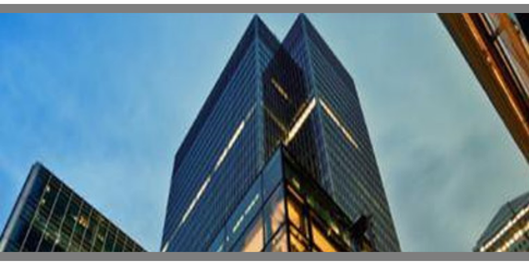

Coverage Test Definitions Render Some CLOs More Equity-Friendly

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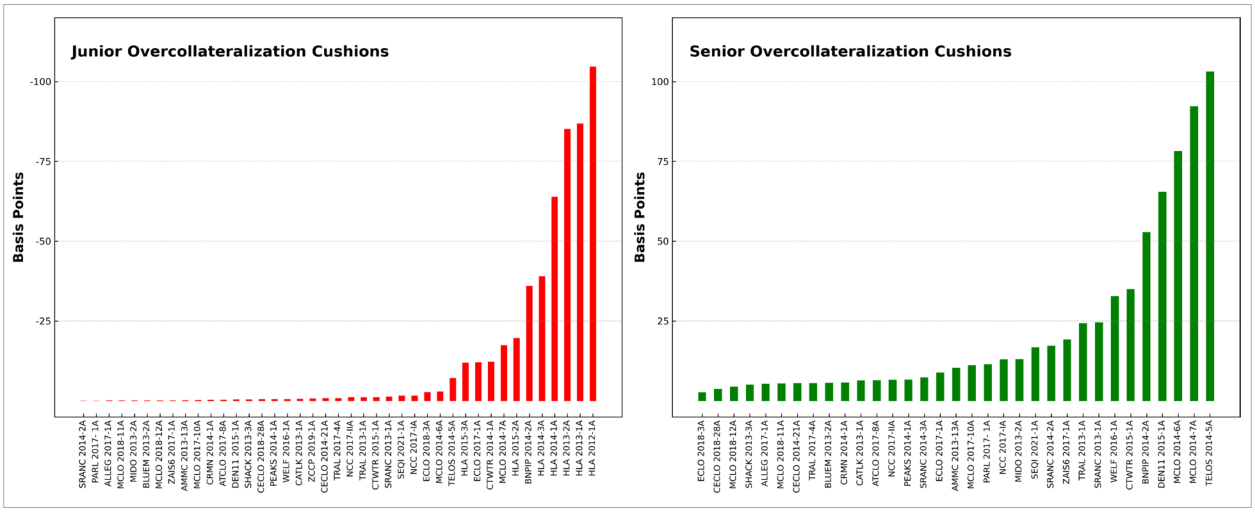
We expect greater focus on CLO overcollateralization (OC) tests in the coming months as more classes potentially fail the test, and nuances in test calculations across deals become more influential. There are currently 42 CLO deals that fail their junior OC test, based on recent trustee reports. The junior OC (negative) cushions on these deals range from –3bp on SRANC 2014-2A, that just failed its class E OC test last month, to –104.7bp on HLA 2012-1A, that has been failing its class C test since August 2022 (Figure 1). Several of the deals that are failing the junior tests also have relatively low senior OC cushions, including ECLO 2018-3A at 2.72% and CECLO 2018-28A at 3.73%.

Figure 1. Cushions on CLO Deals Currently Failing Junior Coverage Tests



Source: Bloomberg and Academy Securities

Subtle CLO documentation provisions can impact OC test calculations, and determine if deal cashflows are friendlier to subordinate and equity classes, or rather provide greater protection to senior bonds. When bonds breach their OC tests, coupon payments are redirected to pay down more senior tranches principal. This cash diversion mechanism should eventually cure the OC test, as well as improve senior OC cushions. For example, ZCCP 2019-1A E class, which breached its

OC test in February 2023, cured the following month. The deal's senior OC cushion also improved to 4.16% from 98bp last month. All told, the sooner the breach happens in distressed periods, the more protection senior bonds receive. In turn, the bonds that have failed their OC test are switching to payment in kind ("PIK") status, where the missed coupon payments are added to the tranche's principal.

In its simplest form, the OC test for each tranche compares monthly the ratio of the deal's asset value (OC test numerator) to the outstanding amount of the tranche and all the tranches above it (OC test denominator). If the ratio falls below a pre-defined ratio, the test fails. For example, in ZAIS6 2017-1A, which just failed its class E OC test, the required OC ratio percentages range from 122.6 for class A/B (senior OC tests) to 103.7 for class E (Figure 2). The class E current OC ratio is 103.56, per the deal's last trustee report.

Figure 2. Overcollateralization Test Calculations in ZAIS6 2017-1A

Overcollateralization Test	Ratio	Required	Calculation	Result
Class A/B OC	141.81%	122.60%	A / B	Passed
Class C OC	124.56%	114.50%	A / C	Passed
Class D OC	113.09%	108.90%	A / D	Passed
Class E OC	103.56%	103.70%	A / E	Failed

OC Numerator		
Aggregate Principal Balance of Collateral Obligations	294,979,713	
Principal Proceeds	30,780,205	
Defaulted Haircut	-13,506,325	
Deferring Haircut	-119,028	
Discount Haircut	0	
Excess CCC Adjustment Amount	-5,013,936	
"A" Total		**307,120,631**

OC Denominator		
A-1-R Class	146,570,890	
B-R Class	45,000,000	
A-2 Class	25,000,000	
"B" Total		**216,570,890**
C-R Class	30,000,000	
"C" Total		**246,570,890**
D Class	25,000,000	
"D" Total		**271,570,890**
E Class	25,000,000	
"E" Total		**296,570,890**

