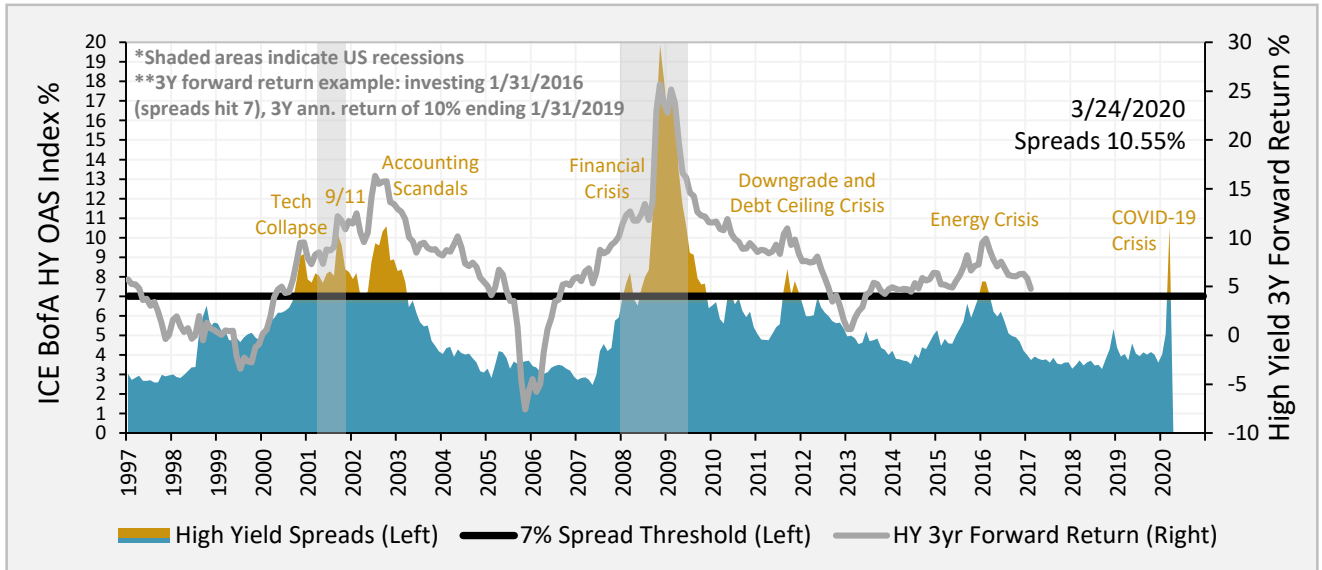


# Penn Capital Daily Credit Review

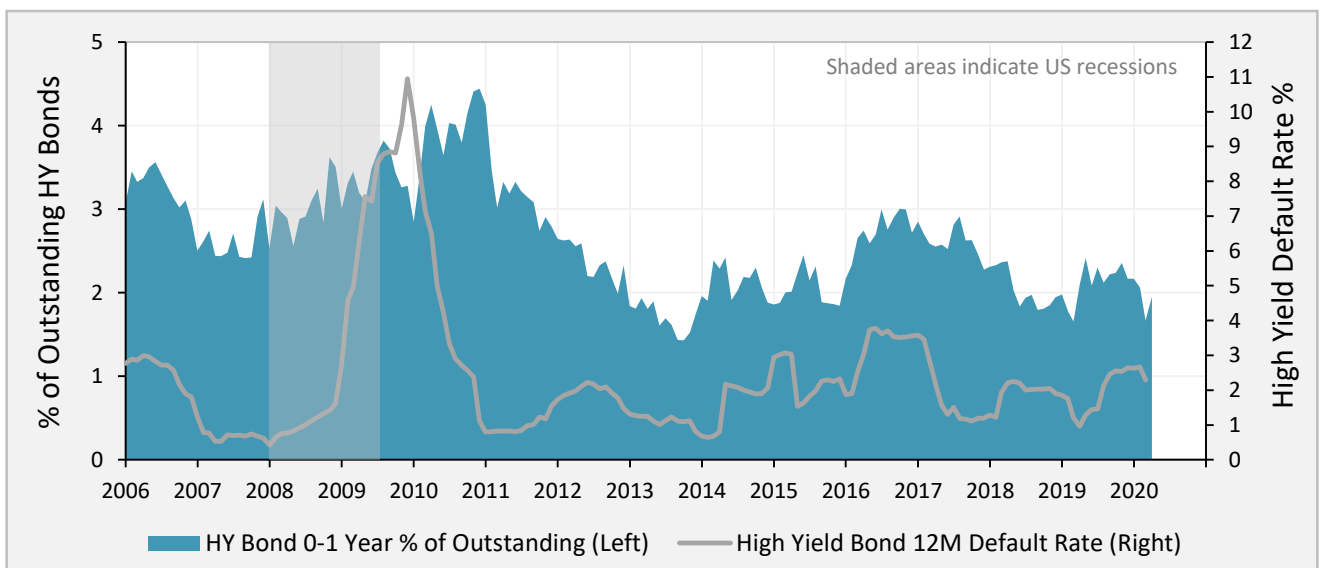
Peter Duffy, CFA and David Jackson, CFA

