CARLYLE

November 2020

Global Insights

After the Flood: A 2021 Credit Market Outlook

A flood of central bank liquidity successfully rescued the credit market from a wave of distress. Such actions have not eliminated the prospect of future defaults so much as "flattened the (default) curve." Distress-for-control opportunities may take longer to materialize but could ultimately prove more numerous.

Rather than a traditional cycle where loan performance follows a sequential and largely homogeneous path, credit markets over the next few years seem likely to be characterized by unprecedented dispersion in both outcomes and lending opportunities across industries and individual circumstances.

Whatever ultimately unfolds in this most unusual of cycles, credit's seniority in the capital structure provides both upside participation and downside protection, particularly in the case of new loans where equity buffers have averaged nearly 50% of enterprise value.

After the Flood

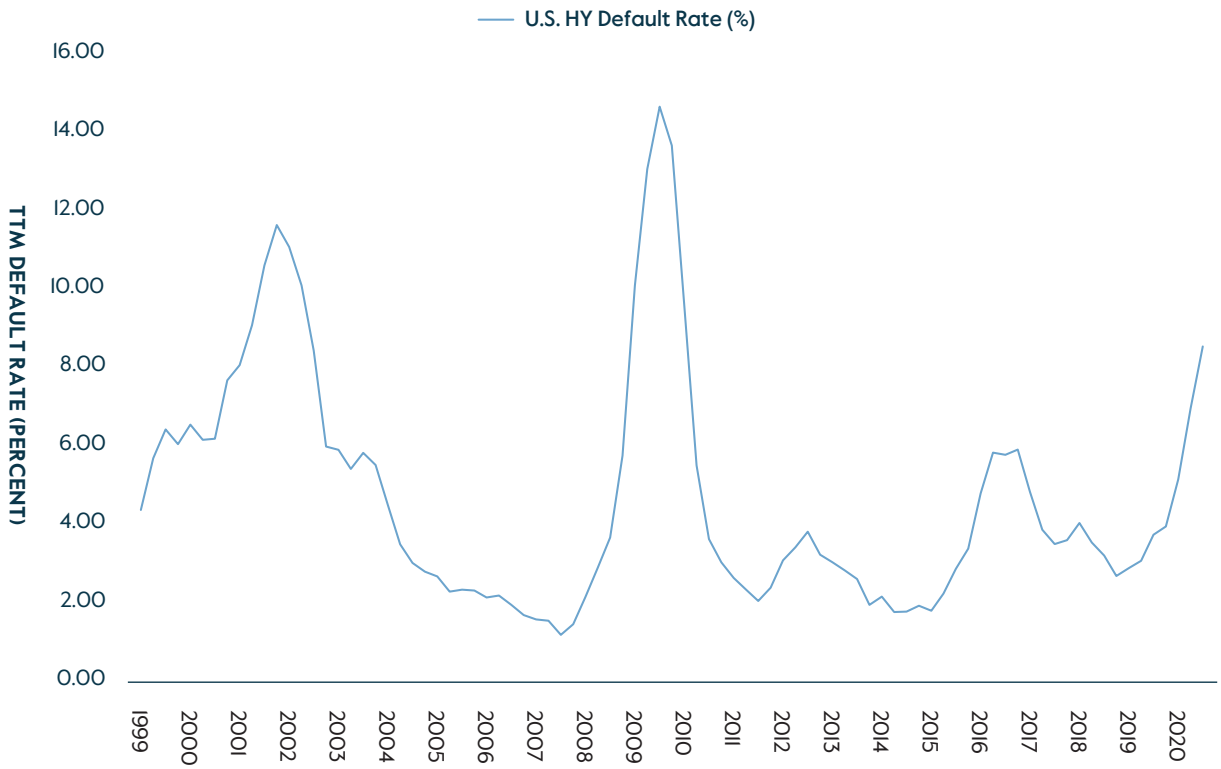
Asset allocators treat credit as an independent asset class with its own return benchmarks and risk profile, but conceiving of the market this way can be misleading. Loans and bonds represent the senior claims on the very same enterprise value that backs (leveraged) equity. In good times, credit delivers a low-volatility income stream largely uncorrelated with broader market fluctuations thanks to the loss-bearing cushion provided by that equity. But as that cushion dissipates due to a decline in corporate cash flows, rising corporate leverage and increased macroeconomic uncertainty, so too does the illusion of independence.

Today, record corporate indebtedness intersects with the unique macroeconomic complexities of the coronavirus pandemic to raise the prospect of especially disparate outcomes across credits. Rather than a classic cycle of (I) steady returns followed by (2) exuberance and then (3) distress, today's market seems to exhibit all three stages simultaneously. Expanding opportunities to lend to businesses in fast-growing sectors seem likely to coexist with a surge in distress-for-control, as structurally impaired businesses reach the end of their liquidity runway.

THE BRIEFEST OF DOWNTURNS

Historically, defaults tend to cluster in time,[1] generating a time series that resembles an epidemic curve, with a steep and sudden rise in default rates followed by an equally sharp drop from the peak (Figure 1). In market downturns, the real economic shock from a recession typically gets magnified by a concomitant decline in market liquidity as investors de-risk portfolios, banks pull back from lending, and discretionary risk capital gets repriced. Default volumes rise above levels consistent with economic fundamentals as otherwise solvent businesses find themselves unable to roll-over maturing liabilities. This familiar pattern seemed to manifest itself in March 2020, as the lockdown-induced recession triggered a collapse in market liquidity (Figure 2). The average bid price on leveraged loans fell to 76 per 100 of par, down from 96 just four weeks earlier (Figure 3). And this market dislocation had the potential to be even more severe than past episodes due to the sharp decline in dealer intermediation since the Global Financial Crisis (Figure 4).

Figure 1.
Defaults Cluster in Time



[1] C.f. Das, S. et al. (2007), "Common Failings: How Corporate Defaults Are Correlated," Journal of Finance. Duffie, D. et al. (2009), "Frailty Correlated Defaults," Journal of Finance. Azizpour, S. et al. (2018), "Exploring the Sources of Default Clustering," Journal of Financial Economics.
Figure 1. Source: Carlyle Analysis; Bank for International Settlements; Federal Reserve Data; BAML.

