THE PRICE OF ADMISSION IN BONDS

VIRTUS INVESTMENT PARTNERS

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When investors think about investing in bonds, losing money probably isn't the first thing that comes to mind. Bonds have tended to be synonymous with safety, clipping your coupon, and allowing you to sleep well at night.

While this is often the case, often is not always. We're seeing that so far this year with the broad U.S. bond Index down 3%.

This is a feature, though, not a bug. Risk of short-term loss is the primary reason why bonds have earned a higher rate of return than cash over time.

Risk in bonds primarily comes in two forms: 1) interest rate risk (risk of rising interest rates) and 2) credit risk (risk of default).

For investors in government bonds (Treasuries), the risk resides entirely in the first category, as we assume the U.S. government will make good on its promise to pay us back. For investors in corporate bonds, the risk is often a combination of the two, depending on the duration and credit quality of the bonds.

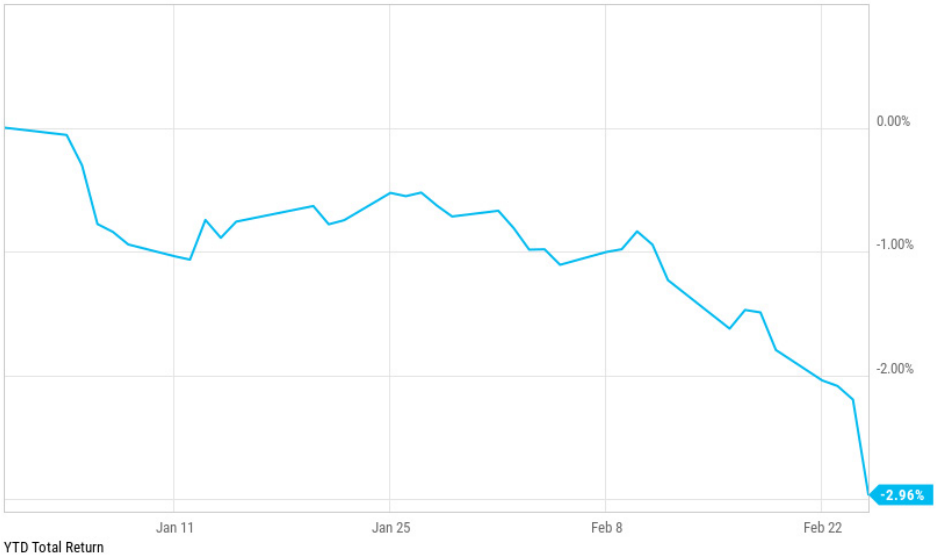
Let's take a look back at history to gain a better understanding of these risks.

Government Bonds

We'll start with government bonds, whose risk consists entirely of rising interest rates. As interest rates go up, bond prices go down. And the longer the duration of the bond, the more sensitive it will be to rising interest rates (the more it will go down).[1]

The relationship is clear in this chart, which shows the historical drawdowns for various Treasury bond ETFs.

BLOOMBERG BARCLAYS U.S. AGGREGATE LEVEL % CHANGE



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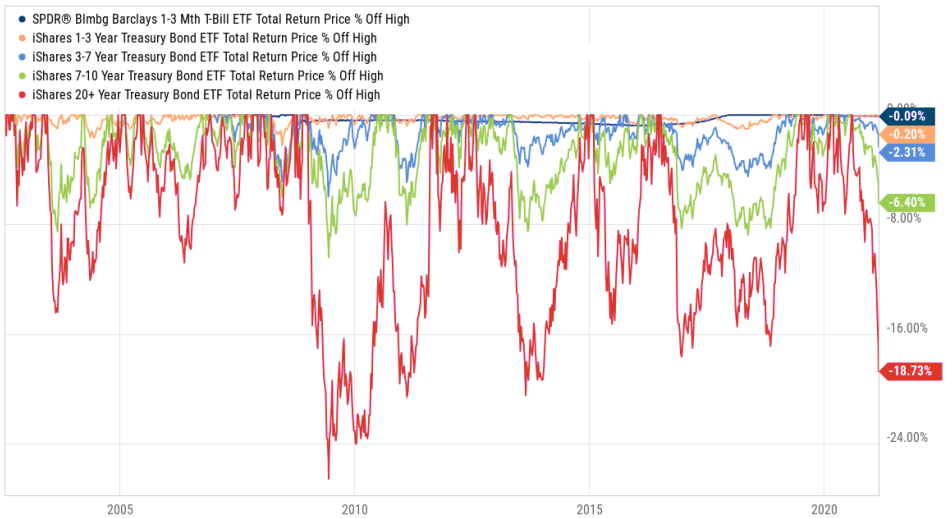
TREASURY BOND ETFS—ROLLING DRAWDOWNS