## Credit Risk: High Yield Bond Spreads and 3 Year Forward Returns



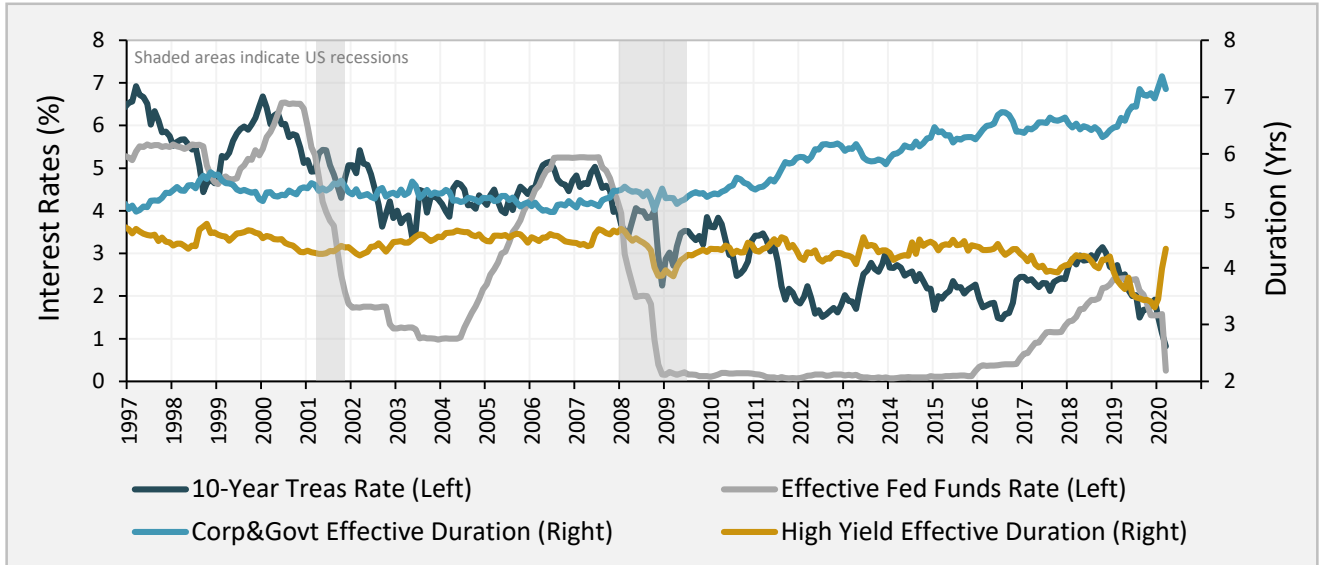
As of 3/24/2020. Source: ICE BofA. Index: ICE BofA High Yield Option Adjusted Spread Index.

