regardless of its size.

as defaulted or Cov Lite in any monthly surveillance report⁶. Almost 70% of the collateral on the table is Suspected Cov Lite. Eight industries' collateral is at least 25% Defaulted and seven are at least 50% Suspected Default.

TABLE 1: US CLO'S COMBINED INDUSTRIES - COLLATERAL MARKED AT OR BELOW 75.

Industry	Balance	Count	Average Price	Average Balance	Percentage	Average MDY WARF	Average WARR	Percent Default	Percent Suspected Default	Percent Suspected Cov Lite	Percent Second Liens
Energy	5,434,237,779	2742	55	1,981,852	40.24%	3,664	49.7	3.5%	3.7%	62.2%	16%
Metals & Mining	2,004,517,229	743	58	2,697,870	14.84%	4,694	49.6	30.4%	37.4%	90.3%	0%
Utilities	1,268,802,437	408	53	3,109,810	9.40%	4,826	49.5	25.2%	26.2%	54.7%	7%
Retail	1,209,358,555	584	71	2,070,819	8.96%	3,183	49.7	0.0%	0.3%	99.0%	7%
Media	789,408,885	424	57	1,861,813	5.85%	4,120	50.0	20.0%	43.2%	55.7%	9%
Healthcare & Pharmaceuticals	714,972,878	356	35	2,008,351	5.29%	6,906	50.0	33.7%	93.8%	62.6%	10%
Services	373,269,578	210	54	1,777,474	2.76%	5,422	49.4	15.2%	37.1%	71.4%	32%
Telecommunications	296,289,571	180	70	1,646,053	2.19%	3,127	49.6	0.0%	0.6%	100.0%	7%
Capital Equipment	241,559,131	120	61	2,012,993	1.79%	4,677	49.6	0.0%	0.0%	84.2%	21%
Transportation	170,086,886	54	65	3,149,757	1.26%	3,394	50.1	0.0%	0.0%	92.6%	0%
Banking, Finance, Insurance & Real Estate	167,663,233	100	42	1,676,632	1.24%	5,455	49.8	56.0%	74.0%	26.0%	27%
Consumer goods	153,963,835	108	69	1,425,591	1.14%	5,119	49.9	13.0%	13.0%	79.6%	6%
Hotel, Gaming & Leisure	126,746,759	83	52	1,527,069	0.94%	5,734	49.6	48.2%	50.6%	65.1%	0%
Construction & Building	124,118,265	46	64	2,698,223	0.92%	2,913	49.4	2.2%	2.2%	97.8%	2%
Forest Products & Paper	77,705,449	30	51	2,590,182	0.58%	2,848	50.0	0.0%	0.0%	0.0%	0%
High Tech Industries	66,468,873	29	70	2,292,030	0.49%	4,471	49.7	3.4%	27.6%	48.3%	14%
Automotive	46,939,662	65	51	722,149	0.35%	6,918	50.4	1.5%	1.5%	4.6%	95%
Chemicals, Plastics, & Rubber	35,721,254	16	57	2,232,578	0.26%	5,067	48.9	6.3%	6.3%	93.8%	13%
Diversified/Conglomerate Service	34,560,483	39	45	886,166	0.26%	5,894	50.4	38.5%	51.3%	71.8%	15%
Metals & Mining	27,410,910	13	62	2,108,532	0.20%	2,255	45.3	0.0%	7.7%	92.3%	0%
Telecommunications	25,814,273	11	71	2,346,752	0.19%	2,720	45.3	0.0%	0.0%	100.0%	0%
Beverage, Food & Tobacco	21,733,123	22	43	987,869	0.16%	5,936	49.6	0.0%	18.2%	59.1%	55%
Wholesale	20,423,376	10	66	2,042,338	0.15%	3,490	49.3	0.0%	0.0%	30.0%	0%
Diversified/Conglomerate Manufacturing	15,150,278	8	70	1,893,785	0.11%	4,458	51.3	50.0%	50.0%	50.0%	0%
Retail	13,497,481	7	74	1,928,212	0.10%	2,649	46.2	0.0%	0.0%	100.0%	0%
Aerospace & Defense	12,711,085	35	30	363,174	0.09%	7,380	50.5	82.9%	82.9%	17.1%	63%
Healthcare & Pharmaceuticals	11,248,086	4	34	2,812,021	0.08%	2,345	45.0	0.0%	100.0%	100.0%	0%
Containers, Packaging & Glass	7,141,300	9	55	793,478	0.05%	4,073	50.0	0.0%	0.0%	0.0%	22%
Capital Equipment	6,759,430	2	65	3,379,715	0.05%	3,105	21.5	0.0%	0.0%	100.0%	0%
ABS - Corporate - CRE - CMBS - Retail	2,000,000	1	70	2,000,000	0.01%	3,490	45.0	0.0%	0.0%	100.0%	0%
Aerospace & Defense	2,000,000	1	73	2,000,000	0.01%	1,350	43.0	0.0%	0.0%	100.0%	0%
High Tech Industries	997,494	1	73	997,494	0.01%	2,220	48.9	0.0%	0.0%	100.0%	0%
Grand Total/Average	13,503,277,575	6461	56	2,089,967	100.00%	4,178	49.7	12.8%	19.9%	68.9%	12.8%
Max		2742	74	3,379,715	40.24%	7,380	51.3	82.9%	100.0%	100.0%	100.0%
Min		1	30	363,174	0.01%	1,350	21.5	0.0%	0.0%	0.0%	0.0%