Figure 2.
Stunning Drop in Market Liquidity Necessitates Fed Intervention

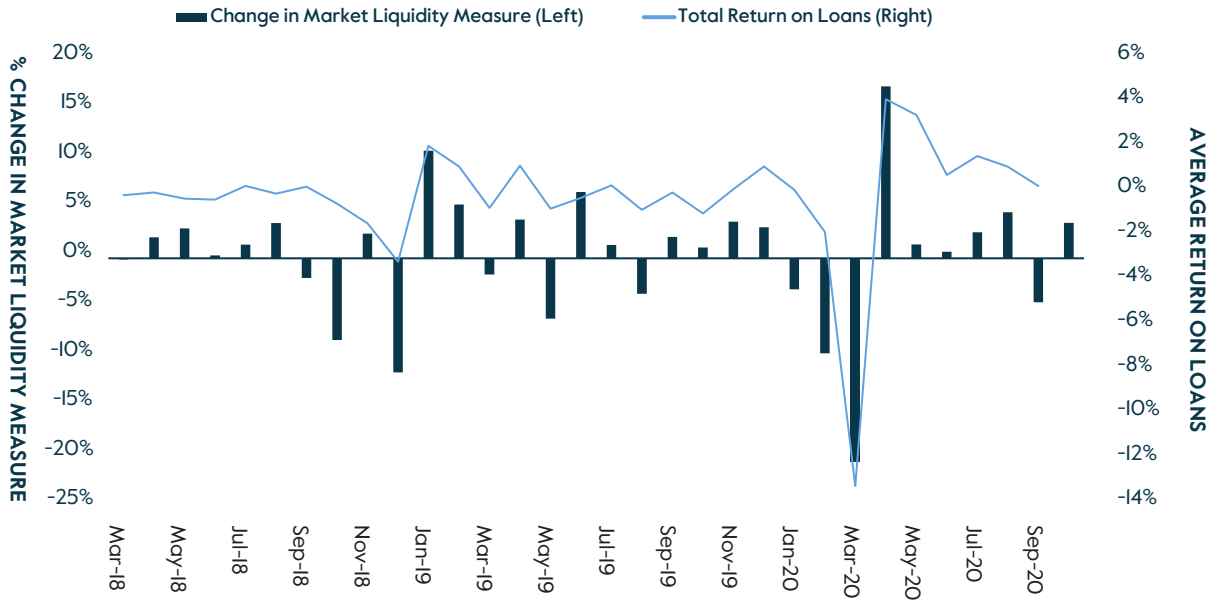


Figure 3.
Average Bid Price, Leveraged Loans

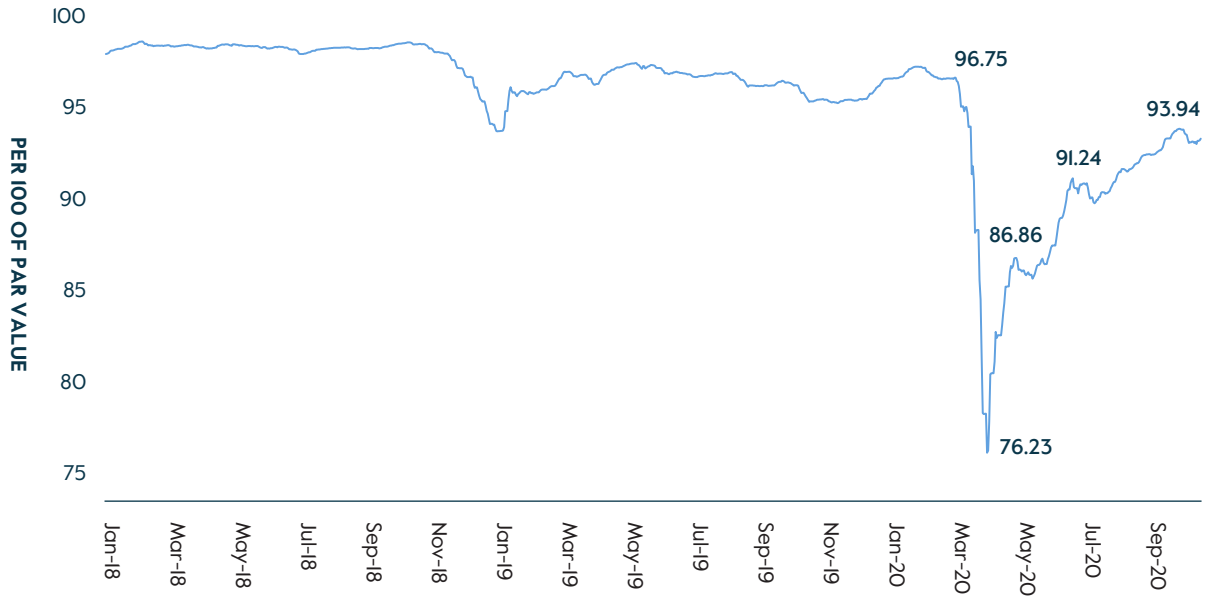
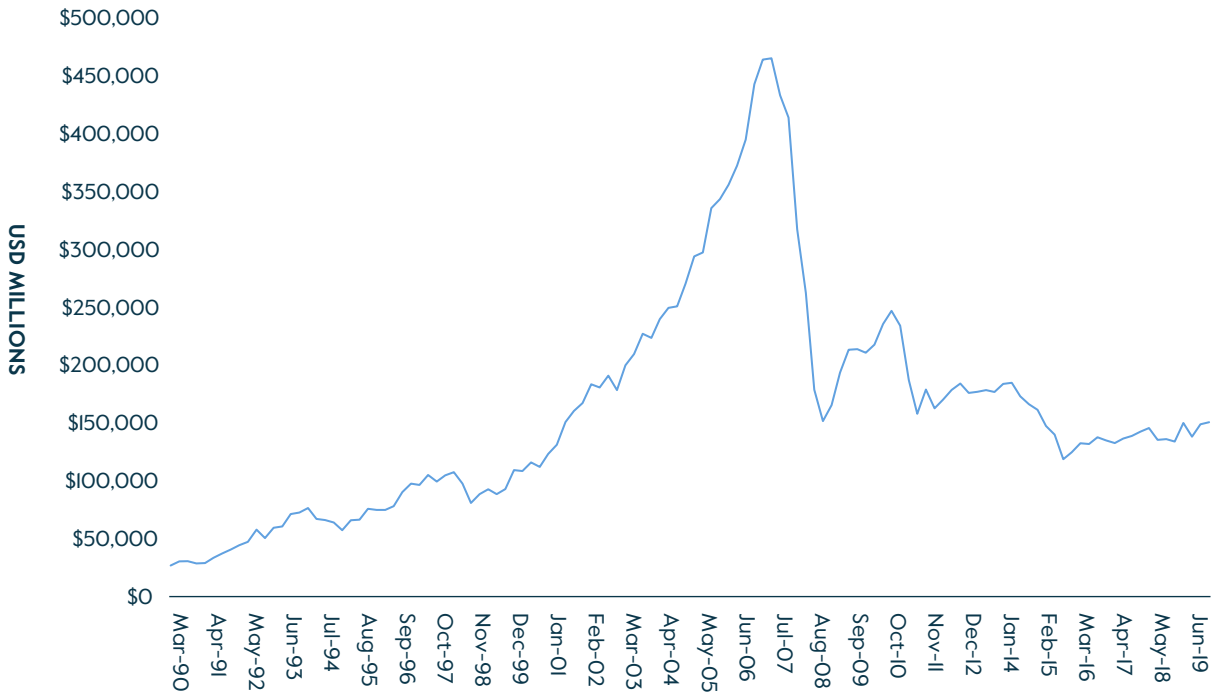


Figure 2. Source: Carlyle Analysis; Bloomberg Data, S&P LCD, October 2020.
Figure 3. Source: S&P LCD Data, October 2020.

Figure 4.
Broker-Dealers' Holdings of Loans & Bonds Drop By More than Two-Thirds Since GFC

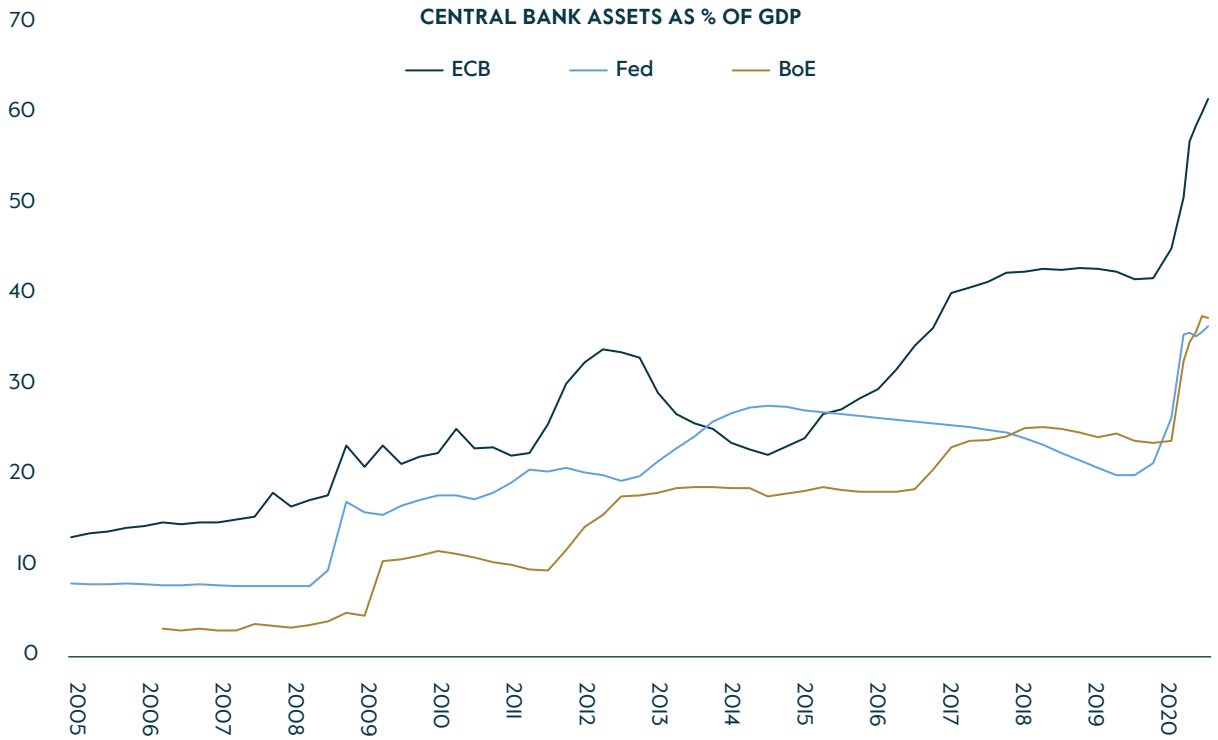


But rather than a replay of prior crises, or something even worse, the credit market was soon flooded with liquidity. Central banks in the U.S. and Europe acquired record quantities of sovereign bonds and formally pledged to backstop corporate bond markets (Figure 5). Near-term default expectations waned, breathing new life into the option value of equity. Loan prices rose more in five weeks in 2020 than they did in the first five months in 2009.[2]