## Credit Risk: High Yield Bond Upcoming Maturities and Default Rates



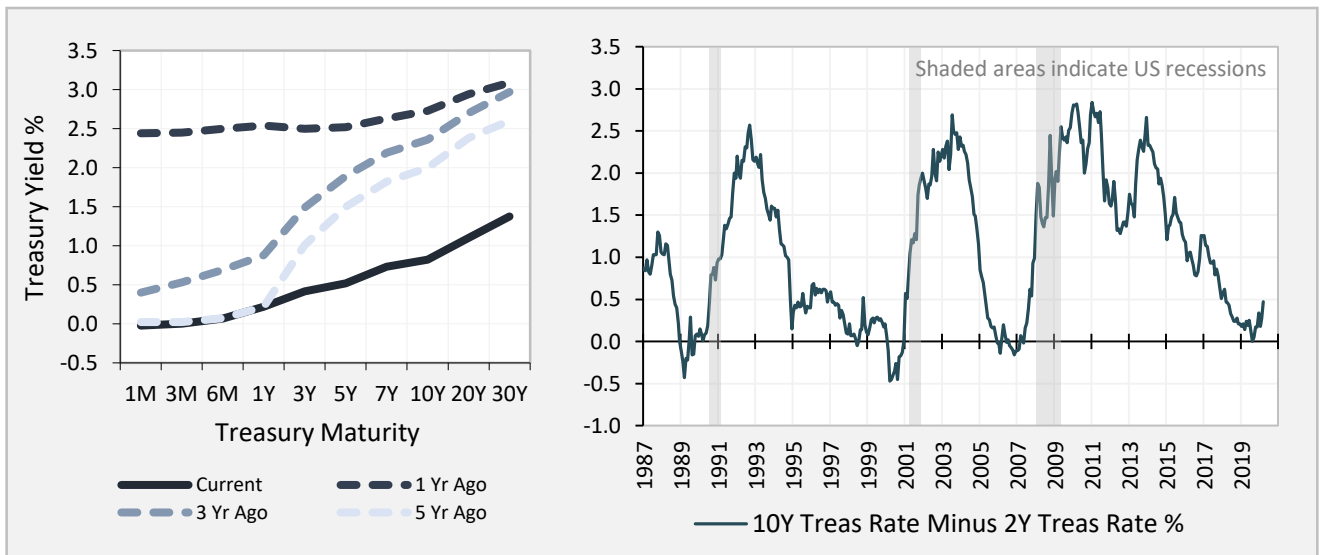
As of 3/24/2020. Source: ICE BofA. Index: ICE BofA High Yield 0-1 Year. % outstanding and default rates weighted by par.

## Interest Rate Risk: Rates and Duration



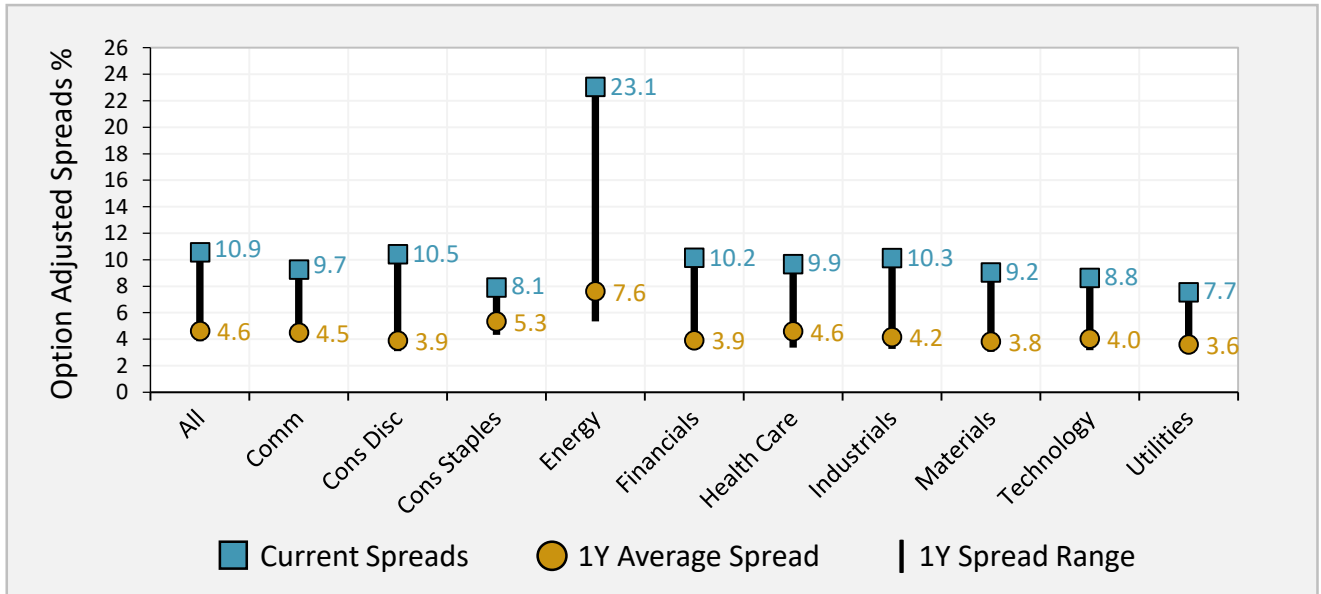
As of 3/24/2020. Source: Federal Reserve, ICE BofA. Indices: ICE BofA Corp & Govt Bond Index, ICE BofA High Yield Bond Index.