⁶ Suspected Default and Suspected Cov Lite are discussed in greater detail in two research reports: "Collateral Defaults vs. Issuer Defaults" (June 2015) and "A New Way to Look at Covenant Lite Collateral in CLOs" (May 2015), respectively.

TABLE 2: COMMODITY VS OTHER INDUSTRIES

Industry	Balance	Count	Average Price	Average Balance	Percentage	Average MDY WARR	Average WARR	Percent Default	Percent Suspected Default	Percent Suspected Cov Lite	Percent Second Liens
Oil/Gas/Metals/Mining	8,027,231,776	3795	56	2,115,213	59.45%	3,867	49.6	8.6%	10.1%	68.6%	12.3%
Other	5,476,045,799	2666	57	2,054,031	40.55%	4,646	49.8	18.7%	33.9%	69.4%	13.6%
Grand Total/Average	13,503,277,575	6461	56	2,089,967	100.00%	4,178	49.7	12.8%	19.9%	68.9%	12.8%

TABLE 3: LOW PRICED US CLO COLLATERAL BY COUNTRY/PUERTO RICO

Country/Puerto Rico	Balance	Count	Average Price	Average Balance	Percentage	Average MDY WARR	Average WARR	Percent Default	Percent Suspected Default	Percent Suspected Cov Lite	Percent Second Liens
U.S.	12,349,677,881	5941	56	2,078,720	91.46%	4,221	49.7	13.3%	20.9%	68.2%	13.5%
Canada	349,289,957	144	55	2,425,625	2.59%	4,270	49.3	22.2%	24.3%	45.1%	10.4%
Luxembourg	333,893,767	139	53	2,402,113	2.47%	4,238	49.9	0.0%	0.0%	100.0%	5.0%
United Kingdom	139,648,212	56	48	2,493,718	1.03%	2,950	49.5	0.0%	0.0%	60.7%	0.0%
Norway	119,544,641	87	63	1,374,076	0.89%	2,169	49.9	0.0%	0.0%	100.0%	0.0%
Not Disclosed	90,024,099	40	60	2,250,602	0.67%	2,771	44.7	7.5%	12.5%	82.5%	2.5%
Australia	44,923,675	9	32	4,991,519	0.33%	8,070	49.9	0.0%	0.0%	100.0%	0.0%
Cayman Islands	36,297,753	18	34	2,016,542	0.27%	5,343	50.2	0.0%	0.0%	100.0%	0.0%
Marshall Islands	16,284,087	10	59	1,628,409	0.12%	3,280	49.8	0.0%	0.0%	50.0%	0.0%
Sweden	9,906,017	7	56	1,415,145	0.07%	2,720	50.5	0.0%	0.0%	100.0%	0.0%
Bermuda	6,417,374	3	56	2,139,125	0.05%	2,720	48.9	0.0%	0.0%	100.0%	0.0%
France	3,770,734	2	72	1,885,367	0.03%	6,500	63.2	0.0%	100.0%	0.0%	0.0%
Germany	2,125,785	2	45	1,062,892	0.02%		51.2	0.0%	0.0%	0.0%	0.0%
Puerto Rico	741,903	2	73	370,951	0.01%	2,720	51.6	0.0%	100.0%	0.0%	0.0%
Denmark	731,690	1	25	731,690	0.01%		51.2	100.0%	100.0%	0.0%	100.0%
Grand Total/Average	13,503,277,575	6461	56	2,089,967	100.00%	4,178	49.7	12.8%	19.9%	68.9%	12.8%
Max		5941	73	4,991,519	91.46%	8,070	63.2	100.0%	100.0%	100.0%	100.0%
Min		1	25	370,951	0.01%	2,169	44.7	0.0%	0.0%	0.0%	0.0%

