2023-24 Leveraged Loan Default Forecast

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January 27, 2023

Our Forecast

- Forecast leveraged loan default rate of 3.8% in 2023 and 3.3% in 2024 (rates slightly above Moody's long-term average of 3.28%)
- Expect economic slowdown to be the main driver of defaults
- Anticipate a modest GDP and EBITDA contraction that will last only 1-2 quarters (similar to the 1990-91 recession)
- Generated forecast using leveraged finance issuer cash flow projection models with EBITDA contractions informed by 1990-91 recession data
- Deliberately avoided using current ratings composition in our methodology (due to the inconsistent relationship historically between ratings and default rate)

We used a leveraged finance cash flow model of sample leveraged loan issuers to evaluate their capacity to withstand an elevated Fed Funds rate and EBITDA contraction like the 1990-91 recession. The model's output showed how the recessionary environment would impact issuers, which, therefore, informed how sharply we expected the default rate to increase during the 2023-24 cycle.

Overall, we believe that the cash flow projections show that leveraged loan issuers should (on average) have sufficient resiliency to withstand a modest recession and an increase in interest rates.

This forecast is predicated on the strong linkage among GDP contraction, EBITDA contraction, and default rate in 2023-24. Our research found that, contrary to our expectations, this linkage was much weaker in prior recessions when the default rate was driven by extraneous factors such as fraud, poor underwriting, or fiscal easing.[1]

We also look at the trend of Moody's last twelve-month default rate (1.78%) and long-term average (3.28%). Using the Moody's loan default definition for our forecast, we project 7.1% total defaults over 2023-24.[2] We forecast 3.8% of that 7.1% in 2023 when we expect the actual GDP contraction to occur, and the remaining 3.3% to occur in 2024.

Details on Our Methodology

Issuer Cash Flow Modeling: To assess the impact of the forecasted economic downturn, we modeled cash flow for 3 sample loan issuers with different ratings: B, B- (Stable Outlook), and B- (Negative Outlook).[3] Table 1 shows key credit statistics for these sample issuers **before** the impact of 2022 rate hikes or economic declines.

[1] We analyzed recessions since 1990.
[2] Moody's has a more expansive definition of leveraged loan default, which includes debt restructuring in addition to payment default and bankruptcy.
[3] Analysis generated using a combination of judgement and supplementary data from Pitchbook LCD Loan Quarterly Power Point Q3 2022.

Table 1:

Issuer Rating	Debt/EBITDA	FCF/Debt
B	5.5	8%
B- (Stable Outlook)	6.5	6%
B- (Negative Outlook)	7.5	4%

Next, we adjusted our sample issuers for both an increase in Fed Funds rate and a change in EBITDA. Table 2 shows our B, B- (Stable Outlook), and B- (Negative Outlook) issuers across 3 different economic states: pre-2023/pre-rate increases, an upside forecast for 2023, and a downside forecast for 2023.

Both 2023 cases assume a 5% Fed Funds rate. The upside case uses a normalized EBITDA growth rate of 6%.[4] This 6% assumption is the average EBITDA growth for speculative rated corporates during years of positive GDP growth. The downside case assumes a 4% EBITDA contraction. This 4% contraction is slightly more conservative than the 2.4% contraction in 1990-91.[5]

Both the upside and downside forecasts show deteriorations in free cash flow due to the large increase in interest expense. However, in the upside forecast, even the lower quality issuers have the capacity to survive the large increase in interest rates. In the downside forecast, only the B- (Negative Outlook) issuer dips below $0 free cash flow, **but only slightly**. Interest coverage (EBITDA/Interest Expense) for the B- (Negative Outlook) issuer also dips from 2.5x to 1.3x. This level of free cash flow and modest interest coverage can indeed be problematic. However, for companies with decent liquidity (in the form of revolvers, cash on hand, decreased capex), these figures do not present a problem unless the downturn persists for 3-5 quarters. In addition, despite the sharp dip in new loan origination and extensions in 2022, 80% of term loans still mature in 2026 or later.[6]

Table 2:

	Pre-2023 / Pre-Rate Increases			Upside Forecast 2023			Downside Forecast 2023		
Issuer Rating	B	B- (Stable Outlook)	B- (Negative Outlook)	B	B- (Stable Outlook)	B- (Negative Outlook)	B	B- (Stable Outlook)	B- (Negative Outlook)
Debt/EBITDA	5.5	6.5	7.5	5.2	6.1	7.1	5.7	6.8	7.8
FCF/Debt	8%	6%	4%	4%	2%	0%	2%	0%	-1%
Free Cash Flow ("FCF")	44.0	39.0	30.0	23.1	13.2	-0.7	13.1	3.2	-10.7
EBITDA	100.0	100.0	100.0	106.0	106.0	106.0	96.0	96.0	96.0
Debt	550.0	650.0	750.0	550.0	650.0	750.0	550.0	650.0	750.0
EBITDA/Int Exp	3.4	2.9	2.5	1.9	1.6	1.4	1.7	1.5	1.3
(EBITDA - Int Exp)/Debt	12.9%	10.1%	8.1%	9.1%	6.1%	4.0%	7.3%	4.6%	2.6%