In prior downturns, central banks had not intervened as forcefully due to moral hazard concerns.[3] Conventional theory states that if there is no consequence for imprudent risk-taking, crises will grow in magnitude at an ever increasing rate. Periodic liquidity crises encourage management teams to pursue more conservative capital structures or partner with more stable financial sponsors and lenders, both of which enhance long-run financial market stability. These moral hazard concerns were absent in this crisis because policymakers viewed the pandemic as an exogenous event for which no business could have been reasonably expected to plan. As a result, 2020 became an inversion of past experience: **instead of allowing an illiquidity spiral to push otherwise solvent companies into bankruptcy, central banks ensured that all but the most underwater businesses would remain liquid.**

[2] S&P LSTA Index, October 2020.
[3] Note that the first signs of a major financial crisis were observed in money markets in early August of 2007 – 13 months before the Lehman Bankruptcy and 14 months before most of the Fed's emergency liquidity facilities were up and running.
Figure 4. Source: Federal Reserve Board of Governors, Z.1, October 2020.

Figure 5.
Record Growth in Central Bank Balance Sheets



However, central bank backstops did nothing to address the cash flow shortfalls themselves; that required additional borrowing. Corporates first plugged operating deficits through drawdowns on bank credit lines (Figure 6), and then turned to the bond markets, issuing more bonds in the first nine months of 2020 (nearly $2 trillion) than had ever before been placed in an entire calendar year. Traditionally, bonds have been used to fund expansion, capex, M&A or dividends, but virtually all of this year's issuance went to term out maturities and boost on-balance sheet liquidity (Figure 7). In total, speculative grade borrowers are on pace to boost cash buffers by more than $150 billion this year, 60% larger than ever previously observed (Figure 8).

Thanks to improved funding conditions, defaults thus far have been concentrated in sectors already experiencing structural headwinds entering the crisis, such as retail and oil and gas, which account for nearly two-thirds of defaults to-date (Figure 9). Recovery rates on defaulted loans and bonds have also reached record lows, a fact that partly reflects the absence of loan covenants but really underscores the extent to which defaults have been concentrated in the worst of the worst credits (Figure 10).

Source: Carlyle Analysis; Bloomberg, October 2020. There is no guarantee any trends will continue.

Figure 6.
Revolver Draws Dominate Liquidity Management in March & April

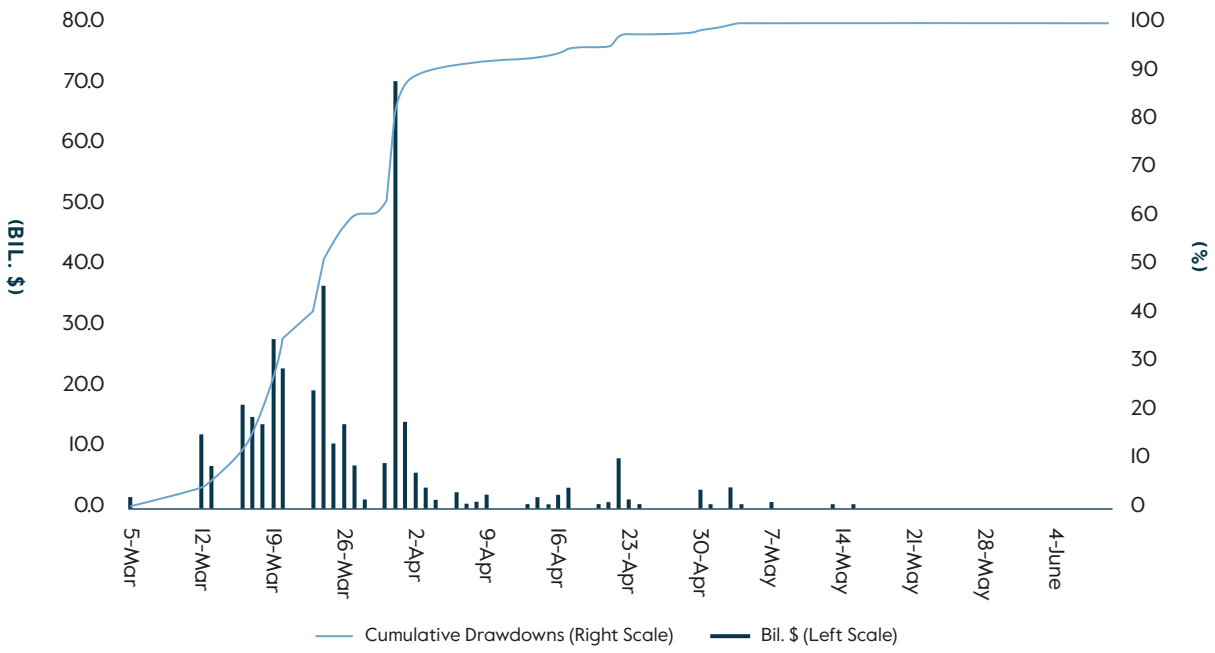


Figure 7.
Share of Bond Proceeds Used to Extend Maturities & Build Cash Buffer Reaches All-Time High

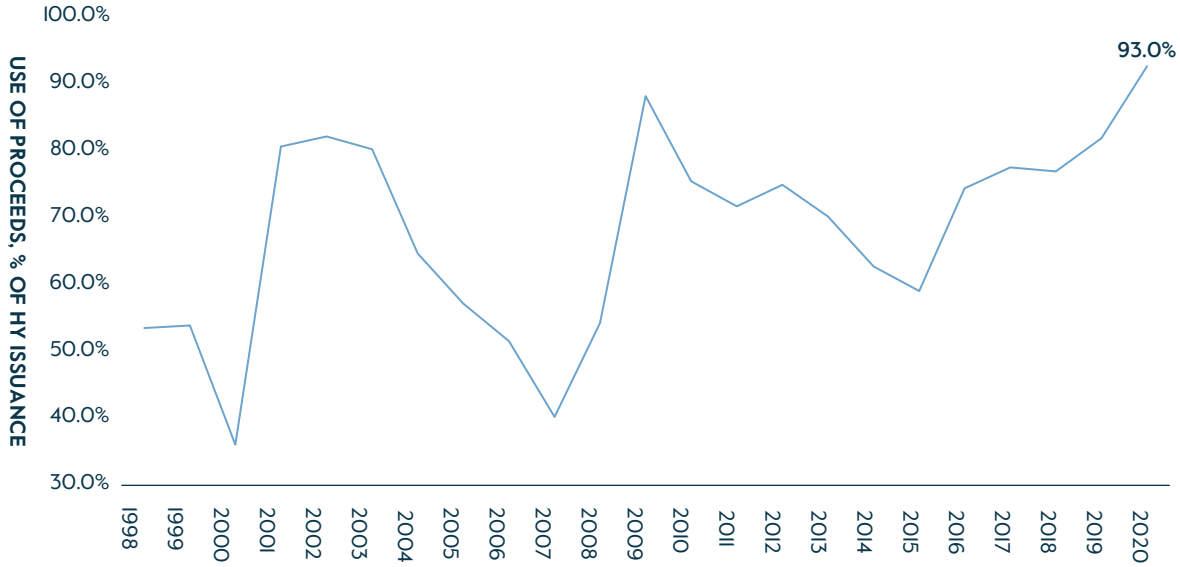


Figure 6. Source: S&P, September 2020.
Figure 7. Source: Carlyle Analysis; BofA Merrill Lynch; October 2020. There is no guarantee any trends will continue.