Looking at the remainder of Table 1, a few interesting items arise. A few industries such as Automotive, Diversified/Conglomerate Manufacturing, Beverage/Food/Tobacco and Aerospace/Defense comprise many investments, but they tend to be smaller positions with the average below \$1mm in each case.

The country breakdown in Table 3 shows the extent of US vs. other locations of the low priced collateral. 91.5% of this collateral is US based. Puerto Rico is broken out as that is a unique situation in the US. The other countries totaling more than 1% are Canada, Luxembourg and the UK. The defaults are centered in the US and Canada.

TABLE 4: COLLATERAL MARKED AT 60 OR BELOW BY COMBINED INDUSTRIES FOR US CLO'S

Industry	Balance	Count	Average Price	Average Balance	Percentage	Average MDY WARF	Percent Default	Percent Suspected Default	Percent Suspected Cov Lite	Percent Second Liens
Energy	3,318,630,497	1432	43	2,317,479	45.52%	4,103	6.2%	6.4%	80.2%	27%
Metals & Mining	1,366,395,439	494	52	2,765,983	18.74%	5,069	45.3%	55.9%	87.9%	0%
Utilities	999,584,319	226	40	4,422,939	13.71%	6,265	45.6%	47.3%	46.5%	9%
Healthcare & Pharmaceuticals	603,239,356	281	26	2,146,759	8.27%	7,822	33.1%	100.0%	79.4%	12%
Media	284,515,386	192	44	1,481,851	3.90%	5,526	44.3%	94.3%	5.7%	3%
Banking, Finance, Insurance & Real Estate	84,868,888	47	9	1,805,721	1.16%	7,265	80.9%	89.4%	10.6%	13%
Services	83,159,841	65	22	1,279,382	1.14%	7,562	29.2%	81.5%	75.4%	3%
Construction & Building	81,496,576	28	57	2,910,592	1.12%	2,541	3.6%	3.6%	96.4%	0%
Forest Products & Paper	77,705,449	30	51	2,590,182	1.07%	2,848	0.0%	0.0%	0.0%	0%
Hotel, Gaming & Leisure	76,363,852	43	43	1,775,904	1.05%	8,663	93.0%	97.7%	32.6%	0%
Capital Equipment	73,237,773	42	52	1,743,757	1.00%	6,190	0.0%	0.0%	66.7%	48%
Retail	44,354,009	24	59	1,848,084	0.61%	4,740	0.0%	0.0%	91.7%	8%
Automotive	41,828,775	63	50	663,949	0.57%	6,995	1.6%	1.6%	1.6%	97%
Consumer goods	41,382,119	12	51	3,448,510	0.57%	5,149	0.0%	0.0%	33.3%	33%
Chemicals, Plastics, & Rubber	32,460,507	13	54	2,496,962	0.45%	4,726	7.7%	7.7%	92.3%	0%
Diversified/Conglomerate Service	15,998,098	19	21	842,005	0.22%	8,039	78.9%	78.9%	73.7%	5%
Telecommunications	15,191,249	11	52	1,381,023	0.21%	6,643	0.0%	9.1%	100.0%	91%
Metals & Mining	11,651,300	6	51	1,941,883	0.16%	2,439	0.0%	16.7%	83.3%	0%
Healthcare & Pharmaceuticals	11,248,086	4	34	2,812,021	0.15%	2,345	0.0%	100.0%	100.0%	0%
Transportation	8,882,023	2	58	4,441,011	0.12%	2,220	0.0%	0.0%	0.0%	0%
Containers, Packaging & Glass	6,855,042	7	51	979,292	0.09%	3,380	0.0%	0.0%	0.0%	0%
Beverage, Food & Tobacco	6,707,418	11	20	609,765	0.09%	7,364	0.0%	36.4%	18.2%	9%
Aerospace & Defense	3,487,656	31	26	112,505	0.05%	7,912	93.5%	93.5%	6.5%	68%
High Tech Industries	1,692,188	2	38	846,094	0.02%	8,070	50.0%	50.0%	50.0%	50%
Grand Total/Average	7,290,935,845	3085	42	2,363,350	100.00%	5,074	24.0%	36.7%	68.8%	18.8%
Max		1432	59	4,441,011	45.52%	8,663	93.5%	100.0%	100.0%	96.8%
Min		2	9	112,505	0.02%	2,220	0.0%	0.0%	0.0%	0.0%