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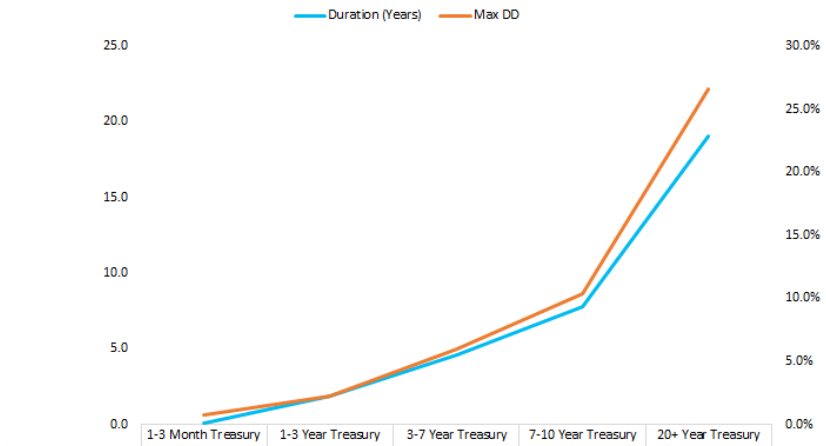
No surprise: the longest duration ETF (20+ Year Treasury) had the highest maximum drawdown (26.6%). This occurred back in 2009 when long-term interest rates rose sharply after the recession ended (30-Year Treasury yield moved from 2.5% to over 5%).

BOND ETFS: EFFECTIVE DURATION VS. MAXIMUM DRAWDOWN



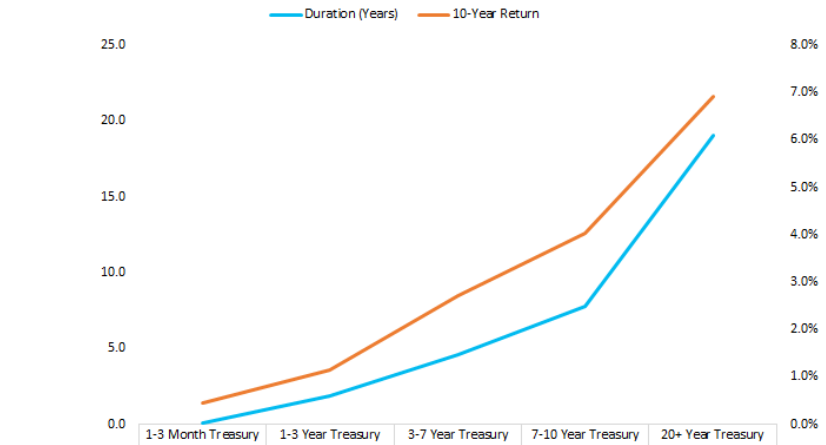
	1-3 Month Treasury	1-3 Year Treasury	3-7 Year Treasury	7-10 Year Treasury	20+ Year Treasury
Duration (Years)	0.1	1.9	4.6	7.8	19.1
Max DD	0.8%	2.2%	6.0%	10.4%	26.6%

Past performance is not indicative of future results. Source: Compound.