Figure 8.
Through Three Quarters of 2020, Speculative Grade Borrowers Have Raised 1.6x as Much Cash as Ever Before

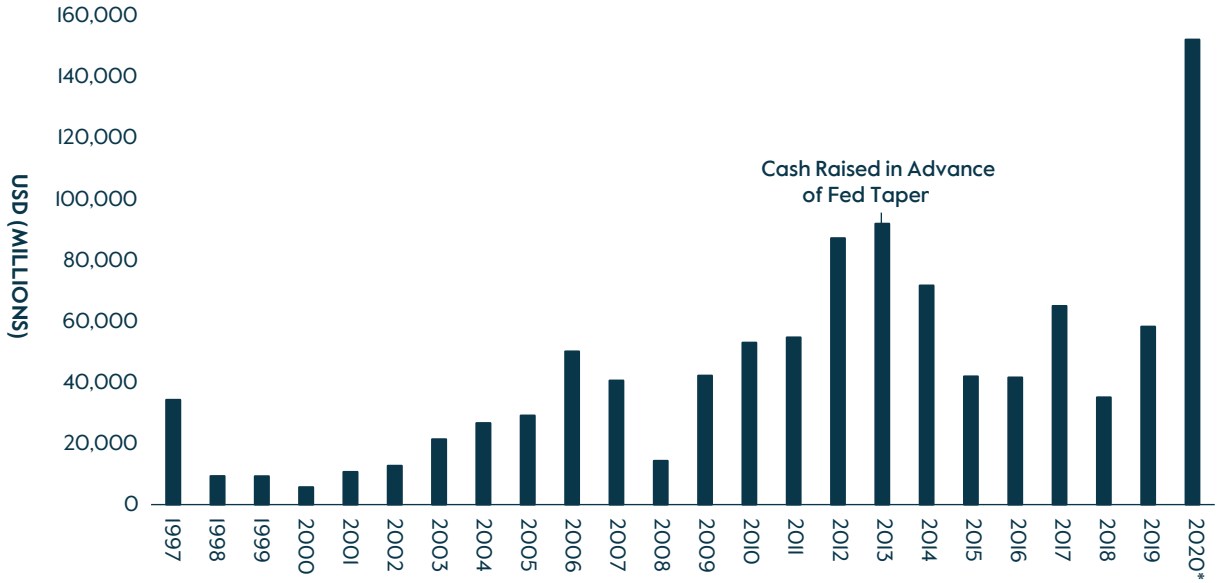
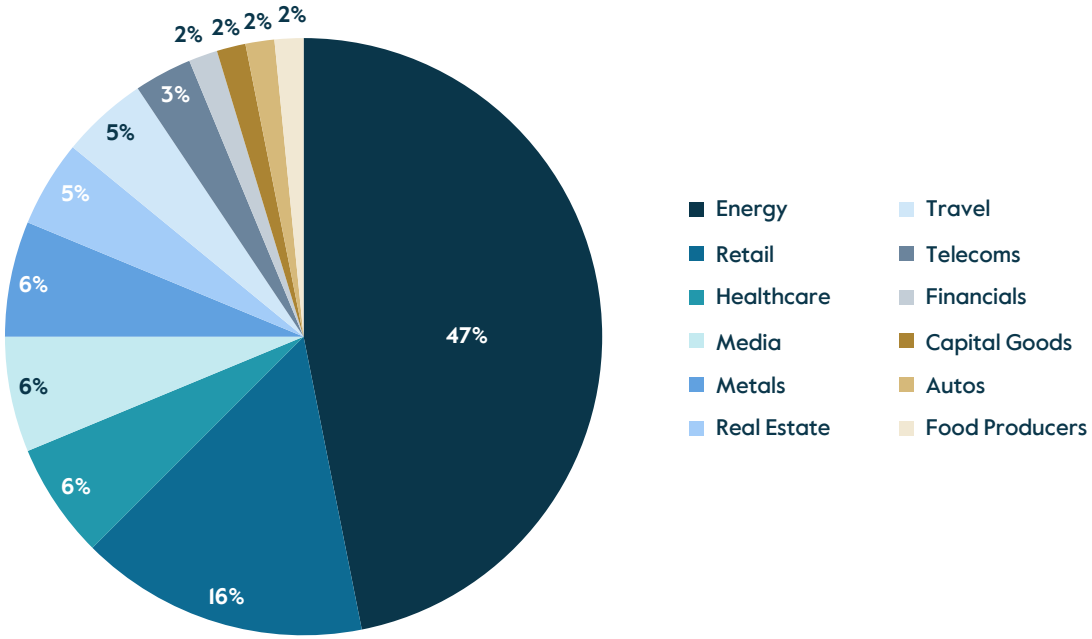
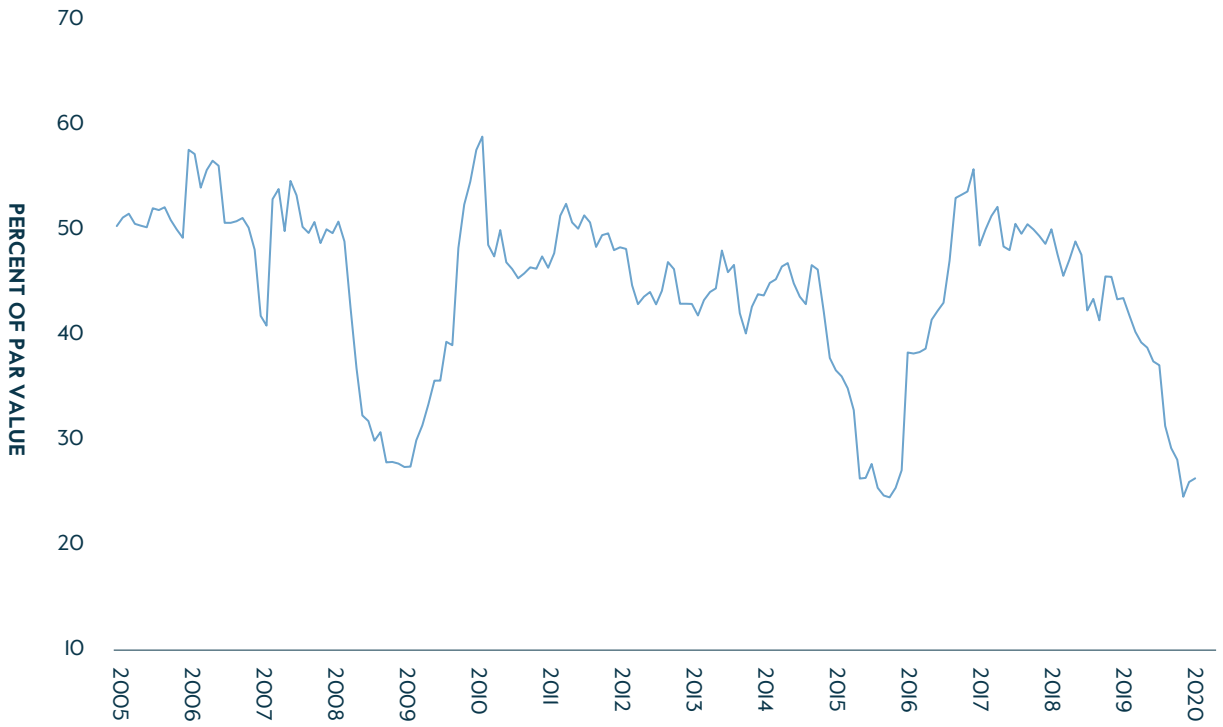


Figure 9.
Year-to-Date Default Volumes by Industry



*Annualized Basis
Figure 8. Source: Carlyle Analysis; BAML HY Credit Chartbook, October 2020.
Figure 9. Source: Carlyle Analysis, BAML HY Credit Chartbook, October 2020.

Figure 10.
Average Recovery Rates, High Yield Bonds



FLATTENING THE (DEFAULT) CURVE

Central banks have not eliminated the prospect of additional defaults so much as "flattened the curve." The "first wave" may bring 40% fewer defaults than expected in March,[4] but the added borrowing to address cash flow shortfalls has reset default boundaries to levels that many business may find more difficult to clear. As a result, cumulative defaults – and the associated distressed investment opportunities – may be slower to materialize than in past recessions but could ultimately prove more numerous.

