W. Jeffrey Tryon, MS – Finance
Managing Director – Investment Officer
Senior PIM Portfolio Manager

Stefanie Strother, FPQP
Financial Advisor

WELLS FARGO Advisors

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We open 2023 with two topics: (a) the transition from bond mutual funds into individual bonds, and (b) some thoughts regarding what clients may expect from the markets in the first part of this year.

The transition to bond funds is technical but impacts nearly every client account. By now everyone should know that the bond market is experiencing one of the worst periods in history.[1] But, like a stock market sell-off, a bond market sell-off creates buying opportunities. We adjusted the investment strategy by starting to sell bond mutual funds or ETFs and replacing them with individual bonds. The bond market is exciting again for the first time in about a decade, and the bond purchases have generated some very good questions from clients. These questions prompted the newsletter topic.

The bond mutual funds in our PIM advisory program strategies have collectively outperformed the bond market YTD through December 31, 2022 plus they delivered on their mandate of managing risk/volatility while also providing consistent income. That said, we felt it was appropriate to start capitalizing on the change in bond market conditions and transition to buying individual bonds. There are four goals:

- Harvest yet more losses in bond mutual funds for tax planning purposes.
- Save clients money. While the bond funds have collectively outperformed the bond market (net of expenses), even institutional-share class mutual funds still charge an expense. For example, a short-term investment grade bond mutual fund was down -7% compared to -13% for the broader bond market. This bond mutual fund charges 0.49% per year. While we are very pleased with the bond mutual fund performance, we can sell the mutual fund and purchase buy high-quality, investment grade corporate bonds or US treasuries directly and save clients that 0.49% expense per year.[2]
- Improve transparency. A bond mutual fund owns a pool of many (sometimes hundred) of individual bonds. By purchasing individual bonds (corporate and US Treasuries), clients will see them on account reports instead of a bond mutual fund.
- Lock in higher yields for many years to benefit from the Fed interest rate hikes. Eventually the Fed is expected to cut rates, and the higher yields should be enjoyed until a bond matures (subject to the credit rating and payment ability of the bond issuers).

Now that clients will see individual bonds in their accounts, it's time for a primer on bonds. Some clients have been confused by the interest rate on the bond, the bond's yield, and the Yield to Maturity. This is the territory of the FINRA Series 7 exam, Certified Financial Planner, and financial engineering courses, so I will try to keep complex concepts simple. These illustrations ignore time value of money, discounted cash flow, and concepts like duration and convexity, credit quality, issuer's ability to make interest payments and repay the bond, bond ratings, calls, and prepayments, and differences between Yield to Maturity, Yield to Call, and Yield to Worst.

First, let's revisit what a bond is.

1) If you own a bond from Acme Widgets, you are lending Acme Widgets money. By lending money to Acme Widgets, they agree to pay you interest for a set number of years, and then repay your money at the end. Think of it like borrowing to buy a house (a mortgage) but instead of borrowing, you're lending money.
2) Bonds are all issued at $1,000 (called par), but like stocks, houses, and tomatoes, the values fluctuate in the open market after they're issued.
    a. If a bond rises above the par value ($1,000), it is at a premium
    b. If a bond drops below the par value ($1,000), it is at a discount.
3) One of the biggest favors influencing the price of a bond is the interest rate environment.
    a. When interest rates fall, bonds rise.
    b. When interest rates rise, bond prices fall.

2022 has been a dramatic example of (b). The Federal Reserve has hiked interest rates at one of the fastest paces in history, and bond prices have been *hammered*. Again, just like a stock market sell-off, a bond market sells off can create opportunity….

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Let's transition to a case study. Pretend we purchased a bond issued by Acme Widgets that pays 2.5% interest per year for 5 years. A few clients looked at trade confirmations and asked, *why did you purchase a bond that pays 2.5% when interest rates are much higher?* This is a very valid question.

Let's look at a base case of Acme Widgets issuing their bond at par before any changes in price in the open market.