## Yield Curve: Current and Historical Treasury Curve



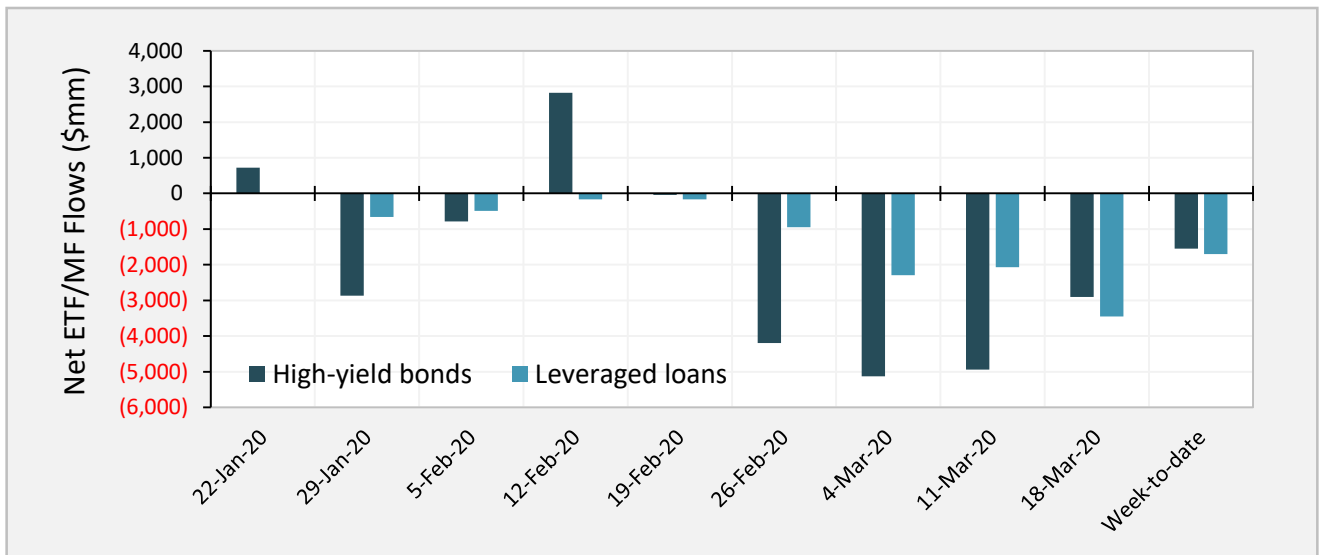
As of 3/24/2020. Source: Federal Reserve.

### Sector Risk: High Yield Bond Spreads by Sector



As of 3/24/2020. Source: Bloomberg.

