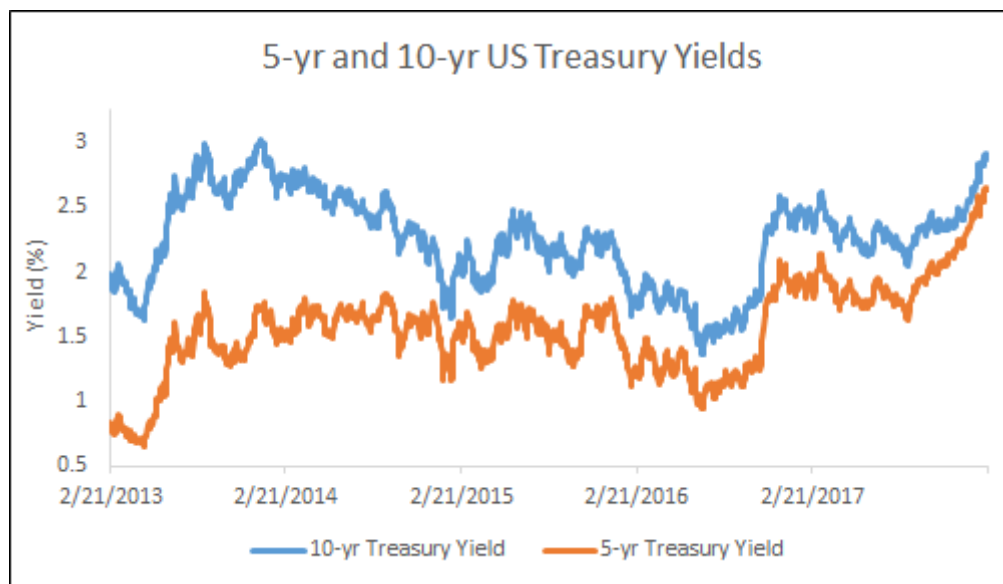


Market Commentary

Independent Credit Research – Leveraged Finance – February 2018

STRATEGIES FOR INVESTING IN A RISING RATE ENVIRONMENT

Accurately calling interest rate moves has proved to be a difficult, and futile, task for investors over the past several years as we have seen wild moves and really no sustained direction. As we entered 2014, virtually everyone (except ourselves) expected rates to rise as the long awaited “taper” began. Yet, the opposite played out. After seeing the 10-year Treasury yield hit the 3% level in late 2013 and early 2014, we have seen it vacillate between the 1.5-2.6% range over the past several years.¹



While the only aspect of rates that can be accurately predicted seems to be volatility, many are left wondering if the swift move in rates that we have seen in the first two months of 2018 is the beginning of a sustained move upward. As we look forward, we know the Fed has stated their intention to raise the Federal Funds Rate at least another three times this year, but just what does that mean for Treasury yields? We have seen the Fed undertake a number of rate increases already, all while the 10-year Treasury yield is at the same level it was four years ago. With the relative (lower) sovereign rates around the world and demographic overhangs (aging global population), we are not convinced that a massive rise in rates is on the horizon. So far this year we have already seen the 10-year rise nearly 50bps², so while we may hit and even surpass 3%

¹ Data sourced from Bloomberg, and data for the period 2/21/13-2/20/18.

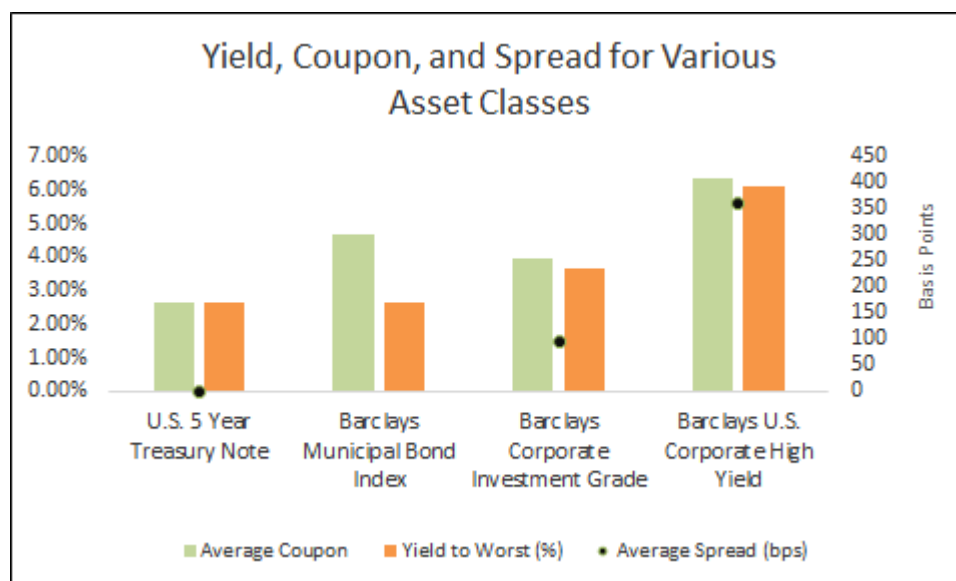
² Based on the change in the 10-year Treasury yield for the period 12/31/17-2/20/18.

