CLOs

The Tail of CQTs: Return of the Repricings

CORE

As loan repricings increase and downgrade rates remain high, CLO collateral quality tests are at risk of more failures. However, the pain should be felt unevenly across deals, with managers most exposed to the tails of the loan market ("barbelling") seeing more pressure on tests and the potential need to slowly de-risk.

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With loan repricing supply taking off in the US (see Reprice If the Price is Right) and Europe (see Rally On, Reprice More), concerns about the effects of repricings on CLOs have increased. The caution is understandable: following the last loan market repricing wave in 2016, weighted average spread (WAS) test failure rates increased to 8-13% from close to zero and annualized median equity distributions fell 7-10 points.

This time around, though, we expect limited downside to average loan index coupons based on current coupon saving levels for loans. But while the average coupon should see limited decline, the tails of the loan market could see larger changes. In combination with heightened loan downgrades, managers that utilize a barbell strategy could see collateral quality test (CQT) failures increase relatively more, with excess spread also declining, pushing equity distributions lower.

Manager Deep Dive

The increase in loan repricings was just another example of the challenges CLO managers faced in 2019. Loan downgrade to upgrade ratios were the highest in years, with downside moves after a downgrade growing more violent (see Be Careful of Falling B's). With weighted average rating factors (WARFs) moving higher as a result, and now WAS, which has remained relatively flat hitherto, potentially coming under pressure, CLO managers have had to become more creative to keep passing CQTs (see Global CLO Primer for an explanation of CQTs).

To better understand the effects of the loan repricings and downgrades on the CLO market, we analyzed changes in CLO managers' portfolios from September 1, 2019, to January 27, 2020. We used the set of CLO managers that had at least two CLOs in reinvestment as of January 27, 2020, with original settle dates between January 1, 2010, and March 27, 2019. This analysis encompasses 101 US BSL and 36 European CLO managers; the manager data can be found in the Excel attachment to this report.

CLO Manager Data

Backup US BSL and European CLO manager data utilized throughout the report

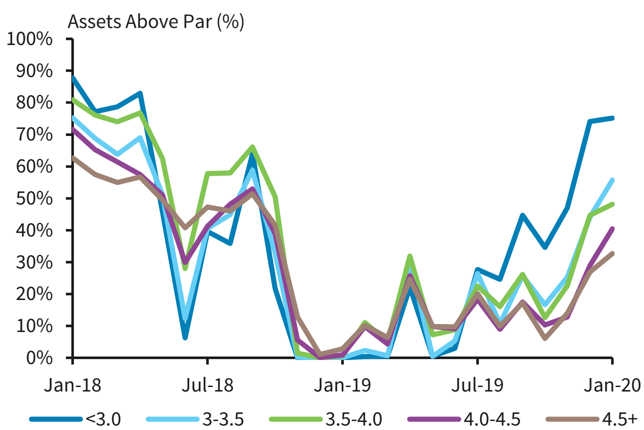
Asset Coupon Transitions

As noted in our 2020 US Loan Outlook (see *Enthusiasm curbed by tail risks*), we expect the effect of repricings on the index to be less than 10bp this year (with similar results in Europe), but segmented spread buckets are likely to see different levels of spread compression as the percentage of assets trading above par is skewed towards higher rated, lower spread assets.

As Figure 1 shows, around 75% of loans in US BSL CLOs with a spread below 300bp (31% of CLO assets) trade above par, while only about half of loans with spreads between 300bp and 400bp trade above par (38% of assets). The percentage of higher spread loans is even lower - just 33% of loans with a spread of 450bp or more (18% of assets) are trading above par.

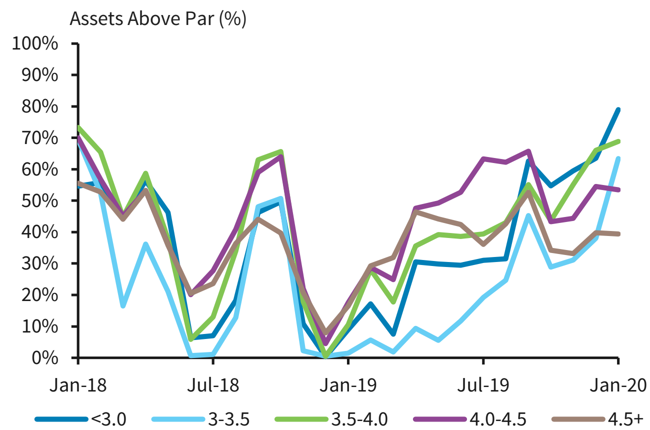
The buckets of assets trading above par are even larger in European CLOs (Figure 2). Roughly 79% of assets with a coupon below 300bp (11% of CLO assets) are trading above par, while more than 60% of assets with coupons between 300bp and 400bp trade above par (54% of assets). Similar to the US, though, the percentage of higher coupon assets is lower - just 39% of assets with a coupon of 450bp or more (18% of assets) are trading above par.

