

CPIM

CENTER FOR PUBLIC INVESTMENT MANAGEMENT



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INVESTMENTS 315

Investing in Today's Interest Rate Environment

2014 CPIM Academy

Interest Rates

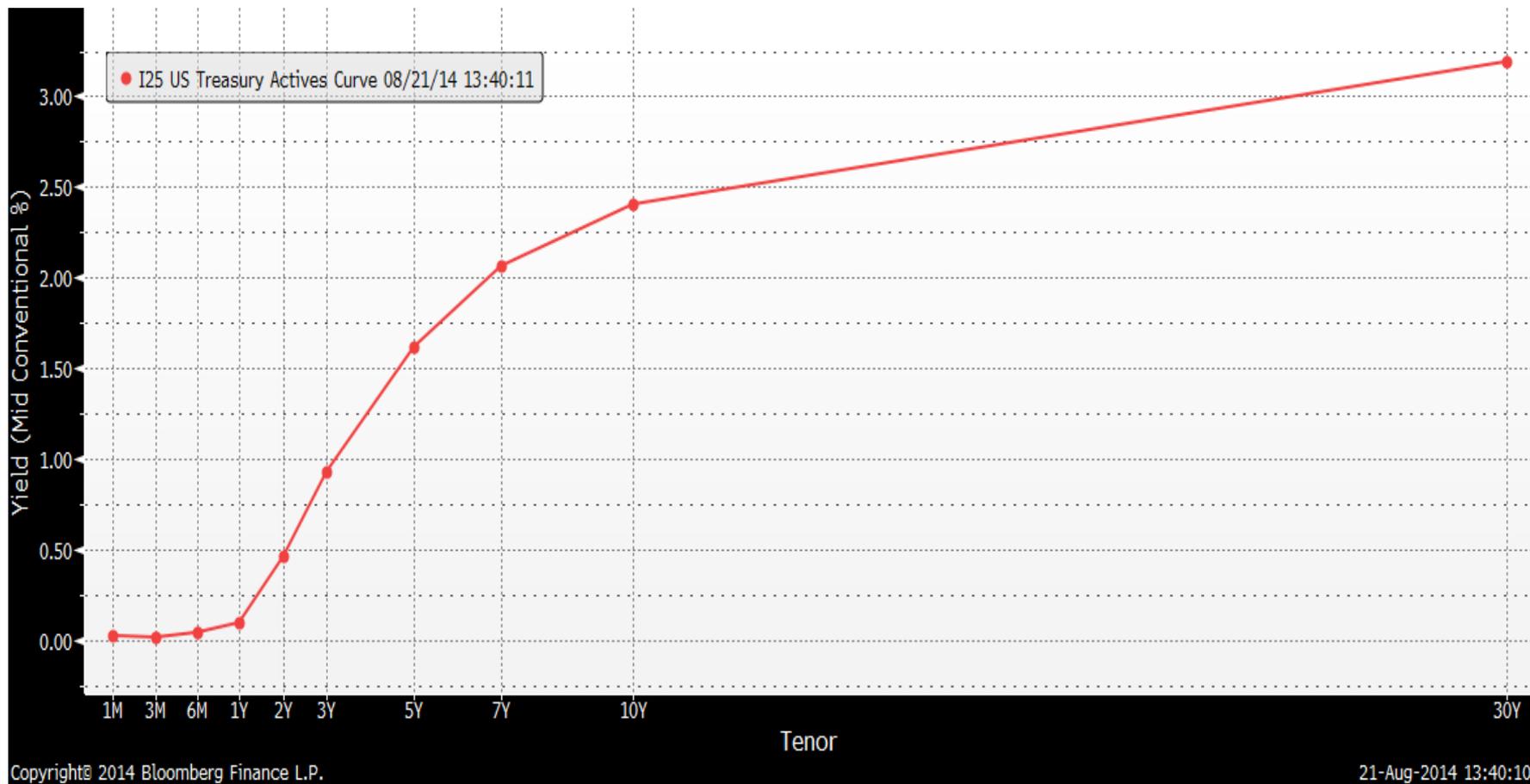
- ◉ Interest rates have been at historically low levels since December of 2008 when the Federal Open Market Committee (FOMC) lowered the Fed Funds rate to 0.00% - 0.25%.
 - The Fed Funds rate is the key rate that the Fed has used historically to influence monetary policy.

