Summary
The discussion below is meant to help bond investors better understand the relationship between interest rates and their impact on individual bond prices as well as the net asset values (NAV) of bond funds.

There are four key takeaways:

1. Bond prices fluctuate with changes in interest rates. When interest rates go up, bond prices typically go down.
2. Historically, the majority of a bond fund’s total return has come from the income return (also known as yield).
3. Given the low interest rate environment, there may not be enough income return (yield) to offset a decline in bond prices, if interest rates increase. As such, bond fund investors could experience a negative total return.
4. Duration is a key measure of a bond fund’s price sensitivity to changes in interest rates. The higher a bond fund’s duration, the more its price will fluctuate with interest rate changes, all else equal.

Are Rising Interest Rates a Concern?
Bond prices are closely related to interest rates. When interest rates go up, existing bond prices typically go down. Newly issued bonds would generally offer a higher income return and therefore be more attractive to investors than the existing bond with a lower coupon. The opposite occurs when interest rates go down, existing bond prices typically go up. This inverse relationship is depicted in the graphic below.

So What Does it Mean for Me?
Given the current low interest rate environment, the question many bond investors have is “What happens to my investment when interest rates begin to climb?” While we know that bond prices typically go down when interest rates go up, no one can predict if and when interest rates will rise, nor to what extent they will rise. Nevertheless, with the yield on the 10-Year U.S. Treasury note at only 2.45% as of year-end 2016 (see chart), there is little income “cushion” to offset any decline in bond prices, if interest rates increase.

In simple terms, with interest rates at historic lows, any income generated by the bonds in a fund may be more than offset by negative price returns, therefore producing a negative total return. For historical context, in 1994, when the interest rate on the 10-year U.S. Treasury bond rose 2%, the price return on the Bloomberg Barclays U.S. Aggregate Bond Index that year was -9.5%. However, with a higher income return (yield) of 6.6% at that time, the price impact on the Index’s total return was mostly offset by the yield (6.6% income return plus -9.5% price return = -2.9% total return).1

The chart below shows that over the last three and a half decades the income return or yield (yellow) has provided the vast majority of the total return of the Bloomberg Barclays U.S. Aggregate Bond Index, with the income return (yield) ranging from 85% to 97% of the annualized total return.

Sources: 1 U.S. Federal Reserve, Barclays Live. The Bloomberg Barclays U.S. Aggregate Bond Index covers the U.S. investment grade bond market, with index components for government and corporate securities, and asset-backed securities. Indices are unmanaged and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any fund. Past performance does not guarantee future results.
What is Duration?
Interest rate risk is commonly measured by a bond’s duration.

Duration is a measure of the sensitivity of a bond’s price to changes in interest rates. A bond’s duration depends heavily on the remaining maturity of the bond and is often expressed in years.

In general, the longer a bond’s remaining maturity, the higher its duration and the more its price will fluctuate with interest rate changes.

As a rule of thumb, for every 1% point increase or decrease in interest rates (simultaneously across all timeframes), a bond fund’s price will change by approximately 1% in the opposite direction for each year of duration. (Note: excludes all assumptions about credit-related price movements and/or any pre-payment of underlying bonds).

The chart below shows a hypothetical example of how the price of a major bond benchmark, the Bloomberg Barclays U.S. Aggregate Bond Index, could change given various interest rate change scenarios.

- Using the duration of the Index as of December 2016 of 5.89 years, if interest rates rise +1.0% (simultaneously across all timeframes), the price of the index (blue) would fall by -5.89% (5.89 years duration x 1.0%) and the total return would be -3.26% as the yield would partially offset the negative price return.

  Mathematically: take the 2.63% income return plus the -5.89% price return = -3.26% total return.

- If interest rates increased by +3.0% (simultaneously across all timeframes), the price decline would be -17.67% (5.89 years duration x 3.0%) and the total return would be -15.04%.

  Mathematically: take the 2.63% income return (yield) of the Bloomberg Barclays U.S. Aggregate Bond Index, as of 12/31/2016, plus the -17.67% price return = -15.04% total return.