on the 10-year, we feel the bulk of the move is already behind us. However, for the sake of argument, let's assume that rates do rise materially from here. What does that mean for the high yield market and the various "strategies" out there to deal with rising rates?

High Yield in a Rising Rate Environment

First let's look at the high yield market and how it has traditionally responded to rate moves. Historically speaking, the high yield bond market has performed well in a rising rate environment, as we discuss below.

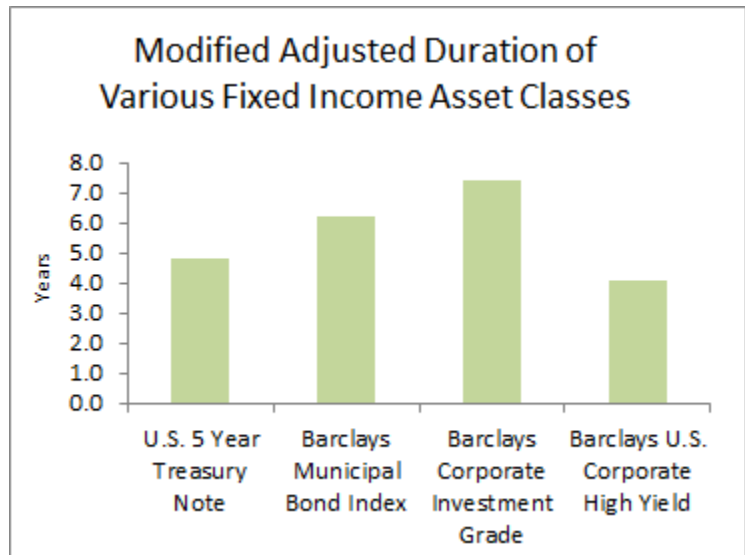
Higher coupons and yields in the high yield space help cushion the impact of rising interest rates. High yield bonds have the highest coupons/yields in corporate fixed income. The following chart depicts the current yield-to-worst, coupon, and the spread over Treasuries for several fixed income asset classes.³



Let's think about this intuitively for a minute. If you own a bond with a yield of 3% and interest rates move up 1% that would obviously have a meaningful impact, as we are talking about a move equivalent to 33% of your total yield. However, if you instead have a starting yield of 7.0% on a bond and interest rates move that same 1%, you are looking at significantly less impact, at about a 14% change in yield. So the higher the starting yield, typically then the less interest rate sensitivity.

³ Barclays Capital U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt (source Barclays Capital). U.S. 5 Year Treasury Note is the on-the-run Treasury (source Bloomberg). Barclays Corporate Investment Grade Index consists of publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and the quality requirements (source Barclays Capital). Barclays Municipal Bond Index covers the long-term, tax-exempt bond market (source Barclays Capital). All data as of 2/20/18. The yield to worst is the lowest potential yield that can be received on a bond, without the issuer actually defaulting, and includes the various prepayment options such as call or sinking fund. The spread is the spread to worst based on the yield to worst less the yield on comparable maturity Treasuries. The coupon is the annual interest rate on a bond.

High yield bonds have shorter durations than other asset classes in the fixed income space. Duration is a measure of sensitivity to changes in interest rates that incorporates the coupon, maturity date, and call features of a bond. The fact that high yield bonds are typically issued with five to ten year maturities and are generally callable after the first few years, as well as offer higher coupons, typically provides the high yield sector with a shorter duration, thus less interest rate sensitivity, versus other fixed income asset classes. We've profiled some duration comparisons to the right:⁴