Why would anyone want to take the increased risk of investing in longer duration bonds?

They tend to offer higher yields (known as the term premium) and the prospect of higher long-term returns. The last 10 years have compensated investors handsomely for taking on this additional risk, with the longest duration bonds returning 6.9% per year versus 0.5% per year in short-duration Treasury bills.

BOND ETFS: EFFECTIVE DURATION VS. 10-YEAR ANNUALIZED RETURNS



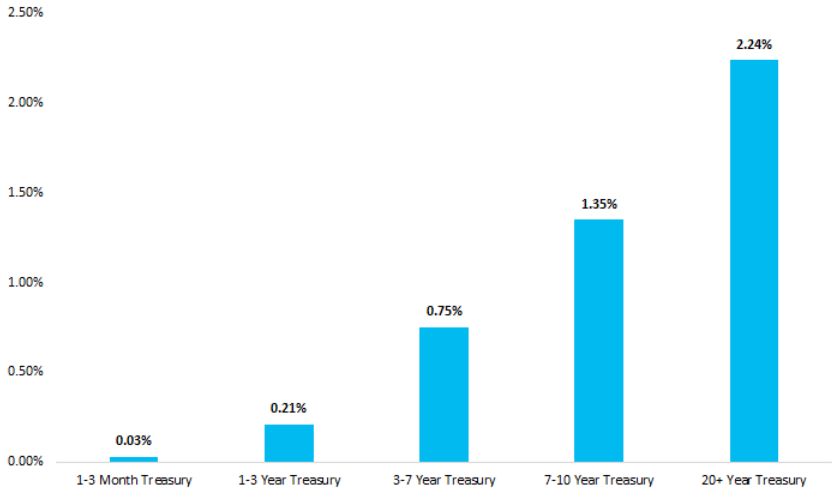
	1-3 Month Treasury	1-3 Year Treasury	3-7 Year Treasury	7-10 Year Treasury	20+ Year Treasury
Duration (Years)	0.1	1.9	4.6	7.8	19.1
10-Year Return	0.5%	1.2%	2.7%	4.0%	6.9%

Past performance is not indicative of future results. Source: Compound.

Will the next 10 years reward long duration investors in the same fashion? Not likely, unless long-term interest rates are on their way to zero.

With starting interest rates at a much lower level today (2.24% in 20+ year ETF), a more likely scenario is a lower premium for taking duration risk and lower Treasury bond returns overall.

AVERAGE YIELD-TO-MATURITY



Past performance is not indicative of future results. As of 2/25/21. Source: Compound.

Corporate Bonds

Next, let's move to the world of corporate bonds where you add another element of risk: credit (risk of default).

So you have two components dictating the path of corporate bonds: 1) the direction of interest rates, and 2) the direction of credit spreads.[2]

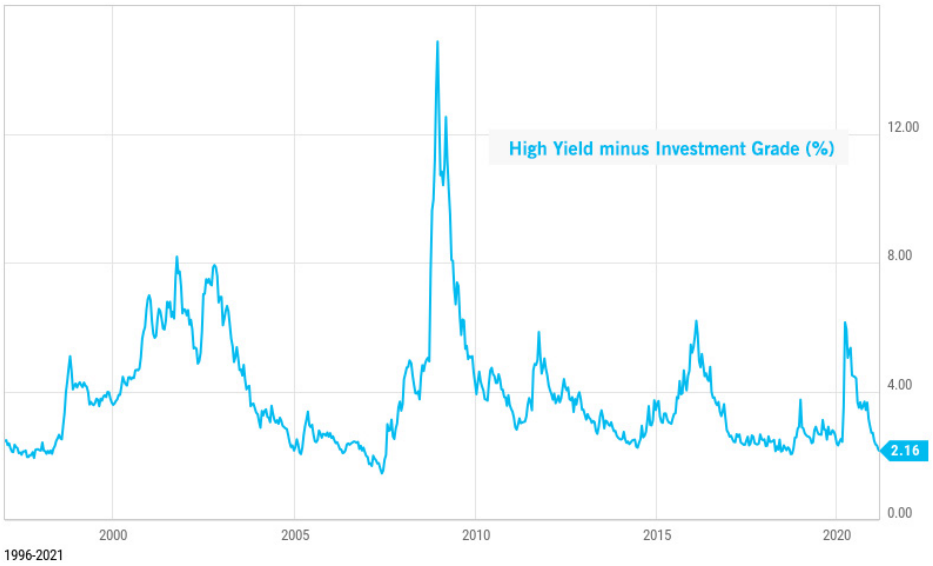
There are many different types of corporate bonds (various maturities, credit qualities, and sectors), but we'll limit our focus in this piece to two broad categories: investment grade (rated BBB and above) and high yield (rated below BBB).[3]

