

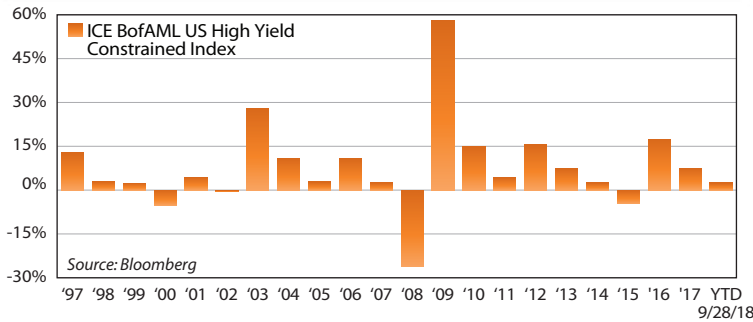
# Senior Loan & High Yield Review – 3rd Quarter 2018

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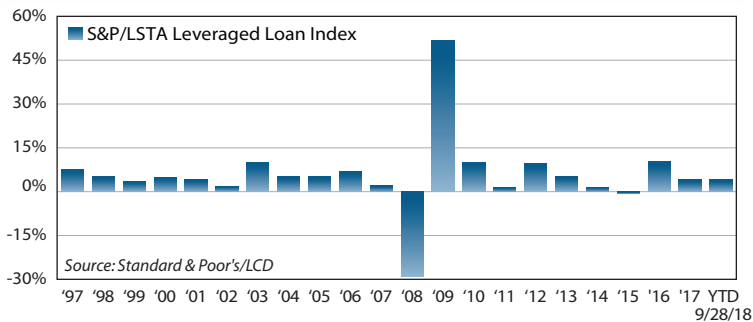
## Macro Overview

Interest rates remained in an upward trajectory during the quarter as the yield on the 10-year U.S. Treasury climbed from 2.86% at the end of the second quarter to 3.06% at the end of the third quarter. Increasing interest rates were a headwind for rate sensitive fixed income assets with the Bloomberg Barclays US Aggregate Bond Index, a good proxy for the overall bond market, up 2 basis points (bps) in the third quarter and down 1.60% year-to-date (YTD). Despite higher interest rates and anemic returns in rate sensitive fixed income, high-yield bonds and senior loans have performed well. The high-yield bond index was up 2.42% in the third quarter while the senior loan index was up 1.82%. Senior loans are now up 4.03% on the year, better than all other major fixed income markets, while high-yield bonds are up 2.50% (Exhibits 1 and 2).

**Exhibit 1 – U.S. High-Yield Bond Performance: 1997 – September 2018**



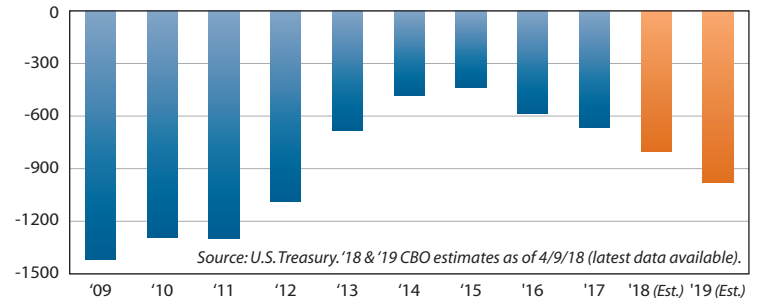
**Exhibit 2 – U.S. Senior Loan Performance: 1997 – September 2018**



Global trade concerns eased during the quarter with two important milestones. First, the U.S. and Mexico reached an agreement on a bilateral deal to update the North American Free Trade Agreement (NAFTA) early in the quarter. Then, as the quarter came to an end, the U.S. and Canada also reached an agreement. These agreements resulted in the smoothing of trade tensions between the U.S. and Canada and a new trilateral trade agreement. While the trade rhetoric may persist for the next several months, especially with China, and may influence interest rates and market volatility in the short-term, we do not expect tensions to escalate into a major global trade war, and we believe these recent successes suggest that agreements will continue to be made.