FIGURE 1. **Lower Spread Assets in US CLOs Are More Likely to Trade above Par**



Note: Assets in reinvestment US BSL CLOs
Source: Kanerai, Intex, Markit, Barclays Research

FIGURE 2. **Similar Story for Assets in European CLOs, Though Percentages Are Higher in Comparison**

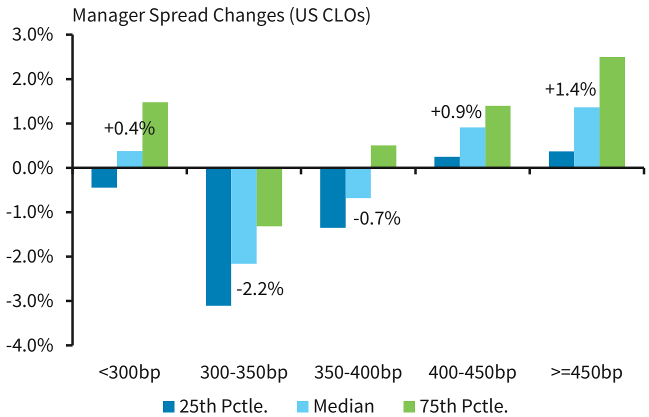


Note: Assets in reinvestment European CLOs
Source: Kanerai, Intex, Markit, Barclays Research

With assets that have lower coupons more likely to trade above par, we would expect to see these buckets in CLOs (generally less than 400bp of spread) decline relatively more should repricings continue and managers attempt to maintain WAS test cushion. Already, US BSL CLO managers have reduced exposure to loans with spreads between 300bp and 350bp by 2.2 percentage points since the start of September, while exposure to higher spread loans has increased 1.4 percentage points (Figure 3).

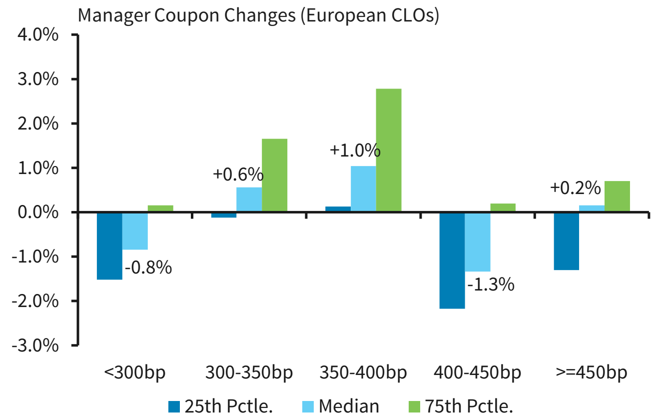
European CLOs saw a nearly opposite trend, though, with exposure to assets with coupons between 300bp and 400bp increasing 0.6 to 1.0 percentage point since September, but exposure to assets with a coupon below 300bp and assets with coupons of 400bp or higher falling (Figure 4).

FIGURE 3. **Exposure to Lower Spread Assets Has Declined in US CLOs**



Note: Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

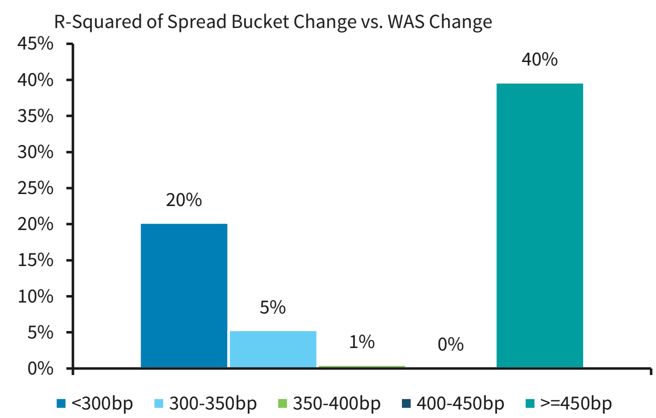
FIGURE 4. **Opposite for European CLOs, with Higher Coupon Asset Buckets Seeing the Largest Decrease in Exposure**



Note: Only European CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

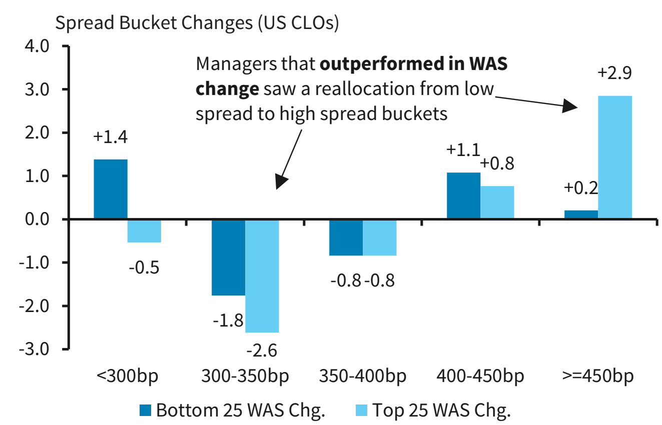
Repositioning in the tails of asset spreads drove most of the change in US BSL CLO WAS, with changes in exposure to assets paying 450bp or more driving a majority of the change (Figure 5). For the 25 managers that outperformed in WAS change over the roughly four-month period, asset spread exposure was reallocated from lower spread buckets (300-400bp) into assets with spreads of 450bp or more (Figure 6).