Interest Rates

- How low can rates go?
 - Just when you thought it couldn't get any worse...
- Basis Points
 - One basis point equals $1/100^{\text{th}}$ of one percent
 - 100 bps = 1.00%



Interest Rates



Interest rates are going to rise...



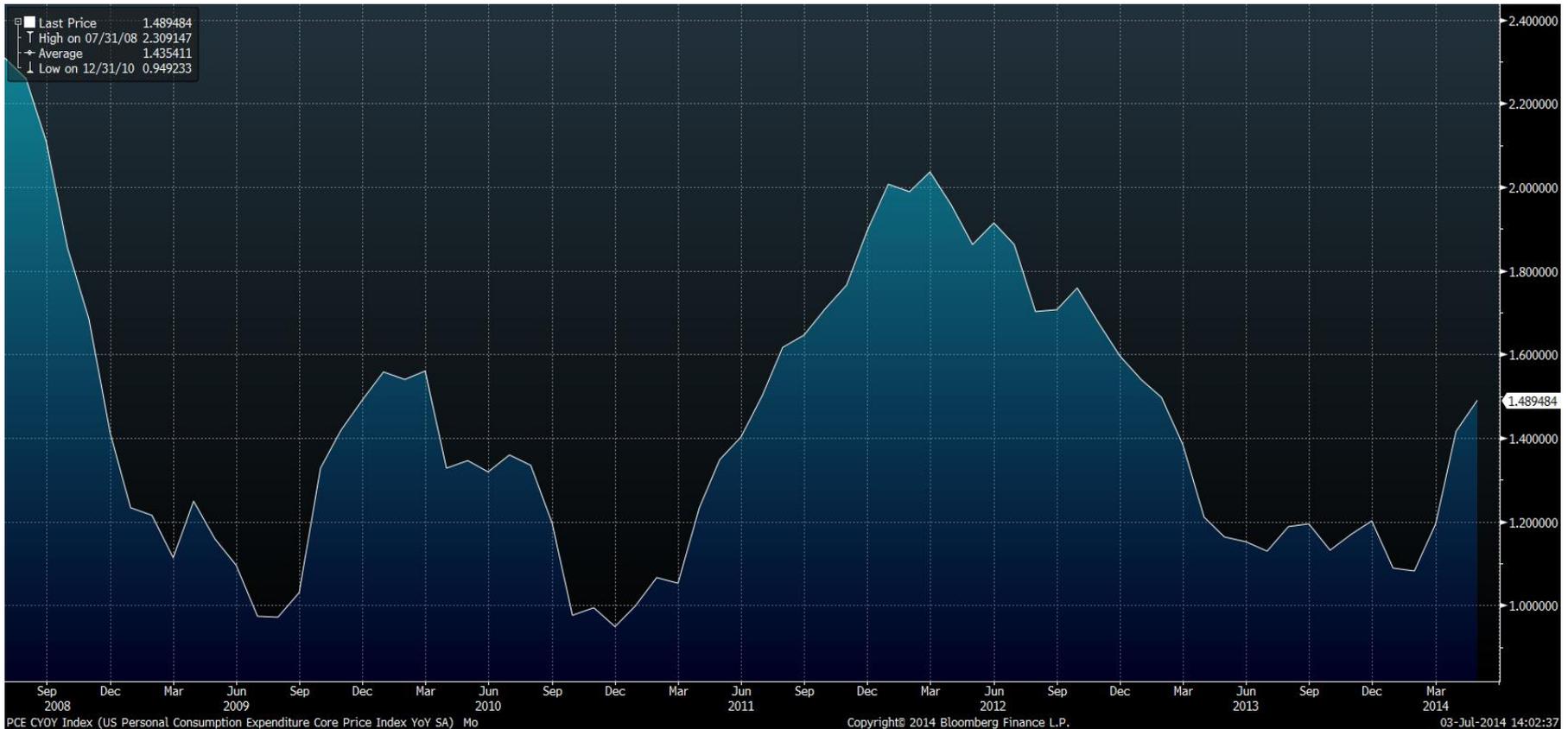
...eventually

What Will Make Interest Rates Rise?

- Interest rates were lowered to spur economic activity and, hopefully, growth.
- With such activity and growth can come ***inflation***.
 - The FOMC is constantly ‘checking the pulse’ of inflation with a target of 2.0%.
 - Core Personal Consumption Expenditure (PCE), the FOMC’s preferred measure of inflation, is currently around 1.5% (June 2014).