Investment grade bonds have a duration of roughly nine years, making them much more sensitive to changes in interest rates than high yield bonds (duration of 3.5 years).

They have also tended to have a much lower risk of default than high yield bonds, making them less likely to incur a significant widening in credit spreads. In turn, they always have a lower yield than high yield bonds, though the spread will vary over time depending on investor risk appetite (the low spread today indicates a high risk appetite).

Over the past 30 years, the worst drawdowns for investment grade bonds have come during recessions, in 2008 (-16.7%) and 2020 (-15.1%). In both of these years, credits spreads widened as investors demanded a higher yield for taking on the additional risk of default. In 2013, you'll notice another smaller drawdown of around 6.5%, which occurred as interest rates moved sharply higher throughout the year.

U.S. HIGH YIELD MASTER II EFFECTIVE YIELD–U.S. CORPORATE MASTER EFFECTIVE YIELD



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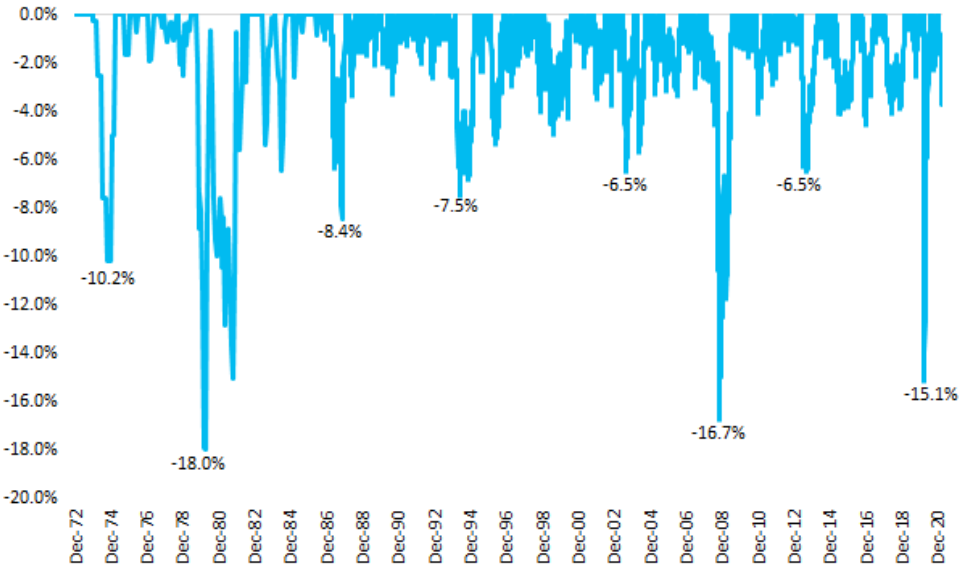
ICE BOFA INVESTMENT GRADE INDEX—DRAWDOWNS (%)