Note: Numerator and Denominator figures are US Dollars
Source: Deal Documents and Academy Securities

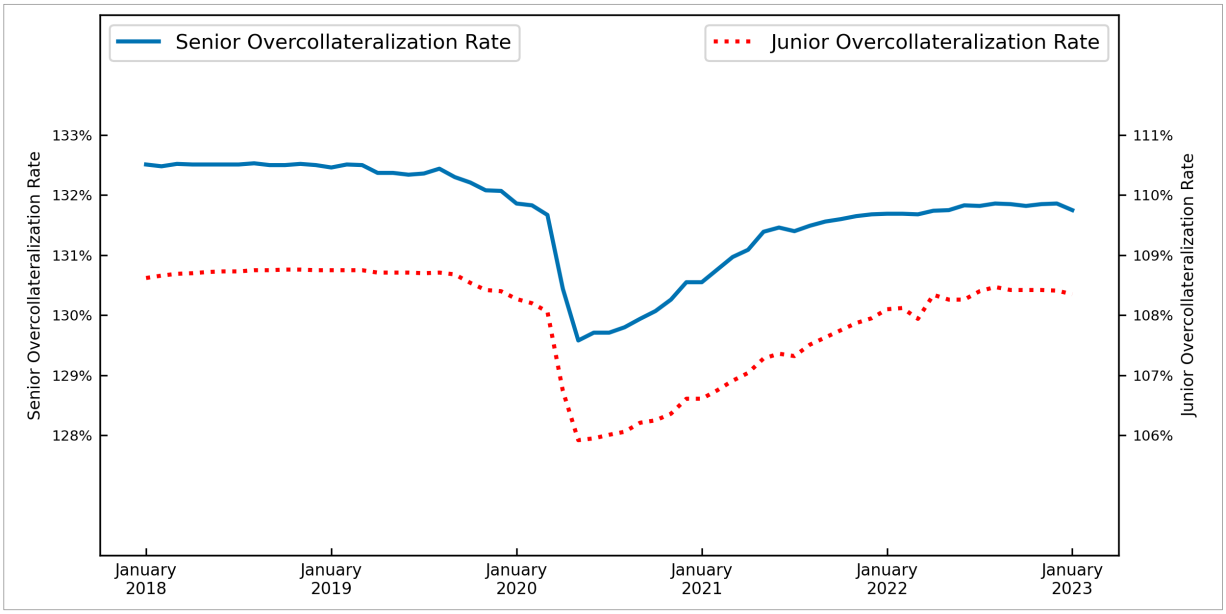
Rising Risk Buckets Trigger Cashflow Diversions

Deals can vary in how they calculate the OC test numerator. The calculation of the deal's assets value adjusts the collateral's par value based on several risk buckets. For example, if the deal accumulates triple-C rated exposures above a certain threshold (e.g. 7.5%), the excess exposure should be calculated at market price, or assumed recovery levels, instead of par. Nuanced indenture definitions of terms such as "Adjusted Collateral Principal Amount" or "Investment Criteria Adjusted Balance" will impact the value of the OC test numerator, and as a result how quickly the test is breached. For example, ZAIS6 2017-1A has four risk buckets that haircut the par value of the OC test's numerator, including defaulted, deferring, and discount obligations, as well as excess Caa/CCC adjustment. These resulted in a haircut of 5.72% of the aggregate principal balance in the deal's latest OC numerator calculation, as Figure 2 showed.

Deal Thresholds Impact OC Test Numerator Calculation

We expect OC numerators to increasingly come under pressure on the heels of corporate downgrades and credit quality deterioration. Median senior OC ratios decreased by 12bp to 131.75% across the BSL CLO universe, according to Moody's latest CLO performance report (Figure 3). Median junior OC ratios dropped by 11bp to 108.35%.

Figure 3. Senior and Junior Overcollateralization Ratios Across BSL CLO Universe (Median, %)



Source: Moody's and Academy Securities

We suggest investors track some of the following aspects on specific CLO deals:

- **Triple-C thresholds.** Higher thresholds would cause OC tests to fail later. Rising corporate downgrades may motivate issuers to set thresholds beyond the typical 7.5% in broadly syndicated loan (BSL) CLOs. Notably, the percentage of companies rated CCC+ and lower could expand by 5-6% in 2023, according to S&P. CCC-category firms accounted for 11.6% of the non-IG non-financial firm universe at year-end 2022. Some proposals on tweaking CLO deal provisions suggested at the time increasing triple-C thresholds to 15% to 35%, the agencies noted. Any deals with higher thresholds would be more equity friendly, all else equal.

- **Defaulted obligations thresholds.** Higher thresholds would have a similar effect as the triple-C bucket. OC tests haircut the value of defaulted obligations, and as such trigger breaches earlier when defaults pick up. Deals may have 5.0% or 7.5% defaulted obligations threshold versus the typical 2.5% limit, thereby delaying the application of haircuts and providing less protection to senior bonds.

- **Discount obligations definition.** The higher percentage of exposures defined as discount obligations, the earlier OC tests are likely to fail, because discount obligation haircuts lower the test's numerator. CLO documents usually define discount obligations as those purchased below 80% of par, with some potential adjustments. For example, if the exposure has a Moody's rating below B3, the threshold can be 85%. Lower thresholds, for example 70%, would allow the deal to carry more exposures purchased at significant discount at full par. This would delay OC triggers, and as such make the deal more equity friendly.

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