FIGURE 5. **The Tails of Asset Spreads Drove the Change in US CLO WAS**



Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

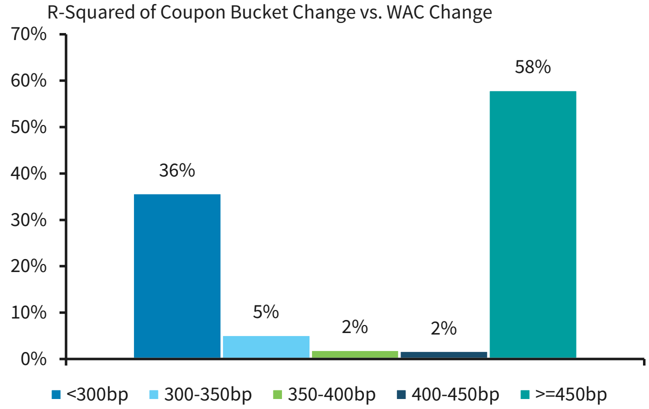
FIGURE 6. **Deals That Outperformed in WAS Change Did So by Reallocating to Higher-Spread Buckets**



Note: Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

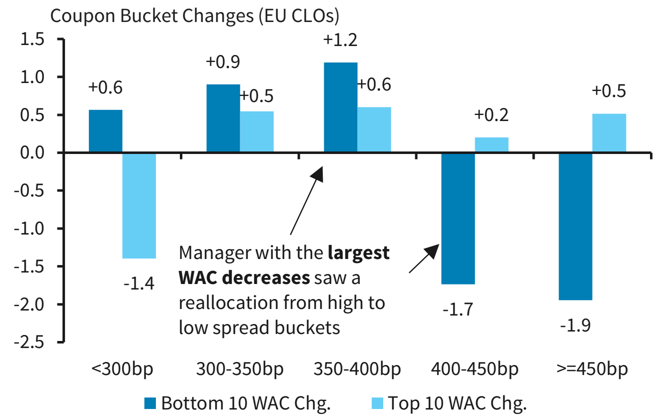
Similar to the US, repositioning of the tails of asset coupons drove most of the change in European CLO weighted average coupons (WAC), with changes in exposure to assets paying 450bp or more a bigger driver than in the US (Figure 7). For the 10 managers that saw the most WAC underperformance, exposure was reallocated from higher coupon buckets (400bp or more) into assets with coupons of less than 400bp (Figure 8).

FIGURE 7. **The Tails of Asset Coupons Drove Even More of the Change in WAC for European CLOs**



Note: Only European CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

FIGURE 8. **Deals That Outperformed in WAC Change Did So by Reallocating to Higher-Spread Buckets**



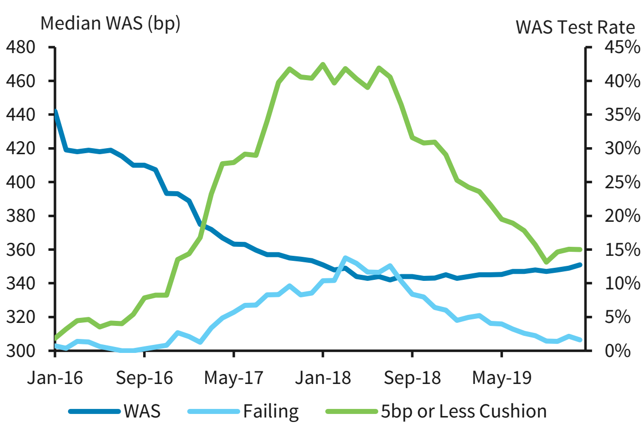
Note: Only European CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

Looking Back

The last repricing wave in the US and European loan markets also drove significant changes to CLO portfolio compositions, with asset spreads declining materially for more than two years. From January 2016 to January 2018, the median US BSL CLO WAS declined over 90bp, with the median European CLO WAS falling nearly 70bp. As a result, CLO WAS tests began to fail. While a manager can still typically trade the portfolio if a CQT fails, the following purchases must maintain or improve the failing test, which can be difficult in an environment where most assets are repricing lower.

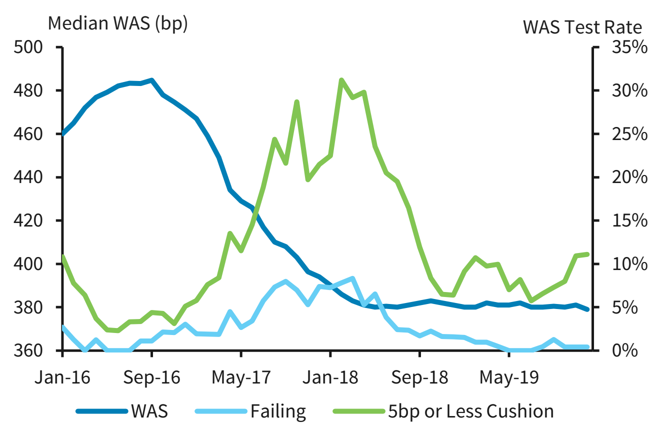
In the US, 13% of in reinvestment US BSL CLOs were failing their WAS test by mid-2018, with more than 40% having 5bp or less of WAS test cushion (Figure 9). European CLOs saw relatively fewer WAS test failures, reaching a max of only 8% and with just over 30% having 5bp or less of test cushion at the peak (Figure 10).