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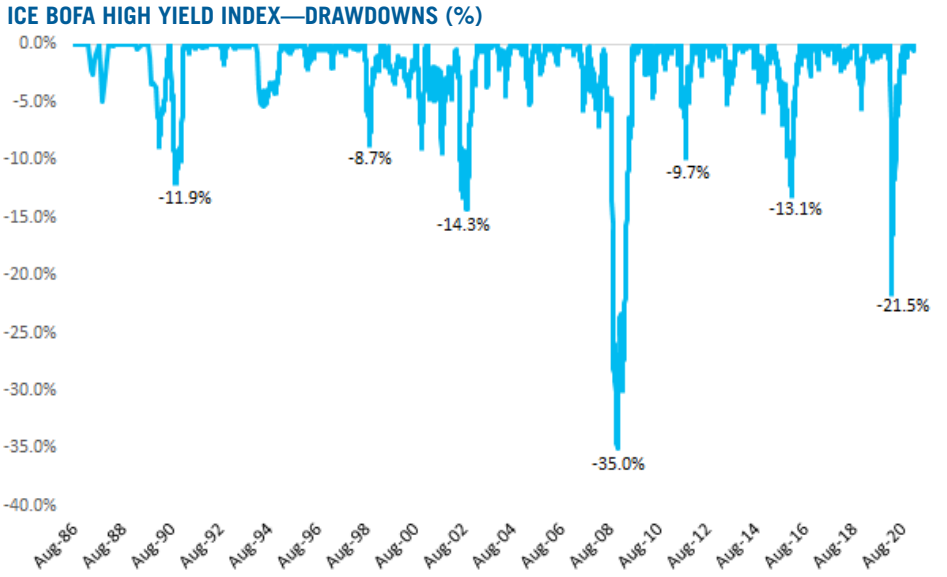
High yield bonds saw their two worst drawdowns in the same recessionary years: 2008 (-35%) and 2020 (-21.5%). The 2013 drawdown is hardly noticeable, given high yield's lower sensitivity to interest rates.



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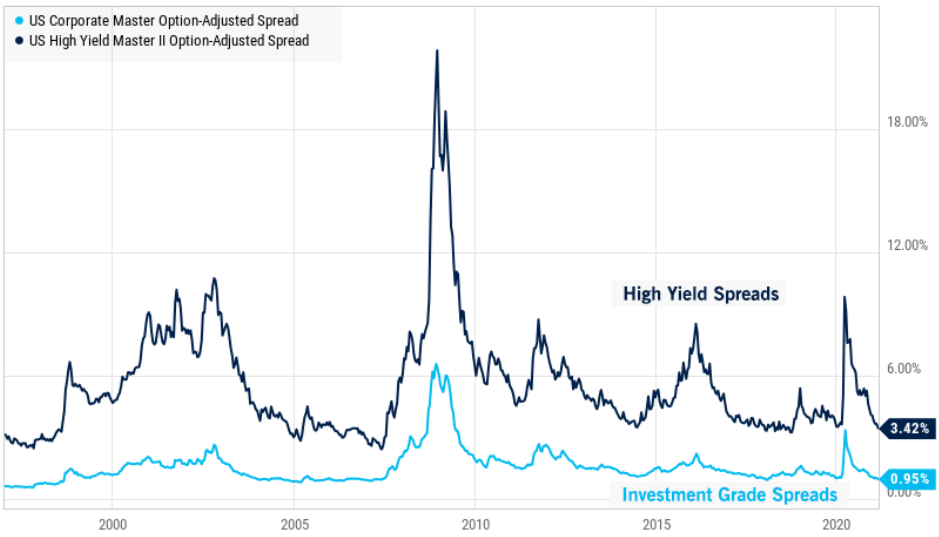
A picture of credit spreads over time tells much of the story, with the blowout in spreads during 2008 and 2020 being most evident. The maximum spread seen in high yield during 2008 (21.82%) was multiples higher than investment grade (6.56%).



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Where do yields on corporate bonds stand today? Near all-time lows in both high yield and investment grade, making both categories much more susceptible to a rise in interest rates or credit spreads.

Past performance is not indicative of future results. As of 2/26/21. Data Source: YCharts.

