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Relative Value Assessment of CMBS B-Pieces vs. CLO Equity:

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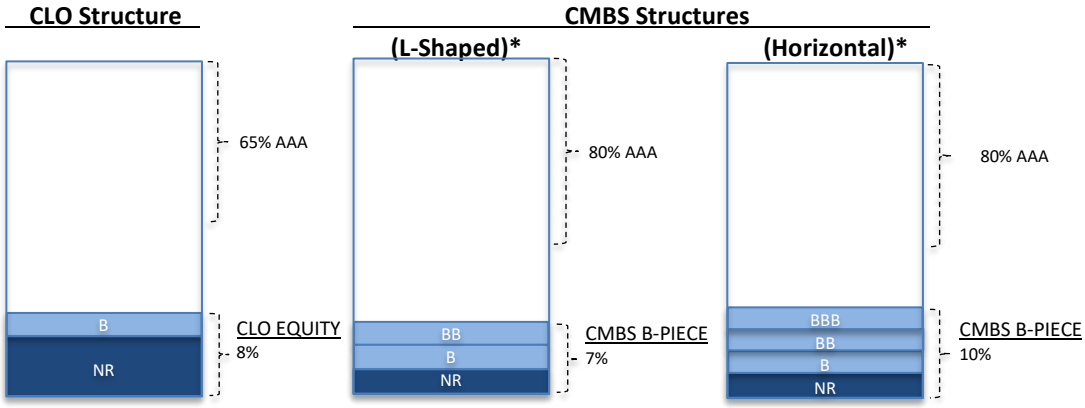
Overview:

We think CMBS B-Pieces are prospectively more attractive than CLO equity

Allocations by investors to CLO equity strategies have been popular for good reason: CLO collateral performance has been strong, as have CLO equity realized IRRs. Even crisis era CLOs performed well, due to attractive structural features and manager acumen. Although this has led to a significant level of investor interest in CLO equity, there is a paucity of comparative relative value analysis between CLO equity and other, similar high-yielding structured credit opportunities, such as CMBS B-Pieces. While both asset classes occupy a similar junior position in their respective capital structures (see Exhibit 1 below), meaningful structural differences between these two asset classes complicate a direct comparison. Depending on one's view of the current and prospective underwriting rigor of the underlying loans, however, CMBS B-Pieces today appear to offer a number of benefits relative to CLO equity that could result in better downside protection, more upside potential, and better overall relative value than CLO Equity.

Ratings suggest imbedded risk in CLO Equity is greater than in CMBS B-Pieces

Exhibit 1: Illustrative Liability Structures (CLO Equity vs. CMBS B-Piece)



** In order to achieve risk retention requirements CMBS B-Pieces can be structured as Horizontal or L-Shaped, with Horizontal B-Pieces including a significant portion of triple-B rated risk.*

One of the strongest arguments favoring B-Pieces over CLO equity is simply that CMBS Conduit loan underwriting is becoming more conservative, while Leveraged Loans may be over-hyped and overbought, with CLOs collateralized by progressively weaker loans. The Leveraged Loan market is increasingly dominated by CLOs, and their managers are no longer subject to risk retention rules. With CLO issuance driving ever more demand for Leveraged Loan issuance, loan spreads have dropped to near-record lows, and underwriting has become more and more aggressive. These dynamics recall the distorted, self-fulfilling feedback loops that led to other market overvaluations.

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Current day CMBS loan underwriting is influenced by lessons learned from the poor performance of the 2006-2008 CMBS conduit vintages. Massive loan market share growth and the trebling of average CMBS transaction sizes from $1bn to $3bn during this period was driven largely by aggressive pro forma underwriting and lax oversight by the rating agencies and B-piece investors themselves, leading to staggeringly high defaults and losses for 2006-2008 vintage CMBS loans. Based on risk retention rules for CMBS (which came into effect in 2017), coupled with other factors such as significantly tighter loan underwriting, we do not expect those loss levels to recur. Although average defaults and losses spiked on Leveraged Loans issued during this period as well, lax credit underwriting was less systemic and peak defaults were more short-lived. Moreover, the structural benefit of the reinvestment of prepayments at much higher loan margins was a major boost to CLO equity IRRs from those vintages.

In the following pages we compare CLO Equity and CMBS B-Pieces based on:

1) Relative risk of underlying loan collateral and trends
2) Market dynamics and impact on collateral underwriting and covenant protections
3) Structural differences and manager influence on relative performance
4) Historical collateral performance

We then run projected returns for each asset type under what we believe to be comparable levels of economic stress. We hope this piece is informative and thought-provoking, and welcome any comments, questions, or observations.

Relative Risk of Underlying Collateral and Credit Trends

The rating agencies' assessments of CMBS B-Pieces and CLO equity would suggest that CMBS collateral is significantly less risky. CLO equity is typically the bottom 8% of the capital stack, and prices at 85-90%, whereas CMBS B-Pieces are the bottom 7-10% of the capital stack and price at 40-50% of par. CLO equity is, by definition, largely not rated or has a small amount of single-B exposure, while CMBS B-Pieces can include significant market-value weighting of BBB, BB, and B tranches in addition to the unrated ("NR") tranche (see Exhibit 2 below).