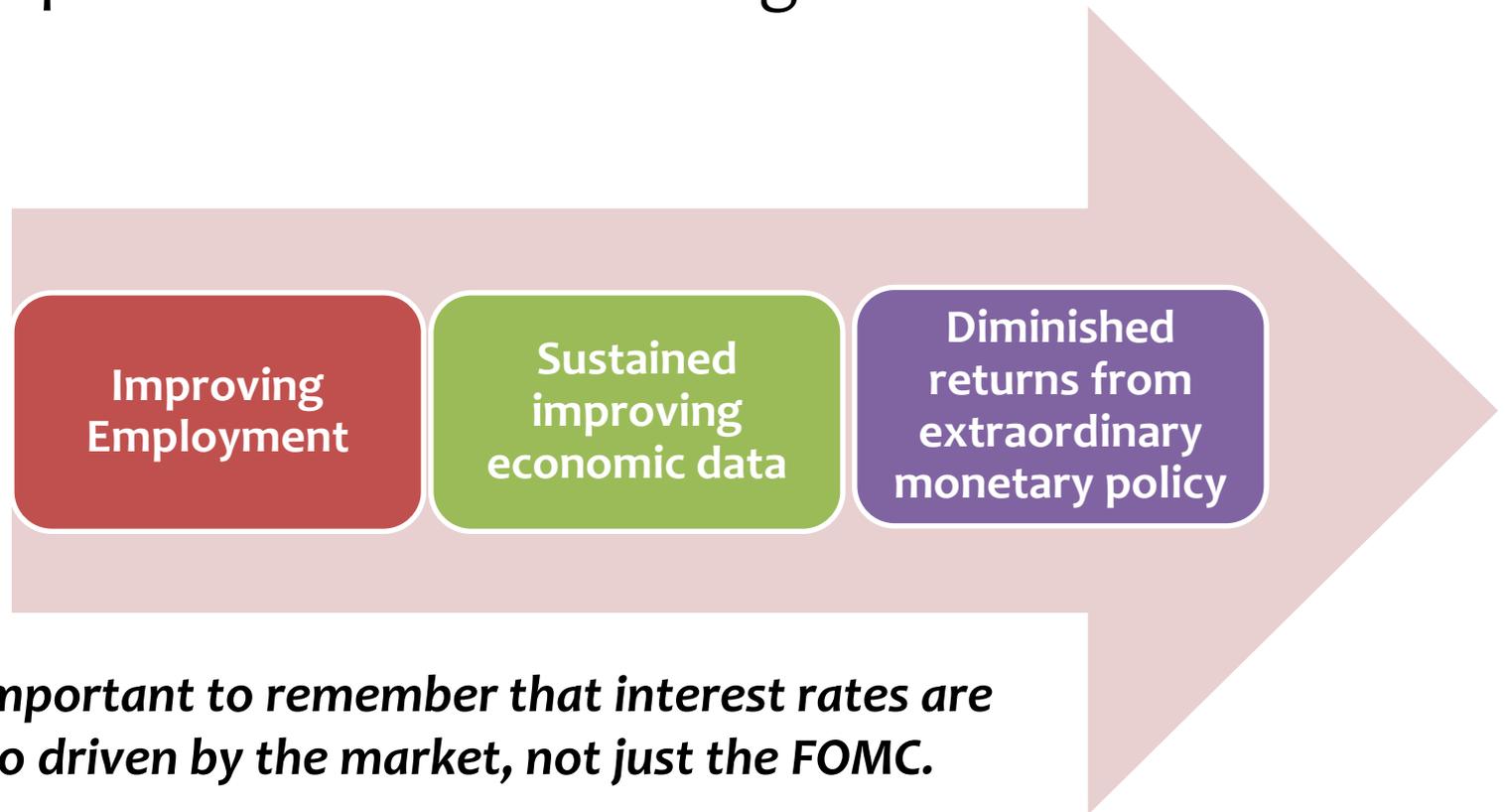
Understand Inflation

Core PCE (7/31/08 – 5/31/14)



What Will Make Interest Rates Rise?

Other possible drivers of rising interest rates:



It is important to remember that interest rates are also driven by the market, not just the FOMC.