Corporate debt in the U.S. entered 2020 at all-time highs relative to GDP. When accounting for the incremental debt issued in 2020 and netting out restructurings, that ratio seems likely to increase by another 15% this year (Figure 11). Still, when accounting for both the lower effective interest rate on the current stock of debt and the extent to which recent refinancings have termed-out maturities, effective debt service ratios remain at levels comparable to 2001 – and above those of 2009 – when default rates on senior loans hit 8% (Figure 12). Rather than a sharp peak and swift subsequent decline, default rates could remain at elevated levels for an extended period, with defaults that would have otherwise occurred in 2020 simply pushed into the future.

[4] S&P LCD Survey, October 1, 2020.
Figure 10. Source: BAML HY Credit Chartbook, October 2020.

Figure 11.
Corporate Debt-to-GDP Rises 15% Above Prior Record

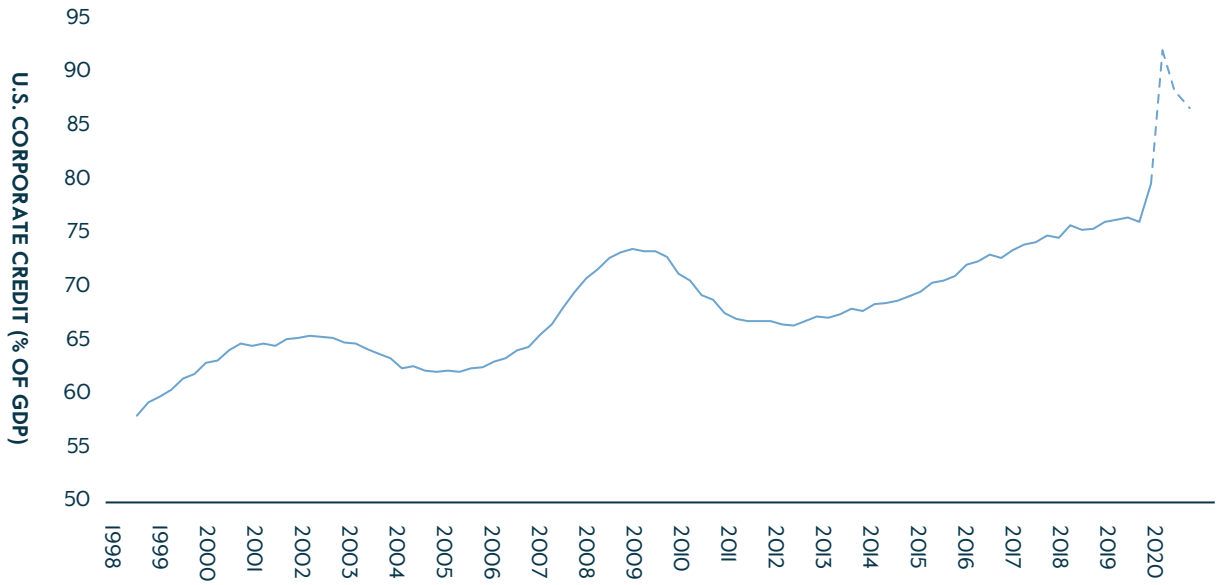


Figure 12.
Lower Rates & Longer Maturities Reduce Effective Debt Service Costs, But Ratio Remains Elevated

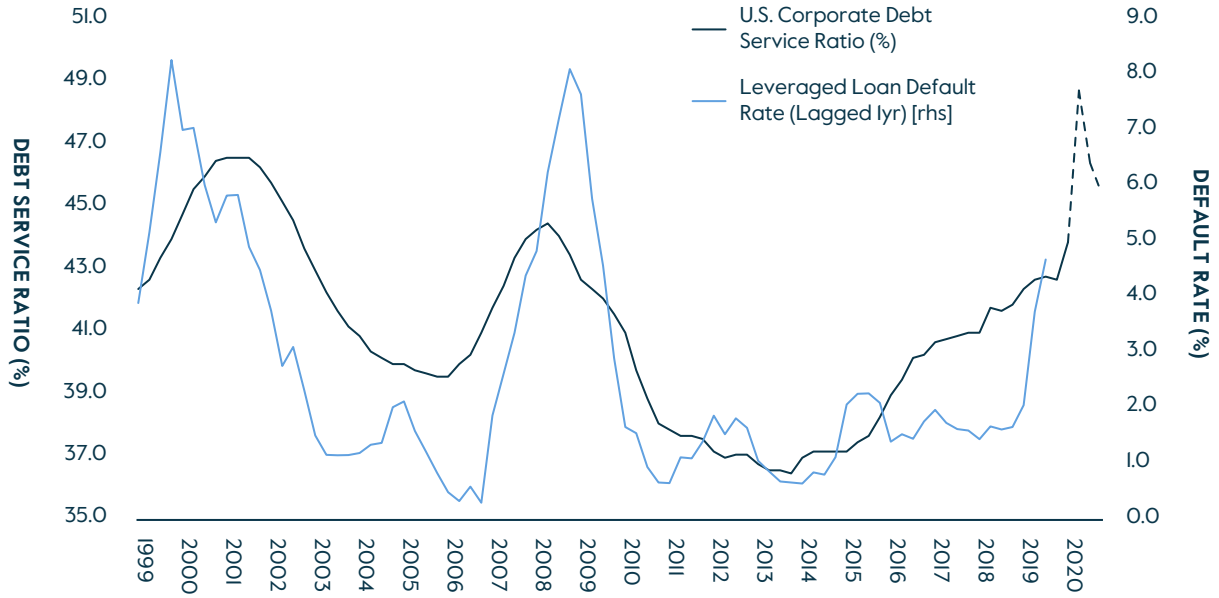
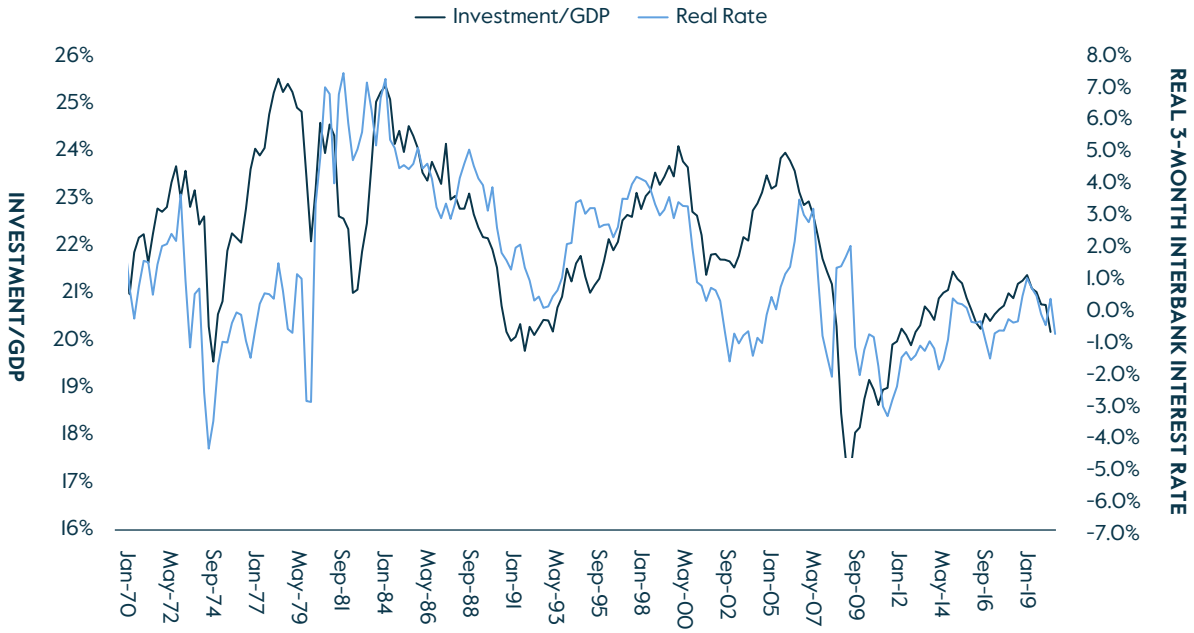


Figure 11. Source: Carlyle Analysis; Bank for International Settlements; Federal Reserve Data; BAML.
Figure 12. Source: Carlyle Analysis; Bank for International Settlements; Federal Reserve Data; BAML; S&P LCD.

