Putting Risk Into Context

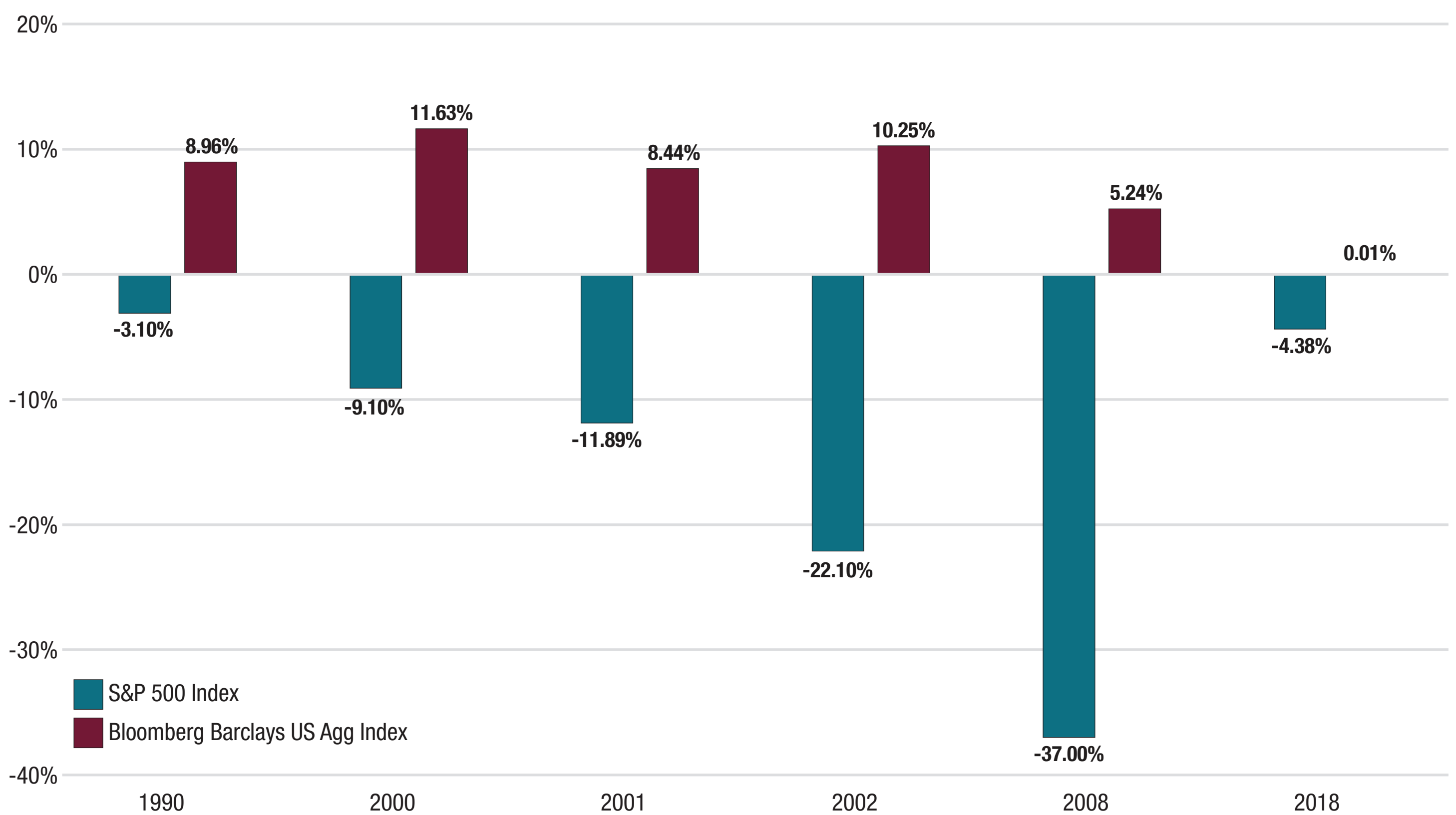
The Case for Dynamic vs Static Risk Management

– Michael Mack, Portfolio Manager

Despite near all-time low yields, fixed income investments continue to see inflows. This has left many commentators perplexed as to why investor dollars have continued to flow into an asset class where returns are much lower than ever before. The answer to this lies in how fixed income helps manage risk in the overall portfolio.