CMBS B-pieces are expected to be less risky than CLO equity, as B-Pieces include a significant percentage of rated tranches that are senior to equity

Exhibit 2: A Significant Portion of the CMBS "B-Piece" is Comprised of Rated Classes, Indicating Lower Expected Risk than Unrated or Equity Classes

Illustrative Subordinate Capital Stack:

	CLO Equity			CMBS B-Pieces (L-Shaped Structure)			CMBS B-Pieces (Horizontal Structure)		
RATING	THICKNESS	PRICE	% OF CLO EQUITY MKT VAL	THICKNESS	PRICE	% OF B-PIECE MKT VAL	THICKNESS	PRICE	% OF B-PIECE MKT VAL
BBB-							2.0%	85.12%	35.5%
BB				2.3%	58.5%	49.5%	2.2%	69.6%	32.4%
B	1.5%	97.0%	11.1%	1.3%	56.3%	26.5%	1.34%	58.4%	16.6%
NR	6.5%	85.0%	88.9%	3.6%	17.6%	24.0%	4.1%	18.1%	15.5%
TOTAL	8.0%	87.3%	100.0%	7.1%	39.0%	100.0%	9.8%	49.4%	100.0%

As seen in the preceding table, CMBS B-Pieces can be comprised of as much as 35% in triple-B market value exposure (in horizontal structures), and between 50% to 68% of the B-Pieces are rated double-B and above. In comparison, CLO equity has zero percent of its equity rated double-B and above,

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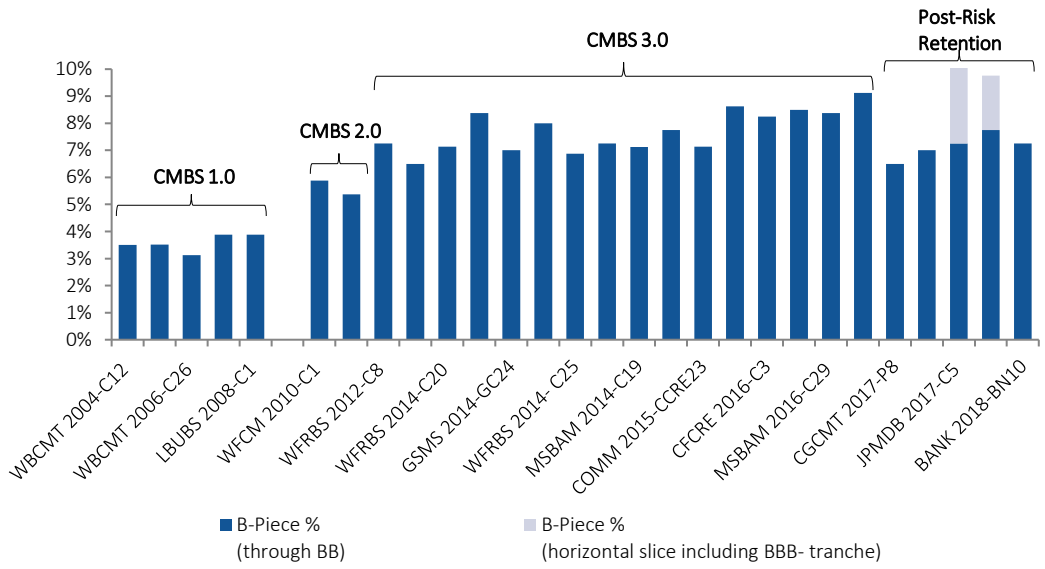
and only a nominal percentage is potentially rated single-B. Therefore, while 89% to 100% of CLO equity is Not Rated ("NR"), the majority of CMBS B-Pieces are rated, and only 15% to 24% are NR.

Also, the rating agencies have become more conservative with CMBS ratings post-2008. For example, the required sizing of the CMBS B-Piece (which dictates the ratings of more senior classes) has doubled or tripled post-crisis (see Exhibit 3). CMBS B-Pieces are now thicker, less levered, and therefore less risky than pre-crisis. Although the rating agencies have also taken tighter conduit underwriting following the 2017 implementation of risk retention rules into account, resulting in marginally lower credit enhancement, current subordination levels are still significantly higher than pre-crisis CMBS.

Rating Agencies require much larger B-Pieces today, reducing leverage and risk throughout the structure

Exhibit 3: CMBS B-Piece Historical Structural Thickness (Illustrative Transactions)



In the current market, coupons and risk spreads on the underlying loans also suggest that Leveraged Loans are meaningfully riskier than commercial mortgage loans (with spreads of ~350-375bp in Leveraged Loans vs. ~150-200bp for commercial mortgages). The rating agencies would seem to agree. Underlying collateral in CLOs is generally rated from BB+ down to CCC. Currently ~54% of Leveraged Loans are rated B or lower, vs 32% pre-crisis, and that bucket is rising. By contrast, the underlying collateral in CMBS is of better quality. CMBS include many loans that are shadow-rated Baa/BBB and higher (usually larger loans have a rating).

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Underlying credit quality is moving in opposite directions; CMBS credit is tightening, as Leveraged Loan underwriting is loosening

More importantly, credit conditions in commercial mortgage markets have been tightening meaningfully. By contrast, by nearly every metric, Leveraged Loans are becoming more aggressive (see Exhibits 4 and 5 below).

Exhibit 4: CMBS Credit Quality is Improving While Leveraged Loans are Getting Riskier