While interest rates are likely to remain low for some time due to the structural excess of savings relative to investment demand (Figure 13), emergency central bank liquidity backstops are likely to be withdrawn. Initially, central banks' sole focus was on creating a "bridge" between the onset of the pandemic and eventual rebound in demand, which was expected to be six months to a year, judging by program expiration dates.[5] But as new daily infections continue to exceed 450,000 seven months after the initial lockdown orders, and demand in the hardest hit sectors remains stuck near all-time lows (Figure 14), central banks have become more concerned about a different problem: the creation and perpetuation of "zombie" businesses.[6] When insolvent companies are able to remain in business, economy-wide capacity increases, depressing the overall return on capital and exacerbating deflationary pressures.[7] As evidence grows that a significant share of businesses has accumulated debts in excess of their going concern value, the Fed will become increasingly sensitized to the risk of doing too much rather than too little.

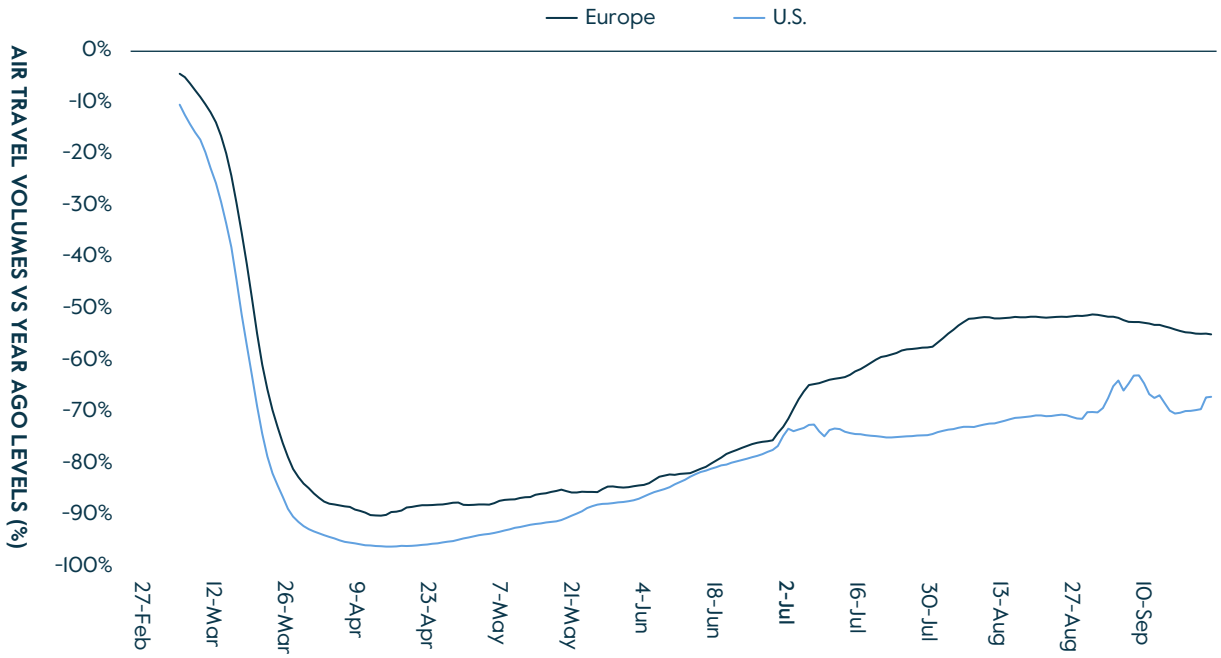
So while lenders today engage in collaborative arrangements with management teams and financial sponsors to term out liabilities and provide fresh capital, these relations are likely to turn adversarial in the coming years when some borrowers near the end of their liquidity "runway." As central banks pull back and the universe of at-risk credits expands, a larger share of credit returns will come from equitization rather than repayment. While that suggests that the number of explicit distress-for-control opportunities should rise exponentially in the next few years, it also implies that credit investments today need to be made with this potential endgame in mind.

Figure 13.
Decline in Real Interest Rates Reflects Fall in Investment Demand & Rise in Global Savings



[5] "Federal Reserve announces extensive new measures to support the economy," Federal Reserve Board of Governors, March 23, 2020.
[6] "Corporate Zombies: Anatomy and Life Cycle," Bank for International Settlements, September 2020.
[7] Acharya, V. et al. (2020), "Zombie Credit and (Dis-)Inflation: Evidence from Europe," Centre for Economic Policy Research.
Figure 13. Source: Carlyle; Bureau of Economic Analysis; OECD; August 2020. There is no guarantee any trends will continue.

Figure 14.
Air Travel Volumes Remain Down -60% to -70% from Pre-Pandemic Levels



NEW DOWNSIDE PROTECTION IN THE CURRENT VALUATION ENVIRONMENT

Of course, the great preponderance of new loans is likely to perform as expected over the next several years and most currently offer attractive compensation for the risk that they do not. Speculative grade credit spreads sit near 25-year averages and the "credit curve" slopes sharply upward, offering 14% more yield per unit of leverage today than typically observed over the past decade (Figure 15). More importantly, these spreads come in the context of substantially larger equity contributions, which have sharply reduced loan-to-value ratios and associated downside risks.

The principal protection investors seek from credit ultimately depends on enterprise value, and the increase in debt-to-income ratios over the past two years has been more than offset by an even larger increase in enterprise value-to-income. As long-term interest rates have declined, equity valuations have risen proportionally (Figure 16), a result consistent with the notion that the Treasury yield curve provides the base rates used to discount all future cash flows. In addition, a larger share of new investments – and associated deal flow – has occurred in sectors, such as technology, business services and health care, with expected growth rates and equity multiples well above market-wide averages. Taken together, the effective increase in valuations has caused equity cushions to rise by 64% relative to 2004-2013 averages, nearly double the 33% increase in senior debt multiples over the same period.[8]

[8] S&P LCD Data, October 2020.
Figure 14. Source: Carlyle Analysis, EuroControl and TSA