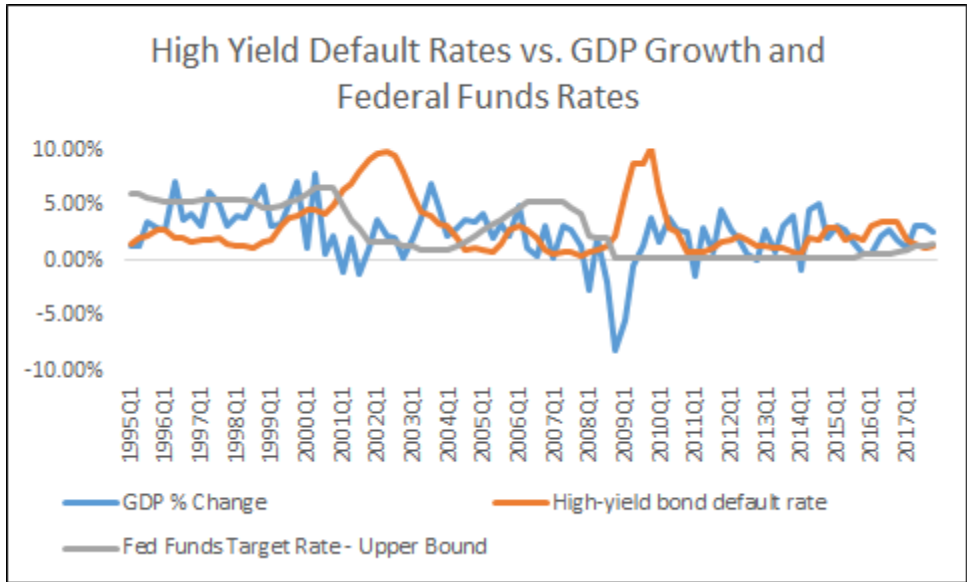


The prices of high yield bonds have historically been much more linked to credit quality than to interest rates. Historically, interest rates increase alongside a strengthening economy and a strong economy is generally favorable for corporate credit and equities alike. Due to the nature of the high yield bond market, the major risk on the minds of investors tends to be default risk (not interest rate risk), causing them to be much more concerned with the company's fundamentals and credit quality than interest rates. When the economy is expanding, profitability, financial strength, and credit metrics generally improve.

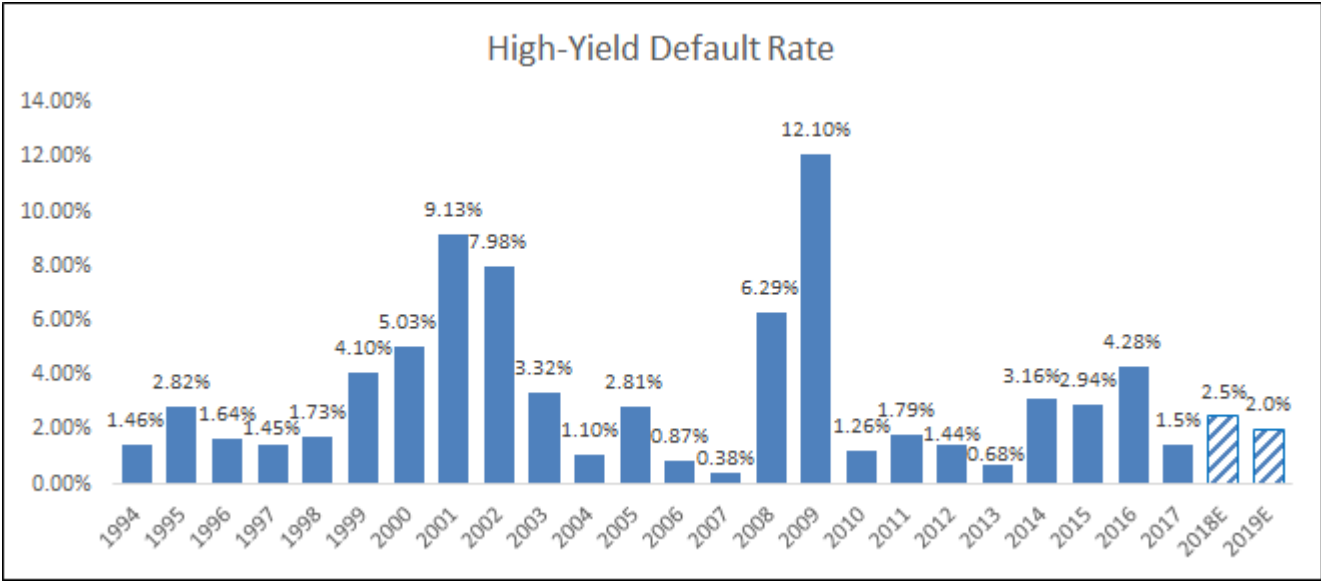
The move higher in Treasury yields that we have seen during the first couple of months of 2018 has been tied to expectations that the improved economic growth will give the Fed the fuel they need to continue with rate increases. As we look at the history of the high yield market, we have seen a negative correlation between the Federal Funds Rate and high yield bond default rates, which makes sense—if the economy is improving, the Fed is increasing rates, and simultaneously default rates are falling due to the stronger economy. On the flip side, if the economy is weakening, we generally see the Fed easing and default rates often increasing. The chart below demonstrates this historical relationship.⁵