Table 4 and Chart 2 show the results for the collateral marked \$60 or below. A little more than half of the \$13.5 billion of collateral \$75 or below is also \$60 or below. The Energy and Metals/Mining combination increase from 55% to 64% of the total as compared to Table 1. If Utilities are also included, the combination increases to 78%. A much higher percent of the \$60 or below collateral is defaulted (24% vs 13%). Additionally, the average WARF is 900 worse and the second lien percentage increased to almost 19%. To the extent that Caa buckets are not breached or the collateral has not defaulted, then the CLO's are not immediately effected. However, if defaults occur, collateral is sold at a deep discount or Caa tests are not met, there could be O/C haircuts on these CLO's.

Chart 3 compares the \$75 and below results with those of the \$60 and below. The Retail Industry drops drastically from 9% to 0.6%. No other industry changes as much. Others dropping a significant amount include Media and Services.

CHART 2: INDUSTRY OVERVIEW COLLATERAL MARKED \$60 OR BELOW

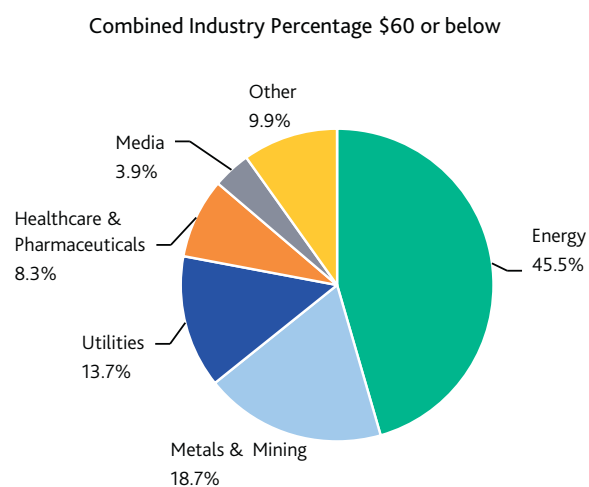
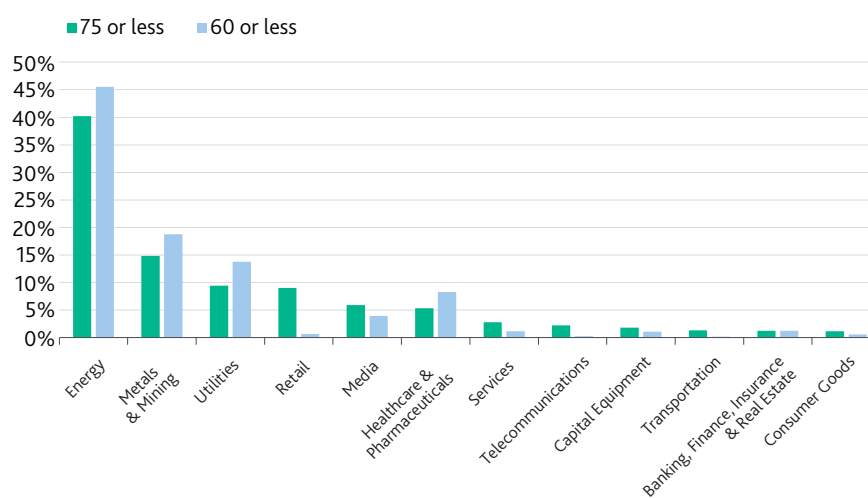