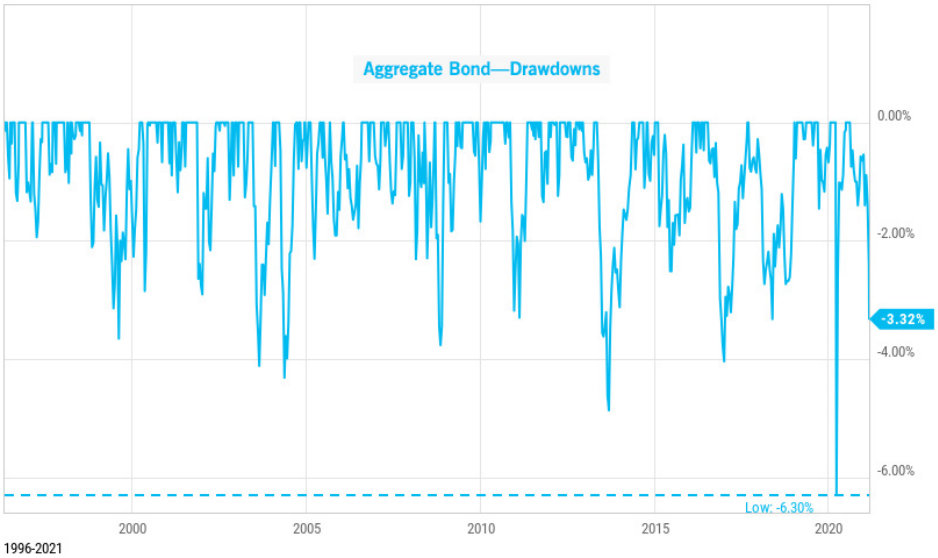
Aggregate Bonds

The last category I want to cover is aggregate bonds, which are to bonds what the S&P 500® Index is to stocks.[4] This broad category includes a number of different bond sectors with the highest weightings in Treasuries (38.6%), agency mortgages (26.8%), and investment grade corporate bonds (23.8%).

The result is an instrument that behaves somewhere in between Treasuries and corporate bonds, but much closer to the Treasury end of the spectrum. That makes interest rate risk the primary concern (with a duration of around six years), with a lesser impact from credit spreads.

During a brief period in March 2020, we saw both of these factors play out at the same time: a spike in risk-free interest rates combined with widening credit spreads. This led to the largest drawdown in aggregate bonds that we've seen in recent history (-6.3%).

BLOOMBERG BARCLAYS U.S. AGGREGATE LEVEL % OFF HIGH



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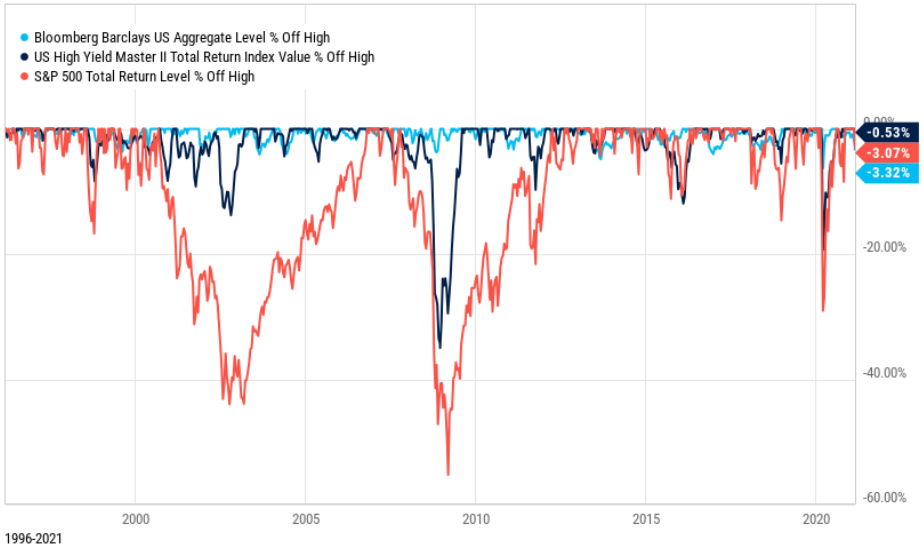
However, when compared to high yield bonds and the S&P 500, the 2020 drawdown in aggregate bonds was barely noticeable. Which is another way saying that the risk in equities is many orders of magnitude larger than the risk in aggregate bonds. Looking back at history, stocks have lost more in a bad day than bonds have lost in a bad year.



