# Investing in Bonds:

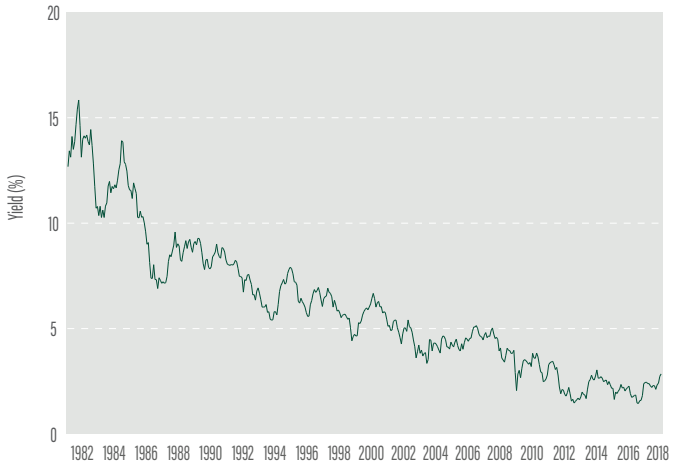
## Do You Know What You Don't Know?

### Does this look like a bull market?

To investors who know the bond market well, it certainly does. Despite the 35-year downward trend represented in the chart, bond investors understand the fundamental relationship between prices and yields. (Hint: declining yields mean rising prices).

An understanding of bond investing essentials is increasingly critical in the current market environment. Many observers wonder if the decades-long bull market is finally coming to an end or if it can persist a while longer.

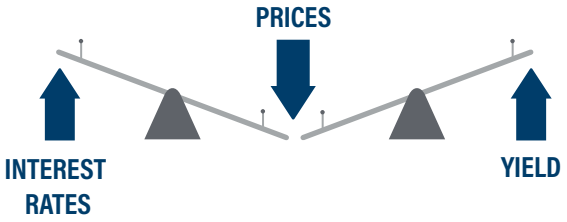
With over $100 trillion invested in bonds globally[1] and the potential of increasing interest rates on the horizon, there is a great deal at stake. For investors, it is crucial that they know the answers to two questions.




Source: FactSet. Yield is based on 10-Year U.S. Treasury. As of June 30, 2018.

### What Happens to a Bond if Interest Rates Rise?

The straightforward relationship among interest rates, bond yields and bond prices works like a linked seesaw. When interest rates rise, bond prices fall and vice versa.

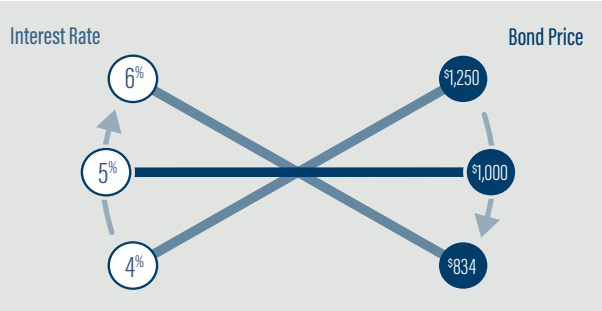



#### Why?

- One important factor in the price of a bond is determined by the return (or stream of income) that bond provides
- Higher interest rates mean new bonds provide a higher return to attract investors
- With higher potential returns available, the value of existing bonds goes down. Prices fall
- Lower prices mean the stream of income provided by bonds grow relative to its price

Of course the reverse of this scenario plays out when rates decline. The vital takeaway for investors is to understand the **direct link between interest rates and the prices and yields of the bonds** they own.

### A Simple Scenario




Hypothetical example shown for illustrative purposes only and does not reflect the actual or future performance any specific investment products.

[1]Source: FactSet. As of June 30, 2018.

An investor buys a bond for $1,000 that pays $50 (5%) in interest every year. Shortly after, one of two things happens:

- Rates rise, and newer bonds pay $60 (6%) in interest
- Rates fall, and newer bonds pay $40 (4%) in interest

What happens to the price of the original $1,000 bond? One picture provides a succinct answer, showing that the price goes down when rates rise and the price goes up when rates fall.

## How Significant is My Interest Rate Risk?

Of course, it is important for investors to understand not just that changing interest rates impact the bonds they own but the magnitude of that impact. An important part of figuring this out lies in duration. Duration is a measure of a bond's (or a bond portfolio's) sensitivity to interest rates. It is measured in years and, when multiplied by the change in interest rates, helps predict the degree of change in a bond's price. Therefore, longer duration generally means larger potential price changes and more volatility; shorter duration generally means smaller changes and less volatility. This basic relationship applies to both increases and decreases in interest rates, as illustrated by the following table:

| Rate Scenario | Price Impact | Bond A Duration: 5 years | Bond B Duration: 10 years |
|---|---|---|---|
| – 3% | | + 15% | + 30% |
| – 1% | | + 5% | + 10% |
| + 1% | | – 5% | – 10% |
| + 3% | | – 15% | – 30% |

Hypothetical example shown for illustrative purposes only and does not reflect the actual or future performance any specific investment products.

This principle holds true for bond portfolios and asset classes as well. Consider the varied duration, and therefore varied interest rate risk, of notable bond indices.

| Index | What It Represents | 5-Year Duration Range[2] |
|---|---|---|
| Bloomberg Barclays Global Aggregate Bond Index | Investment grade bonds from 24 local currency markets | 6.18 - 7.10 |
| Bloomberg Barclays U.S. Aggregate Bond Index | Investment grade, taxable bonds in the US | 5.37 – 6.10 |
| Bloomberg Barclays U.S. Treasury 1 – 3 Yrs Index | Bonds issued by the US Treasury that will mature in approximately 1 – 3 years | 1.87 – 1.96 |

In fact, the duration of the Bloomberg Barclays bond indices ranges from nearly zero to more than 15 years.[3] So while there are many factors that ultimately influence a specific bond's price, duration provides investors with an initial proxy of how exposed they may be to changes in interest rates.

Together, a basic understanding of duration and knowledge of the core relationship among rates, prices, and yields creates an essential foundation for any investor navigating the modern bond market.

[2] Bloomberg Barclays. Data for 5-year period from 7/30/13 to 06/30/18.
[3] Bloomberg, Barclays.

## About AMG Funds

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Investments in debt securities are subject to risks such as default risk and fluctuations in the perception of the debtor's ability to pay its creditors. Changing interest rates may adversely affect the value of an investment. An increase in interest rates typically causes the value of bonds and other fixed income securities to fall.

The Bloomberg Barclays Global Aggregate Bond Index provides a broad-based measure of the global investment-grade fixed income markets. The three major components of this index are the U.S. Aggregate, the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The Index also includes Eurodollar and Euro-Yen corporate bonds; Canadian government, agency and corporate securities; and USD investment-grade 144A securities.

The Bloomberg Barclays U.S. Aggregate Bond Index is an index of the U.S. investment-grade fixed-rate bond market, including both government and corporate bonds.

The Bloomberg Barclays U.S. Treasury 1-3 Year Index is an index consisting of Treasury securities with maturities of one to three years.

The indices are unmanaged, are not available for investment and do not incur expenses.

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