**Okay, so how should
we prepare?**

Stay Informed!

- ◉ “**Headline Risk**”

- Headline risk in the investment world refers to the risk that an investor is subjected to from news that effects the value of investments held.



- ◉ It is important to familiarize yourself with news and current events in order to maintain a sound and informed Macroeconomic View.

Macroeconomic View

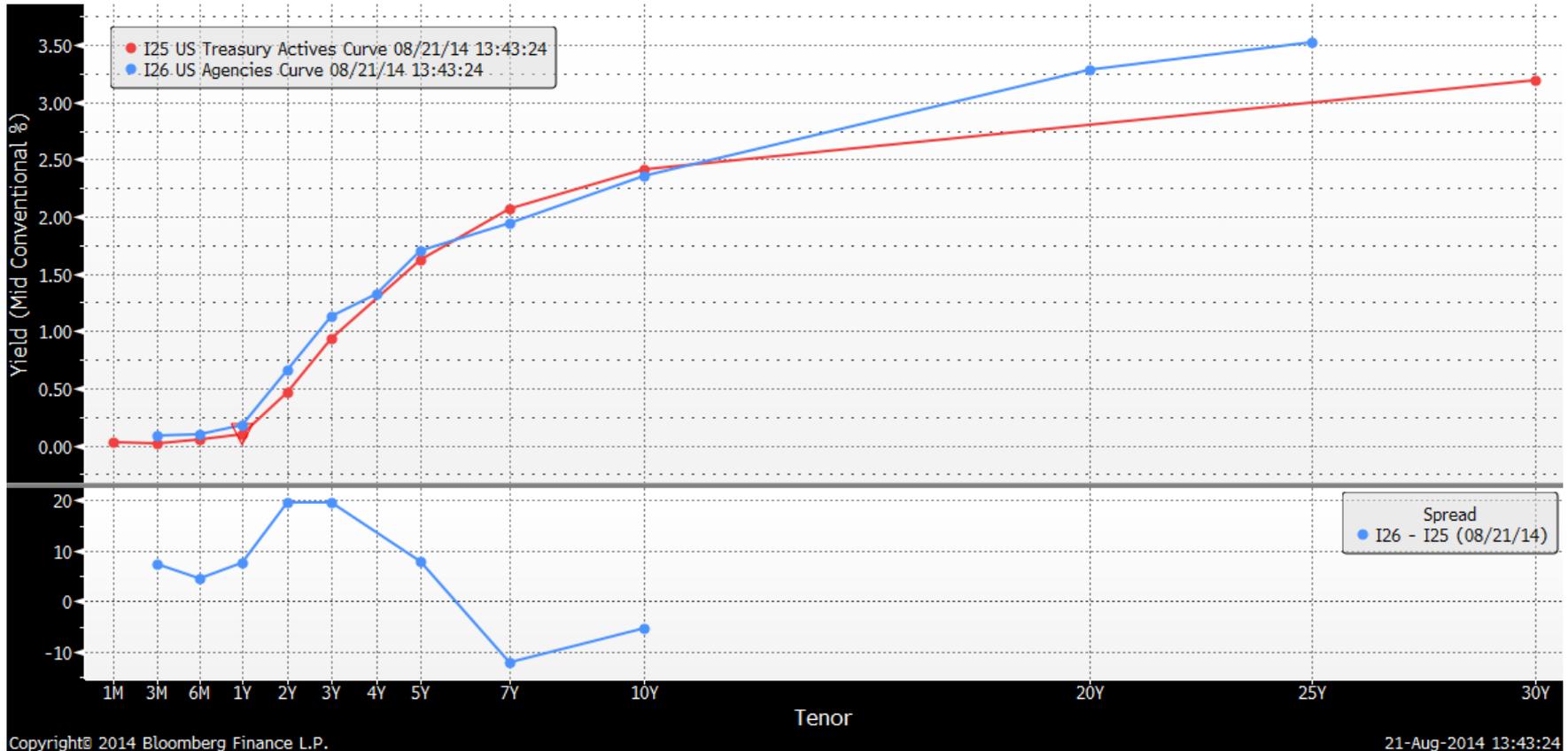
- On a day-to-day basis, one of the most important variables in the investment decision making process is the investor's Macroeconomic View, or Macro View.
- The markets around the world are interconnected and it is crucial to understand “The Big Picture.”
 - What is going on across the globe and what is going on at home?
 - What affects the market(s) in which you participate?
- Once you have established your guidelines and your time-horizon, the Macro View will guide the way.