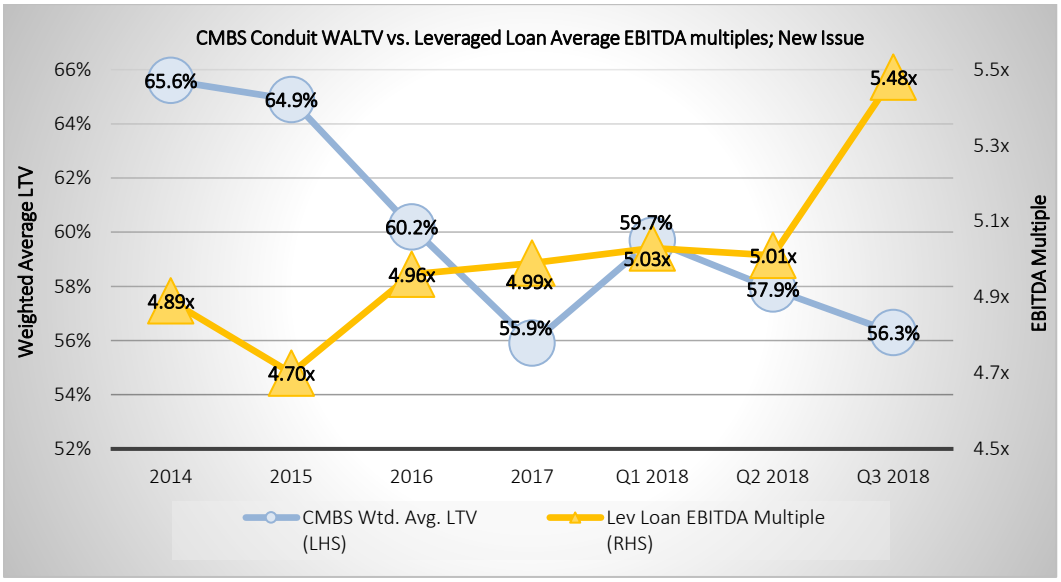
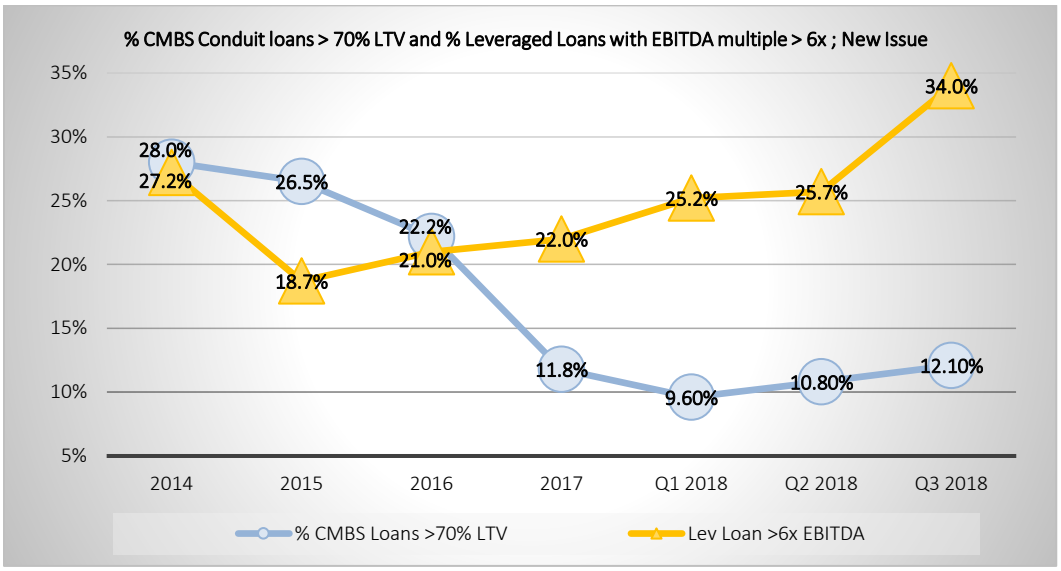


Exhibit 5: CMBS Pools Have Fewer High LTV Loans, but the Percentage of Higher Risk Leveraged Loans is Growing



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Market Dynamics and Regulations – Impact on Loan Underwriting

The investor base for CMBS B-Pieces is unusual. An oligopsony, it is dominated by a small group of institutions, many with commercial property and/or commercial mortgage servicing expertise (7-8 investors account for 80-90% of the volume). This small group has access to the market because they have the proven, specialized ability to re-underwrite loan pools and execute large transactions. This club-like market dynamic creates more of an opportunity to add alpha. By contrast, the buyer base for CLO equity is open, large and diverse, including high yield funds, hedge funds, asset managers, BDCs, interval funds, foreign funds, etc. CLO equity, therefore, is more liquid than CMBS B-Pieces. However, in periods of high credit volatility, CLO equity investors have experienced significant mark-to-market fluctuations and also have been subject to cash flow lockouts. CMBS B-Pieces do not have the same cash flow lockout features and have exhibited much lower mark-to-market volatility, particularly in the single-B and NR classes.

In terms of the overall CRE lending market, CMBS conduit lenders are only one small subset of a broad group of institutional commercial mortgage lenders. CMBS conduits' lending market share has been trending lower and currently stands at ~9% of all CRE lending, down from ~40% in the frothy pre-crisis era. Even before taking into account tighter underwriting following implementation of risk retention, CMBS lending post-crisis has been far more conservative, as evidenced by the stronger credit metrics and performance to date. For example, at 60 months of seasoning, delinquencies on post-crisis vintages are under 1%, compared to delinquencies that were as high as 12% for pre-crisis loans at the same 60-months-seasoning mark. In fact, performance of all post-crisis vintages of CMBS conduit loans has been strong with an average delinquency rate of only 0.7%.

Post-crisis CMBS conduit loans have very low delinquencies

Exhibit 6: Post-Crisis CMBS Credit Performance, 60+ day delinquent by vintage

Vintage	Dlq (%)	Issuance Total ($bn)
2010	0.4%	$2.78
2011	0.6%	$13.15
2012	1.0%	$24.85
2013	1.2%	$42.78
2014	1.0%	$52.88
2015	0.7%	$59.61
2016	0.2%	$46.38
2017	0.2%	$47.19
TOTAL	**0.7%**	**$289.63**

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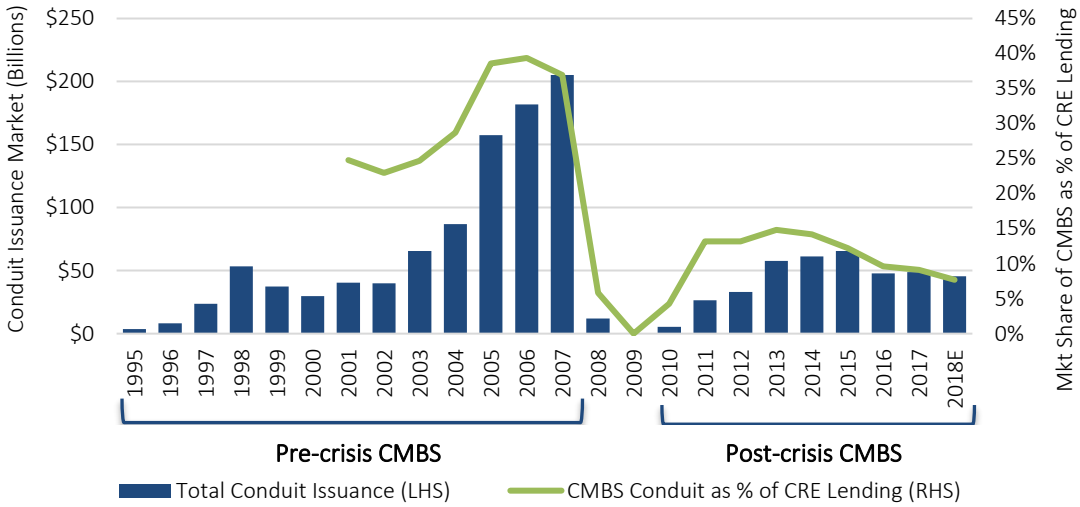
Exhibit 7 below reflects the expansive growth in CMBS conduit lending market share leading up to the crisis, and the dramatically reduced market share post-crisis. With the advent of risk retention rules in 2017, there is a strong case to be made that underwriting has become even tighter in CMBS conduits in recent years, with a further drop in conduit lending market share as evidence of more rigorous loan selection.

