Focus

Adjusting Loan Recoveries for EBITDA Adjustments

CORE

We believe loan recoveries through the next cycle will be $55-60, down roughly 10pts from historical levels, as leverage has increased and the level of EBITDA adjustments has grown.

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- The leveraged loan market has remained the focus of regulators, the press, and politicians as an example of excesses in the credit market as the current cycle extends its record length. While we do not believe that the leveraged loan (or CLO) market poses a systemic risk, we agree that the most aggressive lending practices in credit markets have occurred and continue to occur in leveraged loans.
- Reported leverage for new issue loans during the past four years is 10% higher than during the peak years of the previous cycle. While this alone is likely to lead to lower recoveries, the more important metric is the 20% increase in leverage through the first-lien portion of the market. Higher leverage is somewhat offset by purchase price multiples that have grown 15% for LBOs and M&A, but in downturns, we are likely to see some multiple compression.
- One of the main deficiencies of our model previously was the inability to account for what have become significant adjustments to EBITDA. With the availability of new data, we are now able to estimate the effect of these adjustments not being realized.
- Adjustments are around 25% of EBITDA for new deals, and unadjusted first-lien leverage is close to 30% higher than previous peaks as a result. When we run adjustments through all the facets of our model, we now believe loan recoveries are likely to be $55-60, compared with $67 historically, or about 10pts lower at the middle of the range. The trading implications in the current low-default environment are more modest, but we would expect this to increase the downside for loans when the cycle turns.
- While our model cannot fully account for several variables, the most significant concern is the lack of quantitative metrics to measure the potential downside from loopholes in covenants that allow for assets to be removed from creditors. There have been fairly limited examples where these baskets have been exploited, and while we believe this represents further downside, we also think it is likely to be more idiosyncratic than systemic.
- The overlap between the high yield and loan markets has decreased over time, and leverage has also trended lower for bonds. As a result, we do not expect materially lower recoveries

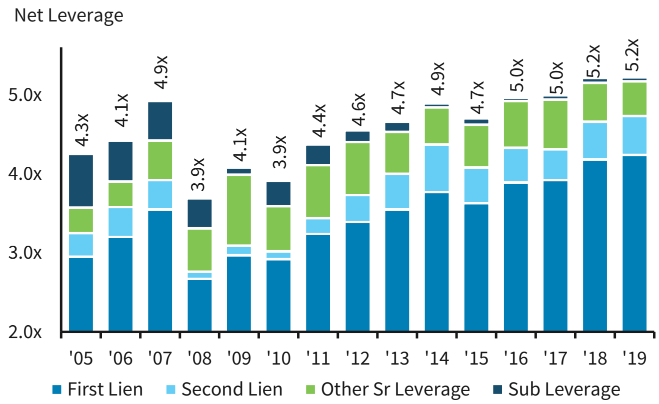
for unsecured high yield bonds.

The Loan Market Has Cooled Down

The technicals of the loan market have changed since we last published our detailed thoughts on how much lower leveraged loan recoveries could be in this cycle (*Downside to Recoveries after the Long Recovery*, July 12, 2018).

- In mid-2018, the market was experiencing retail inflows that resulted in the growth of loan mutual funds from $95bn in mid-2016 to over $150bn by Labor Day in 2018. As risk assets sold off in October 2018 and the Fed cut rates in 2019, retail began a mass exodus that has AUM back to just above $95bn.
- Broadly syndicated CLO issuance peaked in 2018 at $115bn before dropping modestly to $105bn last year and is running at a slower pace again in 2020. Additionally, CLO refinancings and resets declined more precipitously, from $156bn in 2018 to $43bn in 2019.
- Loan new issuance (ex-repricings) was in the midst of a record year in 2018, with just over $400bn coming to market. Last year, new supply dropped 26% and failed to even hit $300bn.