### Fund Flows: Weekly High Yield Credit ETF and MF Flows



As of 3/24/2020. Source: JP Morgan.

## Credit Statistics: *Asset Class Performance and Fundamentals*

Asset Class	High Yield Credit			Investment Grade Credit							Term Definition
	HY BB 1-3Y	HY	Loans	Corp	MBS	ABS	Agency	Muni	Agg	Treas	
1 Month Return (%)	-12.42	-20.10	-20.41	-12.19	1.34	-7.48	0.99	-9.04	-1.80	4.20	Cumulative total return over last month.
YTD Return (%)	-12.43	-19.73	-19.93	-9.09	2.48	-6.20	3.26	-6.55	1.13	8.06	Cumulative total return year-to-date.
1 Year Return (%)	-8.11	-14.13	-16.51	-0.64	6.94	-3.39	7.65	-1.85	7.29	13.58	Cumulative total return over last 12 months.
3 Year Return (%)	-0.21	-1.76	-3.45	2.17	4.02	0.43	3.98	1.94	4.22	5.84	Annualized total return over last 3 years.
Volatility (%)	2.21	5.36	3.06	3.84	2.14	0.98	2.32	2.98	3.14	3.92	5-year annualized standard deviation of index monthly returns.
Max Drawdown (%)	-13.53	-21.54	-20.73	-15.14	-3.11	-8.09	-3.33	-11.38	-6.35	-5.98	Largest downside experience, measured from peak to trough, over last 5 years, daily return basis.
Eff Yield (%)	10.79	11.13	10.74	4.56	1.96	5.04	2.16	2.72	2.14	0.69	Coupon payments divided by current market value, annualized. Assumes coupon payments reinvested.
YTM (%)	10.79	11.15	10.79	4.57	1.96	5.04	2.19	3.61	2.14	0.69	Total return if bond is held to maturity, coupon payments made/reinvested, principal returned.
YTW (%)	10.79	11.14	10.79	4.57	1.96	5.04	2.16	3.16	2.14	0.69	Adjusts for embedded options. Lowest out of individual Yield to Calls or YTM.
YTML (%)	10.79	11.15	10.79	4.57	1.96	5.04	2.17	3.38	2.14	0.69	Yield to Most Likely is the avg of YTM and YTW, as realized returns tend to fall between the two.
Opt Adj Spread (%)	10.44	10.55	10.20	3.82	1.03	4.56	1.54	0.02	1.40	0.00	Yield above treasuries, accounting for options. Matched with treasury/maturity along yield curve.
Coupon (%)	5.36	6.24	6.02	4.06	3.54	3.16	3.42	4.54	3.21	2.44	Stated coupon payment on a bond, par weighted.
Price (\$)	88.8	79.4	76.4	98.0	106.4	95.2	106.4	103.4	106.7	113.3	Market price of a bond, weighted by par.
Maturity (Yrs)	1.85	6.00	4.94	10.75	4.92	3.88	8.44	12.67	8.21	8.89	Numbers of Years until bond matures. Equivalent to Macaulay Duration for zero-coupon bonds.
Macaulay Dur (Yrs)	1.70	4.57	0.25	7.32	4.48	3.48	5.79	8.49	6.39	7.24	Measure of interest rate risk. Weighted average maturity of cash flows (coupons and principal).
Mod Duration (Yrs)	1.61	4.36	0.25	7.15	4.43	3.40	5.70	8.32	6.32	7.20	Modification of Macaulay Duration to show inverse price change from +/- 1% interest rate change.
Eff Duration (Yrs)	1.48	4.33	0.25	7.19	2.77	3.13	5.61	6.28	5.99	7.33	Duration calc for bonds with options. Similar to modified duration if options are non-impactful.
Convexity	0.01	0.27	0.00	1.03	-2.08	0.24	0.64	-0.04	0.31	1.18	Expands on duration, making it more precise, by accounting for change in duration as yield changes.
# Issues	123	1,818	1,444	8,209	617	6,195	1,417	58,830	16,382	257	Number of bonds within index.
Par Value (\$bn)	81	1,256	1,197	6,700	6,202	964	1,641	1,485	26,058	10,563	\$ value of bonds within index by par.
Market Val (\$bn)	73	1,021	914	6,654	6,625	922	1,764	1,555	27,991	12,029	\$ value of bonds within index by market price.
% of Total Market	0.23	3.24	2.90	21.14	21.04	2.93	5.60	4.94	-	38.21	% of US credit market as measured by index \$ market value.
Return/Vol Ratio	4.88	2.08	3.53	1.19	0.91	5.11	0.94	1.13	0.68	0.18	Return (YTML) per unit of volatility (5-year standard deviation)
Return/Dur Ratio	7.29	2.58	43.16	0.63	0.71	1.61	0.39	0.54	0.36	0.09	Return (YTML) per unit of duration (effective duration)
Return/Down Ratio	0.80	0.52	0.52	0.30	0.63	0.62	0.65	0.30	0.34	0.12	Return (YTML) per unit of downside (maximum drawdown)

