



Health of the Leveraged Loan Issuer white paper series

Part III: Fed Tightening and Its Impact on the US Economy: Identifying the Tipping Point for Leveraged Loan Issuers

Jim Healy, Chief Executive Officer, and Daniel Miller, Chief Credit Officer

March 29, 2022

Key Takeaways:

- The most likely scenario of a spike in leveraged loan defaults is where the Fed is compelled to raise rates by 350 basis points (from YE 2021), and, at the same time, the U.S. economy dips into recession with 0 or very modest GDP growth during 2022 and 2023. Interestingly, in the past 60 years, every recession preceded by a Fed tightening cycle had a minimum of 300 basis points of Fed rate increases¹.
- This scenario is several standard deviations away from consensus GDP and rates forecasts for 2022 and 2023.

Introduction:

In *Part II: Impact of Higher Interest Rates on Leveraged Loan Issuers*, we concluded that the highest risk leveraged loan issuers, those created via LBOs, could sustain up to a 440 bp increase in short-term rates from YE 2021 during a normalized growing economy. We also concluded they could sustain up to a 150 bp increase in a recessionary economy as long as we have a resumption of economic growth following the GDP contraction.

In this follow up white paper, we take this analysis one step further and compare those default thresholds with the actual U.S. GDP outlook (which is highly correlated to earnings and EBITDA outlook) and its relationship with interest rate increases.

The Default Curve: Positive Slope

In *Part II*, we outlined the relationship between interest rates, EBITDA and default rates in Figure 1. As interest rates go up, interest expense increases, free cash flow to service debt diminishes, and default risk increases. In addition, we included assumptions about changes to EBITDA in a normalized growing economy, assuming 7% annual growth². This point on Figure 1 is the **pink square**. We calculated an additional data point for a recessionary economy (marked by the **blue circle**). In this scenario, we

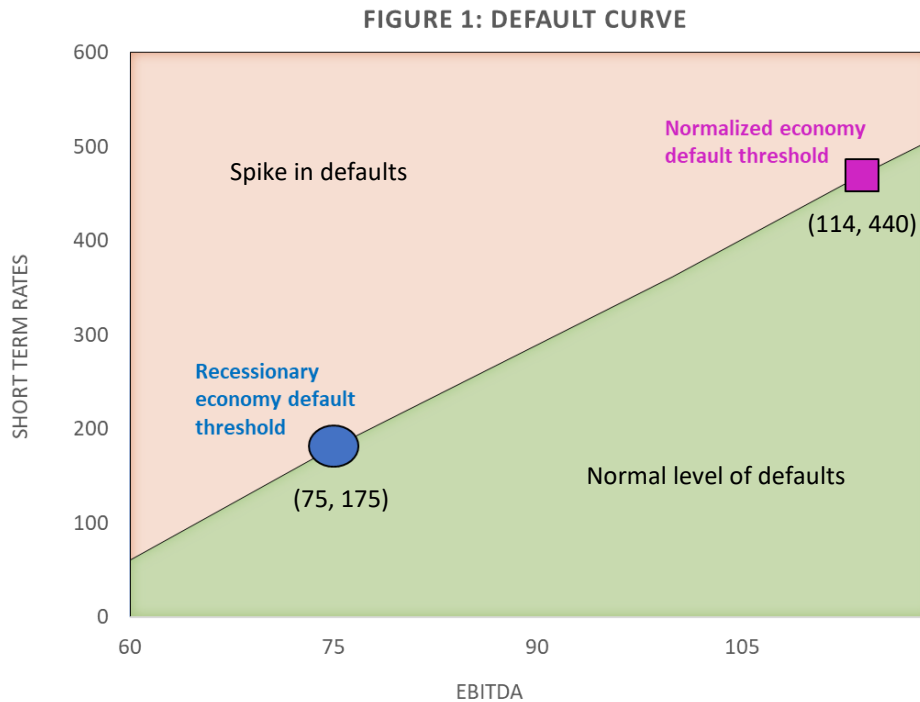
¹ 'Walking a High Wire', Investment Strategy Group, Goldman Sachs, March 20, 2022.

² Normalized Economy EBITDA growth of 7% and recessionary economy EBITDA contraction of -25% are derived using historic (going back to 2001) average EBITDA growth during non-recessionary periods and average EBITDA contraction at the onset of a recession for public leveraged loan issuers.



assumed a 25% contraction in EBITDA and concluded LIBOR could increase to 1.75% before we see a spike in defaults.