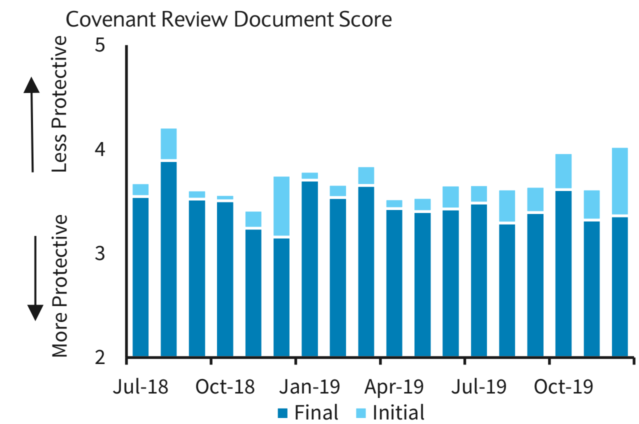
FIGURE 1. **Loan Leverage Has Increased in Recent Years, Especially through First Liens**



Note: New issue large corporate loans only.

Source: S&P LCD

FIGURE 2. **Investors Were Able to Get More Protection Relative to Initial Documents in Late 2019**



Note: Covenant Review Document Score is a scale from 1 to 5, with 5 being least protective for investors.
Source: Covenant Review

The supply side adjusted to the lack of demand in order for the loan market to achieve an equilibrium that produced solid returns in 2019, but still lagged other markets with healthier technicals, such as high yield bonds. Theoretically, we would have expected a similar adjustment in the fundamentals of the new issue market, as investors were finally in the driver's seat as opposed to issuers. However, leverage data show little evidence of these changes, and in fact, Figure 1 shows that average new issue total and first-lien leverage both increased in 2018 and 2019. Investors were apparently still willing to buy more leveraged deals, although they did push back on structure, as covenant trends stopped deteriorating with some of the more egregious terms being removed between the initial and final documents (Figure 2).

In our previous analysis, one of the key drivers of our loan recovery estimates was new issue leverage, as it serves as the best proxy for market leverage in the largely private loan market, especially in periods of high new issuance. Other important factors in forecasting recoveries through the cycle include the share of this issuance that is coming in the form of first-lien loans compared with second liens, or mezzanine debt, and the amount of secured and unsecured debt in the high yield market from crossover issuers.

We use leverage numbers over the course of the past four years of new issue to represent leverage in the current cycle, since less than 5% of the amount outstanding in the loan market was issued before 2016. Updating our model brings down recoveries by almost 2pts from the approximately 10pt decline we estimated in July 2018, to 11-12pts. The key factor driving the decline are the increase in total leverage, as seen in Figure 1, with first-lien leverage also going from 78% to 81% of the total number.

Loan recoveries are traditionally thought of as being around $70, but for the purposes of a historical starting point here, we use Moody's long-term issuer levels of $67. This puts our new estimate just below $56, which serves as the lower end of our range when using adjusted EBITDA since it does not give any credit for potential positive changes in market structure that might boost enterprise value. We emphasize that these data are for trading recoveries 30 days post-default. If we look at eventual recoveries, the data set is smaller, but the results are appreciably higher for ultimate recoveries. For example, in its report from April 2017, *Lessons from a Trillion Dollars in Defaults*, Moody's cites term loan ultimate discounted recoveries of $75, which would bring the low end of our ultimate recovery estimates for this cycle closer to $63.

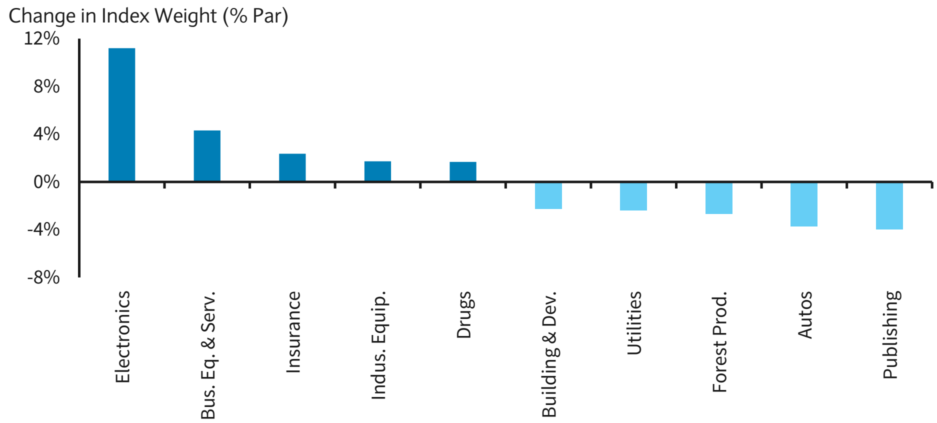
Higher Purchase Price Multiples Could Provide Some Cushion

To ascertain the higher end of the range for recoveries, we try to account for one of the most common pushbacks from loan investors when looking at the current cohort of companies in the loan market compared with previous ones: they are better companies. An objective way to measure this is whether the companies in today's market are worth higher multiples than in the past.