1) **The price of the bond**
   When issued, a bond is priced at $1,000. This is what you pay to Acme Widgets when the bond is issued.
2) **The interest payment is fixed.**
   The interest rate is 2.5% times the $1,000 price of the bond, or $25 in interest per year.
3) **You are repaid $1,000 from Acme Widgets at maturity.**
   The borrower (Acme Widgets) repays you $1,000 at the end of 5 years (called maturity).
4) **The bond interest rate and the bond yield are equal.**
   The total return on the Acme Widgets bond is 2.5%. Not a penny more, or a penny less.

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Bond Price*	$ (1,000)	$ -	$ -	$ -	$ -	$ -
Interest Payment	$ -	$ 25	$ 25	$ 25	$ 25	$ 25
Bond Repaid	$ -	$ -	$ -	$ -	$ -	$ 1,000
Total Cash Flow	$ (1,000)	$ 25	$ 25	$ 25	$ 25	$ 1,025
Total Return	2.5%					

Note: bond price is negative because you lend money to Acme Widgets.

<u>Takeaway</u>: the bond was priced at par, $1,000. The bond's yield (2.5%) is equal to the interest rate (2.5%).

Remember, the Fed has hiked interest rates. From page 1, when interest rates rise, bond prices fall.

1) **The bond price has *dropped*.**
   Instead of paying $1,000/bond, the bond value has dropped because of rising interest rates. You purchased the same bond for $910, a -9% discount.
2) **The interest payment is still fixed.**
   The interest rate is still 2.5% because that's what Acme Widgets promised to pay per bond regardless of who owns it. Think of it like a dividend from a stock. Acme Widgets pays a divided to whomever owns the shares.
3) **You are repaid $1,000 from Acme Widgets at maturity.**
   The borrower (Acme Widgets) repays you $1,000 at the end of 5 years (called maturity), even though you paid $910 from someone in the bond market.
4) **The bond interest rate and the bond yield are now different.**
   You paid $910 per bond to receive the $25 interest per year. $25 interest / $910 bond = 2.7% yield.
   You paid *less* money to receive the *same interest* per year.
5) **You still receive the full $1,000 back from Acme Widgets at maturity**
   You paid $910 per bond, and in 5 years, you'll receive $1,000 from Acme Widgets. That is a profit of $90/bond.

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Bond Price*	$ (910)	$ -	$ -	$ -	$ -	$ -
Interest Payment	$ -	$ 25	$ 25	$ 25	$ 25	$ 25
Bond Repaid	$ -	$ -	$ -	$ -	$ -	$ 1,000
Total Cash Flow	$ (910)	$ 25	$ 25	$ 25	$ 25	$ 1,025
Total Return	4.6%					

Note: bond price is negative because you lend money to Acme Widgets.

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Takeaway: the bond was issued at $1,000, but we purchased the bond at a discount of $910. Clients paid less money for the same $25/year interest, plus they will receive the full $1,000 back in 5 years when the bond matures for a profit of $90/bond. The bond interest rate is 2.5%, but the total return is 4.6% (called Yield to Worst).[3]

One final scenario for extra credit. Imagine that the Federal Reserve increases rates too much over the next 3-6 months and causes a recession, which they respond to by reducing rates a bit. Remember from page 1, when interest rates fall the opposite happens and bond prices generally rise. Pretend that the bond we purchased for $910 rises in value over the next 4 years to $1,090. We paid a discount (less than $1,000), but now the bond is priced at a premium (higher than $1,000). This increases the profit!

1) **The bond price has *increased*.**
   We paid $910 for the bond but it rises in 4 years to $1,090.
   We paid a discount (less than $1,000), but now the bond is priced at a premium (higher than $1,000). This is a profit of $180/bond, which is higher than $90 in the prior example because the bond price has increased to a premium above par.
2) **The interest payment is still fixed.**
   The interest rate is still 2.5% because that's what Acme Widgets promised to pay per bond. Clients have receiving $25 in interest per bond, per year.
3) **The bond is sold in year 4, prior to maturity.**
   Instead of waiting until year 5 to get paid $1,000 by Acme Widgets, we sell it in year 4 for $1,090 to someone else.
4) **The bond interest rate and the bond yield are now different.**
   The bond's interest rate is 2.5%, but the total return is 7.2%, comprised of the $25/year interest payments plus the $180 profit on the change in price.[3]

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Bond Price*	$ (910)	$ -	$ -	$ -	$ -	$ -
Interest Payment	$ -	$ 25	$ 25	$ 25	$ 25	$ -
Bond Repaid	$ -	$ -	$ -	$ -	$ 1,090	$ -
Total Cash Flow	$ (910)	$ 25	$ 25	$ 25	$ 1,115	$ -
Total Return	7.2%					

Note: bond price is negative because you lend money to Acme Widgets.