FIGURE 9. **WAS Failure Rates Reached 13% in US BSL CLOs Following the Last Repricing Wave...**



Note: Only in reinvestment US BSL CLOs.
Source: Kanerai, Intex, Barclays Research

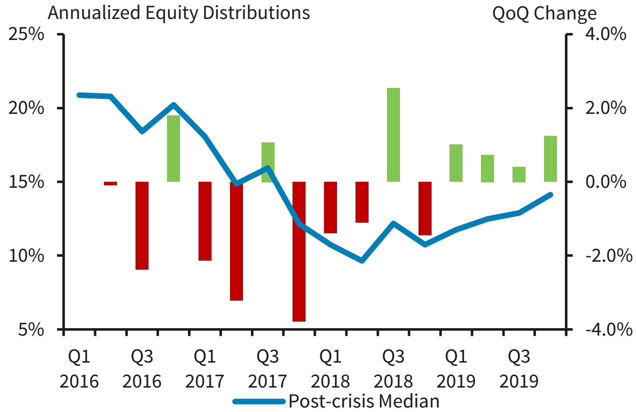
FIGURE 10. **...While WAS Failure Rates Reached Only 8% in Europe**



Note: Only in reinvestment European CLOs.
Source: Kanerai, Intex, Barclays Research

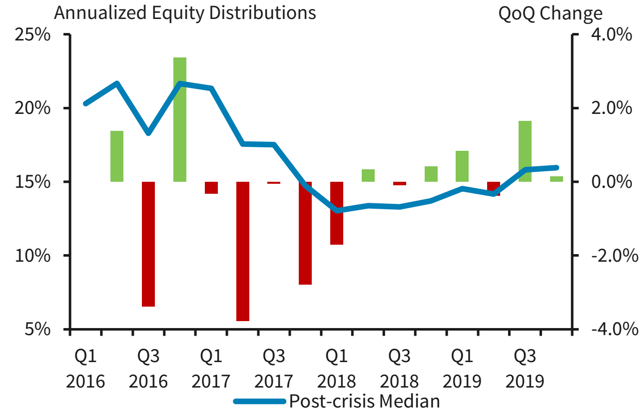
An increase in CQT failure rates was not the only by-product of the last repricing wave; excess spread also declined sharply, pushing CLO equity distributions lower. Median annualized equity distributions for US BSL CLOs fell from around 21% at the start of 2016 to around 11% by the start of 2018 (Figure 11), and from around 20% down to 13%, respectively, for European CLOs (Figure 12).

FIGURE 11. US CLO Annualized Equity Distributions Fell by around Ten Points from 2016 to 2018



Note: Median equity distributions for all in reinvestment US BSL CLOs.
Source: Kanerai, Intex, Barclays Research

FIGURE 12. European CLO Annualized Equity Distributions Fell by Only around Seven Points



Note: Median equity distributions for all in reinvestment European CLOs.
Source: Kanerai, Intex, Barclays Research

A continued surge in repricings could not only pressure excess spread, but may also put pressure on new issue CLO supply if CLO liability costs do not decrease in line with asset spreads to help the equity arb (ie. the difference between CLO asset spreads and debt cost). However, as we noted in Reprice If the Price is Right, we do not think it is worth lowering our issuance forecasts since the effect on CLO assets should be relatively capped. Additionally, there are many more factors to the equity arb than just the spread on the assets, as we discussed in Dissecting and Forecasting the CLO Equity Arb.

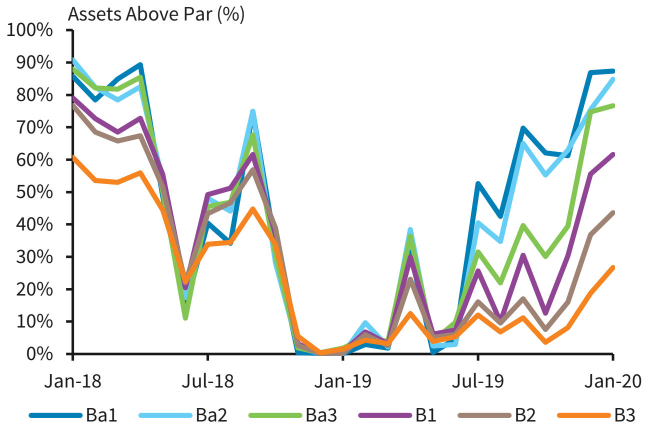
Asset Rating Transitions

Rating transition concerns also continue to be elevated, especially as downgrades remain heightened and higher rated assets are being repriced. While asset ratings in CLOs typically center around the single-B category, assets with a facility rating of Ba or higher still typically account for a fourth to a third of collateral in US BSL CLOs.

Around 70% of the Ba rated in assets in US CLOs are trading above par, while this falls to only half for B1 assets (Figure 13). Lower-rated assets are trading lower: just 38% and 22% of B2 and B3 assets are trading above par, respectively.