CHART 3: COMPARISON OF INDUSTRY PERCENTAGES BASED UPON COLLATERAL PRICE



European CLO Market

At €1.5 billion (2.6% of the Euro collateral), the European CLO market represents a smaller and significantly different composition of collateral marked at €75 or below.

TABLE 5: EURO COMBINED INDUSTRIES OF COLLATERAL 75 AND BELOW

Industry	Balance	Count	Average Price	Average Balance	Percentage	Average MDY WARF	Average WARR	Percent Default	Percent Suspected Default	Percent Suspected Cov Lite	Percent Second Liens
Retail	392,135,903	176	53	2,228,045	26.01%	6,506	58.7	29.5%	86.9%	2.8%	1.1%
Media	204,373,418	58	63	3,523,680	13.56%	3,926	56.4	5.2%	10.3%	0.0%	0.0%
Transportation	165,232,739	63	57	2,622,742	10.96%	2,720	60.8	0.0%	0.0%	0.0%	0.0%
Environmental Industries	153,188,302	52	46	2,945,929	10.16%	6,199	58.9	13.5%	92.3%	0.0%	0.0%
Hotel, Gaming & Leisure	140,765,887	21	35	6,703,137	9.34%	5,497	59.1	14.3%	38.1%	4.8%	23.8%
Chemicals, Plastics, & Rubber	95,456,077	39	69	2,447,592	6.33%	4,700	58.8	17.9%	17.9%	0.0%	0.0%
Automotive	79,413,504	29	49	2,738,397	5.27%	3,362	58.9	0.0%	0.0%	0.0%	0.0%
Diversified/Conglomerate Service	72,958,012	52	57	1,403,039	4.84%	4,904	61.3	11.5%	53.8%	3.8%	0.0%
Banking, Finance, Insurance & Real Estate	52,966,054	37	45	1,431,515	3.51%	10,000	61.7	16.2%	83.8%	0.0%	0.0%
Metals & Mining	52,928,195	29	39	1,825,110	3.51%	6,735	60.5	13.8%	13.8%	17.2%	0.0%
Services	40,377,297	19	66	2,125,121	2.68%		60.1	0.0%	21.1%	0.0%	0.0%
Consumer goods	22,189,571	15	54	1,479,305	1.47%	5,240	56.4	13.3%	33.3%	53.3%	0.0%
Healthcare & Pharmaceuticals	10,473,812	9	29	1,163,757	0.69%	7,318	66.4	22.2%	66.7%	66.7%	22.2%
Telecommunications	9,616,926	2	44	4,808,463	0.64%	4,700	57.4	0.0%	0.0%	0.0%	0.0%
Utilities	8,352,499	13	55	642,500	0.55%	4,493	57.3	46.2%	100.0%	0.0%	0.0%
Energy	5,666,957	12	58	472,246	0.38%	4,087	65.2	8.3%	16.7%	33.3%	16.7%
Diversified/Conglomerate Manufacturing	1,312,932	1	30	1,312,932	0.09%	6,500	67.1	100.0%	100.0%	0.0%	0.0%
Grand Total/Average	1,507,408,085	627	53	2,404,160	100.00%	5,441	59.4	15.9%	50.4%	4.9%	1.8%
Max		176	69	6,703,137	26.01%	10,000	67.1	100.0%	100.0%	66.7%	23.8%
Min		1	29	472,246	0.09%	2,720	56.4	0.0%	0.0%	0.0%	0.0%