In Figure 1, starting EBITDA and starting LIBOR at YE 2021 are \$100 and 31 basis points, respectively. We use actual average origination leverage for LBOs as of YE 2021 and build out our projections using the changes in rates and EBITDA. The upward sloping curve therefore represents the locus of 2023 EBITDA and LIBOR³ levels at which we predict a large spike in leveraged loan defaults. While both EBITDA and LIBOR are changing at different points along the curve, the one constant credit metric across the curve is a 2.2x interest coverage ratio. This is the threshold we've picked, based on historical analysis of past default cycles, needed to avert a spike in default rate. We also solved for a minimum cash coverage ratio⁴ of 11% except during the recessionary economy where we've allowed for a lower ratio, which assumes a post-recession bounce back in EBITDA.



Note: Starting Point EBITDA and LIBOR = \$100 and 31 basis points, respectively

Default Curve and Economic Outlook:

Now that we have a default curve showing the locus of interest rate and EBITDA combinations that will result in a spike in leveraged loan defaults, it would be helpful to see the expected relationship between

³ Beginning in 2022 and ending on June 30, 2023, leveraged loans are undergoing a transition to reference SOFR instead of LIBOR. However, we are using LIBOR in this paper for consistency purposes as we do not expect the transition to SOFR to materially impact financing costs for leveraged loan issuers.

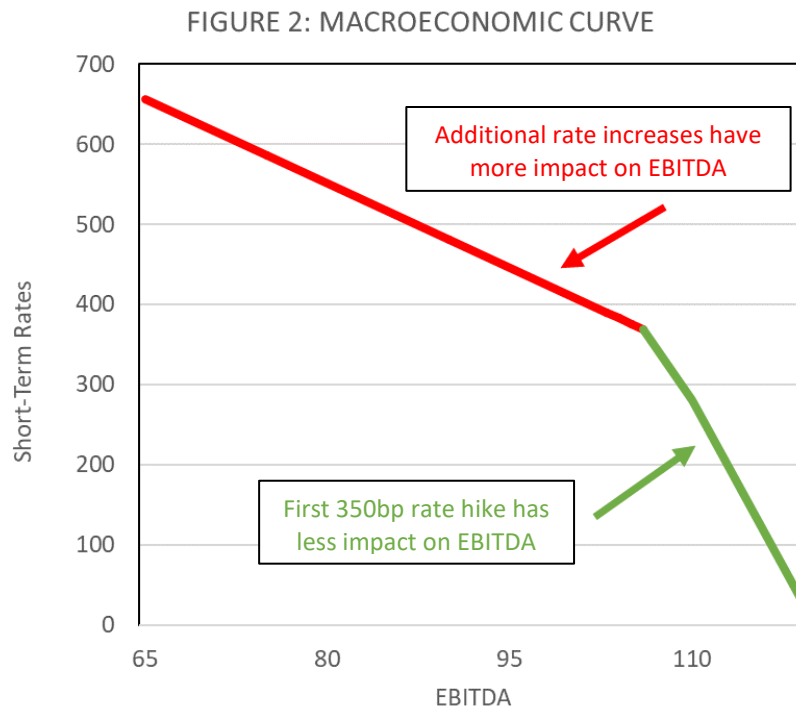
⁴ Cash Coverage Ratio = (EBITDA – Interest Expense)/Total Debt



rate increases and EBITDA change given the current economic environment. We'll call this the Macroeconomic Curve.

The Macroeconomic Curve: Negative Slope

The macroeconomic curve shows where EBITDA will be as the Fed hikes. This curve (Figure 2) is negatively sloped because monetary policy works by tamping down aggregate demand and, by extension, EBITDA. In other words, the greater the rate hike, the lower GDP and EBITDA will be. The position and slope of the curve clearly depends on the starting position of the economy and how much the Fed hikes rates. Given the historically low Fed Funds rate, the positive growth momentum (5.7% growth during 2021, with 6.7% in Q4 of 2021), and a strong economic backdrop with excess personal savings, the negatively sloped curve can reasonably be expected to be fairly steep initially (**green line**). That is, the change in EBITDA from where it would have been without a rate hike is fairly small for the first 350 bps of rate hikes, in our opinion. However, as rates get higher, their effect on economic growth has more bite, which is why the curve bends toward the vertical axis (**red line**), as seen in Figure 2.



Intersection: Default Curve vs Macroeconomic Curve

Now we have two interesting curves:

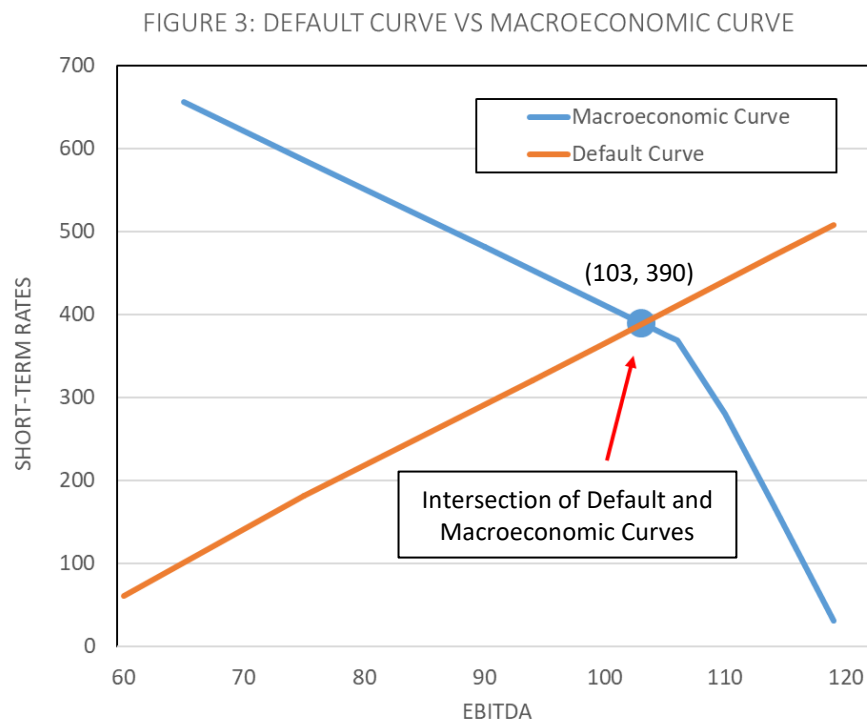
1. The default curve, which is the locus of EBITDA and interest rate that would trigger a spike in defaults in our view. But it does not indicate which combinations are more probable.



- The macroeconomic curve addresses this shortcoming and displays the locus of interest rate hikes and EBITDA that are likely to occur in this economy as the Fed raises interest rates.

By combining these curves, their intersection reveals how much the Fed can raise rates (thereby lowering EBITDA) without triggering a spike in defaults.

In our view that intersection (shown in Figure 3) comes just below 4% Libor and a 3% increase in EBITDA (3% total increase during 2022 and 2023 combined). This gives us a sense of the cushion we have from current rate and GDP expectations to a spike in leveraged loan defaults.



Note: Starting Point EBITDA and LIBOR = \$100 and 31 basis points, respectively

Conclusion:

The most likely scenario of a spike in the leveraged loan default rate is where the Fed is compelled to raise rates by 350+ basis points, coupled with a total EBITDA increase of only 3%. Interestingly, in the past 60 years, every recession preceded by a Fed tightening cycle had a minimum of 300 basis points of Fed rate increases. This scenario is several standard deviations away from current forecasts. Nevertheless, we view it as the most likely of all the significant loan default scenarios.



Forward-Looking Statements

Some of the statements contained in this presentation constitute forward-looking statements within the meaning of the federal securities laws. Forward-looking statements relate to expectations, beliefs, projections, future plans and strategies, anticipated events or trends and similar expressions concerning matters that are not historical facts. In some cases, you can identify forward-looking statements by the use of forward-looking terminology such as “may,” “will,” “should,” “expects,” “intends,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” or “potential” or the negative of these words and phrases or similar words or phrases which are predictions of or indicate future events or trends and which do not relate solely to historical matters. You can also identify forward-looking statements by discussions of strategy, plans or intentions.

The forward-looking statements contained in this presentation reflect our current views about future events and are subject to numerous known and unknown risks, uncertainties, assumptions and changes in circumstances, many of which are beyond our control, that may cause our actual results to differ significantly from those expressed in any forward-looking statement. Statements regarding the following subjects, among others, may be forward-looking: the use of proceeds from our public and private offerings (as the case may be); our business and investment strategy; our projected operating results; our ability to obtain financing arrangements; financing and advance rates for our target assets; our expected leverage; general volatility of the securities markets in which we invest; our expected investments; effects of hedging instruments on our target assets; rates of leasing and occupancy rates on our target assets; the degree to which our hedging strategies may or may not protect us from interest rate volatility; liquidity of our target assets; impact of changes in governmental regulations, tax law and rates, and similar matters; availability of investment opportunities; availability of qualified personnel; estimates relating to our ability to make distributions; our understanding of our competition; and market trends in our industry, interest rates, real estate values, the debt securities markets or the general economy.

While forward-looking statements reflect our good faith beliefs, assumptions and expectations, they are not guarantees of future performance. Furthermore, we disclaim any obligation to publicly update or revise any forward-looking statement to reflect changes in underlying assumptions or factors, new information, data or methods, future events or other changes.

This presentation contains statistics and other data that has been obtained from or compiled from information made available by third-party service providers. We have not independently verified such statistics or data.

Disclaimers

This confidential document is for informational purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any securities or partnership interests described herein. Interests in Capra Credit Management, LLC (“Capra”) partnerships may not be purchased except pursuant to the partnership’s relevant subscription agreement and partnership agreement, each of which should be reviewed in its entirety prior to investment.