Since more than 60% of the loan market is private, purchase price multiples for M&A and LBOs serve as a reasonable proxy for whether today's cohort is worth more than in the past. This is where the argument of "better companies" holds water. If we look at the average purchase price multiples from 2016-19, they are 15% higher than in the 2006-07. This compares with only 11% higher two years ago when we did our analysis, as the average for 2018-19 purchase price multiples has grown 19% from the peak of the last cycle, to almost 11x. Despite elevated leverage, this still implies more equity behind the current cohort of loans than the loans of the past.

For recoveries to be better because of higher enterprise value, this premium would need to hold through the cycle. One explanation for the higher enterprise values is the changing sector mix of the loan market. Figure 3 shows the biggest changes in sector weights compared with the pre-credit crisis period. The well-publicized increases in technology-focused sectors (electronics and business & equipment services) help explain the higher purchase price multiples. Shrinking on the other end of the spectrum are sectors with traditionally lower enterprise value – forest products, automotive, and publishing – which should further skew valuations in favor of today's cohort.

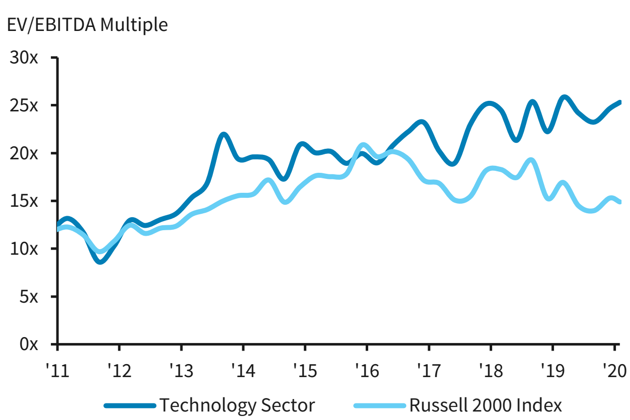
FIGURE 3. Technology-Related Sectors Represent a Greater Portion of the Loan Market Today than in 2006/07



Source: S&P LCD

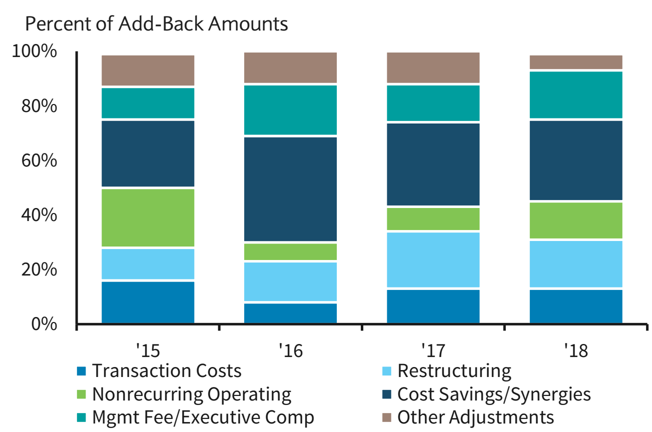
If we assume that the higher enterprise values hold through the cycle, the increase in purchase price multiples in the past few years was large enough relative to the increased leverage that our recovery estimate would remain consistent at the 4pts lower level we forecast in our previous report. We believe there is merit in these calculations, and it should skew recoveries higher than in our estimates above, which do not take into account any change in purchase prices. However, because some compression in enterprise value is likely over the course of the cycle, we think 4pts lower is probably too bullish. For example, while we would expect tech valuations to remain higher than other sectors, Figure 4 shows that the gap between technology and other sectors has increased fairly rapidly (using Russell 2000 as a proxy to avoid bias to the mega-cap tech names) in recent years, and some compression is likely when the cycle turns and in subsequent years. As a result, we believe thinking about recoveries in the high single-digit range lower makes sense before we take into account the potential effect of EBITDA adjustments.