Macroeconomic View

- ◉ Every trade has two sides...
 - Whatever you're buying, someone else is selling and vice versa.
 - You're buying it because your Macro View tells you that the rate structure will be competitive in the environment that you are expecting.
- ◉ Having a comprehensive Macro View involves understanding the market that your portfolio trades off of.
 - Know the rates and spreads and what will move them!
 - FOMC Policy/Economic Data/Europe/Ukraine

Rates & Spreads

US Treasury Curve vs. US Agency Curve



How to Prepare?

- Now is the time to begin to consider preparing portfolios for rising rates.
- There are investments and techniques available that can offer protection in a rising rate environment.

How to Prepare?

Agencies & Treasuries

**Floating
Rate
Securities**

Agencies

**Step-Rate
Bonds**

More Agencies v. Treasuries

**Adjust
Portfolio
Asset
Allocation**

How to Prepare?

- ◉ **Laddered Portfolio**
 - Constant maturities
- ◉ **Short Duration Portfolio**
 - Reduce interest rate risk
- ◉ **Barbell Portfolio***
 - Available liquidity to take advantage of opportunities while taking advantage of higher yielding maturities



Structuring the Portfolio

- Based on the use of the funds being invested and the rates that are available in the market, different approaches may be appropriate at different times.
- Portfolio structure can serve as a hedge or a method of cash flow management.
 - Interest Rate Risk, Option Risk and Reinvestment Risk can be managed by buying certain types of bonds.
 - Bullets vs. Callable Bonds
 - Fixed Rate vs. Step-Rate Bonds

Laddering

- ◉ Laddering a portfolio is a particularly attractive approach in the current interest rate environment.
- ◉ In a laddered portfolio, the investor purchases bonds in such a way that it almost mirrors the yield curve.
 - In slight deviation, occasionally, based on one's Macro View and current rates and spreads, they may tend to buy “*cheaper*” bonds at a given point in time.
 - As time moves on and you “*roll*” down the curve, maturities will provide funding for any needed liquidity or additional investments to fill out the ladder.
 - In a rising-rate environment, maturing bonds in the near-term will provide cash to buy longer-dated, higher-yielding investments.

Short Duration Portfolio

- ◉ Keeping the maximum maturity in the portfolio shorter will prevent the investor from locking into the currently low rates for an extended period.
- ◉ This approach may not yield quite as much in the near-term with the yield curve as it is currently shaped but it will keep interest rate and duration risk to a minimum.
 - Depending on the structure of the portfolio, this option can allow for liquidity to take advantage of opportunities that arise.

Barbell Portfolio

- ◉ Barbelling a portfolio is an approach that involves investing primarily in only short-term and long-term securities with very few intermediate maturities.
- ◉ In a barbelled portfolio, the investor is looking to obtain the benefit of higher yields found further out the yield curve.
- ◉ Those longer-dated maturities are then coupled with substantially shorter maturities in an effort to maintain liquidity.

Let's Go Shopping

- ◉ There are many structures of bonds available to accommodate many different investors.
 - Bullets – Floating-Rate
 - Callables – Fixed Rate, Step-Rate
- ◉ Bond Prices and values are driven by the market and fluctuate daily.
 - Par
 - Premium
 - Discount
- ◉ Bond pricing is a major factor that will affect the ultimate yield of an investment, or the yield-to-maturity (YTM).
- ◉ We also invest in Commercial Paper of banks and other corporations as another type of short-term investment.

Bullets

- ◉ A Bullet structure eliminates Option Risk by providing the stated coupon payment until the maturity of the bond.
 - Bullets are typically more expensive than Callable bonds due to the fact that the investor has the luxury of locking in the rate with no uncertainty.
 - Less Risk (Option Risk), Less Return!
- ◉ Another type of Bullet that can be beneficial in certain interest rate environments is a Floating-Rate Bond.
 - Floating-Rate bonds are rarely issued with optionality.
 - Good in a rising-rate environment.