Pre-crisis, the CMBS market and its market share grew rapidly, largely as a result of overly aggressive underwriting

Exhibit 7: Today's CMBS New Issue Market is Smaller and Far More Disciplined and Conservative; pre-2008 vs. Post-Crisis Vintage Market Share



CLO market share, by comparison, has risen to 65% of the Leveraged Loan market, actually eclipsing their 57% share pre-crisis. Growth in CLO issuance has accounted for virtually all of the incremental Leveraged Loan demand over the last four years. Today, the Leveraged Loan market is dominated by CLO buyers feeding a CLO origination machine and by funds catering to retail investors. Retail investors have been attracted to Leveraged Loan funds, since they represent one of the few opportunities to buy a high-yield asset that is floating-rate. Retail Leveraged Loan funds were only 8% of the market in 2007; today they are almost 3x as large, with a 23% share. Neither investor base, it appears, is demanding stricter underwriting, even as Leveraged Loan spreads approach post-crisis tights. Now that CLO managers no longer have to meet risk retention requirements, their economics shift even more strongly in favor of issuing CLOs for fee income, even in markets that may not be as fundamentally attractive on a risk-reward basis. With CLO issuance near record-high levels, we are concerned that this level of enthusiasm for Leveraged Loans has led to lower quality underwriting in ways that are both apparent ("cov-lite", second liens, etc.) and latent. The originate-and-distribute risk model, with no "skin in the game" can breed market distortions. The Dodd-Frank risk retention regulations meant to address this were eliminated by the courts for CLOs earlier this year, but remain in place for CMBS and RMBS.

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Bank regulators tried to rein in Leveraged Loan lending in 2013, only to have the new administration overrule them in 2017--but regulators continue to express concern

Investment grade borrowing relative to GDP has been growing (i.e. from ~25% to ~35% of GDP) while total "high yield" (i.e. High Yield Bonds and Leveraged Loans combined) has been stable at 12% of GDP. However, Leveraged Loans as a percent of overall high yield has grown significantly and the sector has in fact just recently surpassed the size of the entire US junk bond market. Leveraged loans have risen from $500 billion in 2008 to almost $1.1 trillion today. Such rapid growth invites some degree of caution and the regulators concur. For example, in 2013, bank regulators issued guidance that Leveraged Loans should not be made above a multiple of 6x EBITDA. Subsequently, Congress determined that the Federal Reserve had overstepped in issuing that guidance, and that no such rule could be promulgated by the Fed, as it had not been given congressional authority to do so. As a result, lenders resumed making riskier loans. In the third quarter of this year, the percent of Leveraged Loans underwritten at multiples over 6x reached an all-time high (34%, vs. 27.7% in 2007). In addition, the average debt cushion has fallen to 20%, which is even more aggressive than the 2007 level (32%).

Speaking recently on the policy reversal, Tim Clark, a former senior Fed official who helped manage bank stress testing after the crisis said "…as we learned during the crisis, it's hard to overstate the capacity of banks to do dumb things, especially when there is a lot of money to be made from trying to keep the party going." Separately, the Fed's head of risk surveillance recently shared three particular concerns about trends in Leveraged Loans. They are:

a. The prevalence of "cov-lite" loans. In 2017, 75% of total leveraged loan issuance was in covenant-lite form, up from 29% of total issuance in 2007.
b. The increase in loan adjustments, aka "Add backs". This is essentially pro forma underwriting for Leveraged Loans. About 38% of the earnings figures used to calculate leverage this year included add backs, up from 10% in the first quarter of 2015.
c. The record pace of incremental facilities, aka "accordion facilities". This is new debt that is layered onto an existing loan.

We believe the increasing prevalence of add-back adjustments in Leveraged Loan lending is a form of pro forma underwriting that may understate the borrower's true leverage. The use of pro forma underwriting in commercial real estate lending, which was prevalent in the CMBS vintages immediately preceding the crisis, has been essentially eliminated.

There has been some market reaction to the concerns raised. For example, according to IHS Markit, the short interest in Invesco's Senior Loan ETF, which is the largest public vehicle backed by Leveraged Loans, has hit a record high.

In Leveraged Loans, high concentrations of M&A and LBO Loans introduce a source of operating uncertainty not present in Commercial Mortgages

There are a handful of other factors that disfavor Leveraged Loans vis-a-vis commercial mortgages. For example, in 2018 ~60% of Leveraged Loan collateral issuance YTD was associated with M&A or LBO activity, almost double the percentage five years ago. That indicates that many Leveraged Loan borrowers are undergoing operating changes, which prima facie poses additional risk. Also, while Leveraged Loans are typically secured, they are secured by an array of tangible and intangible assets, some of them special-purpose and some otherwise closely correlated to the company's fortunes. The borrower may choose or be forced to enter bankruptcy if under duress, which can stay the ability of the lender to recover on its asset. By contrast, commercial mortgage loans are secured by an asset that is held in a bankruptcy-remote entity, where they are easier to foreclose on and liquidate. Lastly,

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there is a difference that occurs at the deal level, not at the underlying asset level. That difference has to do with the ability of investors to diversify their risk. In CLOs, it is common that any one Leveraged Loan appears in many different CLOs. This degree of overlapping positions reduces the expected diversification benefits of buying multiple CLOs. In CLOs, the overlap in credit among managers is ~28%. There are some large loans distributed among more than one CMBS transaction as well, but in general the overlap is small; it is currently only ~6% and generally is confined to very high quality, large loans.