Lack of Correlations among GDP, EBITDA, and Default Rate: We also examined recession severity, EBITDA performance, and credit ratings (of non-investment grade corporates) during the previous 4

[4] Historic EBITDA data for non-investment grade issuers: LCD, Bank of America Research, Bloomberg.
[5] Historic EBITDA data for non-investment grade issuers: LCD, Bank of America Research, Bloomberg.
[6] Pitchbook LCD Maturity Breakdown YE 2022.

default cycles (1990-91, 2000-01, 2008-09, 2020) in Table 3. We were surprised to find several breakdowns in the linkages among GDP contraction, EBITDA contraction, and default rate.

Table 3[7]:

	Economic Experience		**Corporate Earnings**	**Default Rates**				
Recession	Recession GDP Contraction	Recession Duration	Average EBITDA Contraction	US Speculative-Grade Default Rate	B+ Default Rate	B Default Rate	B- Default Rate	CCC Default Rate
	Column A	*Column B*	*Column C*	*Column D*	*Column E*	*Column F*	*Column G*	*Column H*
1990-1991	-1.10%	8 months	-2.4%	19.5%	7.1%	11.9%	27.1%	31.4%
2000-2001	-0.60%	8 months	-2.5%	15.4%	2.4%	6.8%	12.2%	24.7%
2008-2009	-4.30%	18 months	-18.1%	17.6%	3.2%	5.6%	6.7%	26.5%
2020	-19.20%	2 months	-23.2%	6.9%	1.8%	4.4%	5.4%	12.3%

The only recession in which there was a strong link among GDP, EBITDA, and default rate was the 2008-09 recession. This recession was severe across the board with -4.3% GDP, -18.1% EBITDA, and 17.6% defaults. In contrast, the 1990-91 and 2000-01 recessions were both mild (as measured by GDP and EBITDA decline) and yet had very high default rates (19.5% and 15.4% respectively). In 2020, it was the opposite, with the 6.9% default rate mild in comparison to the 19.2% GDP contraction and 23.2% EBITDA contraction.

The breakdown in linkages during these cycles show that factors other than recession severity and EBITDA declines – such as bad underwriting (1990 HY debt crisis), fraud (2000-01 bankruptcies of MCI and Enron), and massive monetary/fiscal easing (2020 global pandemic) – influenced the default rate. In 2023-24, however, we expect that the severity of the recession and EBITDA contraction will drive the default rate. In terms of economic conditions and EBITDA contraction, we believe 2023-24 will be most comparable to the mild 1990-91 recession, which was partly caused by a rapid increase in interest rates.

Current Credit Ratings Are Not Useful in Predicting 2023-24 Default Rates: As we discussed in our 2021 white paper "Why Credit Ratings for Leveraged Loan Issuers Have an Overly Conservative Bias," we do not see credit ratings as accurate indicators of likelihood of default. Even though default rates for each of the 4 recessions were similar (2020's 6.9% default rate would be more in line with the other recessions if multiplied by 2 years), the ratings-based default rate -- or default rate of each granular rating category -- has been inconsistent and has declined materially over each of the past 4 recessions. Columns E through H show 50-70% decreases in default rates for the lower rating categories (B+ and below) from the 1990 recession to the 2020 recession. Due to the volatility of rating-based default rates during recessions, we

[7] Default rates for 2-year recession periods are equal to the sum of the default rates for each year. Columns A+B: https://www.cnbc.com/2020/04/09/what-happened-in-every-us-recession-since-the-great-depression.html; data for 2020 Recession: https://www.reuters.com/business/us-economy-contracted-192-during-covid-19-pandemic-recession-2021-07-29/; data for 2020 Recession duration: https://www.reuters.com/business/recession-ended-april-2020-making-it-shortest-record-2021-07-19/; Column C: BofA Securities HY EBITDA historic data, Pitchbook LCD Current Credit Stats; Column D: Moody's Annual Issuer Rated Corporate Default Rates, 1983-2021 Exhibit 38, 2021 Moody's Annual Default Study; Columns E-H: Annual Issuer Rated Corporate Default Rates, 1983-2021 Exhibit 38, 2021 Moody's Annual Default Study.

elected **not** to have the current ratings composition inform our forecast in any way. This decision was unusual: current ratings composition is very commonly used as a lynchpin for developing default forecasts.

Conclusion:

Our default forecast appears mild when compared to the long-term historic average. This outcome is largely because we expect 2023-24 to experience **a mild recession at worst**. We believe this mild recession will cause only a relatively benign dip in earnings for leveraged loan issuers. Additionally, for the issuers that survive the upcoming slowdown, we expect earnings resiliency to act as the most important buffer against increased interest expense.

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