## Investment Discipline from Credit Data

**Credit is the lifeblood of the modern economic system.** The daily analysis of macroeconomic credit fundamentals (liquidity, solvency, interest rates, leverage) can provide equity and credit investors with a disciplined framework for understanding and reacting to market conditions. This is especially true in today's market of record-breaking volatility.

**Stock prices are roughly 20 times more volatile than their fundamentals,** as noted by Robert Shiller, when pointing out the excess volatility could not be explained by the efficient market theory. Excess volatility appears to be derived from behavioral psychology. Credit fundamentals, especially their positive/negative directional momentum, have historically cut through behavioral price noise, offering indication of where we are in the cycle and where we're going.

**Credit risk, interest rate risk, and yield curve risk** are 3 key components of macroeconomic credit. Penn Capital's daily credit reviews focus on these core factors, seeking to help investors make disciplined and informed decisions. Daily updates can be accessed on our [website](#).

**High yield credit,** the bonds and loan of companies rated below BBB, provide especially useful indication (such as high yield credit spread movements). High yield credit has historically exhibited earlier and greater sensitivity, and therefore indication, to changes in macroeconomic credit conditions that we believe truly drive the market. For that reason, we emphasize high yield credit in our analysis.



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Senior Partner

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The ICE BofA US HY Cash Pay BB-B Rated 1-3 Year Index is a subset of The Bank of America US Cash Pay High Yield Index, which tracks the performance of non-investment-grade corporate bonds with a remaining term to final maturity less than three years and rated BB-B. The ICE BofA US High Yield Index tracks the performance of US dollar denominated below investment grade rated corporate debt publicly issued in the US domestic market. The Bloomberg Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed rate taxable bond market. The ICE BofA High Yield OAS (Option-Adjusted Spreads) Index is the calculated spread between a computed OAS index of all bonds in a given rating category and a spot Treasury curve. An OAS index is constructed using each constituent bond weighted by market capitalization. The S&P/LSTA Leveraged Loan Index is a market value-weighted index designed to measure the performance of the US leveraged loan market based upon market weightings, spreads and interest payments. The ICE BofA US Corporate Index tracks the performance of US dollar denominated investment grade corporate debt publicly issued in the US domestic market. The ICE BofA US Treasury Index tracks the performance of the US dollar denominated sovereign debt publicly issued by the US government in its domestic market. The ICE BofA US Municipal Securities Index tracks the performance of U.S. dollar-denominated investment grade tax-exempt debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market. The ICE BofA US Mortgage Backed Securities Index tracks the performance US Mortgage Backed Securities Index. The ICE BofA US Asset Backed Securities & Commercial Mortgage-Backed Securities Index tracks the performance US asset backed securities and commercial mortgage-backed securities. The ICE BofA Agency & Quasi-Government Index tracks the performance of US dollar denominated US agency debt issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch). A copy of Penn Capital's current written disclosure statement discussing our advisory services and fees is available upon request. Investors cannot invest directly in an index.

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