Over time, stocks have been known to generate higher returns, but at the cost of much higher drawdowns. These sharp drawdowns are often too much for investors to handle, forcing many to turn to fixed income. The chart below shows the performance of Bloomberg Barclays US Agg Index (AGG) during major equity market drawdowns as compared to the S&P 500 Index. Notice how fixed income has been able to avoid losses in these periods, and instead has been able to generate gains during the declines. These gains serve as a timely offset to the losses from equities, allowing a diversified investor to experience much smaller declines in their overall portfolio.

Returns During Years S&P 500® Declined
1990 – 2020



Source: Pacer Advisors, Bloomberg
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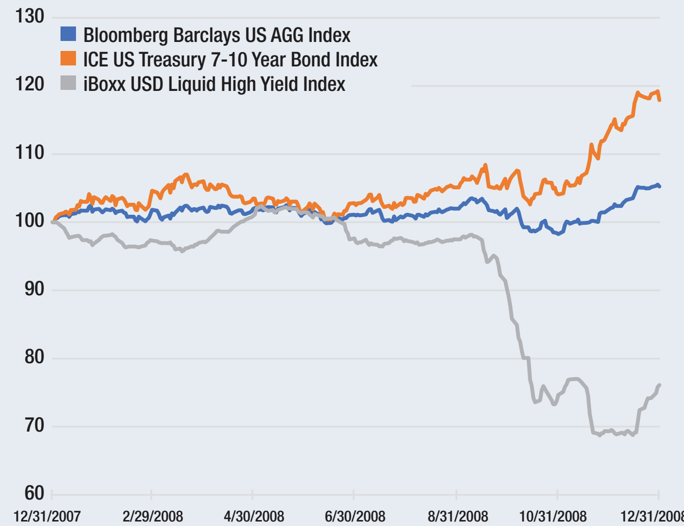
2008: A Bad Year for Credit Risk

When looking at risk through the lens of fixed income opportunities, we see two key risks emerge: credit risk and interest rates.

To illustrate the potential dangers of credit, we can look at 2008 when high yield bonds significantly underperformed U.S. Treasury Bonds.

Total Return
12/31/07 - 12/31/08

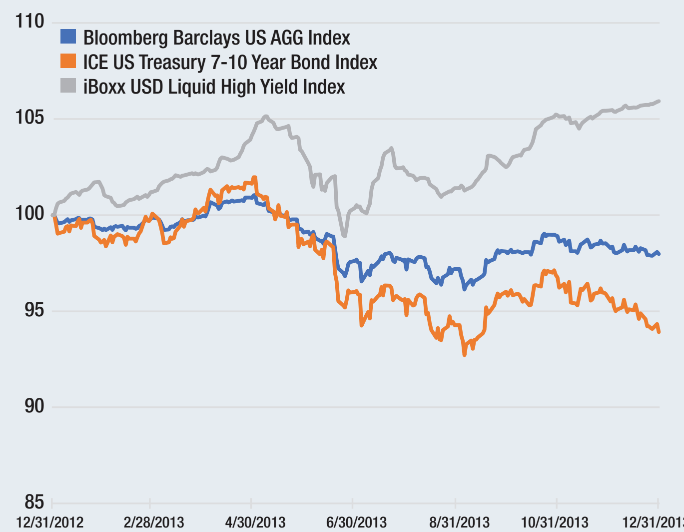


Source: FactSet

2013: A Bad Year for Interest Rate Risk

Alternatively, we can look at 2013 when U.S. Treasury Bonds significantly underperformed High Yield Bonds.