The top two Euro industries (Retail and Media) in the Table 5 and Chart 4 have a slightly smaller combined exposure than the top one US industry (Energy). Interestingly, Energy barely shows up in the Euro report. The next three Euro industries of Transportation, Environmental and Hotel/Gaming/Leisure together make up over 30% yet are only 2% for the US (Table 1).

While there is little collateral from the Energy Industry in Table 5, the default rate is greater than for the Energy Industry collateral in the US Market. This could be because Energy Industry collateral marks are impacted by readily apparent commodity prices, while other industries are less straight forward. The differential between the US and Euro market is more pronounced when looking at Suspected Defaults (20% vs 50%). Alternatively, few of the Euro loans are Cov Lite. Finally, less than 2% of these loans are second liens as compared to almost 13% for the comparable US market.

CHART 4: EURO INDUSTRY OVERVIEW

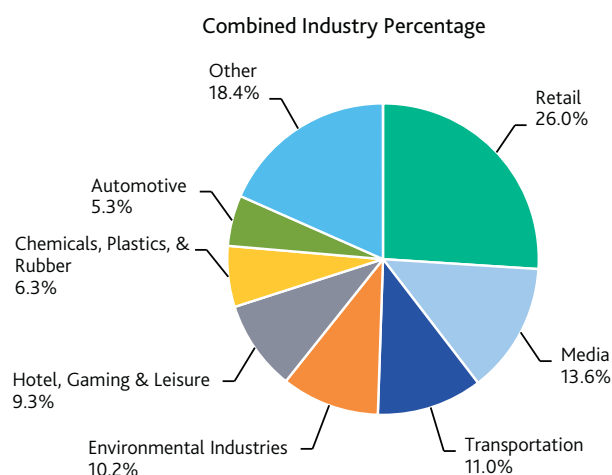


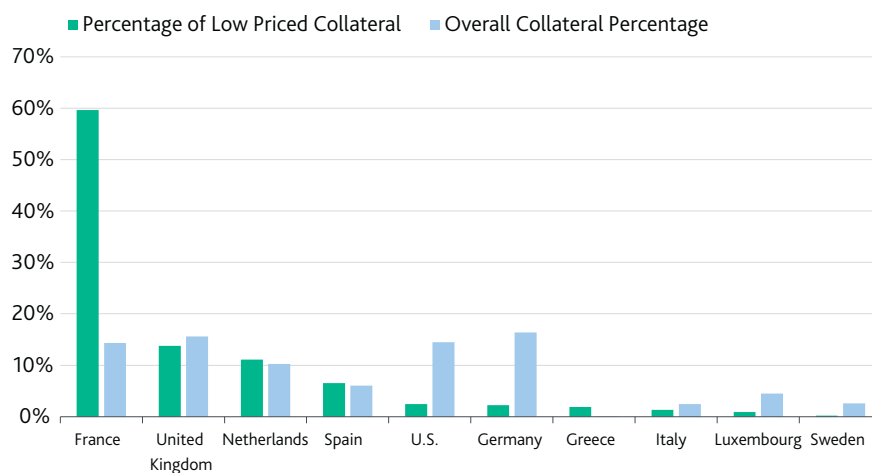
Table 6 shows the geographic breakdown of the collateral. France dominates the table with almost 60% of the collateral marked €75 or below. France represents a very small percentage of such collateral in US CLO's. The average price for both the French and UK collateral is over €60. The low marked collateral from Greece, Sweden (only 2 investment however) and Spain each average below €20. Italy is not far above that at €36. With the exception of the UK and Germany (both below 1.4%), the default rate is high in each country.