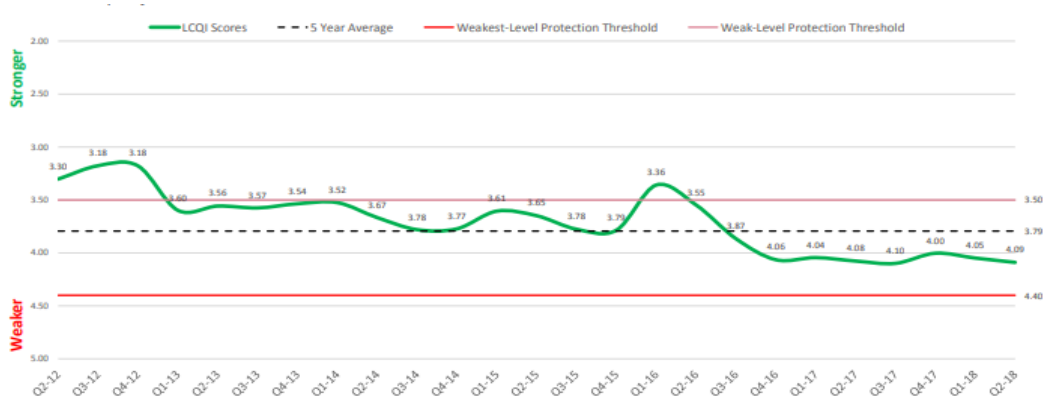
Covenant protections in Leveraged Loans have been badly gutted

Relative Covenant Protections

As discussed above, another important dimension of credit quality is covenant protection. A recent *Wall Street Journal* article stated "There has been a stunning erosion in the past couple of years of covenants" and went on to quote a lawyer who said that, with lenders "in a rush to invest, … covenants have become so complex and diluted that one senior lawyer questioned whether they were fit for purpose at all." And, in a recent report from Moody's, the rating agency stated "While protections around financial maintenance covenants have deteriorated with the rise of covenant-lite loans, protections around restricted payments, debt incurrence, and investments are also near record-weak levels. Borrowers continue to capitalize on investor demand for leveraged loans by negotiating for flexible covenant structures." The rating agency produces a covenant quality index (see Exhibit 8), which is near an all-time low. As Moody's noted, the remaining covenants in Leveraged Loans are primarily incurrence covenants, wherein a certain test has to be met only if the borrower wishes to undertake certain actions.

Commercial mortgage loans, however, have operating covenants, chiefly a Debt Service Coverage Ratio ("DSCR") test. If that test is not met, a cash sweep is instituted and the lender takes control of the property's cash flow. Consent is also required for various property management decisions such as signing of major leases and the selection of a property manager. Unlike the Leveraged Loan market, covenants in the CMBS conduit market have not eased.

Exhibit 8: Moody's North American Loan Covenant Quality Indicator Is At Its Low, Underscoring the Loss of Covenant Protections in Leveraged Loans



Source: Moody's Investors Service, 25 October 2018.

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The dynamic nature of CLO structures pose a risk, though heretofore is has been a positive for performance

Structural Differences: CMBS vs. CLOs

The structures used in commercial mortgage securitization are meaningfully different from CLO structures. Perhaps most striking is the fact that the pool of loans in CMBS is a static, fixed pool. Notably, these fixed pools are significantly shaped by the B-Piece investor, who is also the end holder of risk and has the ability to reject or "kick out" loans before the collateral pool is finalized. CLO managers are not required to retain the risk when they construct a pool of Leveraged Loan collateral, and are often distributing the risk. CMBS B-Piece investors also have the direct ability to restructure, re-price and resolve loans, which is a more difficult exercise for syndicated leveraged loans.

A CLO revolving structure, where loan exposures can change by as much as 30% per annum, provides no real ability for investors to do any sort of corroboration of the CLO manager's credit work. This dynamic/unknown aspect can be viewed as a negative, but, historically, it has been a strong net positive for CLO equity investors. Most notably, it has afforded managers the opportunity, in economic downturns, to re-invest any prepayments into new loans, at new, significantly wider, spreads. It also allows a particularly nimble manager to sell off a loan before it deteriorates. There are rating agency limitations on CLO managers' activities, but those too, have been a positive heretofore. For example, because of loan concentration limits, most CLO managers were underweighted in huge credit "blow-ups" like Texas Utilities.

Another structural difference is the use of the afore-mentioned cash flow triggers, a feature of CLOs not found in CMBS B-Pieces. Cash flow triggers may reduce credit risk to the bonds, but it is at the expense of the CLO equity as cash flow is disrupted, which fundamentally impairs the value of CLO equity. As a final point of structural differences, consider the current risk retention paradigm: CLO equity risk retention requirements have been removed, and as such the equity is freely tradable. In CMBS, risk retention rules prohibit the trading of the retained risk for at least 5 years, promoting a significantly stronger alignment of interests.

It is important to differentiate the potential relative attractiveness of CLO equity versus the more senior tranches of CLOs that Seer currently favors: in particular, shorter duration double-B and triple-B CLO tranches. These tranches benefit from significant credit enhancement protections which dampen their exposure to potentially weaker underwriting and more volatile credit performance.

Manager Influence on Credit Performance

Historically, CLO managers have been successful at adding significant value both via asset selection and trading of the Leveraged Loans which collateralize CLOs. In fact, losses in CLO collateral have been 40% or more lower than the losses in the Leveraged Loan universe (see Exhibit 9). Of course, that becomes increasingly harder to do when CLO managers dominate the market for Leveraged Loans, and thus by virtue of their size and rating agency limitations, they are increasingly forced to "buy the market". Those same CLO managers may also find it harder to sell strategically should they find themselves primarily having to sell to *other* CLO managers – potentially creating a negative reinforcement cycle. Also, in interpreting outperformance, it is important to understand the advantage that CLO 2.0 managers had versus the market. When the CLO 2.0 market was first developing, the overall Leveraged Loan market (the index) was just coming through a recession. A de novo CLO would not choose a simple cross-section of the index but would start with a "clean" portfolio. Therefore, it is no wonder that initially the CLO outperformance vs. the index was particularly striking.