⁴ Barclays Capital U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt (source Barclays Capital). U.S. 5 Year Treasury Note is the on-the-run Treasury (source Bloomberg). Barclays Corporate Investment Grade Index consists of publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and the quality requirements (source Barclays Capital). Barclays Municipal Bond Index covers the long-term, tax-exempt bond market (source Barclays Capital). All data as of 2/20/18. The Modified Adjusted Duration is a measure of interest rate sensitivity based on the yield to maturity date.

⁵ High yield bond default data and Federal Fund Rate data from Jantzen, Nelson, CFA and Peter Acciavatti, "JPM High-Yield and Leverage Loan Morning Intelligence," J.P. Morgan North American Credit Research, 2/16/18, <https://markets.jpmorgan.com>, data used for the final month of each indicated quarter. GDP Change data sourced from Bureau of Economic Analysis, U.S. Department of Commerce, www.bea.gov.



High yield default rates have been below historical averages over the past several years, with the exception of 2016 when we saw default rates temporarily increase due to the collapse in energy and other commodity prices. As we look forward, we are generally seeing stable fundamentals for high yield issuers and the expectation is for default rates to remain low.⁶



A stronger economy would undoubtedly be a positive from a credit perspective and would likely indicate lower default rates, meaning likely improved prospects for the high yield market.

⁶ Jantzen, Nelson, CFA and Peter Acciavatti, "JPM High-Yield and Leverage Loan Morning Intelligence," J.P. Morgan North American Credit Research, 2/6/18, <https://markets.jpmorgan.com>.

Historically, high yield bond returns have been negatively correlated with Treasury returns. This means that as Treasury yields (interest rates) increase and prices decline, and thus returns decline, high yield would theoretically experience the opposite change with a positive return. Additionally, while high yield is still positively correlated to

25 Year Correlation in Returns				
	5-year Treasury Yield	10-year Treasury Yield	Bloomberg Barclays IG Index	Bloomberg Barclays HY Index
10-year Treasury	0.93			
Bloomberg Barclays Corporate Investment Grade Index	0.61	0.67		
Bloomberg Barclays US High Yield Index	-0.12	-0.10	0.54	
S&P 500 Index	-0.20	-0.19	0.25	0.62

investment grade, we see a stronger, positive correlation between investment grade and Treasuries. As noted above, over the past 25 years, high-yield bonds exhibit negative correlations to the 5-year and 10-year Treasury bond of -0.12 and -0.10, respectively, versus a far higher positive correlation of +0.61 and +0.67, respectively, for high-grade bonds.⁷

Not only does the negative correlation between high yield bonds and Treasuries indicate that high yield bond returns have historically performed positively in the face of rising Treasury yields, given these lower or negative correlations versus other asset classes, especially the more interest rate sensitive asset classes such as investment grade, an allocation to high yield bonds may help improve portfolio diversification and potentially lower risk depending on the mix of

assets. On the flip side, an allocation to investment grade not only provides you a much lower starting yield, but can result in significantly more interest rate sensitivity.

Year	Bloomberg Barclays US High Yield Bond Index Return	Bloomberg Barclays US Corporate Investment Grade Bond Index Return	Change in 5 Yr Treasury Yield (bps)
1987	4.99%	2.56%	1.59
1988	12.53%	9.23%	0.73
1992	15.75%	8.69%	0.07
1994	-1.03%	-3.93%	2.62
1996	11.35%	3.28%	0.83
1999	2.39%	-1.96%	1.80
2003	28.97%	8.24%	0.51
2004	11.13%	5.39%	0.36
2005	2.74%	1.68%	0.74
2006	11.85%	4.30%	0.34
2009	58.21%	18.68%	1.13
2013	7.44%	-1.53%	1.02
2015	-4.47%	-0.68%	0.11
2016	17.13%	6.11%	0.17
2017	7.50%	6.42%	0.27
Average	12.43%	4.43%	