TABLE 6: LOW PRICED EURO CLO COLLATERAL BY COUNTRY

Country/Puerto Rico	Balance	Count	Average Price	Average Balance	Percentage	Average MDY WARR	Average WARR	Percent Default	Percent Suspected Default	Percent Suspected Cov Lite	Percent Second Liens
France	898,527,756	340	61	2,642,729	59.61%	5,480	59.2	7.1%	50.3%	0.0%	1.8%
United Kingdom	208,013,383	80	69	2,600,167	13.80%	4,782	60.5	1.3%	1.3%	12.5%	0.0%
Netherlands	167,538,614	50	46	3,350,772	11.11%	5,796	59.0	10.0%	98.0%	0.0%	0.0%
Spain	98,151,361	69	18	1,422,483	6.51%	10,000	56.4	73.9%	73.9%	0.0%	0.0%
U.S.	36,828,833	38	45	969,180	2.44%	5,654	64.9	23.7%	42.1%	55.3%	13.2%
Germany	33,410,272	20	47	1,670,514	2.22%	3,490	61.7	0.0%	0.0%	0.0%	0.0%
Greece	28,502,613	6	15	4,750,436	1.89%		58.8	50.0%	100.0%	0.0%	0.0%
Italy	20,093,991	14	36	1,435,285	1.33%	10,000	57.8	28.6%	100.0%	0.0%	0.0%
Luxembourg	13,856,950	8	49	1,732,119	0.92%	5,296	54.7	12.5%	75.0%	0.0%	0.0%
Sweden	2,484,312	2	5	1,242,156	0.16%		60.1	100.0%	100.0%	0.0%	0.0%
Grand Total/Average	1,507,408,085	627	53	2,404,160	100.00%	5,441	59.4	15.9%	50.4%	4.9%	1.8%
Max		340	69	4,750,436	59.61%	10,000	64.9	100.0%	100.0%	55.3%	13.2%
Min		2	5	969,180	0.16%	3,490	54.7	0.0%	0.0%	0.0%	0.0%

As we have seen, French companies represent a large percentage of the low price collateral. If France dominated the overall collateral, this would not stand out. However, as displayed on Chart 5, France is only about 14% of the total market yet 60% of the stressed collateral. Greece is also overrepresented on Table 6, but the overall numbers are still low. The Netherlands and Spain slightly underperform. Germany and the US have significantly less low priced collateral when compared to the overall Euro CLO market.

CHART 5: LOW PRICED COLLATERAL VS OVERALL COLLATERAL BY COUNTRY FOR EURO CLO'S



Conclusion

About 3.1% of CLO collateral is marked at 75 or below. In the US, about half as much is also \$60 or below. Commodities dominate the low priced collateral in the US CLO market while in Europe, Retail is the largest, but European CLOs' stressed collateral is more widely dispersed across industries. Low marked collateral could rebound or the mark could be an indicator of a future default. If i) defaults occur, ii) collateral is sold at a deep discount or iii) there is not a default, but Caa tests are not met, there could be O/C haircuts on these CLO's. Even if none of these occurs, a low price may limit CLO managers' trading flexibility. Investors could review their portfolios to determine any impact of low priced collateral.

© 2015 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. ("MIS") AND ITS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND CREDIT RATINGS AND RESEARCH PUBLICATIONS PUBLISHED BY MOODY'S ("MOODY'S PUBLICATIONS") MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS FOR RETAIL INVESTORS TO CONSIDER MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS IN MAKING ANY INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

MIS, a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MIS have, prior to assignment of any rating, agreed to pay to MIS for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Shareholder Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

For Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail clients. It would be dangerous for "retail clients" to make any investment decision based on MOODY'S credit rating. If in doubt you should contact your financial or other professional adviser.