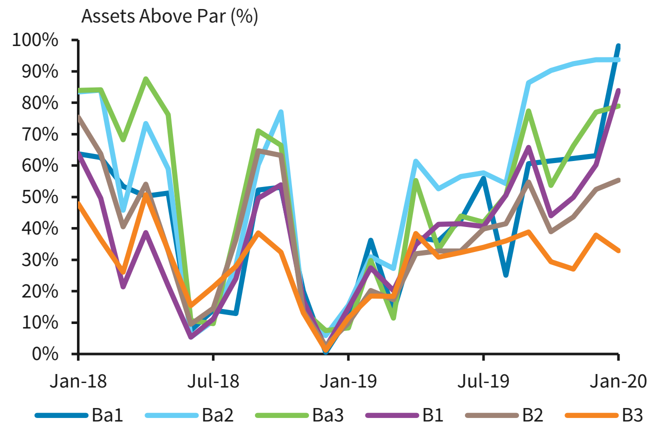
While B1 and higher exposure in European CLOs is typically lower by comparison at only 10-15% of collateral, higher-rated assets are still trading higher. More than 80% of the Ba and B1 rated in assets in European CLOs trade above par, while only about half of B2 rated assets and 33% of B3 assets are trading above par (Figure 14).

FIGURE 13. Higher-Rated Assets in US CLOs Are More Likely to Trade above Par



Note: Assets in reinvestment US BSL CLOs.
Source: Kanerai, Intex, Markit, Barclays Research

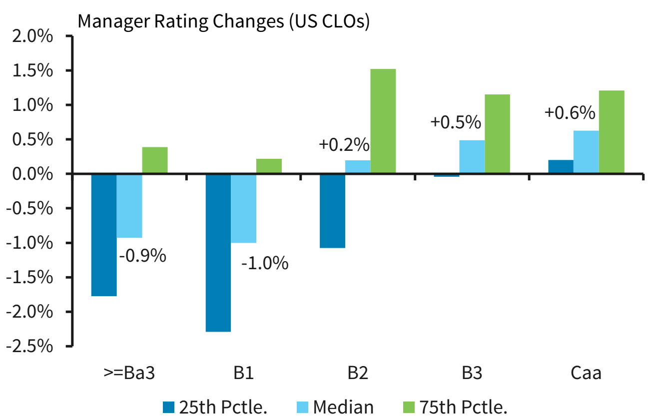
FIGURE 14. Similar for European CLO Sssets, Though Percentages Are Generally Higher in comparison



Note: Assets in reinvestment European CLOs.
Source: Kanerai, Intex, Markit, Barclays Research

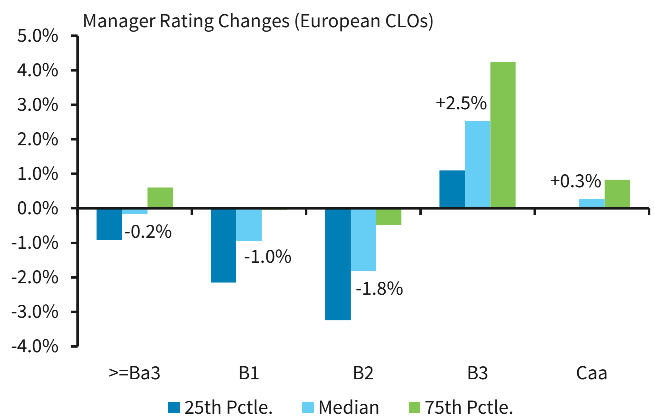
With higher-rated assets repricing coupons lower and increasing loan downgrades, US CLO exposure to higher rated assets has declined. On average, US BSL CLO managers have lost almost 1 percentage point of Ba and higher assets and B1 assets since September 2019, while B2 through Caa buckets increased, on average, 0.2 to 0.6 percentage points (Figure 15). European CLOs saw a similar trend, although because average asset ratings are slightly lower in Europe, higher-rated asset exposure fell less, while B2 buckets declined on average by 1.8 percentage points (Figure 16).

FIGURE 15. US CLOs Have Seen a General Shift Lower in Asset Rating Buckets since September



Note: Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020
Source: Kanerai, Intex, Barclays Research

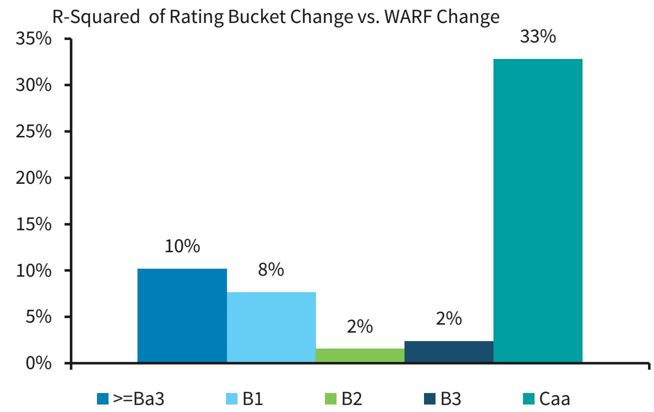
FIGURE 16. Similar for European CLOs, Though with GreaterTransition from B2 to B3 Buckets



Note: Only European CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020
Source: Kanerai, Intex, Barclays Research

