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The Bond Market

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Introduction

The S&P 500 is up approximately 3% for the year through the last trading day of February. March is coming in with a bang, but we will ignore that for the moment. Even the month of February saw the S&P 500 gain around 1%. If you were paying attention last week, that might be hard to believe given the loss of approximately 3% in just three trading days.

The overarching story last week was the quick spike in treasury yields promoting equity market volatility. Our objective in these communications is to explain and perhaps even educate. While experiencing such volatility is never pleasant, we do have the opportunity now to explain a bit about how the bond market works. This is not a topic we cover much due to the complexity of even the basics. If you read the headlines last week, all you know is that a spike in yields caused a market sell-off. What follows is our attempt to make sense of this by explaining how bonds work and the connection between the bond and equity markets.

Bond Pricing

Bonds are traded every day, just like stocks. The buyer makes the purchase decision based upon the price of the bond, along with other factors such as credit quality. If the bond is in high demand, the seller can ask a higher price. If there are few buyers, the seller may need to offer a lower price. Each bond has a coupon payment, initially assigned to the bond when it was issued. That initial periodic payment amount never changes. When a bond is sold at a discount to its original price (known as "par"), then the overall yield on the bond increases because the same coupon payment is applied against a lower purchase price. When a bond is sold at a premium to par, the yield decreases because the same coupon payment is applied against a higher purchase price. This is the basic supply and demand dynamic of a single bond transaction.

Now, relate this "inverse relationship" between bond prices and yields to the events of last week and to an entire market rather than a single transaction. If equity investors become worried about something, sell stocks, and go into bonds, then the yield of the bond market goes down. Lots of buyers chasing the relative safety of bonds allows sellers of bonds to ask a higher price. The reverse is also true. When investors move away from bonds (into stocks or into cash, depending on their views), then in theory, bond sellers may have to accept lower prices, thus raising the yield on the bond for the buyer. Hopefully, that makes sense.

What causes additional confusion is that, unlike the stock market, where value is represented by price (Microsoft went up or down today, the S&P 500 went up or down today, etc.), the value of the bond market is quoted in terms of yield, not price. If the yield of some segment of the bond market goes up, it means that there was lower demand for bonds and better pricing (equating to higher yield) for buyers. If the yield of a segment of the bond market goes down, it generally means that there were more buyers than sellers, that sellers were able to get a higher price, and buyers were willing to accept a lower yield.

The U.S. Treasury Market

The market for U.S. Treasury Securities (hereafter Treasuries) is the largest, most liquid on the planet. Treasuries represent the benchmark risk-free asset for the entire global financial system. The yield on Treasuries is the reference point for interest rates that businesses and consumers pay for all types of loans, from mortgages to collateralized debt obligations.

At this point in time the Treasury market is heavily influenced by the Federal Reserve. The Fed is buying $80 billion worth of Treasuries every month to keep interest rates in the economy as low as possible. This is to encourage low-cost borrowing to support the economic recovery in process. Recall that bond yields and prices are inversely related. Extra demand from the Fed pushes bond prices higher and yields lower.

Given the sheer size of the Treasuries market, changes in yield (or price, if you prefer) tend to develop slowly over months. But last month, the yield on the all-important Ten-Year Treasury moved from 1.1% to briefly exceeding 1.6% on the second to last trading day of February, with most of the 0.50% change coming in the last two weeks. For reference, the Ten-year Treasury hit an all-time low of 0.53% in 2020 and did not exceed 1% at any point in the last 9 months of the year. The initial consensus yield expectation for the Ten-Year Treasury at the end of 2021 was 1.15%. This rapid and largely unexpected increase in bond yields caused a brief but pronounced sell-off in the equity market.

A sudden, significant jump in yields, such as occurred last week, does happen every few years but is rare without a catalyst. Finding the catalyst this time is challenging.

Searching for the Cause

Possibility 1: Bond market participants believe that the U.S. Federal Reserve might soon be ending its bond buying program. Should this occur, demand would be lower and bond prices across the board would fall. Naturally, holders of such bonds would be negatively impacted.