Source: Barclays Live. Hypothetical returns for the Bloomberg Barclays Aggregate Bond Index are based on the current yield to maturity of 2.63% and the duration of 5.89 years as of 12/31/16. The Barclays U.S. Aggregate Bond Index covers the U.S. investment grade bond market, with index components for government and corporate securities, and asset-backed securities. Indices are unmanaged and cannot be purchased directly by investors. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any fund. Past performance does not guarantee future results.

While no one can predict if and when interest rates will rise, making sure you have the right asset allocation based upon your investment time frame, financial goals, and tolerance for risk may be the most prudent strategy.
What is a Bond?
A bond is similar to a loan that the buyer, or bondholder, makes to the bond issuer. Governments, corporations and municipalities issue bonds when they need money.

Like a loan, a bond pays interest periodically and repays the original loan amount (principal) at a stated time. Typically the repayment terms are 1 to 30 years.

How does a Bond differ from a Bond Fund?

Individual Bonds:
- Required to pay out a defined amount of income at regular periods, usually twice a year.
- The income is called the coupon (or yield), which in most cases is a fixed amount.
- The bond’s principal is returned to the investor when the bond reaches maturity.

Bond Mutual Funds:
- Bond funds, similar to stock funds, pool money from investors and buy securities to meet the fund’s stated investment objectives.
- Bond funds do not have a fixed maturity date, so neither your principal nor your income payout is certain and will change over time, based upon the underlying securities.
- Professional investment managers are buying and selling bonds in the portfolio, which means the monthly interest payments and the daily share price will fluctuate with changes in interest rates.

What are the Risks of Investing in Bond Funds?
Bond funds, like all mutual funds, involve investment risk, including the loss of principal. There are three primary types of risks with bond fund investing:

1. **Interest Rate Risk**: The risk that the bonds the fund holds may decline in value due to an increase in interest rates. All bonds, including those issued by the U.S. Government, are subject to interest rate risk.

2. **Credit Risk**: The risk that a bond issuer fails to make principal or interest payments when due to the fund or that the credit quality of the issuer declines.

3. **Inflation Risk**: Given that most bonds pay a fixed rate of interest, price increases in the economy reduces the purchasing power associated with the fixed income from the bond fund.

Why Invest in Bond Funds?
Investors traditionally buy bond funds for three reasons:

1. **Professional Management and Diversification**
   Professional investment managers research, select and monitor the performance of the bonds the fund purchases. By pooling resources, bond fund shareholders are investing in a greater number and variety of bonds, providing an effective way to diversify a portfolio, even with a small investment.

2. **Regular Monthly Income**
   Bond funds typically distribute interest income (dividends) monthly. Investors can choose to receive dividends as cash, or automatically reinvest in additional shares of the fund.

3. **Annual Total Return (hypothetical illustration of compounding)**
   The total return of a bond fund has two components: 1) net yield and 2) price return.

   In simple terms, a $1,000 investment in a bond fund that provides a 3% annual net yield (income return minus fund expense) pays $30 a year in income. Meanwhile, the price return measures the increase or decrease of the fund’s net asset value. If the value of a bond fund investment falls $20 from $1,000 to $980, the price return would be -2%. The total return would then be $30 of income minus the $20 price decline = $10 or 1% total return.

   **Example:**
   - $1,000 investment X 3% yield = $30 Net Yield
   - $1,000 bond falls in value to $980 = - $20 Price Return
   - Annual Total Return: $30 - $20 = $10 Total Return

   This hypothetical is for illustrative purposes only and does not represent any specific investment. It does not include the impact of expense or fees, which would have reduced the results of the illustration.

Before investing, consider the funds’ investment objectives, risks, charges and expenses. Contact State Farm VP Management Corp (Retail: 1-800-447-4930; Associate: 1-800-447-0740) for a prospectus or summary prospectus containing this and other information. Read it carefully. AP2017/02/0080

Securities, insurance and annuity products are not FDIC insured, are not bank guaranteed and are subject to investment risk, including possible loss of principal. It is not possible to invest directly in an index. Diversification does not assure a profit or protect against loss. Net Asset Value (NAV) is calculated by adding all of the assets of a Fund, subtracting the Fund’s liabilities, then dividing by the number of outstanding shares.

Bonds are subject to interest rate risk and may decline in value due to an increase in interest rates.

Neither State Farm nor its agents provide tax or legal advice.