Figure 15.
Credit Curve Remains Steeper than Trailing 10 and 20 Year Average

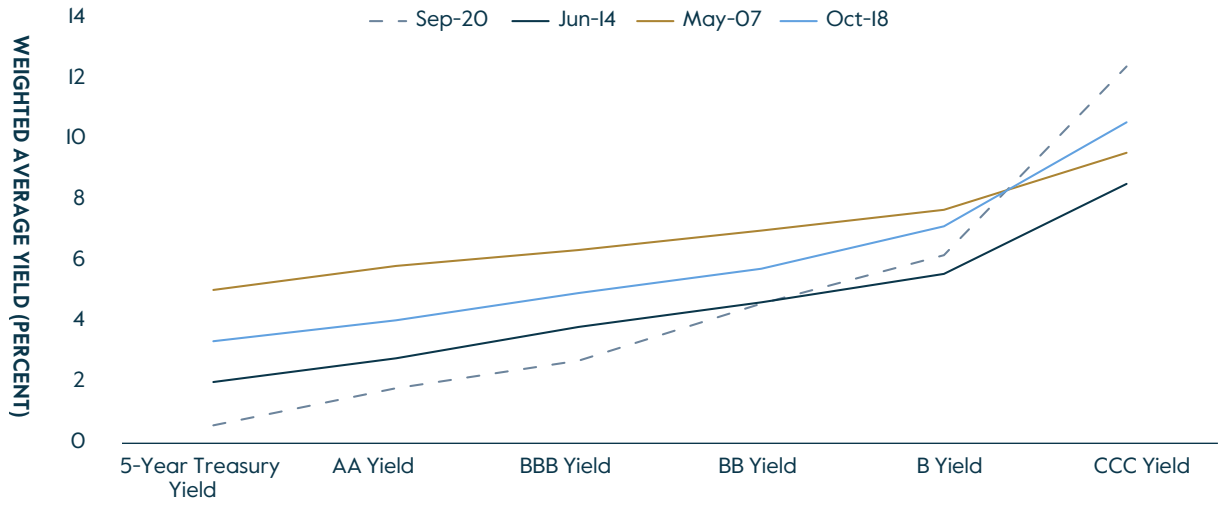


Figure 16.
Lower Bond Yields Depress Earnings Yields on Equity

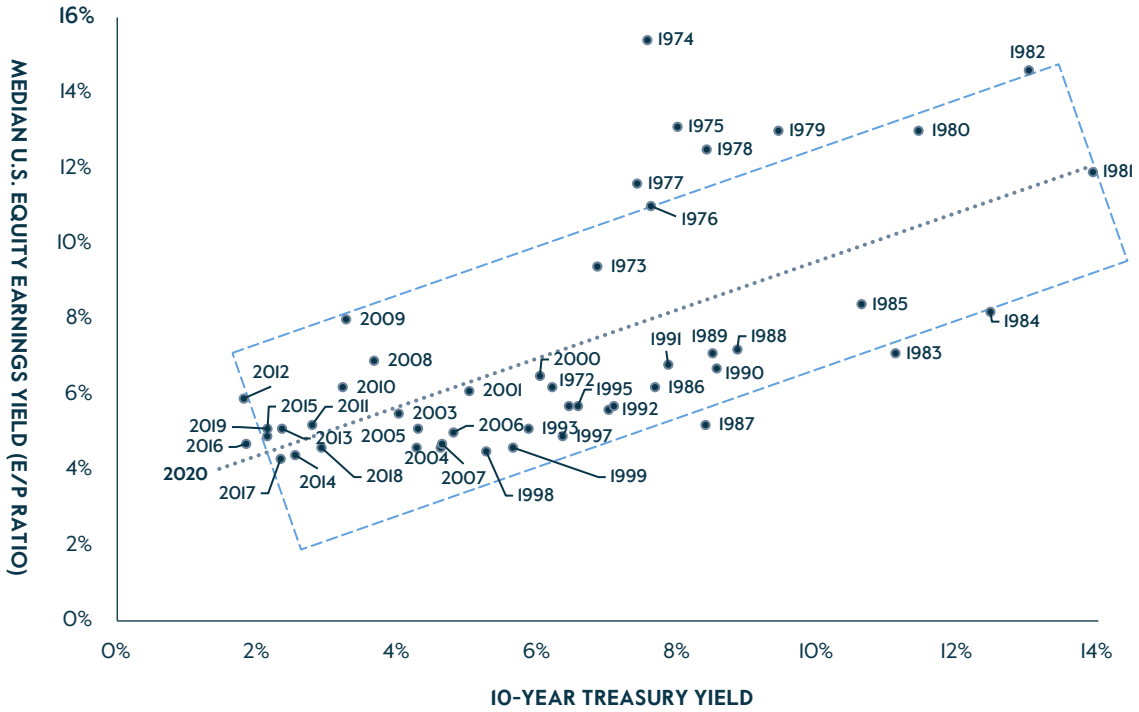


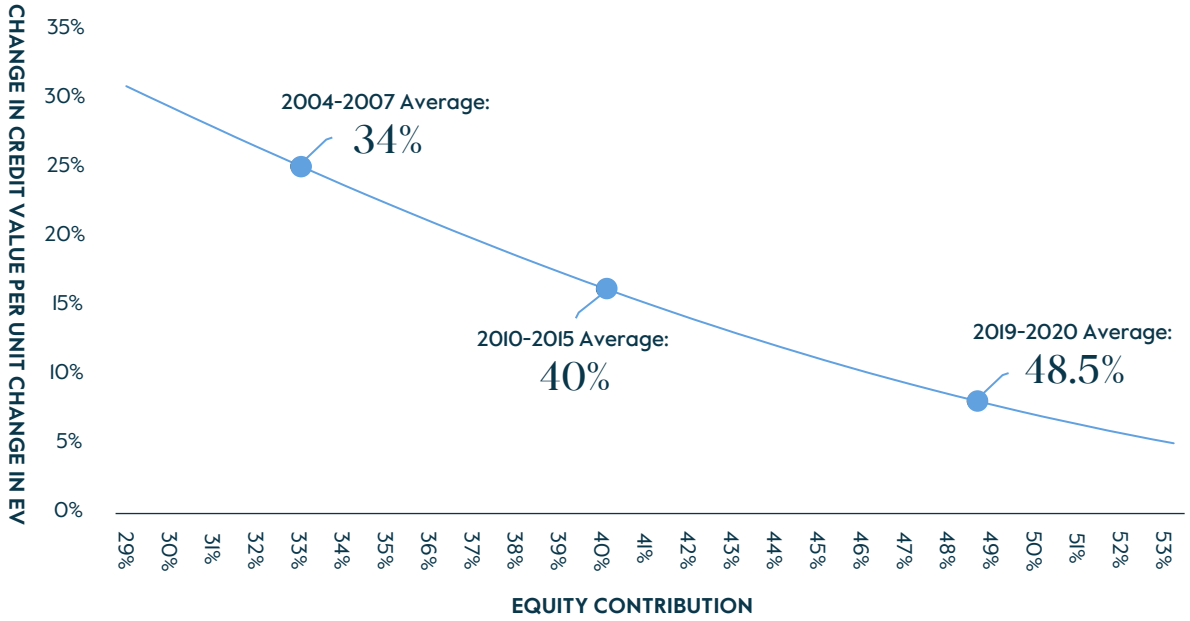
Figure 15. Source: Carlyle Analysis; Federal Reserve Bank of St. Louis, October 2020.
Figure 16. Source: Carlyle Analysis, CRSP, Federal Reserve Board of Governors, October 2020.

In practical terms, this means that while current debt-to-Ebitda multiples may be comparable to 2006-08 levels, the associated credit risk is not. In 2007, an industrial business with total debt equal to 7x Ebitda may have had a total enterprise value equal to just 9x Ebitda. Today, by contrast, a business with a comparable debt ratio is most likely to be in technology, business services or health care, where enterprise values often exceed 14x. The debt-to-income ratios may be the same but the loss-bearing equity cushion is nearly twice as large today.[9]

As equity cushions increase, credit risk declines nonlinearly (Figure 17). In 2004-07, when equity accounted for just one-third of the typical private capital structure, a 10% decline in enterprise value would translate to a 3.1% decline in the fundamental value of the senior debt (based on the Merton structural model and assuming no bankruptcy costs).[10] Today, with equity accounting for nearly half of the typical capital structure, the fundamental impact of a 10% decline in EV would be nearly imperceptible for the senior creditor. Moreover, the risk of capital loss declines as the loan (or bond) pays down over time through interest payments.

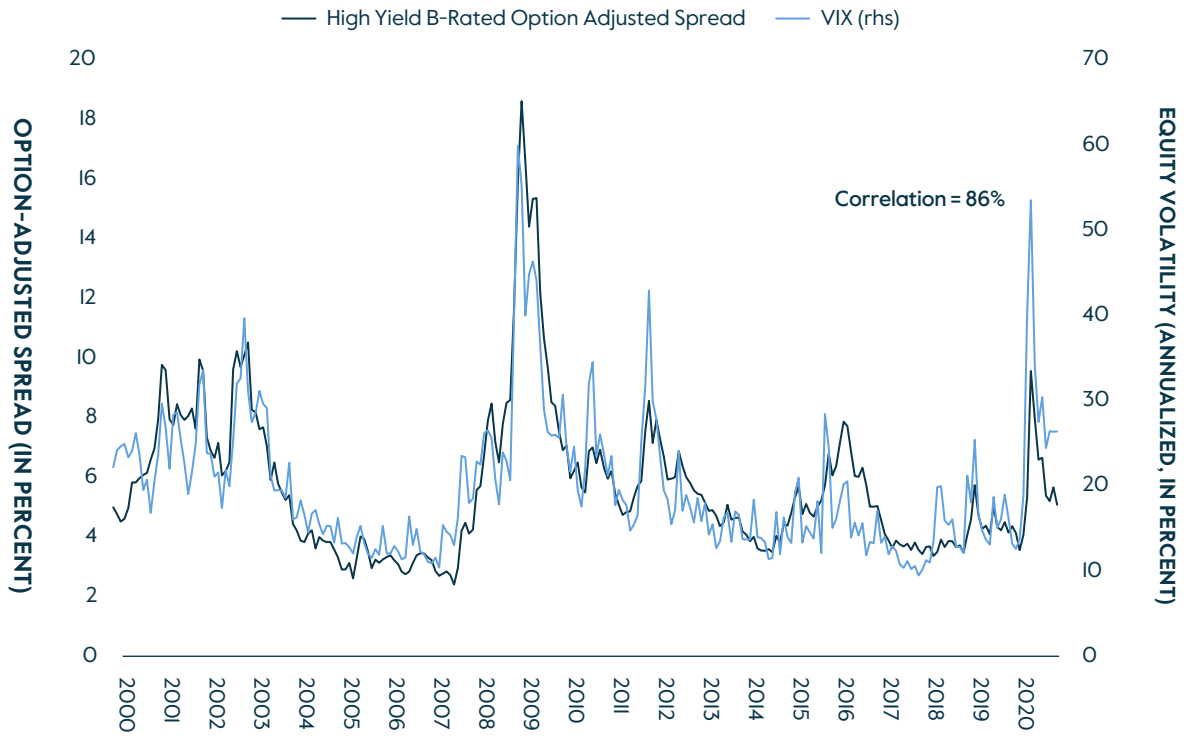
Of course, one could argue that equity is currently overvalued or that larger equity contributions tend to come in more volatile sectors, both of which would make a -10% or -20% drop in enterprise value more likely. But even if one accepts this argument, it wouldn't diminish the relative attractiveness of new loans for two reasons. First, since equity and leveraged credit can be specified as options on the same enterprise value, their values are linked structurally through put-call parity relations and exhibit nearly perfect correlation over time (Figure 18). Any concerns about underpriced volatility in credit would have much more dire implications for the equity that sits below it in the capital structure.