FIGURE 4. Technology Sector Multiples Have Increased at a Faster Rate than Market-Wide Multiples



Source: Bloomberg

FIGURE 5. Add-Backs Can Be One-Time in Nature



Source: S&P RatingsDirect

Subtracting Add-Backs Shows the Biggest Downside

Add-backs, adjustments, synergies, one-time expenses, cost savings, restructuring, and management fees are just a few of the terms that loan investors have become familiar with when attempting to discern the underlying earnings potential of loan issuers. The new issue leverage stats and purchase price multiples that are commonly used in the marketplace are based on adjusted EBITDA figures provided by the companies that can include all these terms in a variety of formats. The biggest challenge we have had when trying to calculate the true downside to recoveries in the past was that we did not have comprehensive enough stats on adjustments over time in the largely private loan market to make informed assumptions on what the downside could be if the adjustments do not pan out.

While deals are marketed with adjustments that sponsors and/or management teams expect to come to fruition, evidence in recent years has often been to the contrary. Last September, S&P RatingsDirect published a report, *When the Cycle Turns: The Continued Attack of the EBITDA Add-back*, that detailed the extent of adjustments and whether they typically come to fruition. Looking at the past four years, add-backs have averaged 28% of adjusted EBITDA for M&A and LBOs. This is slightly higher than Covenant Review's average of 21%, although when par weighted, that number creeps into the mid-20%s. This translates into an extra 1.3x of first-lien leverage and 1.7x in total leverage when based on unadjusted EBITDA.

Calculating a precise level of the adjustments to EBITDA is worthwhile only if the adjustments have not proven accurate. The S&P report provides further details on this as well. The study was on LBOs from 2015 and 2016, with data from the following two years. We note that adjustments have only increased for the 2017 and 2018 cohorts, which presumably increases the risk for missing projections. Since many of the add-back types in Figure 5 are one-time or short-term in nature, we would expect actual and reported EBITDA to converge over time. However, the study found that median misses on earnings were at least 30% one year out and at least 35% two years out. Looking at actual reported net leverage, it was 2x higher than management forecasts in the first year and 2.5x in year two. Overall, these conclusions should lead to skepticism regarding marketed EBITDA adjustments and imply that there is merit in calculating the downside to recoveries based on actual EBITDA instead of adjusted EBITDA.

While the adjustments are large for LBO and M&A transactions, they are only part of the picture. If we use our new issue leverage levels, they incorporate all types of issuance, so we must weigh the adjustments by the type of supply. LBO and M&A have been just below 60% of issuance in recent years, and the adjustments for non-LBO and M&A issuance have been more modest, with refinancings having EBITDA adjustments of just under 14% of EBITDA in 2018, according to Covenant Review. To be consistent, we use the Covenant Review adjustment data for each type of issuance and weight accordingly to come up with new leverage and enterprise value estimates in the current market.

LBOs and M&A deals before the crisis set the precedent for marketing deals based on adjusted EBITDA. However, getting robust data from this period is even more difficult. Fortunately, Covenant Review recently published a study on the Top 12 LBOs from 2007, comparing them with the past three years. The 2007 deals including some of the most aggressive pre-crisis deals, including First Data, Freescale, Tribune, Thomson Learning (Cengage), HCA, and Univision. We feel comfortable that the adjustment for the market as a whole was no larger than for this cohort, which was 13% of EBITDA. We emphasize that this is a good proxy only for LBO and M&A deals, although that was an even greater 65% of supply at the time. For non-LBO and M&A deals, the adjustments were presumably lower, but we use a similar number since we do not have great data. Using a perhaps more realistic lower synergy number for pre-crisis non-LBO and M&A deals would change recoveries by only about 1pt, so we are not too concerned that this is the data point about which we have to make the largest assumption.