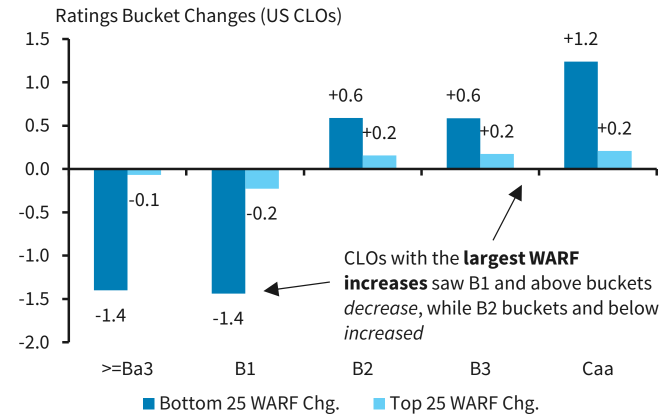
Unlike the changes seen in asset spread buckets, only one of the tails drove most of the change in US BSL CLO WARF levels, with changes in exposure to Caa-rated assets the principal factor (Figure 17). For the top 25 managers by WARF performance (ie, WARF change was low or even negative), rating exposure deteriorated, but to a lesser extent than the rest of the sample, with Ba and B1 exposure declining 0.1-0.2 percentage points. Managers that underperformed on WARF change saw a much larger transition lower in rating buckets (Figure 18).

FIGURE 17. Lower-Rated Asset Buckets Drove Most of the Changes in US BSL CLO WARF Levels



Note: Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

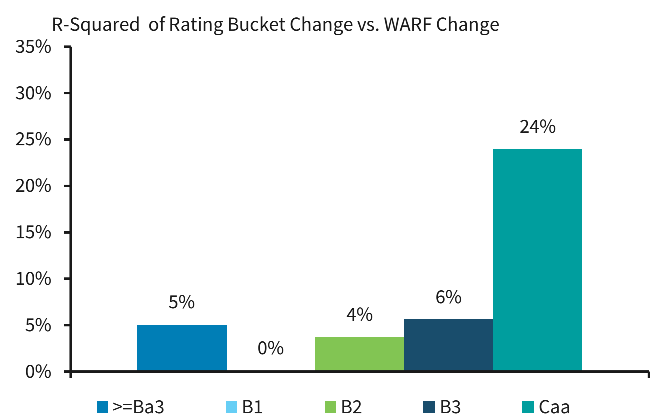
FIGURE 18. Managers That Outperformed on WARF Change Saw Lower-Rated Buckets Fill up Less



Note: Only US CLO managers in sample. Change from latest Intex updates as of Sept 1ember, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

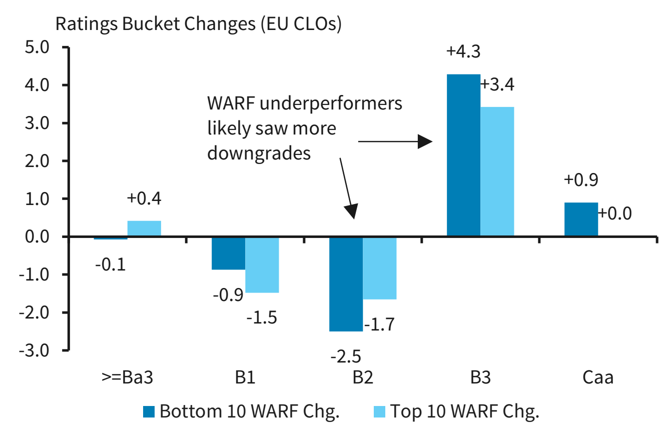
Similar to the US, but to a lesser extent, changes in exposure to Caa-rated assets drove a majority of the change in European CLO WARFs (Figure 19). WARF performance for European CLO managers was more mixed, with similar trends for the top 10 managers that under- and outperformed (Figure 20). For the top 10 managers by WARF performance, ratings exposure deteriorated, but to a lesser extent than those that underperformed, with B2 exposure decreasing and B3 exposure increasing relatively less.

FIGURE 19. Similar to the US, Lower Rated Asset Buckets Drove Most of the Change in EU WARFs



Note: Only European CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

FIGURE 20. Managers That Underperformed on WARF Change Saw a Higher Transition from B2 to B3 Assets