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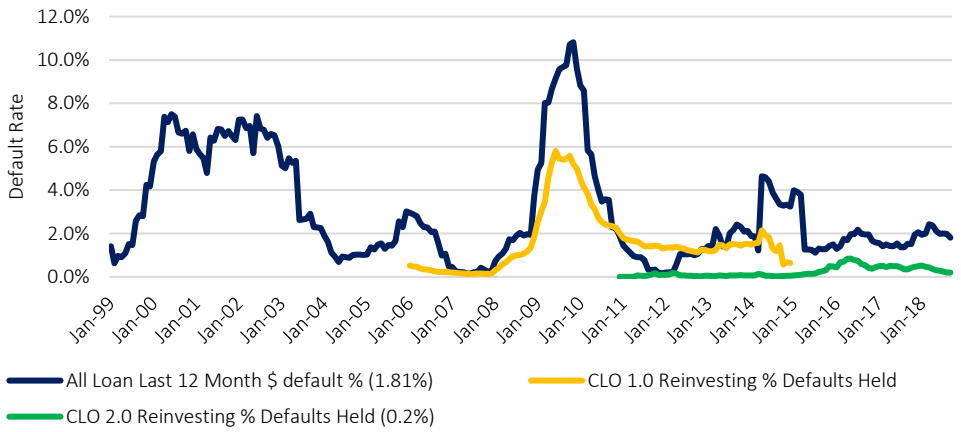
Going forward, it may be more difficult for CLO managers to continue to outperform the Leveraged Loan market to the same degree they have historically

Exhibit 9: The Historical Performance of CLO Collateral Has Been Substantially Better than the Market



As in CLOs, CMBS B-Piece manager performance has also been extremely important historically. Even within identical vintages, initial loan selection, loan surveillance and workout expertise has had a meaningful impact on transaction performance. Because pre-crisis B-Pieces were largely re-securitized and sold, there was essentially no "skin-in-the-game". Post-crisis, however, B-Piece investments are retained, resulting in dramatically greater manager focus and accountability.

Historical Credit Performance Comparison

With the notable exception of 2006-2008 pre-crisis CMBS vintages, the static pool performance of CMBS conduit loans has been superior to Leveraged Loans. During the crisis Leveraged Loans, which, unlike conduit commercial mortgages, are floating rate, also benefited disproportionately from dramatic and unprecedented Fed easing. This significantly reduced interest payments and instantaneously increased DSCR for leveraged loans, which contributed to even greater outperformance. Fed easing had a significant but less direct and less potent effect on commercial mortgages via reduced cap rates which, in turn, helped to stabilize underlying property valuations.

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Exhibit 10 below summarizes the relative performance of CMBS loan collateral to similar vintages of U.S. Leveraged Loans, both including and excluding the troubled 2006-2008 vintages of CMBS. As shown at the bottom of the far-right column, the cumulative losses in Leveraged Loans were typically one-and-a-half to about two times as high (1.5-1.8x) as the cumulative losses in the same vintage CMBS collateral.

Realized losses in CMBS conduit loans are typically much lower than losses in Leveraged Loans, with the 2006-2008-era CMBS loans being the marked exception

Exhibit 10: Leveraged Loan Losses Have Been 50% to 80% Higher than CMBS Conduit Losses

1998-2008 Historical Vintage Comparison of Cumulative Default/Loss rates

	CMBS Conduit Collateral (over 10 yr. loan life)		Leveraged Loan Collateral (over 6 yr. horizon)		CMBS Outperformance/ (Underperformance)		Defaults/Losses: Lev Loan as Multiple of CMBS Collateral	
	Cum. Default Rate	**Cum. Net Loss**	**Cum. Default Rate**	**Cum. Net Loss**	**Cum. Default Rate**	**Cum. Net Loss**	**Default Rate**	**Net Loss**
1998	7.25%	2.98%	25.08%	9.12%	17.83%	6.14%	3.5x	3.1x
1999	9.80%	3.52%	24.66%	8.64%	14.86%	5.12%	2.5x	2.5x
2000	13.57%	4.59%	23.52%	7.98%	9.95%	3.39%	1.7x	1.7x
2001	12.27%	4.55%	18.18%	6.00%	5.91%	1.45%	1.5x	1.3x
2002	8.83%	3.70%	12.54%	3.84%	3.71%	0.14%	1.4x	1.0x
2003	6.17%	2.60%	10.44%	2.94%	4.27%	0.34%	1.7x	1.1x
2004	9.13%	3.74%	20.46%	7.32%	11.33%	3.58%	2.2x	2.0x
2005	14.41%	5.78%	21.24%	7.74%	6.83%	1.96%	1.5x	1.3x
2006	20.46%	8.88%	19.02%	7.38%	(1.44%)	(1.50%)	0.9x	0.8x
2007	24.58%	8.95%	19.80%	7.92%	(4.78%)	(1.03%)	0.8x	0.9x
2008	26.18%	12.86%	21.18%	8.40%	(5.00%)	(4.46%)	0.8x	0.7x
1998-2005 avg	10.18%	3.93%	19.52%	6.70%	9.34%	2.77%	2.0x	**1.8x**
1998-2008 avg	12.25%	5.01%	19.65%	7.03%	5.77%	1.38%	1.7x	**1.5x**

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While the underwriting of CMBS loans has become appreciably tighter post-crisis, Leveraged Loan lending quality has loosened considerably. As a result, conditions exist for CMBS conduit loans to perform better relative to Leveraged Loans in coming years. For example, loss severities are expected to rise in Leveraged Loans, with Moody's suggesting that recoveries will be 10-15% points *lower* than in prior cycles. In CMBS, WALTVs have been on the decline, which would augur for lower defaults and loss severities and *higher* recoveries going forward, all else equal. Moreover, with risk retention becoming effective in CMBS in January 2017, we would expect CMBS conduit loans post-2016 to perform even better than post-crisis CMBS conduit loans as a whole.