Total Return
12/31/12 - 12/31/13



Source: FactSet

The table below shows where each major fixed income category falls based on these risks, ranging from very low to very high. We can see which types of fixed income investments are on the higher end of credit risk – high yield corps, bank loans, short duration – and which are more exposed to interest rate risk – long term treasury bonds, investment grade corps, core fixed income.

Fixed Income Categories:

	Interest Rate Risk	Credit Risk
Long Term Treasury	High	None
Core (AGG)	Medium/High	Low
Investment Grade Corporate	High	Low/Medium
Short Duration	Low	Medium
High Yield Corporate	Medium	High
Bank Loan	Very Low	High

Source: Pacer Advisors

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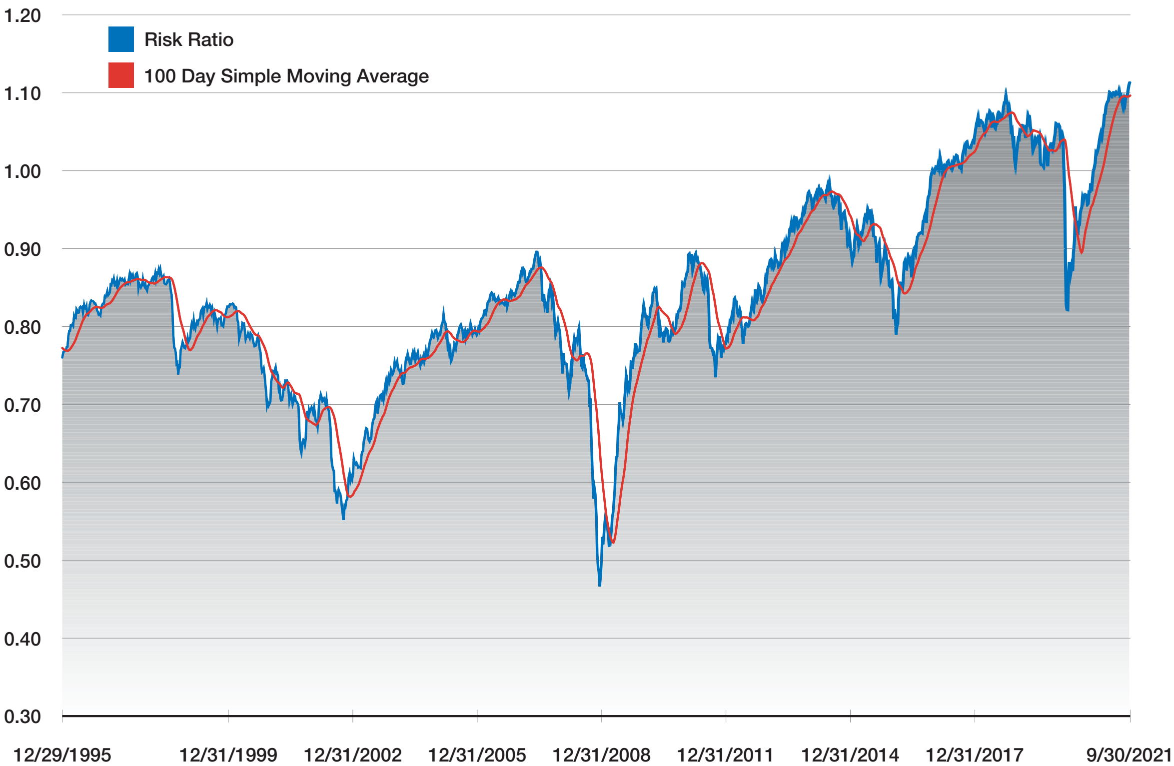
As seen in the previous examples, there are less favorable outcomes which emerge from credit risk and interest rate risk. This calls for a strategy that takes into account both risks. To test this, an indicator could be beneficial in determining the prevalence of certain risk levels throughout a market or economic cycle. Our preferred method is through use of the risk ratio. The risk ratio looks at the performance between high yield bonds (more credit sensitive) and U.S. Treasury Bonds (more interest rate sensitive). When high yield bonds are outperforming, investors are often compensated for taking on credit risk, whereas when U.S. Treasury Bonds are outperforming, investors are often compensated for interest rate risk.

