Market Pricing of Recent CLO Deals – Primary and Secondary Market

Primary CLO market

- CLO debt tranches have recently been priced at the Secured Overnight Financing Rate[1] ("SOFR") plus a credit spread.
  - In the primary market, CLO debt tranches (AAA to BBB rated) are usually priced at par and BB rated debt tranches are generally priced at a discount (~98% of par).

Rating	Credit Spread (bps)[2]	Price at Closing	Coupon Rate
AAA	~190	100	~7.00%
AA	~250	100	~7.60%
A	~325	100	~8.35%
BBB	~525	100	~10.35%
BB	~875	~98	~13.85%

- When a CLO is purchased (pricing date) in the primary market, the settlement (closing date) is ~6 weeks after the pricing date.
- There are ~15 financial institutions which are lead arrangers and placement agents for most CLOs issued in the primary market.

Secondary CLO market

- In the current secondary market, CLO debt tranches generally trade at a discount to par.
- The amount of the discount to par will be determined by several factors, including the specific indenture terms, collateral quality, maturity date and credit spread of the CLO debt tranche (compared to the credit spreads of CLO debt tranches in the primary market).
  - The credit spreads in primary markets are generally greater than the credit spreads of seasoned CLOs due to the higher risk premium in today's market.
- In the secondary market, the CLO index pricing for AAA, AA, A, BBB and BB rated CLO debt is currently 98.6%, 97.3%, 95.2%, 92.3% and 86.9% of par[3], respectively.
  - In the secondary market, the total return can be generated through both the coupon rate and the purchase price discount.
- CLO's secondary market settlement is T+2 business days.
- ~30 financial firms actively trade CLO debt and equity tranches in the secondary market.

1) 3-month SOFR was 5.08% as of April 28, 2023.
2) The credit spread is presented as a single number representing the approximate credit spreads for recently closed deals (as of April 28, 2023), in the primary market. The credit spread for future primary deals may vary substantially based on the specific CLO terms and other factors including who is the CLO manager.
3) The CLO debt index prices represent the approximate price of similarly rated CLO debt tranches, as of April 28, 2023. The price for any specific CLO debt tranche may vary substantially from the respective index price.

STRUCTURAL BENEFITS OF CLO INVESTING

US Dollar Denominated Floating Rate Investments limit Interest Rate/Currency Risk

- CLO tranches are floating rate based on an index rate[1] plus a credit spread.
- The index rate is reset every three months, based on the current market rate, which provides a hedge against duration/interest rate risk.
- The CLO tranches are US dollar denominated, eliminating any foreign currency exposure.

Known and Secure Collateral Quality

- CLO collateral consists primarily (at least 90%) of first lien leveraged loans.
- First lien leveraged loans are floating rate, senior secured debt issued by cash flow positive companies (public or private) with ~6 to ~7-year maturity and are typically rated in a range from BB+ to B-[2].
- First lien loans have had a historical annual default rate of ~2.9% during the 20-year period through 2021[3].
- Principal recoveries of defaulted first lien loans have been ~76% from 2002 to 2021[3].

Actively Managed around Diversification and Collateral Quality Requirements

- CLOs benefit from active management by the CLO manager of a diversified portfolio, subject to ongoing concentration limits and collateral quality test covenants per the CLO indenture.
- CLO managers have generally been able to maintain a lower default rate than the industry average within their CLO portfolios, due to the flexibility to buy or sell assets at any time, subject to CLO indenture terms.

CLO's Cash Flow Structure is Insulated from Marked to Market Variability

- CLOs are structured as cashflow (not market value) structures.
- Underlying investments (e.g., leveraged loans) inside the CLOs are generally carried at par, not fair value (with some exceptions), for calculation purposes for the various financial tests.
- The benefit of a non-mark-to-market structure is that the CLO manager will generally not be a forced seller of collateral assets during temporary market weakness.

Transparency and Independent Trustee Oversight

- CLOs are subject to considerable documentation, comprehensive monthly and quarterly reporting requirements, and independent trustee oversight.
- Financial institutions participate in a daily secondary trading market on many leveraged loans held by CLOs, as well as CLO debt and equity tranches.
- CLO debt tranches are rated by a NRSRO at closing and are continuously monitored by a NRSRO post-closing. ~98% of loans held by CLOs are rated by a NRSRO.