Historical Performance When Rates Rise

Those are theories, but let's look at some hard data as to how high yield bonds have actually performed in a rising rate environment. In the over 30 years of data, since 1986, Treasury yields have increased (i.e., interest rates rose), in 15 of those years. In all but one of those 15 years, high yield has outperformed the investment grade bond market. The long-term numbers show that over those 15 years when we have seen Treasury yields/interest rates increases, high yield had an average annual return of 12.4% (or 9.2% if you exclude the massive performance in 2009). This compares to only a 4.4% average annual return (or 3.4% excluding 2009) for investment grade bonds over the same period.⁸

⁷ Jantzen, Nelson, CFA and Peter Acciavatti, "JPM High-Yield and Leverage Loan Morning Intelligence," J.P. Morgan North American Credit Research, 1/12/18, <https://markets.jpmorgan.com>, for 5-year and 10-year Treasury return data. Bloomberg Barclays High Yield Index and Investment Grade Index returns sourced from Barclays. S&P 500 returns sourced from Bloomberg. All data for the period 12/31/92-12/31/17.

⁸ Bloomberg Barclays Capital U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt (source Barclays Capital). Bloomberg Barclays US Corporate Investment Grade Index consists of publicly issued U.S. corporate and specified foreign debentures and

So the data is clear that the high yield bond market has historically not only provided investors with solid returns during years in which we see interest rates increase, but has also dramatically outperformed its investment grade counterpart.

Looking at this in a different way, below we lay out the historical returns for the high yield index during periods of rising rates. Here we specifically look at how the index performed prior to and following periods when rates rose 30bps, 50bps, 70bps, and 100bps over certain periods of time.⁹

Move in the US 10-Yr Treasury Yield (bps)	Return over prior 6 months (%)		Return over prior 3 month (%)		Return over current month (%)		Return over next 1 month (%)		Return over next 3 months (%)		Return over next 6 months (%)	
	Average	Median	Average	Median	Average	Median	Average	Median	Average	Median	Average	Median
>30bps move over 1 calendar month	4.99	4.75	2.61	2.36	0.67	0.22	0.07	0.54	1.84	1.74	3.22	4.14
>50bps move over 3 calendar months	4.28	2.78	1.20	0.95	0.17	0.36	0.41	0.40	1.98	2.26	2.40	4.67
>70bps move over 3 calendar months	5.67	4.37	1.24	0.05	0.24	0.65	0.81	0.73	3.12	2.47	4.89	5.05
>100bps move over 6 calendar months	2.19	1.51	1.01	0.34	0.10	0.40	0.42	0.46	1.48	1.57	3.38	2.17

So it isn't just full year periods where we see positive returns, but this data demonstrates that we have also seen positive returns in the months during which interest rates are increasing and the months after those increases have occurred.

Short Duration

Part of the reason for the outperformance for high yield versus investment grade bonds can be attributed to the high yield market's shorter duration versus other fixed income asset classes. As noted above, duration is a measure of interest rate sensitivity (the percentage change in the price of a bond for a 100 basis point move in rates), so the lower the duration the less sensitive those bonds are to interest rate movements. Lower duration bonds would not eliminate the interest rate impact, just lessen it. For investors, we see focusing on duration as a first order in the high yield bond market makes very little sense.

If you were to invest according to a "short duration" strategy in the high yield market, let's hypothetically say you could achieve a portfolio with a duration of 2.5 years, so a 100 bps

secured notes that meet the specified maturity, liquidity, and the quality requirements (source Barclays Capital). Covers annual, calendar year returns from January 1986 to December 2017. 5-yr Treasury data, 2008-2012 sourced from Bloomberg (US Generic Govt 5 Yr), 2013-2017 data from the Federal Reserve website.

⁹ Data analyzing the month end levels of the 10-yr US Treasury yield versus the monthly returns for the Bloomberg Barclays High Yield Index, looking specifically at performance for the High Yield Index during periods when the 10-year yield moved above the noted thresholds from one month end to another. Intra-month data was not analyzed. Trailing performance numbers are for the prior 6months and 3 months before the month end in which we saw the Treasury yield cross the threshold, for the current month in which is crossed threshold and for the one, three, and six month periods after the calendar month in which Treasury yields cross the threshold. Bloomberg Barclays Capital U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt. Data sourced from Barclays and Bloomberg and covers the period of 12/31/1986 to 12/31/2017.