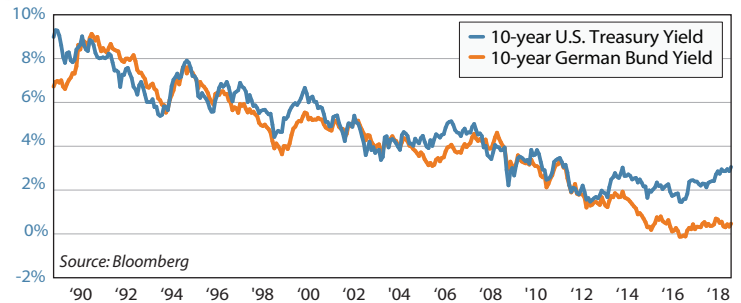
We continue to believe that interest rates will continue to move higher. The U.S. Federal Reserve Bank (the Fed) continues to tighten monetary policy by increasing the Fed Funds rate and by reducing bond purchases that it amassed via Quantitative Easing (QE). Moreover, the U.S. budget deficit is growing (Exhibit 3) which will require additional U.S. Treasury issuance (i.e. more bond supply at a time when the Fed is reducing its holdings by purchasing fewer bonds). In addition, we

**Exhibit 3 – U.S. Annual Budget Deficit and Forecast (\$BN)**



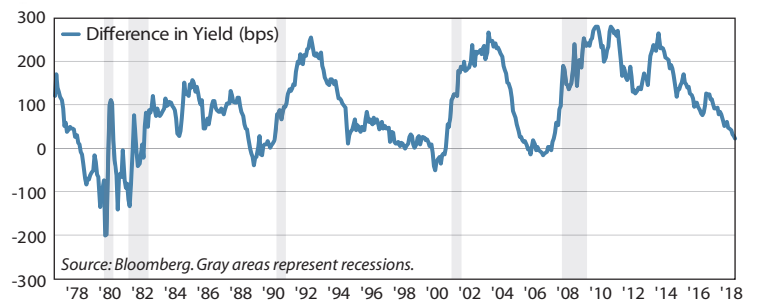
expect the QE program underway via the European Central Bank (ECB) to end in the fourth quarter of 2018. We believe that as we approach the end of the ECB QE program, this will lead to higher interest rates in Europe. Given the high historical correlation between foreign yields and U.S. Treasury yields (Exhibit 4), this interest rate move is likely to carry through to the U.S. Treasury market.

**Exhibit 4 – 10-year U.S. Treasury Yield vs. 10-year German Bund Yield: January 1989 – September 2018**



In addition to rising rates, the yield curve continued to flatten in the third quarter. The spread between 2-year and 10-year U.S. Treasury yields touched another post global financial crisis low of 19 bps in August (Exhibit 5). While the current market narrative suggests that the yield curve is close to inversion, which would be viewed as a negative leading indicator for the U.S. economy, we believe that the yield curve will not invert in the near term. The combination of improving inflation data, driven by higher crude oil prices, increasing transportation costs and a tight labor market, and the end of QE in Europe should be catalysts for a steeper yield curve from present levels.

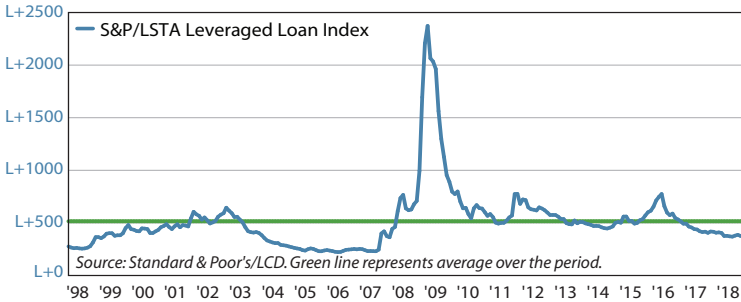
**Exhibit 5 – Spread between 2-year and 10-year U.S. Treasury Yields: January 1977 – September 2018**