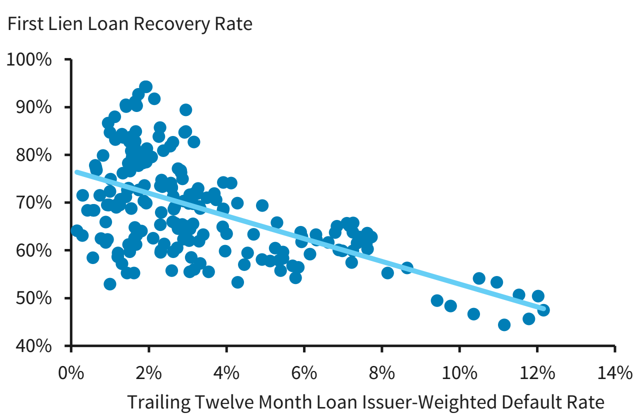
After eliminating adjustments from both periods, our model now shows an increase in first-lien leverage of almost 30% and total leverage of 17%. These larger increases are the main factor that drives our recovery estimates down to $52 in a scenario where add-backs are not realized. We also repeated our enterprise value analysis for the unadjusted numbers, and recoveries dropped to $62, leaving our estimates at $52-62 if all adjustments were removed.

A Better Recovery Estimate

We believe moving recovery estimates lower because of ambitious adjustments to EBITDA is warranted. This points to relying on our unadjusted estimates, but since synergies can be realized to some extent in M&A transactions, we want to avoid being overly punitive and therefore eliminate the low end of the $52-62 estimate. Similarly, we do not think the high end will be achieved, as that would rely on maintaining frothy valuations in certain sectors, such as technology. Instead, recoveries are more likely to be in the $55-60 context, which is 10pts lower than historical recoveries at the midpoint. This is around the lower end of our previous forecasts of 5-10pts below historical recoveries through the cycle, but we believe the downward revision is appropriate considering further increases in leverage and greater use of adjustments to EBITDA.

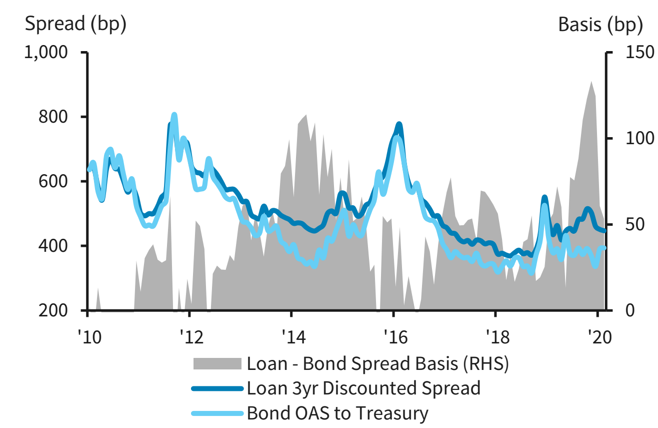
The reason we focus on predicting recoveries throughout the cycle is that they tend to bottom out when defaults peak and are typically higher when the default environment is more benign. Figure 6 shows this cyclicality of recoveries. This relationship has held in recent years, as recoveries have not dropped materially thanks to the overall resilient economic environment, posting levels of $69 for first-lien bank loans in 2018 and $61 in 2019.

FIGURE 6. Recoveries Are Generally Lower When Default Rates Are Higher



Source: Moody's

FIGURE 7. Despite Recent Compression, Loans Trade Wide to the Long-Term Average Relative to Bonds



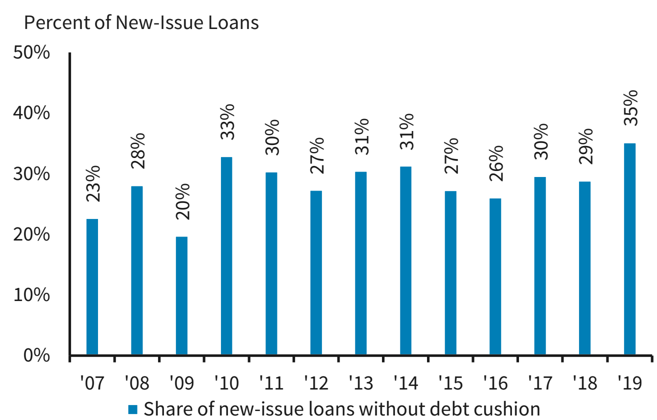
Source: Bloomberg, Barclays Research, S&P LCD