Post-crisis vintages of CMBS and Leveraged Loans (Exhibit 11 below) are reasonably new and early in their respective loan terms (generally 10-year loan terms for CMBS conduit loans and 4-6 years for leveraged loans). Therefore, it is difficult to precisely project the relative performance of the two asset types. In addition, commercial mortgages losses are generally back-ended. Nonetheless, it is important to highlight the dramatically lower default rates and cumulative losses to date of more recent vintages of CMBS collateral versus Leveraged Loans, which suggests strong potential for superior performance of CMBS versus CLO collateral going forward (see Exhibit 11 below).

Exhibit 11: Post-2008 Early-Stage Historical Vintage Comparison

2009-2018 Historical Vintage Comparison of Cumulative Default/Loss rates

	CMBS Conduit Collateral To Date		Leveraged Loan Collateral To Date		CMBS Outperformance/ (Underperformance)		Defaults/Losses: Lev Loan as Multiple of CMBS Collateral	
	Cum. Default Rate	**Cum. Net Loss**	**Cum. Default Rate**	**Cum. Net Loss**	**Cum. Default Rate**	**Cum. Net Loss**	**Default Rate**	**Net Loss**
2009 [1]	N/A	N/A	7.73%	3.83%	N/A	N/A	N/A	N/A
2010	1.24%	0.78%	3.78%	1.89%	2.54%	1.11%	3.0x	2.4x
2011	0.58%	0.23%	3.82%	1.84%	3.24%	1.61%	6.6x	8.0x
2012	0.47%	0.08%	4.43%	2.07%	3.96%	1.99%	9.4x	25.9x
2013	0.17%	0.04%	4.53%	2.17%	4.36%	2.13%	26.6x	54.3x
2014	0.11%	0.05%	4.02%	1.89%	3.91%	1.84%	36.5x	37.8x
2015	0.02%	0.01%	2.91%	1.17%	2.89%	1.16%	NM	NM
2016	0.00%	0.00%	2.04%	0.89%	2.04%	0.89%	NM	NM
2017	0.00%	0.00%	1.49%	0.64%	1.49%	0.64%	NM	NM
2018	0.00%	0.00%	0.73%	0.34%	0.73%	0.34%	NM	NM

[1] *CMBS market was closed in 2009*
NM – Not Meaningful

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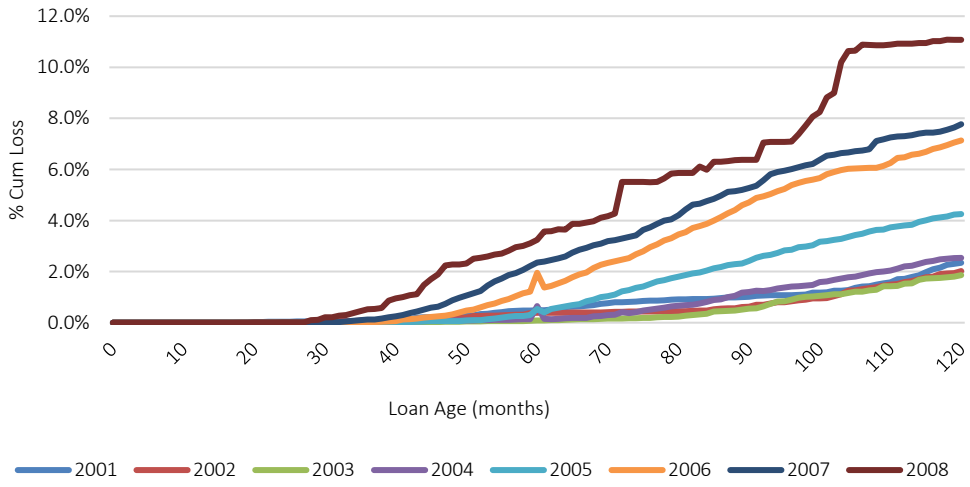
CMBS B-Piece investments have less downside risk and more upside potential than CLO equity, in comparable scenarios

CLO Equity vs. CMBS B-Pieces: Prospective Return Comparison

CMBS B-Pieces are issued at significant discounts (40-50% of par) with current cash-on-cash returns of 10% or greater. Given the 10-year term of the underlying loans, and the fact that there are no cash flow triggers in CMBS, it is likely that a high percentage of a B-Piece investment can be fully recouped from coupon cash flow alone. This likely return of a large percentage of investment basis significantly lessens downside risk, especially in view of the back-ended nature of the commercial mortgage loss curve (see Exhibit 12 below). Because commercial mortgage loans are underwritten with strong DSCRs and low LTVs at origination, defaults and net losses tend to be back-ended. This increases the likelihood that cash flows in the early years of a CMBS will be available to pay down the B-Piece investor's basis.

Exhibit 12: Losses in Commercial Mortgages are Back-Ended; Which Allows More Predictable Pay-down of Basis, Reducing B-piece Downside Risk



Furthermore, given the less levered nature of CMBS B-Pieces and their less volatile projected credit performance, returns hold up better than CLO equity in economically stressed scenarios. While CLO cash flow triggers do build overcollateralization, such incremental credit protection comes at the expense of huge price volatility and lower CLO equity returns. Approximately 72% of all pre-crisis CLOs hit cash flow triggers, pausing cash flows to equity holders, and resulting in massive downward mark-to-market pressure on CLO equity.

Illustrative projected return sensitivities are shown in the table below. We compare hypothetical returns between the two asset classes by assuming relative performance differentials under equivalent economic environments. Based on the historical experience shown in Exhibit 10, we use an expected 1.70x and 1.95x ratio of cumulative Leveraged Loan losses to CMBS collateral cumulative losses. Obviously, projections of relative credit performance for these two asset types is subjective and debatable. To the extent our readers would propose different default and loss relationships for the assets, we would welcome a discussion and would be happy to run alternative scenarios.