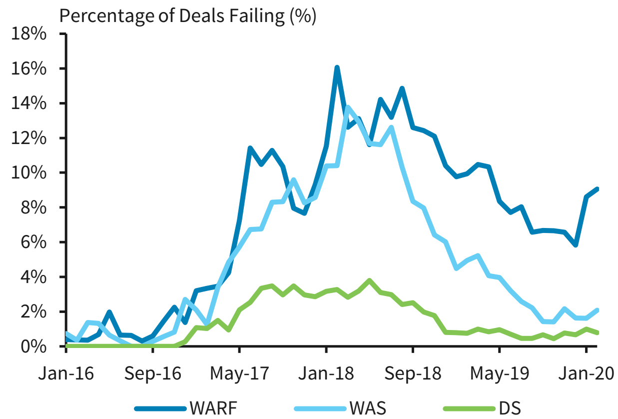


Note: Only European CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

Looking Forward

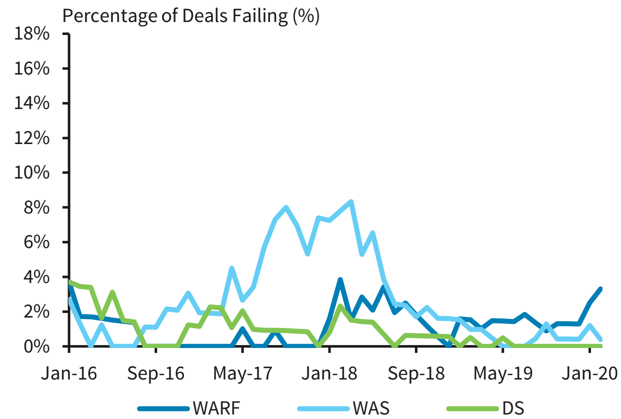
As loan downgrade rates remained elevated in 2H19, we find that WARF test failure rates have begun to rise again, with US CLOs seeing a higher rate of failures (Figure 21). WAS test failure rates remain relatively low, though this could increase with more repricings, with rates around 2% in US CLOs and close to 0% in European CLOs (Figure 22).

FIGURE 21. US CLOs Have Been More Likely to Fail WARF Tests since Mid-2018



Note: Only US BSL CLOs in reinvestment.
Source: Kanerai, Intex, Barclays Research

FIGURE 22. European CLOs Have Seen Relatively Lower CQT Failure Rates



Note: Only European CLOs in reinvestment.
Source: Kanerai, Intex, Barclays Research

We believe this difference in WAS and WARF test failure rates could be due to managers being more willing to fail WARF tests, especially as loan downgrades have picked up. As we discussed in A CLOser Look Inside the Matrix, CQT limits operate off a matrix, with the maximum WARF typically based on current minimum WAS and diversity score (DS) levels.

As average asset spreads have remained about flat, CLO managers have kept minimum WAS test limits relatively unchanged since the end of 2018. And while maximum WARF test limits have moved higher, the increase in limits is being outpaced by downgrades. Moody's notes that some CLOs have even purposefully worsened their WARF test failures to ensure they keep passing WAS tests, as having to find new assets that maintain or improve both a failing WARF and WAS test is becoming exceptionally difficult. The ability to perform this action is deal dependent, though, as some deals require that the tests cannot be failed further after a movement in the test limits.

We also find that average market CQT cushions can hide vintage effects. Nearly a third of 2017 vintage US BSL CLOs have 5bp or less of WAS cushion, compared with less than 10% for 2018 vintage deals (Figure 23). Deals issued in 2017 or earlier were most exposed to the last repricing wave and thus have had to be more nimble over time in replacing asset spreads. And despite diversity score (DS) levels having continually increased over the past few years, cushion for this test has remained tight as managers keep pushing for more diversification as a means to maintain passing levels of WAS and WARF tests.

FIGURE 23. **CQT Cushion Differs Greatly by Vintage - Nearly a Third of 2017 Vintage US CLOs Have 5bp or Less WAS Test Cushion**

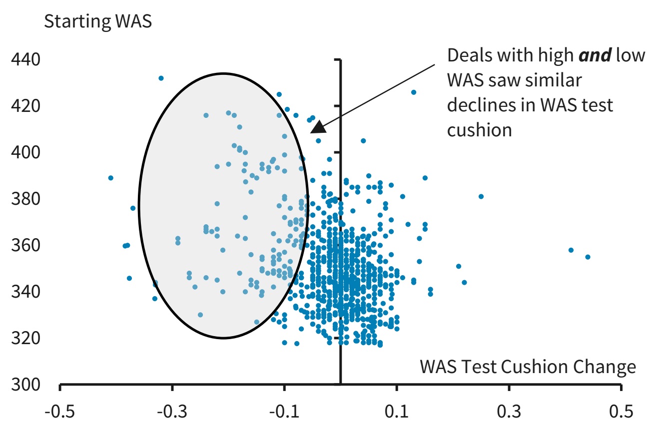
	WAS				Moody's WARF				Diversity Score			
	US		EU		US		EU		US		EU	
Vintage	Fail	<=5bp	Fail	<=5bp	Fail	<=10pt	Fail	<=10pt	Fail	<=5pt	Fail	<=5pt
2014	1.4%	17.6%	0.0%	18.5%	7.0%	12.7%	0.0%	25.0%	2.9%	27.5%	0.0%	50.0%
2015	4.4%	14.7%	0.0%	27.8%	9.1%	13.6%	4.0%	4.0%	6.3%	38.1%	0.0%	54.2%
2016	4.9%	29.9%	0.0%	12.8%	13.7%	15.7%	0.0%	0.0%	8.0%	43.0%	0.0%	35.3%
2017	10.4%	33.3%	0.0%	20.0%	14.9%	14.9%	0.0%	0.0%	12.7%	44.0%	0.0%	47.4%
2018	6.9%	9.5%	2.2%	11.1%	18.4%	24.1%	6.7%	13.3%	7.7%	47.1%	0.0%	55.6%
2019	1.9%	9.6%	0.0%	13.3%	3.0%	6.0%	5.6%	9.7%	2.8%	27.3%	0.0%	41.7%

Note: Data show failure rate and how close deals are to a CQT failure. Only CLOs in reinvestment as of January 27. 2020.
Source: Kanerai, Intex, Barclays Research

Should we see repricings cut 10bp on average from CLO WAS and loan downgrades continue, we could obviously see more test failures, especially for vintages that have very little cushion today. But to simply take 10bp off the average WAS test cushion would likely overstate a projected failure rate since CLO managers have several avenues to prevent such failures.