Takeaway: The bond was purchased at a discount of $910, clients received 4 years of interest payments of $25/year, and then it was sold at a premium of $1,080, a profit of $180/bond. This is a total return of 7.2% (Yield to Worst).[3] Please note that this is entirely for illustrative purposes only and not a projection. We purchased bonds with the intent of holding them to maturity, but if the bond were priced at a premium above the par value ($1,000/bond), we would consider selling them if the profit potential was attractive enough. Hopefully it is clear now that the *price* paid for the bond is very, very important. Like stocks, houses, and tomatoes, the key is what you pay for it.

The interest rate environment and bond market all remain tenuous and unpredictable. Despite the bond market sell-off, even the bonds that we have purchased for a discount are experiencing volatility as the bond market responds to changing conditions. It's sort of like pitching a tent in thunderstorm. We expect the volatility to eventually pass, and clients will own a diverse portfolio of what we believe to be some great bonds that will pay higher yields for many years, until maturity, or until they're sold at a profit if that makes sense at the appropriate time. In client review meetings, we will increase our focus on their bond holdings so that clients are comfortable and understand the transition.

Final notes about the markets

We wanted to convey some thoughts going into 2023 to address some questions about the directions of the economy and markets. I don't like to forecast or time the market because they're futile efforts, but we are expected to hang our hats on

something. In a continuation of the themes from our last newsletter, I feel that the following must be resolved before the markets can start a recovery in earnest:

1) China COVID19 policies are lifted, and China rejoins the world politically, socially, and economically. Since the last newsletter, this has begun in earnest, but has a way to go in our view.
2) Geopolitical unrest subsides, namely in Ukraine, but also China.
3) Inflation needs to continue slowing down and decline further. Everyone agrees that inflation is historically high, but the picture continues to be more complicated in our view. Both economic growth and inflation appear to be declining, but the balance is critical. It's possible that 2023 will experience recession. The severity of the recession could hinge on whether inflation can slow at a faster pace than growth slows.
    a. If growth slows but remains positive, while inflation slows faster, a recession could be mild and market volatility could end sooner.
    b. If growth stops, OR if the pace of growth slows down faster than inflation can slow, we may face a scenario called stagflation. This could trigger a longer, deeper recession and more significant market volatility.
4) The job market starts to stabilize and normalize, specifically wage increases start to slow down, and unemployment increases.
5) We enter earning season on January 13. It is critical in our view that company earnings remain stable and that they aren't slowing too much. As we discussed in the last newsletter, stocks are fairly valued, but not cheap (on the basis of a ratio of stock price divided by corporate earnings). If earnings soften, it means that stocks are overpriced, and this too could trigger more volatility.

In our view, this is unlikely to resolve itself overnight and could take an additional 6 – 12 months and will demand patience and perseverance. Regardless of the outcome, success in investing comes from having a plan, sticking to a plan, and never making investment or planning decisions based on emotion.

Questions & comments are welcome.

W. Jeffrey Tryon, MS-Finance
Managing Director – Investment Officer
Senior PIM Portfolio Manager
303-804-7668
jeff.tryon@wfa.com

Stefanie Strother, FPQP
Financial Advisor

303-200-9516
stefanie.strother@wfa.com

Sources & Disclosures

[1] *Factset, Thompson Reuters, as of 12/30/2022 market close.*
[2] *For illustrative purposes only. Not an endorsement to buy this or any security. For questions about mutual fund expense ratios, please refer to a mutual fund prospectus.*
[3] *For illustrative purposes only, hypothetical security in a hypothetical situation. Not a projection or forecast.*
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