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Exhibit 13: L-Structure Illustrative Return Sensitivity: CMBS B-Pieces vs. CLO Equity

CMBS B-Piece Return Scenarios

Scenario	*Zero Loss*	*Upside*	*Market I*	*Market II*	*Mild Recession*	*Recession*
IRR	**17.5%**	**16.2%**	**14.7%**	**13.0%**	**10.8%**	**8.2%**
MOIC*	**3.6x**	**3.3x**	**2.9x**	**2.5x**	**2.1x**	**1.7x**
Duration	6.2	6.1	6.1	6.0	6.0	5.8
Cum. Loss [1]	0%	1%	2%	3%	4%	5%

[1] *CMBS Assumptions: Losses on underlying collateral. Assumes timing of defaults as follows: 10% of defaults occur by month 60, 40% by month 84, 58% by month 96, and 100% by month 120 All defaults have a 60% recovery*

CLO Return Scenarios [2]

Scenario	*Zero Loss*	*Upside*	*Market I*	*Market II*	*Mild Recession*	*Recession*
IRR	**17.1%**	**15.9%**	**13.5%**	**10.9%**	**11.8%**	**4.4%**
MOIC*	**2.3x**	**2.1x**	**1.8x**	**1.7x**	**1.7x**	**1.3x**
Duration	5.2	4.9	4.8	4.8	5.4	5.3
Cum. Loss	0.0%	1.9%	3.9%	5.2%	6.8%	8.4%

Net CMBS B-Piece Advantage vs. CLO Equity (better/(worse))

IRR	**+0.4%**	**+0.3%**	**+1.2%**	**+2.1%**	**(1.0%)**	**+3.8%**
MOIC*	**+1.3x**	**+1.2x**	**+1.1x**	**+0.8x**	**+0.4x**	**+0.4x**

** MOIC is multiple of invested capital*

[2] **CLO Assumptions used in the analysis**

Scenario	*Zero Loss*	*Upside*	*Market I*	*Market II*	*Mild Recession*	*Recession*
CDR (% by year)	*0 for life*	*1 for life*	*2 for life*	*2 for life*	*2-2-4-4-2-2-2-2*	*2-4-8-4-2-2-2-2*
Recovery	*N/A*	*70.0%*	*70.0%*	*60.0%*	*60.0%*	*60.0%*
Annual % of Loans Prepaid	*25.0%*	*20.0%*	*15.0%*	*12.5%*	*10.0%*	*7.5%*
Reinvest Spread	*350bp*	*375bp*	*400bp*	*400bp*	*500bp*	*550bp*

Summary of Key Characteristics:

Although there are aspects of both CLO equity and CMBS B-Pieces that we find compelling, on balance we believe that CMBS B-Pieces currently offer better overall prospective relative value than CLO equity (see Exhibit 14 on the next page).

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CMBS B-Pieces have superior risk reward attributes

Exhibit 14: Pluses and Minuses of CMBS B-Pieces and CLO Equity: Summary of Key Characteristics

CMBS B-Piece	CLO Equity
• Static pool, fixed at origination • Underlying loans are fixed rate, generally 10-year bullet maturities with 30-year amortization	• Open ended revolving pool • Underlying loans are floating rate, generally 5-7 year term bullet maturity
Pluses:	Pluses:

+ Underlying loan quality is strong and has been improving, average LTV now below 60%
+ "Buyers' Club", where 7-8 market participants account for 80-90% of investments. Greater potential for adding alpha.
+ Bottom 8-9% of capital stack at price of 40-50%, can include significant % of BBB, BB, B exposure
+ NR and Single-B tranches have relatively low mark-to-market volatility
+ No cash flow interruption triggers
+ Risk retention, with exception of Vertical transaction, prohibits trading of B-Pieces for 5 years and better aligns interests
+ High cash-on-cash return results in accelerated return of basis
+ Assets collateralizing loans generally easy to monetize
	+ Leveraged Loan Performance has been strong
	+ CLO managers have outperformed the Leveraged Loan index
	+ Highly beneficial structural features including:
	  ○ Ability to invest repayments at wider spread in a downturn (bear market hedge)
	  ○ Ability to reset coupons on liabilities at tighter spreads (bull market hedge)
	  ○ "Forced" diversification by dint of rating agency guidelines (e.g. no single exposure over 1% of the pool)
	+ High cash-on-cash return
	+ Liquid market for leveraged loans

Minuses:	Minuses:
– Poor track record during Subprime Crisis – Less liquidity in NR and Single-B classes – Exposure to increases in long term rates impacting cap rates and underlying collateral valuations – Retail Properties represent a meaningful percentage of overall CMBS loan exposure – Significant increase in full term Interest-Only loans to over 50% in recent vintages	– Leveraged Loan underwriting has become more aggressive – High yield funds, hedge funds, asset managers, interval funds, foreign funds, all invest in CLO equity, resulting in a more competitive market – Bottom 8% of capital stack at price of 85-90%, typically NR-rated tranches – Rising LIBOR rates could stress borrowers – Mark-to-market risk is significant – Cash flow trapping mechanism and triggers increases mark-to-market risk – Underlying loans, are, by definition, not investment grade – CLO equity risk retention requirements, a mechanism that promoted alignment of interests, have been removed – Revolving structure where loan exposure can change by as much as 30% per annum

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In today's market, we feel CMBS B-Pieces deserve a closer look since they benefit from increased conservatism ushered in by risk retention rules, low dollar prices, and more predictable cash flows

Conclusion:

From the 2017 vintage forward, we expect relative performance to move even more heavily in favor of CMBS conduit outperforming Leveraged Loans. Risk retention obligations have resulted in an even narrower B-Piece investor base and give CMBS B-Piece investors the negotiating leverage to be progressively more selective on loans that are allowed in a CMBS transaction. Heavy CLO issuance in the absence of risk retention requirements may be pushing credit weaker and loss-adjusted returns lower. Since all CLO managers pick from generally the same available pool of leveraged loan credits and now represent a dominant percentage of incremental leveraged loan demand, the ability of managers to add alpha has potentially been diminished. Consequently, we believe that CMBS B-Pieces have stronger prospects to offer better downside protection, more upside, and better potential overall relative value going forward.

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