$$\frac{\text{S\&P U.S. High Yield Corporate Bond Total Return Index}}{\text{S\&P U.S. Treasury Bond 7-10 Year Total Return Index}} = \text{Risk Ratio}$$

100 Day Simple Moving Average Compared to the Risk Ratio
12/31/1995 - 9/30/2021



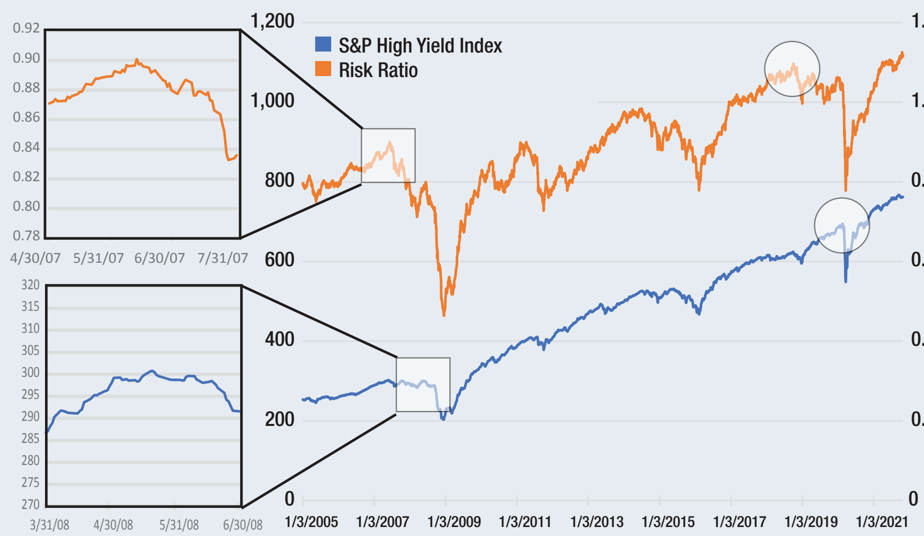
The graph to the left is the historical performance of the S&P U.S. High Yield Corporate Bond Index divided by the S&P U.S. Treasury Bond 7-10 Year Total Return Index (Risk Ratio) and the Risk Ratio's 100 day simple moving average. This illustration does not reflect any historical Trendpilot® Index or Pacer ETF performance. The Total Return Index includes the reinvestment of interest. In a low interest rate environment, further declines in treasury yields may be limited, possibly affecting the risk ratio's responsiveness to market changes. **YOU CANNOT INVEST DIRECTLY IN AN INDEX.**

Risk/Ratio

The risk ratio works by incorporating signals from both the credit and U.S. Treasury Bond market.

This chart shows the risk ratio vs high yield bonds over the course of a few decades. Notice how declines in the risk ratio tend to occur before declines in the high yield bond market. This is because most major credit declines tend be preceded by risk sensitive investors flying to safety in U.S. Treasury Bonds.