## Senior Loan and High-Yield Market Overview

Senior loan spreads over 3-month LIBOR<sup>1</sup> decreased 16 bps during the quarter to L+371 bps (Exhibit 6) as strong inflows into retail and institutional senior loan funds led to strong demand for senior loans. Floating rate senior loans are typically

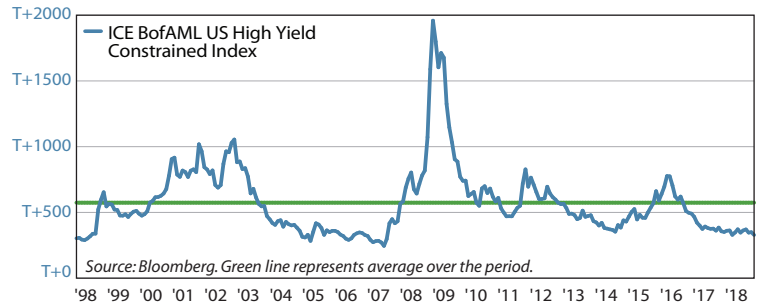
**Exhibit 6 – U.S. Senior Loan Spread over LIBOR<sup>1</sup>: December 1997 - September 2018**



priced off short term interest rates, notably LIBOR<sup>2</sup>, and as a result, loan investors have benefitted as LIBOR increased from 1.69% entering 2018 to 2.40% by the end of September. Importantly, the default rate for senior loans remains low, at 1.81% at quarter-end and we believe it is likely to remain low given the overall health of the U.S. economy. This is below the long-term average default rate of 2.99% (March 1999 – September 2018; Exhibit 7).

High-yield bond spreads over U.S. Treasuries tightened 43 bps during the third quarter to T+328. The high-yield spread mitigated the increasing interest rates in the quarter. While spreads are in fact tight to the historic average (the long-term average spread over U.S. Treasuries is T+574, December 1997 – September 2018), we believe there is room for further tightening throughout the remaining cycle given that spreads remain wide of the lowest spreads experienced in the previous business cycle (May 2007 of T+245, Exhibit 8). The high-yield default rate was essentially flat with the previous quarter at 2.02%. The default rate remains well inside the long-term average default rate of 3.18% (March 1999 – September 2018; Exhibit 7). We believe the low default rate is reflective of the sound financial condition of most companies and the strong backdrop of a healthy macroeconomic environment.