Possibility 2: Bond market participants believe that the Fed might soon increase the Federal Funds Rate (the interest rate at which banks borrow from the Fed). Should this occur, many other interest rates that are benchmarked to the Fed Funds Rate could increase as well. Increasing the cost of capital lowers corporate profit and makes borrowing more expensive for consumers. Fed Chairman Powell delivered remarks to Congress on the 23rd and 24th of February, reiterating plans to keep interest rates low for the foreseeable future.

Possibility 3: Increasing inflation expectations due to strong economic growth. In the simplest terms, inflation is too many dollars chasing too few goods. Consumers want to buy more than the economy can produce, so prices adjust higher to compensate. Considering the rapidly increasing COVID-19 vaccination process and several rounds of economic stimulus, this argument seems plausible. Bond holders don't like inflation because it lowers the buying power of future bond income. High inflation requires higher interest rates (and lower bond values) to compensate bond holders for the negative impact of inflation on their future bond payments.

There is more evidence for this argument than for the Federal Reserve secretly changing course with monetary policy, but the argument is still tenuous. It is true that market-based inflation expectations are increasing. The data suggests higher inflation levels for the next five years (2.42%), followed by lower levels of inflation for the following five years (2.14%). The average inflation rate for the past decade was 1.75%, for reference. It is rare to see inflation expectations higher over the short-term than the longer term, as inflation tends to build on itself over time.

These datapoints are derived from the TIPS market (Treasury Inflation Protected Securities), a special type of Treasury bond where the principal is adjusted for inflation, meaning the bond holder will receive the same

level of buying power when the bond matures, regardless of the actual inflation rate. Unfortunately, these bonds have a terrible track record of forecasting inflation. The correlation for five-year TIPS to the CPI (Consumer Price Index, a measure of inflation) is 0.30. Historically, TIPS have both under and overestimated inflation by as much as 1.8% per year over rolling five-year periods.

If inflation is the reason for higher bond yields, then the best predictor of inflation is the labor market. Labor costs are the largest driver of the overall inflation rate. COVID-19 has left the labor market in absolute tatters. This is the biggest reason why the Fed is so intent on keeping interest rates low, and why the US government is willing to pass another trillion+ stimulus plan.

The unemployment rate is currently 6.7%. This figure represents people who have actively been seeking a job over the past month. The unemployment rate is 10% if we add those who are working part-time but also seeking full time employment (officially known as the U6). The pandemic has caused many people to drop out of the workforce entirely. We can measure this through the workforce participation rate, or the number of people aged 18-65 currently working. This figure hit a 43-year low at the end of 2020. Until people get back to work, which may take years, we are unlikely to see higher levels of inflation. The unemployment rate was 3.5% at the end of 2019 and the inflation rate at that point was 2.3%. Even with full employment, inflation may not reach the targets currently being set by the TIPS market.

Equity Market Reaction

The equity market has become very sensitive to interest rates, as shown by the volatility experienced in the final weeks of February as interest rates spiked. Higher rates put pressure on expensive areas of the equity market, such as technology, which have come to dominate indices like the S&P 500. Higher rates reduce the value of the future cash flows. However, higher interest rates due to inflation concerns is a positive for the equity markets because it suggests higher levels of demand for goods and services in the future. The balance between higher levels of demand and interest rates was missing in the last few weeks of February.

Conclusions

Looking forward, we do expect yields to fall marginally over the coming months, as the market grows skeptical of the sustained inflation argument. The recent increase in bond yields is likely due to the market trying to find equilibrium in uncharted waters. There is a great deal of uncertainty about what the economy will look like in a few years' time. Bond market intervention from the Fed and stimulus from the government has never been done on this scale, so the expected outcome is unknown. Higher levels of inflation are a possible side-effect, but this generally develops very slowly, if at all.

For all the angst in the financial markets last week, the economy appears to be working its way forward. Economic stimulus and progressing vaccine distribution support strong growth expectations for the U.S. economy this year. When earnings growth precedes interest rate increases, the equity market is generally less sensitive to the latter. Finally, bond markets have historically performed well during periods following a rate spike and subsequent normalization, posting annualized 7% returns on average.

In closing, we hope the preceding has been informative and understandable. The bond market is massive, complex and impacts all areas of our financial lives. We will do our best going forward to continue to deliver relevant and timely discussions such as this.