1) The index rate used is either the London Inter-Bank Offered Rate ("LIBOR") or SOFR. LIBOR will no longer be available as an index rate after June 30, 2023, and the only index rate available thereafter will be SOFR.
2) Based on the ratings issued by a nationally recognized statistical rating organization ("NRSRO").
3) Based on NRSRO industry report.

CLO DEBT TRANCHES – CREDIT QUALITY/RISK PROFILE

- **Minimal Default Rates for CLO debt**
  - Since the establishment of the CLO market in the early 1990's through year-end 2021, no U.S. AAA rated CLO debt tranche has defaulted[1].
  - During this same time period, there has been one default of an AA tranche, five defaults of an A tranche, nine defaults of a BBB tranche, twenty-four defaults of a BB tranche and six defaults of a B tranche[1].

- **Ratings upgrades and downgrades since the early 1990s[1]**

	Number of Ratings	Upgrades	Downgrades
AAA	4,869	N.A.	2.7%
AA	3,281	24.6%	1.0%
A	3.010	28.2%	1.8%
BBB	2,787	23.5%	8.1%
BB	2,217	15.7%	18.5%
B	401	3.7%	19.7%

- **CLO Debt and Equity - priority of payment**
  - The AAA and AA tranches (the "Senior Notes" of the CLO) have first and second payment priority to the CLO investors respectively, per the interest and principal payment waterfalls under the CLO indenture.
    - Any potential CLO losses are incurred in reverse order, with the CLO equity absorbing such losses first, and if such losses exceed the equity outstanding, followed by the junior debt tranches and so on.

- **Over-Collateralization and Interest Coverage Tests**
  - Over-Collateralization ("OC") and Interest Coverage ("IC") tests are determined after the AAA and AA quarterly interest payments are paid in full to the CLO investors per the payment waterfall.
  - Should an OC or IC test fail, a "self-curing" mechanism per the CLO indenture either:
    - Partially or fully diverts interest payments ("interest diversion") from the junior tranche alongside any applicable diverted reinvestment principal proceeds to pay down the most senior debt tranche outstanding in order of priority (AAA, AA and so on) or
    - Requires the purchase of additional collateral until the test(s) is in compliance.
  - This self-curing mechanism is an important protection measure that benefits the debt tranches, especially the Senior Notes (the AAA and AA debt tranches) of the CLO.
  - The debt tranches benefit from the overcollateralization of the CLO structure as there are more collateral assets held in the CLO than the total amount of debt outstanding.

1) *Based on the ratings issued by a NRSRO.*

- **Correlation and Diversification**
  - CLO debt tranches (AAA to BBB rated) have had a low correlation to U.S. treasury notes (1-year to 5-year notes) given CLOs' floating rate debt tranche structure.
  - CLOs typically hold between 150 and 300 assets, invested in approximately 20 to 30 different industries, subject to ongoing concentration limits and collateral quality tests.
- **CLO debt tranche price recovery during the Covid market dislocation**

	Date of Market Low	Market Low Price	Months to Recover/ (Price Level)
AAA	3/24/2020	92.26 of par	~5 months / (99+ of par)
AA	3/24/2020	86.02 of par	~6 months / (99+ of par)
A	3/25/2020	83.11 of par	~9 months / (99+ of par)
BBB	3/24/2020	70.83 of par	~11 months / (99+ of par)
BB	3/24/2020	60.20 of par	~13 months / (97+ of par)

Outlook for the CLO Market

- The CLO market is expected to continue to become more liquid, have better pricing information, and grow in dollar amount and number of outstanding deals.
- The anticipated continued growth of the leveraged loan market should result in a corresponding increase in CLOs.
  - CLOs represent the largest investor group (~65% market share) in the leveraged loan market.
  - The aggregate size of the leveraged loan market was ~$1.4 trillion, and the US CLO market was ~$900 billion as of year-end 2022.
- Demand from Institutional and retail investors is expected to continue to grow given the risk adjusted returns and default rates of CLO debt tranches.
- In June 2022, an electronic trading platform was established (Octaura Holdings), to improve transparency in market execution and trading information.
  - Octaura was created by seven major CLO arranger banks (Citibank, Goldman Sachs, JP Morgan, BofA, Morgan Stanley, Wells Fargo and Credit Suisse).
  - It is an independent company set up to create the first open market electronic trading platform for syndicated loans and CLOs. Syndicated loans will be available first, followed by CLOs, with other credit products expected to follow.

Important Risk Disclosures

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