



*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**

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**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 increases<sup>1</sup>.
- 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 growth<sup>2</sup>. 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

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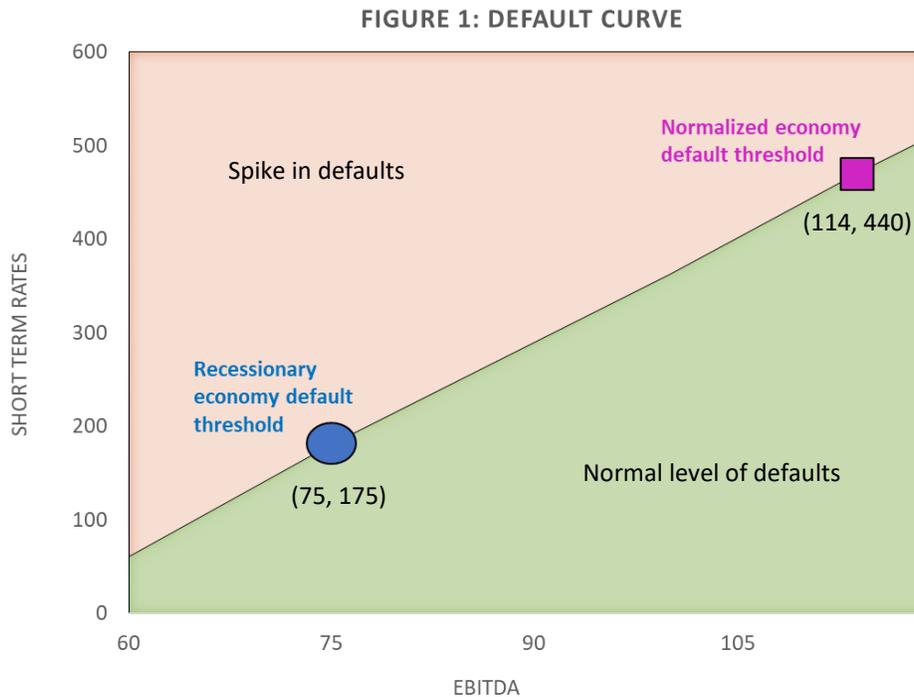
<sup>1</sup> 'Walking a High Wire', Investment Strategy Group, Goldman Sachs, March 20, 2022.

<sup>2</sup> 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 LIBOR<sup>3</sup> 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 ratio<sup>4</sup> 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

<sup>3</sup> 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.

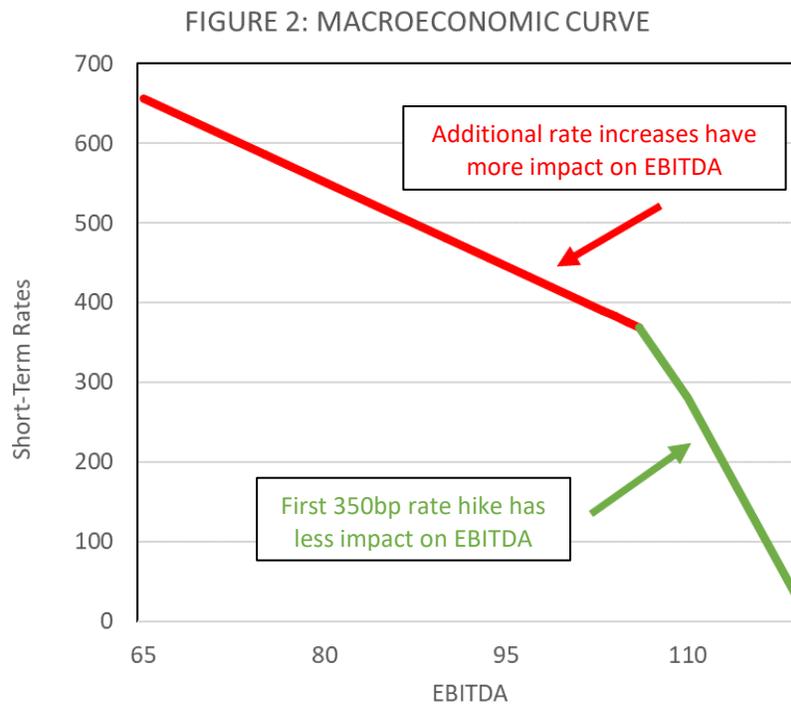
<sup>4</sup> Cash Coverage Ratio = (EBITDA – Interest Expense)/Total Debt



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:

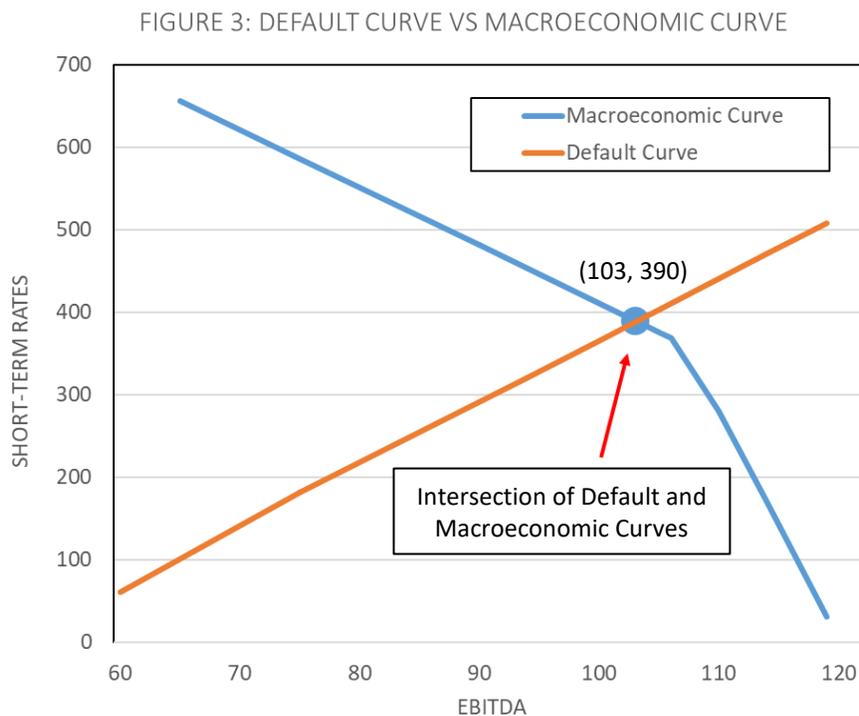
1. The default curve, which is the locus of EBITDA and interest rate that would trigger a spike in defaults in our view. But it does not indicate which combinations are more probable.



- 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.



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