In terms of valuations, the implications of a 10pt decline in recoveries should be a fairly modest negative today. From a simple loss given default standpoint, a 10pt drop in recoveries should cause loans to trade around 20bp wider than they have historically if we assume default rates of 2%. While 2% is consistent with our default forecast, we expect recoveries to be less than 10pts lower in the current year and more than 10pts lower when the cycle turns, consistent with the cyclicality shown in Figure 6. So while a 10pt drop over the cycle and long-term average default rates of 4% would imply 40bp wider spreads for loans long term, when you appropriately discount for the likely back-end-loaded nature of those losses, the true effect will be much less. Considering that loan spreads are trading wider now than their historical average versus high yield (Figure 7), we believe valuations are already pricing in a somewhat higher loss given default for loans and see limited near-term downside. However, if our estimates are realized, when the cycle turns, we would expect the loan market to experience greater volatility than when the potential loss given default was more modest in the past.

While these results are more robust than our previous analysis, we can still think of a few major factors that are a bit harder to quantify, but could have a substantial effect on recovery. On the negative side, the primary factor is the move to predominantly covenant-lite structures. As discussed in detail in *Downside to Recoveries*, historical data show that covenant-lite loans have lower recoveries, although that conclusion has taken time to emerge because the history of covenant-lite loans is somewhat limited. For example, S&P looked at 17 covenant-lite defaults and 11 non-covenant-lite defaults from 2014-17 and found that the average covenant-lite recovery was just over $10 lower and the median was $20 lower. The difference is meaningful, but the sample set is clearly small.

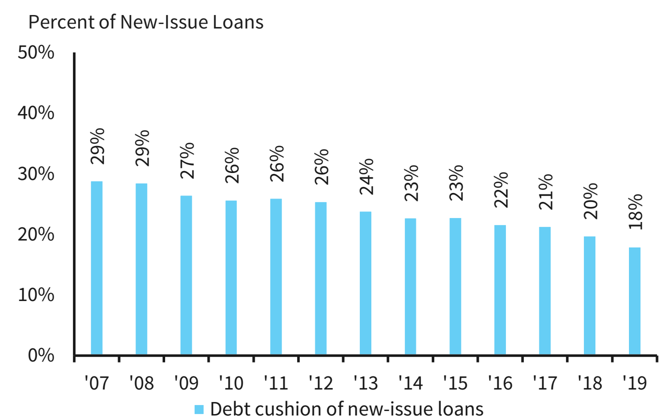
We have also written extensively on our view that the replacement of maintenance covenants with incurrence-based tests is more of a natural evolution for the loan market (*Covenant-Lite: An Evolution, Not a Revolution*), but today's covenant-lite loans have other loopholes that could augur more potential downside to recoveries. Unfortunately, it is difficult to put an exact value on the potential losses to investors from these changes. The data are not tracked systematically, but even if they were, the amount of assumptions about what a company would do before default is significant. While we know that many documents today allow for moving key assets through the designation of unrestricted subsidiaries or large restricted payment baskets, there is no guarantee that a company would use those prior to default. While the J.Crew and PetSmart examples get a lot of press, they are in the vast minority, and as those examples show, they may actually help the company avoid a hard default.

FIGURE 8. A Greater Portion of Loans Lack a Subordinated Debt Cushion



Notes: Loans without any debt subordinated to first-lien term loans.
Source: S&P LCD

FIGURE 9. Loans with Subordinated Debt Have Less Debt Cushion



Note: Reflects the share of debt that is subordinated to first-lien term loans.
Source: S&P LCD

The other characteristic that has been consistent with lower recoveries is loan-only credits. Most of these issuers have capital structures with limited or no debt behind first-lien loans. According to S&P LCD, 2019 had the greatest share of new issue loans without a debt cushion, as well as the smallest cushion for those that did have more junior debt (Figures 8 and 9). This matters because loans with 51-75% debt cushion historically had an ultimate recovery of 86%, but those with 25% or less cushion recovered 69%. We focus on the difference here of 17pts and not the absolute levels, as these are ultimate discounted recoveries and not the 30-day post-default trading recovery that we use to calculate our estimated recovery downside. While we recognize this downward bias in loan-only structures, we believe that it comes from the elevated secured leverage levels on which we already base our estimates. In fact, we would argue that merely being a loan-only credit would be a positive if all else were equal. This is because loan investors are likely to retain value because they do not need to make any payments to unsecured bondholders to get them to agree to a plan in bankruptcy court. In addition, without an unsecured class to fight with for value, legal costs could also be lower. These positives are more likely to show up in ultimate recovery rather than trading recovery, but nonetheless, we do not believe we need to adjust our models for historically lower loan-only recoveries.