Callables

- ◉ Callable structures are typically cheaper than bullets but the value is all in the eye of the investor and their Macro View.
 - Based on spreads and where the market is trading at the time of issue, Callables can offer a different level of competitiveness at different times.
 - The issuer will call the bond if market rates will allow it to simply retire the debt or re-issue the debt at a lower interest rate.
- ◉ There are different types of Callable structures
 - Straight Callable (e.g. Bermudan, American, European)
 - Step-Rate
 - Canary

Callables

- ◉ A Straight Callable bond will pay a fixed coupon until maturity unless the issuer exercises their option to “Call” the bond in accordance with the predetermined Call schedule.
- ◉ There are three commonly used type of Call schedules:
 - Bermudan – Callable quarterly after a certain date.
 - American – Callable anytime after a certain date.
 - European – Callable only on a certain date.

The type of Call schedule and the “lock-out period,” or the period prior to when a bond is eligible to be called, are both important drivers in determining a bond’s price.

Callables

- ◉ Step-Rate structures are commonly issued structures from the U.S. Agencies in the Fixed Income markets.
- ◉ Step-Rate bonds typically have call features as mentioned on the previous slide.
 - **Step-Rate Bonds**
 - “Steps” offer predetermined increases to the face coupon of the bond.
 - Steps can be strategic investments and the changing coupon is carefully thought through by both buyers and sellers.
 - **Canary Call Structures**
 - Canaries are similar to Steps but are only callable in the period prior to the first step.
 - After the rate steps in a Canary bond, the bond then turns into a bullet where the investor will now receive the higher rate until maturity with no more call risk.

Pricing

- ⦿ Bonds can be bought or sold at 3 different price levels:
 - **Par** – Bonds are commonly issued at Par or 100.00
 - \$1,000,000 of a bond purchased at Par would cost \$1,000,000 at the time of settlement.
 - **Discount** – Bonds can also trade a price below Par or at a discount. The price of a discounted bond would be below 100.00, increasing your YTM.
 - \$1,000,000 of a bond purchased at a discounted price of 99.00 would cost the investor \$990,000 at the time of settlement.
 - **Premium** – Bonds can also be traded at premium price levels, or a price above Par, decreasing your YTM.
 - \$1,000,000 of a bond purchased at a premium price of 101.00 would cost the investor \$1,010,000 at the time of settlement.

Pricing

- ◉ There is an inverse relationship between bond price and the yield of the bond.
 - When bond prices go up, the yield will decrease and when bond prices go down, the yield will increase.
 - The yield differs from the actual coupon rate of the bond.

Example:

- \$1 million par value of a $\frac{3}{4}$ 6/30/17 U.S. Treasury Bond priced at 99.90 will actually cost the buyer \$999,000.00 + accrued interest (determined based on settlement date) and will effectively yield 0.77%.
- \$1 million par value of the same U.S. Treasury Bond priced at 100.10 will cost the buyer \$1,001,000.00 + accrued interest and will effectively yield 0.73%.

Pricing

- ◉ Bonds can also be discounted at a certain rate which, in turn, decides how much is paid at the time of settlement.
 - Total cost is based on the Net Present Value, which is based on the maturity date and discount rate.
 - For example, an overnight discount note with a par amount of \$1,000,000 discounted at 0.10% would cost \$999,997.22 today and the investor will receive \$1,000,000 tomorrow, resulting in a gain of \$2.78.
 - Another example with some bigger numbers... a \$1,000,000 discount note maturing in 360 days discounted at 0.17% would cost \$998,300 today, resulting in a gain of \$1,700.

Commercial Paper

- ◉ Commercial Paper is unsecured debt issued by corporations for the purpose of short-term funding of the business.
- ◉ Commercial Paper maturities typically range from 1 day to 270 days.
- ◉ Commercial Paper is sold on a discounted basis as discussed on the previous slide, reflecting current market interest rates.

Putting It All Together!

- ◉ Have a written Investment Policy.
 - Understand the allowances and limitations of the policy.
 - Set reasonable goals and objectives.
- ◉ Know what type of investor you are and your acceptable risk limits.
 - Short-Term or Long-Term?
 - Passive or Active?
- ◉ Develop an informed and adaptable Macro View and remain versatile to market fluctuations.

Conclusion

- ◉ Developing an Investment Strategy involves many different steps.
- ◉ Diligence, continuous education and the appropriate investment philosophy will keep your Investment Strategy on track.
- ◉ A rising interest rate environment will be different but with proper planning, you can be ready and able to take advantage of higher rates!

Thank You!

**If you have any questions or comments,
please feel free to contact us.**