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The Price of Admission

If the year ended today, it would be the worst ever for aggregate bonds, slightly edging out 1994. Interest rates are rising from historic lows and there is little cushion from the coupon to soften the blow.

For those who equate bonds with safety, this can be a tough pill to swallow. But, bearing that risk is the **price of admission** for long-term bond investors, without which there would be no reward above cash.

Barclays Aggregate, Total Return (1977 - 2021)

Year	Return	Year	Return	Year	Return
1977	3.0%	1992	7.4%	2007	7.0%
1978	1.4%	1993	9.7%	2008	5.2%
1979	1.9%	1994	-2.9%	2009	5.9%
1980	2.7%	1995	18.5%	2010	6.5%
1981	6.2%	1996	3.6%	2011	7.8%
1982	32.6%	1997	9.7%	2012	4.2%
1983	8.4%	1998	8.7%	2013	-2.0%
1984	15.1%	1999	-0.8%	2014	6.0%
1985	22.1%	2000	11.6%	2015	0.6%
1986	15.3%	2001	8.4%	2016	2.7%
1987	2.8%	2002	10.3%	2017	3.5%
1988	7.9%	2003	4.1%	2018	0.0%
1989	14.5%	2004	4.3%	2019	8.7%
1990	9.0%	2005	2.4%	2020	7.5%
1991	16.0%	2006	4.3%	2021	-3.0%

Past performance is not indicative of future results.
Source: Compound.

[1]Duration is a measure of the sensitivity of a bond to a change of interest rates. As a general rule, every 1% increase in interest rates will lead to 1% decline in a bond's price for every year of duration. For example, a bond with a duration of 5 years will experience a price decline of 5% if interest rates rise 1% (note: the opposite is also true – if interest rates fall 1%, the bond's price will rise 5%).

[2]Credit spread is the difference in yield between a corporate bond and a risk-free bond of the same maturity. It is a reflection of the additional yield investors require for the additional default risk in a corporate bond. Credit spreads can vary greatly over time depending on economic conditions and investor risk appetite.

[3]Throughout this piece, the proxy for "investment grade bonds" is the ICE BofA U.S. Corporate Index and the proxy for "high yield bonds" is the ICE BofA U.S. High Yield Index. Data Source: FRED.

[4]In this piece reference to "aggregate bonds" refers to the Bloomberg Barclays Aggregate U.S. Index, a widely used benchmark.

Maximum Drawdown: The peak-to-trough decline during a specific record period of an investment, fund, or commodity. A drawdown is usually quoted as the percentage between the peak and the trough. **Yield to maturity (YTM)** is the total return anticipated on a bond if the bond is held until it matures.

The **Bloomberg Barclays U.S. Aggregate Bond Index** measures the U.S. investment grade fixed rate bond market. The index is calculated on a total return basis. The **ICE BofA U.S. Corporate Index** tracks the performance of U.S. dollar denominated investment grade rated corporate debt publicly issued in the U.S. domestic market. The **ICE BofA U.S. High Yield Index** tracks the performance of U.S. dollar denominated below investment grade rated corporate debt publicly issued in the U.S. domestic market. The **S&P 500® Index** is a free-float market capitalization-weighted index of 500 of the largest U.S. companies. The index is calculated on a total return basis with dividends reinvested. The indexes are unmanaged, their returns do not reflect any fees, expenses, or sales charges, and they are not available for direct investment.

All investments carry a certain degree of risk, including possible loss of principal.