Finally, while we can make an argument that the lack of unsecured debt in a default pushes some value to first-lien loan holders, we caution that the increase in revolvers with access to collateral that is different from the first-lien holders has hurt term loan recoveries. Figure 10 highlights that the divergence between revolvers and loans has increased in the post-crisis sample set. We believe that this is, to some degree, due to the concentration of bankruptcies in energy and retail, where borrowing and asset-based facilities are more common and recoveries have been strong for revolvers but below average for term loans. While comprehensive data on revolvers are more difficult to obtain, we think this a trend worth monitoring.

FIGURE 10. **The Basis between Revolver and Loan Recoveries Has Increased since the Crisis**

Debt Type	Dec '89 - Dec '92	Jun '99 - Apr '04	Dec '08 - Aug '10	Post-Crisis*	Outside of the Default Cycles**
All Revolvers	88%	81%	90%	91%	88%
Term Loans	87%	71%	71%	63%	82%

* Post-Crisis = September 2010 – present ** Outside of default cycles = the years when companies resolved their defaults outside of the first two default cycles.
Source: Moody's Ultimate Recovery database

Adjustments Matter Much Less for Unsecured Bond Recoveries

With loan recoveries likely to come under pressure, it would be fair to assume that the same is the case for the unsecured portion of the capital structure that has a lower-priority claim on assets. However, the divergence of the leveraged loan and high yield bond markets over time prevents us from making this assumption. As alluded to above, the loan-only presence in the loan market has increased from around 40% a decade ago to over 60% now. This decline in overlap between the two markets has led to a drop in the percent of floating-rate debt from high yield bond issuers from 35% pre-crisis to 28% today. However, the decline in secured debt has not been as extreme as that statistic portends, since the portion of the bond market that is secured has climbed from 10% in 2007 to 18% currently. This leaves the overall secured percentage of the capital structure roughly unchanged for bond issuers over time, as opposed to the substantial rise in first-lien leverage that skewed our loan recovery estimates lower.

While the increased portion of first-lien leverage was the biggest factor on the loan side, total leverage climbed as well. For the high yield market we have better data and are able to use market leverage and not new issue leverage. Using 3Q19 data, leverage has declined to post-crisis lows of 5.1x, which is also 13% lower than 2007 leverage of 5.9x. However, we cannot just look at total leverage less secured leverage for unsecured bonds, as there may be senior subordinated bonds behind them. In 2007, 15.5% of the high yield market was senior subordinated notes, compared with 3.5% today. This hurts senior unsecured recoveries, but is balanced out by the lower total leverage. When we put this all together, the lower total leverage is sufficient that we believe unsecured recoveries are likely to decline even less than the 4pts we estimated in the past if we base them on Moody's historical average of $38.

The more modest decline does not account for the adjustments to EBITDA that made a big difference in our loan recoveries when we removed them. However, since we are using market leverage from company filings, we should not have to worry about our estimates incorporating these adjustments. While this is generally true, there is one complication. Our market leverage estimates are limited by publicly available data and therefore incorporate data from just over 70% of the current market by par outstanding and are biased toward the higher-quality portion of the market. Where accounting for adjustments would be relevant in the bond market is primarily new issues that are the lower part of the capital structure of LBOs and likely private credits not captured in our leverage calculations. Two significant offsets, though, likely mean that these adjustments have a de minimis effect on unsecured recoveries overall. 1) LBO issuance has averaged a mere 5% of supply in the past four years for high yield, compared with almost 30% in 2006/07. The size difference in LBO supply is therefore larger than the adjustment difference between the two periods. 2) While our data set misses some of today's market, often including the higher leveraged LBOs with adjustments to EBITDA, our data from 2007 comprised only 66% of the market. The lower percentage is likely due to the higher percentage of the market rated CCC and below in 2007, when it represented 21% of the market, compared with 14% today. As a result, if anything, the bias should be toward the 2007 leverage data understating actual results even more than today's metrics.

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