increase in rates over 6 month would mean that the price of your portfolio would theoretically decline by 2.5%. If your starting current yield on the portfolio was 6.5%, meaning you theoretically generate 3.25% of income over that 6 months, then you are looking at a net gain of 0.75% (3.25% - 2.5%) over the period of rising rates. If you can build a portfolio in the high yield bond and loan market investing according to both maximizing yield and considering duration the outcomes are far better. Let's say you can build a hypothetical portfolio with a duration of 3.0 years and a current yield of around 8.5%. In this case, your theoretical sensitivity to a 100bps upward movement over 6 months would be a price decline of 3.0%, but you would be generating 4.25% of income over the 6 months, so your net gain would be 1.25%. If that 100bps interest rate movement is over a year instead of 6 months, that yield benefit gets even larger, putting you at a net gain of 4.0% for the hypothetical shorter duration portfolio versus a theoretical gain of 5.5% for the higher yielding portfolio.¹⁰ And of courses, if rates don't move or even decline from current levels, then the higher yielding portfolio would not only benefit from the higher starting yield but a theoretical positive price movement per the duration calculation.

Below we graphically depict some scenarios that show how duration and yield interplay during periods of rising rates for a variety of scenarios.¹¹

Theoretical Interest Rate Sensitivity: Yield and Duration	Portfolio Duration (Years)	Portfolio Yield (%)	Interest Rates Increase by 100bps over 6mos			Interest Rates Increase by 100bps over 1yr		
			% Change in Portfolio Price	Yield Generation Over Period	Net Yield (%)	% Change in Portfolio Price	Yield Generation Over Period	Net Yield (%)
Bloomberg Barclays High Yield Index	4.2	6.38%	-4.20%	3.19%	-1.01%	-4.20%	6.38%	2.18%
High Yield Example 1	3	8.50%	-3.00%	4.25%	1.25%	-3.00%	8.50%	5.50%
High Yield Example 2	2.5	6.50%	-2.50%	3.25%	0.75%	-2.50%	6.50%	4.00%
High Yield Example 3	4	6.50%	-4.00%	3.25%	-0.75%	-4.00%	6.50%	2.50%

So we see this as compelling evidence that investing purely according to a short duration strategy and not factoring in yield is not necessarily the wisest way to approach this environment. At the end of the day, yield matters. A higher yield can go a long way in making up for relatively small differences in duration. Thus we believe there are benefits to having the flexibility to build a portfolio that works to maximize yield while also lowering duration, as this can provide a better way to address interest rate risk, and can also provide less interest rate sensitivity relative to the broader high yield market and other products without this same flexibility. Furthermore, time and again over the past few years we have seen rates rise, only to fall back again, making the argument for the higher yielding portfolio versus the purely short duration portfolio even stronger.

¹⁰ The duration and price movement relationships are approximates and calculations are provided for illustration only. These calculations assume that credit spreads remain constant and do not factor in any fees or expenses or changes in price movements for other reasons, including security fundamentals, etc. Actual results may be materially different.

¹¹ The duration and price movement relationships are approximates/theoretical and calculations are provided for illustration only. These calculations assume that credit spreads remain constant and do not factor in any fees or expenses or changes in price movements for other reasons, including security fundamentals, etc. Actual results may be materially different. Barclays High Yield Index as of 2/16/18, with "duration" based on the Macaulay duration to worst and "yield" based on a current yield assumption of provided coupon divided by provided price.

Hedged High Yield: Long High Yield, Short Treasuries

Another strategy within the high yield market that we have seen emerge over the past several years to address interest rate risk has been “hedged high yield.” The core of the strategy here is to go long high yield bonds and short Treasuries. The basic premise is that the strategy will seek to hedge interest rate risk, with any bond pricing decline due to rising rates being offset with the short in Treasuries. At face value this makes sense, as the adage in fixed income is that prices and yields/rates move in opposite directions, so as interest rates increase, prices decline. However, the problem is that this historically hasn’t played out in the high yield space.

As we noted above, high yield bonds have actually performed well when interest rates increase and Treasuries and high yield bonds actually have a negative correlation. So while a short Treasury position may be appropriate to offset your interest rate risk in the investment grade world, it is counter-productive in the high yield space.

Further, we see another big problem with a combined portfolio of being long high yield bonds and short Treasuries: during times of systemic market disruptions, we often see a “flight to quality” trade, as investors abandon perceived “risky” assets such as high yield bonds and pile into “risk free” Treasuries. We saw this clearly during the financial crisis, and even more recently during early 2016. So in a “flight to quality” situation, you would not only be hit on a decline in your high yield bonds as investors sell them, but you would be hit on your short Treasury position as investors flock to these assets and bid up the price of Treasuries. So at face value the “hedge” sounds appealing, but in reality it is likely counter-productive.