Risk Ratio vs High Yield Bonds
1/1/2005 - 10/31/2021



Source: FactSet

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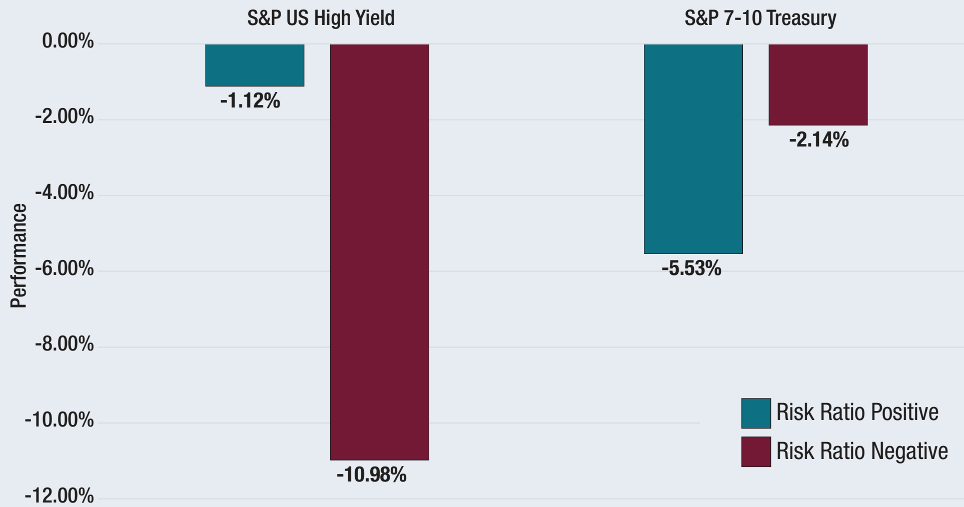
By incorporating U.S. Treasury Bonds into the risk calculation, we are able to detect potential credit events before they show in the credit markets. While this may not always work, and may be slow to react during periods of extreme volatility, this allows for the opportunity to reduce credit exposure before a major decline in credit occurs. As shown below, significant drawdowns incurred by high yield bonds and U.S. Treasury Bonds heavily depend on where the risk ratio is.

In the case of High Yield, most of the negative returns occur when the risk ratio is negative. In the case of U.S. Treasury Bonds, the opposite is true – most negative returns occur when the risk ratio is positive.

Average Performance During Fixed Income Drawdowns*

1/31/1993 - 9/30/2021



* Returns are based off periods when the average drawdown of the year was greater than 5%
Source: Pacer Advisors, Bloomberg

By moving from high yield bonds to U.S. Treasury Bonds, we are shifting the type of risk from credit risk to interest rate risk. This puts investors in danger of rising interest rate periods like we saw in 2013. However, the chart above shows most of the significant declines in U.S. Treasury Bonds have come during periods when the risk ratio is positive, thus the strategy would be invested in high yield bonds. By utilizing the risk ratio as a guide to determine which level of risk to take, investors could potentially avoid the significant drawdowns often found when following the market's trend.

Zooming back out to look at the overall portfolio, we can see the potential advantages to using the risk ratio. The risk ratio peaks tend to occur in advance of the peaks in the S&P 500, providing an advance signal to the portfolio to reduce risk. The peaks tend to occur in following order: risk ratio=> high yield bonds=> U.S. Stocks.

Risk Ratio as Early Signal for S&P 500

1/31/1993 - 9/30/2021

Source: Bloomberg and Pacer Advisors

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Pacer Trendpilot
US Bond
ETF
PTBD

Pacer ETFs saw a need for a **fixed income strategy** that takes into account credit risk and interest rate risk. By allocating between the S&P High Yield Corporate Bond Index and the S&P U.S. Treasury Bond 7-10 Year Index, the **Pacer Trendpilot® US Bond ETF (PTBD)** seeks to navigate turbulent markets through a combination of the Pacer Trendpilot trend following strategy and the risk ratio.

To determine the trend, the fund uses the 100 Day Simple Moving Average (SMA) of the relative return of high yield bonds versus 7-10 Year U.S. Treasury Bonds. When the relative return is above its 100 Day SMA, the trend is positive. If it is below, the trend is negative, and the fund will begin its switch into U.S. Treasury Bonds.

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Bloomberg Barclays US Agg Index: Broad based, market capitalization-weighted bond market index representing intermediate term investment grade bonds traded in the United States.
ICE US Treasury 7-10 Year Bond Index Includes publicly-issues U.S. Treasury securities that have: 1. a remaining maturity of greater than seven years and less than or equal to ten years and 2. Have $300 million or more of outstanding face value, excluding amounts held by the Federal Reserve.
iBoxx USD Liquid High Yield Index Consisting of liquid U.S. dollar-denominated, high yield corporate bonds for sale in the United States.

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