Figure 17.
Credit Risk Declines Nonlinearly as Equity Contributions Increase



[9] Illustrative examples based on data from S&P LCD through 9/30/2020.
[10] Merton, R. (1974), "On the Pricing of Corporate Debt: The Risk Structure of Interest Rates," *Journal of Finance.*
Figure 17. Source: Carlyle Analysis; S&P LCD Data, October 2020.

Figure 18.
Cointegration Between Equity Volatility and Credit Spreads

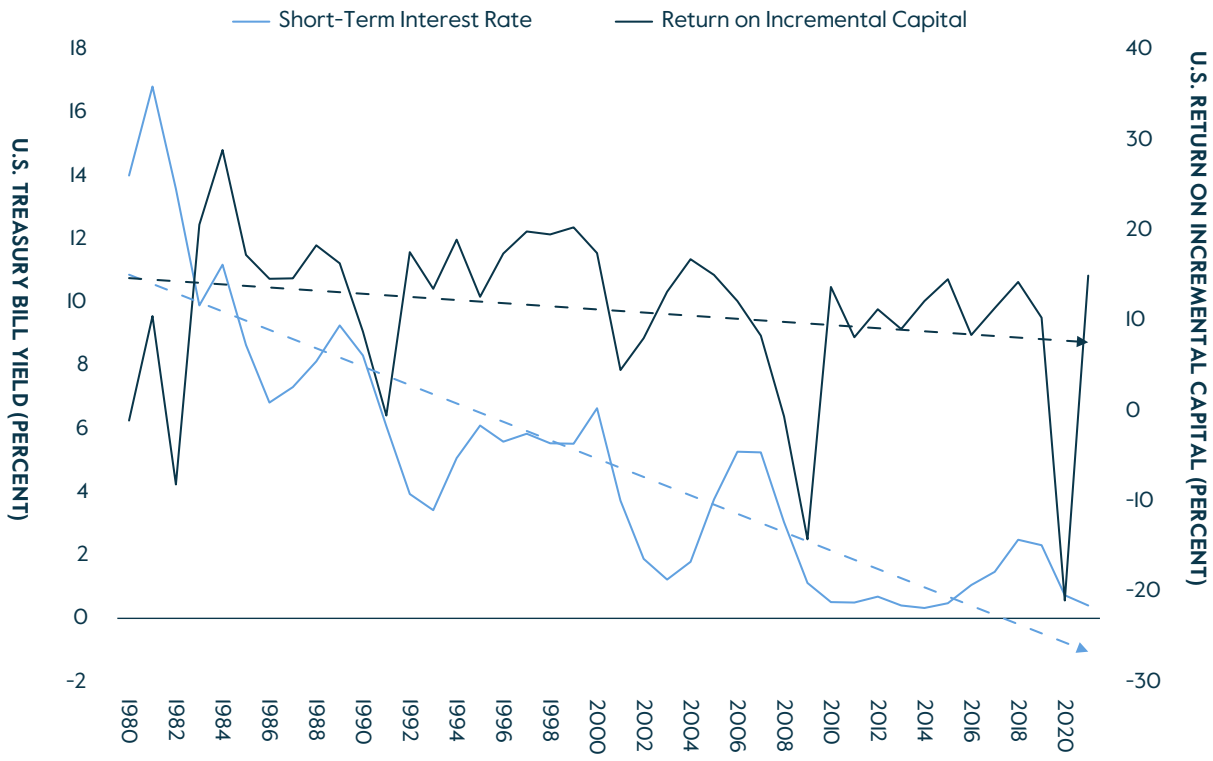


Second, the cost of avoiding this volatility altogether has become prohibitively expensive. Economy-wide risk premiums have actually widened, over time, as risk-free rates have declined by 40% more than the real return on capital (Figure 19). New investments remain much more productive than would be implied by sovereign bond yields, especially in industries with valuable intangible assets like technology, business services and health care that continue to generate high rates of operating income for every additional dollar invested.

As Churchill said of democracy, leveraged credit may be the worst place to be in the current environment except for all of the others.

Figure 18. Source: Federal Reserve Data, October 2020.

Figure 19.
Risk-Free Rates Fall 40% More than Real Return on Capital



CONCLUSION

A flood of central bank liquidity successfully rescued the credit market from a wave of distress comparable to that witnessed in 2002 and 2009. Many defaults have not been eliminated so much as pushed into the future, with fresh liquidity pushing average debt-to-income ratios to new all-time highs. While distress-for-control opportunities may take longer to materialize, they may ultimately prove more numerous than in past cycles. Central banks cannot keep a lid on volatility forever, nor will they want to once the scale of "zombie" borrowers becomes more evident.

While the distress opportunities slowly materialize, a sharp rise in equity valuations has improved the relative position of credit and boosted capital deployment opportunities in sectors unaffected (or boosted) by the pandemic. Average equity contributions have increased to nearly 50% of enterprise value, on average, substantially reducing the loan-to-value ratios and downside risks of new loans even as credit spreads remain near historical averages.

Figure 19. Source: Carlyle Analysis; IMF, WEO Database, October 2020.

Jason Thomas

HEAD OF GLOBAL RESEARCH
jason.thomas@carlyle.com / (202) 729-5420

Jason Thomas is the Head of Global Research at The Carlyle Group, focusing on economic and statistical analysis of Carlyle portfolio data, asset prices and broader trends in the global economy. He is based in Washington, DC.

Mr. Thomas serves as Economic Adviser to the firm's corporate Private Equity, Real Estate and Credit Investment Committees. His research helps to identify new investment opportunities, advance strategic initiatives and corporate development, and support Carlyle investors.

Prior to joining Carlyle, Mr. Thomas was Vice President, Research at the Private Equity Council. Prior to that, he served on the White House staff as Special Assistant to the President and Director for Policy Development at the National Economic Council. In this capacity, Mr. Thomas served as primary adviser to the President for public finance.

Mr. Thomas received a BA from Claremont McKenna College and an MS and PhD in finance from George Washington University, where he studied as a Bank of America Foundation, Leo and Lillian Goodwin Foundation, and School of Business Fellow. Mr. Thomas has earned the chartered financial analyst designation and is a Financial Risk Manager certified by the Global Association of Risk Professionals.

Mark Jenkins

MANAGING DIRECTOR AND HEAD OF GLOBAL CREDIT
mark.jenkins@carlyle.com

Mark Jenkins is a Managing Director and Head of Global Credit based in New York.

Prior to joining Carlyle, Mr. Jenkins was a Senior Managing Director at CPPIB and responsible for leading CPPIB's Global Private Investment group with approximately CAD$56 billion of assets under management. He was Chair of the Credit Investment Committee, Chair of the Private Investments Committee and also managed the portfolio value creation group. While at CPPIB, Mr. Jenkins founded CPPIB Credit Investments, which is a multi-strategy platform making direct principal credit investments. He also led CPPIB's acquisition and oversight of Antares Capital and the subsequent expansion in middle market lending. Prior to CPPIB, he was Managing Director, Co-Head of Leveraged Finance Origination and Execution for Barclays Capital in New York. Before Barclays, Mr. Jenkins worked for 11 years at Goldman Sachs & Co. in senior positions within the Fixed Income and Financing groups in New York.

Mr. Jenkins earned a B.Comm degree from Queen's University. He served on the boards of Wilton Re, Teine Energy, Antares Capital and Merchant Capital Solutions.