Bank Loans

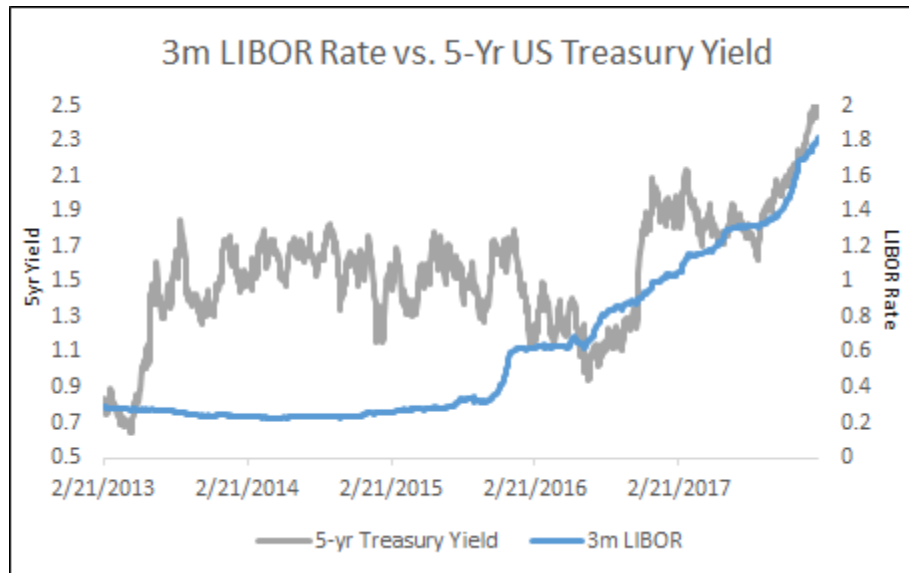
Another strategy within the non-investment grade world that has gained popularity over the past several months is investing in floating rate loans. Because these are floating rate securities, there has been interest in this space by those concerned about higher rates. At face value this seems like a “no brainer” trade, and many have embraced it as such, but the actual numbers tell a bit of a different story. For instance, in 2013, the last annual period in which we saw a meaningful increase in US Treasury rates, floating rate loans returned 5.3% versus 8.2% for high yield bonds.¹² Even with the 10-year Treasury yield increasing by over 1.2% and the 5-year Treasury increasing over 1.0% (both over 50% from the beginning of year yield)¹³ in 2013, the high yield market, helped by higher initial starting yields, still outperformed the loan market.

Another consideration when investing in the loan market must be an understanding of what the “floating” rate is tied to. Bank loans are generally based on short-term LIBOR rates, which doesn’t necessarily tie closely to longer term 5- and 10-year Treasury rates, which are the more relevant rates for high yield bond investors. For instance all through 2013-2015 LIBOR was virtually flat, while Treasury rates surged. Then in 2016, we saw LIBOR increasing while Treasuries fell. It has only been over the last year and a half that LIBOR and the 5-year have been both moving upward.¹⁴

¹² Acciavatti, Peter, Tony Linares, Nelson Jantzen, CFA, Rahul Sharma, and Chuanxin Li. “Leverage Loan Market Monitor,” J.P. Morgan North American High Yield and Leveraged Loan Research, January 2, 2014, p. 1.

¹³ Data sourced from the U.S. Department of Treasury website, Daily Treasury Yield Curve Rates, comparing 12/31/12 to 12/31/13.

¹⁴ Data for the period 2/21/13-2/9/18, LIBOR and Treasury data sourced from Bloomberg.



An additional note, the general perception seems to be that loans are always less risky than bonds. However the reality is that many companies have debt financing that consists entirely of loans and some of those loans are still part of capital structures that are very highly levered. Investors need to make sure they understand what they are purchasing in this space.

Understanding the Index

For those that do embrace high yield bond investing, many have decided to access the market via the passive, index-based products. Yet we have our concerns about doing so. Within the high yield market and indexes, you have securities across the ratings spectrum, everywhere from Ba1/BB+ down to Ca/C or even non-rated or D¹⁵, as well as securities across the yield spectrum. As we have noted above, yield matters in terms of not only duration but also the ability to offset any potential price decline if we see an adjustment in security prices due to rising rates. As we look at today's high yield market, it is reported that 38% of the market trades at a yield to worst under 5%.¹⁶