**Exhibit 8 – U.S. High-Yield Bond Spread over Treasuries (OAS)\*: December 1997 - September 2018**

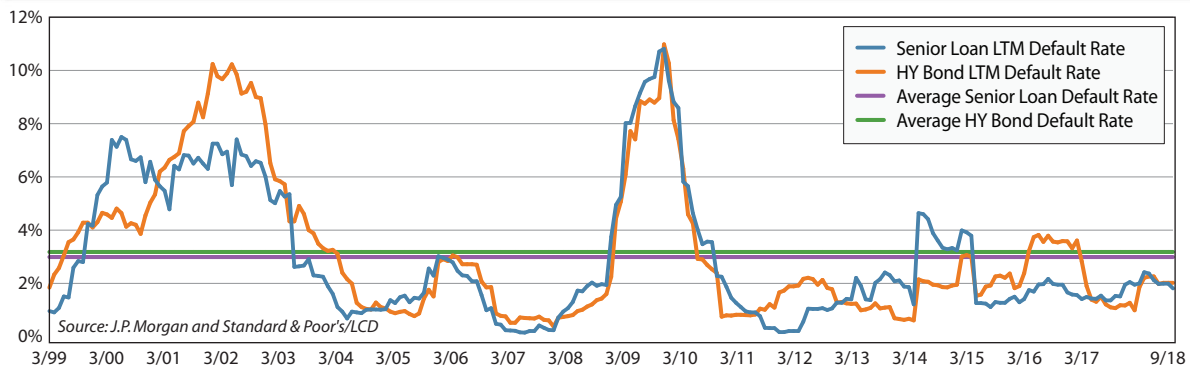


## Conclusion

We believe the combination of healthy labor and inflation data in the U.S., less accommodation from global central banks and increased U.S. Treasury issuance to fund greater deficits will likely continue to increase interest rate volatility and drive interest rates higher. Higher interest rates should continue to pressure long-duration (the most interest rate sensitive) bond returns. While higher interest rates may also result in equity and credit market volatility, we remain confident that the favorable backdrop for the macro economy will persist for the near to intermediate term. Specifically, we believe senior loans, given their senior secured position in the capital structure, floating interest rate, attractive income and low default rate are well positioned as we move through 2018. We also believe that high-yield bonds, when managed appropriately, can continue to perform well relative to other fixed-rate bonds given their mid-cycle valuations and low default rate.

As we evaluate new investment opportunities, decisions will continue to be rooted in our rigorous bottom-up credit analysis and our focus will remain on identifying the opportunities that we believe offer the best risk and reward balance.

**Exhibit 7 – Senior Loan and High-Yield Bond Historical Default Rates<sup>3</sup>: March 1999 - September 2018**



All charts shown herein are for illustrative purposes only and not indicative of any investment. The performance illustrations exclude the effects of taxes and brokerage commissions or other expenses incurred when investing. Past performance is not indicative of future results and there can be no assurance past trends will continue in the future.

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Index Returns	Q3 2018	Q3 2017	YTD 2018	YTD 2017	12 Mo Ended 9/28/18	12 Mo Ended 9/29/17	Q3 2018 By Rating		
							BB	B	CCC
Senior Loans	1.82%	1.02%	4.03%	2.98%	5.18%	5.29%	1.53%	1.96%	3.47%
High-Yield Bonds	2.42%	2.02%	2.50%	7.02%	2.93%	9.03%	2.32%	2.29%	2.99%
Investment Grade Corporate Bonds	0.95%	1.36%	-2.20%	5.29%	-1.11%	2.26%			
Preferred Securities	0.18%	1.27%	0.23%	10.10%	0.66%	5.91%			
U.S. Aggregate	0.02%	0.85%	-1.60%	3.14%	-1.22%	0.07%			
U.S. 10-Year Treasury	-1.11%	0.26%	-3.75%	2.35%	-4.03%	-4.62%			
Emerging Market Bonds	2.28%	2.44%	-3.17%	8.72%	-2.68%	3.84%			
Municipal Bonds	-0.15%	1.06%	-0.40%	4.66%	0.35%	0.87%			
S&P 500	7.71%	4.48%	10.56%	14.24%	17.91%	18.61%			
Default Rate <sup>3</sup> (Trailing Twelve Months)	Q3 2018	Q3 2017	FYE 12/29/17	FYE 12/30/16					
Senior Loans (LLI)	1.81%	1.53%	2.05%	1.58%					
Long-Term Average - Since March 1999	2.99%	3.04%	3.03%	3.11%					
High-Yield Bonds	2.02%	1.07%	1.27%	3.32%					
Long-Term Average - Since March 1999	3.18%	3.26%	3.23%	3.32%					
Technical	Q3 2018	Q3 2017	FYE 12/29/17	FYE 12/30/16					
Average Senior Loan Price (LLI)	\$98.61	\$97.98	\$98.05	\$98.08					
Long-Term Average Senior Loan Price - Since Dec 1997	\$94.15	\$93.94	\$93.99	\$93.77					
Senior Loan Spread Over LIBOR <sup>1</sup>	L+371	L+416	L+405	L+465					
Long-Term Average Senior Loan Spread <sup>1</sup> - Since Dec 1997	L+515	L+522	L+521	L+526					
Average High-Yield Bond Price (HUCO)	\$98.52	\$101.77	\$100.59	\$99.59					
Long-Term Average High-Yield Bond Price - Since Dec 1997	\$94.48	\$94.24	\$94.32	\$93.96					
High-Yield Bond Spread (OAS)*	T+328	T+356	T+363	T+422					
Long-Term Avg. High-Yield Bond Spread (OAS)* - Since Dec 1997	T+574	T+585	T+582	T+593					
YTW for High-Yield Bonds (HUCO)	6.29%	5.47%	5.84%	6.17%					
YTM for High-Yield Bonds (HUCO)	6.53%	5.99%	6.20%	6.48%					
U.S. 3 Month LIBOR <sup>2</sup>	2.40%	1.33%	1.69%	1.00%					
U.S. 10-Year Treasury Yield	3.06%	2.33%	2.41%	2.44%					
Flows & Issuance (billions)	Q3 2018	Q3 2017	FYE 12/29/17	FYE 12/30/16	YTD 2018	YTD 2017			
Retail Senior Loan Fund Flows	\$2.9 (Est.)	-\$0.1	\$13.1	\$9.2	\$15.5	\$17.4			
Institutional (CLO) Senior Loan Flows	\$33.8	\$30.1	\$117.1	\$73.3	\$103.5	\$82.5			
High-Yield Bond Fund Flows	-\$1.0 (Est.)	-\$0.3	-\$20.3	\$9.6	-\$25.5	-\$10.9			
Senior Loan Gross New Issue	\$94.6	\$155.3	\$973.9	\$485.4	\$594.3	\$732.3			
High-Yield Bond Gross New Issue	\$42.1	\$79.8	\$328.1	\$286.2	\$168.3	\$255.6			