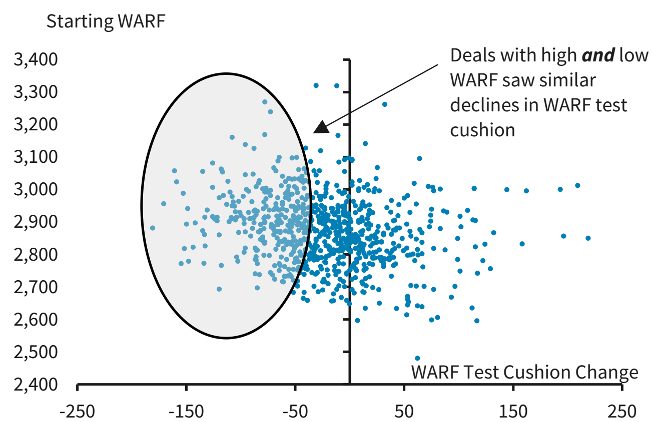
Even managers with relatively lower WAS levels can still maintain WAS test cushion decline at a similar rate to high spread managers, as we have seen since September 2019 (Figure 24). It is a similar case for high and low WARF managers, for whom WARF test cushion declines were similar over the same period (Figure 25). Thus, we think CQT failure will depend more on vintage and manager than starting portfolio composition.

FIGURE 24. **Starting WAS Gives Little Insight into Deals That Ultimately Lose WAS Test Cushion**



Note: Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

FIGURE 25. **Similarly, Starting WARF Levels Provide Few Clues to Deals That Lost Cushion**

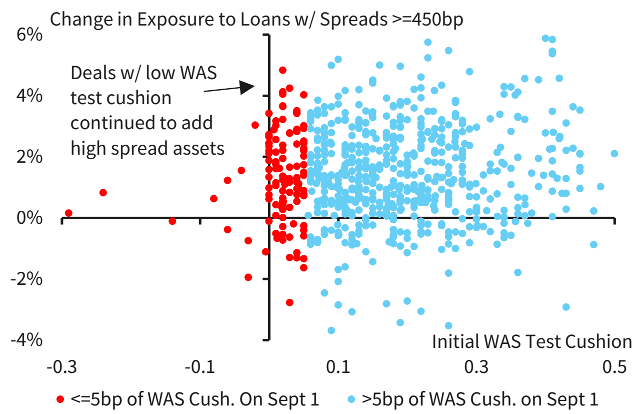


Note: Only US CLO managers in sample. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

Regardless, a majority of CLOs will have to de-risk if WAS declines more than expected as repricings increase and WARFs creep higher as downgrade rates rise. Managers have different options to achieve this, such as shifting to a slightly more conservative portfolio, but some managers may instead choose to increase tail risk in order to keep passing such tests.

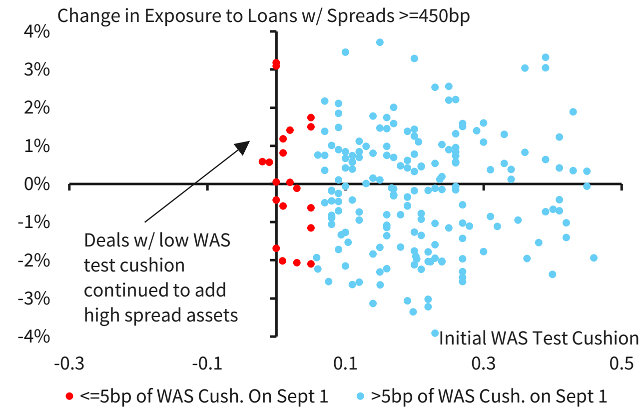
In the US, we found that some deals have continued to add risk even though test cushions are relatively low (Figure 26). For example, some deals have continued to add exposure to high spread assets (more than 450bp spreads) since September 1, even though WAS test cushions at the start of the period were relatively low (5bp or less). But similar to the European CLO data (Figure 27), the dispersion across managers is high, with some deals choosing not to add tail risk in order to stay onside of CQTs.

FIGURE 26. Some US CLOs Continued Adding High Spread Assets Even as WAS Test Cushions Remained Tight



Note: Only US BSL CLOs with test data available. Change from latest Intex updates as of Septenber 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

FIGURE 27. Similar for European CLOs, but Results Are Still Mixed



Note: Only European CLOs with test data available. Change from latest Intex updates as of September 1, 2019, and January 27, 2020.
Source: Kanerai, Intex, Barclays Research

Thus, while it is difficult to predict which types of deals and managers are most susceptible to failing a CQT (outside of specific vintages with less cushion to begin with), we still recommend that investors analyze how managers are dealing with CQTs and how the portfolio is shifting as a result.

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