This can include the "quasi investment grade," higher rated bonds that often come at a lower coupon/yield given the perceived higher credit quality, as well as some lower yielding securities that are trading to call prices with the expectation that a company will soon be calling and refinancing the security early. Given that the 10-year Treasury yield has been low for so long, we have had a lot of debt issued at low coupons, many coupons of 3.5-5.5%, and these securities can end up in the indexes and the products that track them. However it is these very low yielding securities that we see as the most vulnerable in the face of rising rates. We may well see the prices on some of this extremely low coupon debt decline as yields adjust to the higher rate environment, and with the low coupon, there is less yield income to offset a potential downward price move. Additionally, in terms of securities that are trading to a call price, as rates increase

¹⁵ The commentary references ratings by Moody's/S&P, respectively. Credit ratings are based on detailed financial analyses by a credit bureau specifically as it relates the bond issue's ability to meet debt obligations. The highest Moody's/S&P ratings are Aaa/AAA, and the lowest is D. Securities with credit ratings of Baa3/BBB- and above are considered investment grade.

¹⁶ Jantzen, Nelson, CFA and Peter Acciavatti, "JPM High-Yield and Leverage Loan Morning Intelligence," J.P. Morgan North American Credit Research, 2/22/18, <https://markets.jpmorgan.com>.

and potentially with its coupons on newly issued debt, we may see the economics change for certain issuers whereby an early call no longer makes sense, in which case security prices may fall below call prices in certain instances.

Thus, if 38% of the index is at a yield to worst under 5%, there is a good chunk of high yield debt out there that may be susceptible to these issues. By their investment mandate, passive products are generally not looking at the yield and potential interest rate exposure of the individual underlying security holdings and adjusting their portfolio accordingly.

Active Management and Focusing on Yield

We believe that active management can be more effective in considering potential interest rate exposure. Instead of focusing purely on lower duration bonds, embracing a “hedged high yield” strategy, or seeking a broad loan allocation as the panacea to rising rates, or just sticking with the broad high yield index given its historically good performance in rising rate environments, we believe a more balanced and thoughtful approach to yield-based investing is appropriate in this environment. Our consistent strategy over the years as an active manager is to focus on the companies that we feel offer the best return for the given risk, be it in bond or loan land.

This can include both bonds with higher yields and longer durations, mixed with shorter duration bonds or loans that we see as offering value. We view the loan market primarily as a way to expand the investment universe and opportunity set, granting investors access to companies that may not issue bonds and enabling them to take advantage of what they see as the best opportunity within a company’s capital structure. The fact that these securities lower portfolio duration may or may not be beneficial depending upon future interest rate moves.

When the “tapering” began, virtually everyone seemed to believe 2014 would be the year Treasury rates would begin their steady climb up. Yet since the start of 2014, we have seen longer term Treasury rates decline, with the 10-year largely range bound in the 1.5-2.6% range over the past three plus years. Only recently did we see the 10-year break out of this range to the upside. While the Federal Reserve sets the Federal Funds Rate, the yield curve is set by market supply and demand forces. There remains substantial demand from fixed income investors, particularly pension plans focused on liability driven investing (LDI) and retirees needing income, as well as global fixed income investors as we have higher rates here in the US relative to rates in many of the developed economies throughout the world. Will Treasury rates continue to climb? Only time will tell, as recent history has proved predicting such moves has been a fool’s errand.

If there is a sustained move upward in interest rates, higher starting yields for the high yield market should help to cushion a portfolio from interest rate movements, and historically high yield bonds have actually performed well during periods of rising rates. If rates don’t rise further from here, or even fall, investors can still be positioned to generate what we see as an attractive yield, especially relative to the currently very low yields in many other fixed income sectors, including government, investment grade, and municipal bonds. We believe that an active and balanced approach to yield-based investing, focusing on maximizing yield for a given credit and

interest rate risk and taking advantage of various opportunities within a company's capital structure, is the best way to be positioned for the current environment.

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Although information and analysis contained herein has been obtained from sources Peritus I Asset Management, LLC believes to be reliable, its accuracy and completeness cannot be guaranteed. This report is for informational purposes only. Any recommendation made in this report may not be suitable for all investors. As with all investments, investing in high yield corporate bonds and loans and other fixed income, equity, and fund securities involves various risks and uncertainties, as well as the potential for loss. High yield bonds are lower rated bonds and involve a greater degree of risk versus investment grade bonds in return for the higher yield potential. As such, securities rated below investment grade generally entail greater credit, market, issuer, and liquidity risk than investment grade securities. Interest rate risk may also occur when interest rates rise. Past performance is not an indication or guarantee of future results. The index returns and other statistics are provided for purposes of comparison and information, however an investment cannot be made in an index.