<sup>1</sup> The spread over LIBOR is the discounted spread to three-year life. The "spread" for a senior loan is typically priced over 3-month LIBOR. Essentially, investors earn a risk-free rate plus a "spread" for the risk of a given company.

<sup>2</sup> LIBOR—London Interbank Offered Rates

<sup>3</sup> High-yield bonds are represented by J.P. Morgan's high-yield bond universe. Senior loans are represented by the S&P/LSTA (Loan Syndications and Trading Association) U.S. Leveraged Loan Index and based on the last twelve months (LTM).

\*Option Adjusted Spread (OAS) is the current spread over a treasury security of similar tenor.

Source for all data: Bloomberg, unless otherwise noted.

Source of flows & issuance: J.P. Morgan High-Yield Market Monitor & Leveraged Loan Market Monitor.

Source of high-yield bond data: Bloomberg and J.P. Morgan.

#### Index Definitions:

**Senior Loans**—S&P/LSTA Leveraged Loan Index (LLI) is designed to track the current outstanding balance and spread over LIBOR for fully funded term loans.

**High-Yield Bonds**—ICE BofAML U.S. High Yield Constrained Index (HUCO) tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market but caps issuer exposure at 2%.

**Investment Grade Corporate Bonds**—ICE BofAML U.S. Corporate Index tracks the performance of U.S. dollar denominated investment grade (BBB/Baa-rated or better) corporate debt publicly issued in the U.S. domestic market.

**Preferred Securities**—ICE BofAML Fixed Rate Preferred Securities Index tracks the performance of fixed rate U.S. dollar denominated preferred securities issued in the U.S. domestic market.

**U.S. Aggregate**—Bloomberg Barclays US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS, ABS and CMBS.

**U.S. 10-Year Treasury**—ICE BofAML Current 10-Year U.S. Treasury Index is a one-security index comprised of the most recently issued 10-year U.S. Treasury note.

**Emerging Market Bonds**—ICE BofAML U.S. Emerging Markets External Sovereign Index tracks the performance of U.S. dollar emerging markets sovereign debt publicly issued in the U.S. and eurobond markets.

**Municipal Bonds**—Bloomberg Barclays Municipal Bond Index tracks the performance of the tax-exempt bond market.

**S&P 500**—S&P 500 Index is a capitalization-weighted index comprised of 500 stocks used to measure large-cap U.S. stock market performance.

Past performance is no guarantee of future results. Historical performance figures for the indices are for illustrative purposes only and not indicative of any actual investment. Indexes are unmanaged and an investor cannot invest directly in an index.

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Senior floating rate loans are usually rated below investment grade but may also be unrated. As a result, the risks associated with these loans are similar to the risks of high-yield fixed-income instruments. High-yield securities tend to be less liquid than higher-quality debt and are subject to greater market fluctuations and risk of loss than securities with higher ratings.