Fixed Income | General Overview

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Fixed Income Portfolio Stats



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AUM: \$292,140	Duration: 4.87 Years	2 Year Treasury: 0.51% 5 Year Treasury: 1.18%
Credit Rating: A-	Avg. Yield: 3.56%	10 Year Treasury: 1.52%
Fixed Income Headlines		
Tapering : Beginning next month (Dec. 2021), the Fed will finally begin to withdraw its significant support from the economy. At the onset of COVID (March 2020), the Fed began purchasing \$120B treasuries and mortgage backed securities a month. However, as the economy begins to overheat with price increases that are running at a 30-year high, the Fed plans to reduce their bond purchasing power by \$15-30B a month.	Nomination of Powell: After some hesitation, Joe Biden officially nominated Jerome Powell to retain his position as chair of the Fed, arguably the most powerful economic job in the world. Assuming Powell's nomination is not overturned by the Senate, investors can expect to see Powell lead the charge on the tapering of bond purchases and rate hikes next year.	Infrastructure Bill: On Monday Nov. 15th Biden signed a ~ \$1T bill into law. Despite the bill's staggering size, it mainly focuses on transportation, utilities, and broadband. Municipal bonds, a popular investment in the fixed income space, were largely left out. Investors remain hopeful, however, that the package could still help strengthen city/state balance sheets, leading to credit rating increases.

Portfolio Updates & Holdings Related

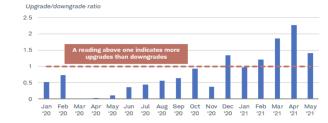
Reval of BBN: decided to hold this position to take advantage of the reduced credit risk due to various stimulus packages passed throughout the year, allied with increased demand for taxable munis space.

Reval of GS 5 Perp.: decided to hold this position. It makes up the largest coupon payment callable in 2022, and therefore will be the highest priority to refinance.

Pitched KHC Corp. Bond: entered this position because KHC is well-capitalized to pay back creditors with strong short-term liquidity and has the potential for a credit ratings upgrade (rising star play).

Pitched CCL Corp. Bond: decided to enter this position, since CCL provides a 200 bps increase in yield from current AGG holding, while reducing one of our position's duration from 6.56 to 4.48 years.

Rising Star Play: Due to the global 2020 pandemic, credit rating agencies downgraded over \$710 billion of corporate debt. \$154 billion, or 20%, were fallen angels. As the pandemic weakened, companies started to actively restore their operations in order to regain pre-covid credit ratings. Rising star bonds are bonds of companies that have been downgraded to high yield that have strong potential to be upgraded in the near future.



Interest rates: The Federal Funds Rate is expected to have two rate hikes, roughly 50bps, over the next year. The effects on the short-end seem clear: a 50 bps rise in rates. However, the longer-end is dependent on factors like economic growth and inflation. Both of which are relatively uncertain. As a precaution, the fixed income sector has spent the majority of the semester reducing the portfolio's duration exposure.

Fixed Income | Segment Trends

Emerging Markets

In recent months, Emerging Markets have been greatly influenced by both the risk of premature Fed tightening

and COVID-19 Delta variant; however, both risks are being mitigated. The Fed announced that it will trim bond purchases by \$15 billion per month, so the timing and pace of tapering seems to be well anticipated and priced into the market.Thus, it is unlikely for the announcement or execution of tapering to derail the recovery in Emerging Markets. Moving to the Delta variant, even though it was a big concern, it appears to be less economically disruptive than some people thought during the summer. People and economies have adapted and learned to live with COVID-19, and additionally, there is a steady rise in the



vaccination rate across Emerging Markets. Overall, Emerging Markets countries have solid growth predictions and their both sovereign and corporate (high-yield) debt is anticipated to perform well. The recent emergence of the Omicron variant in EM markets leads to more uncertainty and has the potential to lead to more lockdowns, which we'll be on the lookout for.

High-Yield Bonds

Due to COVID-19, high-yield bonds became very attractive investment options in the fixed income sector for many funds. Recall, high-yield bonds traditionally benefit from rising credit ratings and declining default rates. The resurgence in the US economy has contributed to a λ -shaped recovery of the junk bond yields. In recent months, the average yield for Bloomberg U.S. Corporate High-Yield Bond Index was approximately 4%. The average spread of the index is just 2.8%, a low not seen since the summer of 2007. In addition to that, the downward trend in companies defaults is likely to continue according to Credit Rating agencies, with Moody's projecting a trailing 12-month speculative-grade default rate below 2% by the end of this year, a rate not seen since 2015. Overall, the high yield market has seen a massive amount of demand due to the attractive yields and unprecedented strong balance sheets. 2022 is predicted to have historically high "rising star" companies upgraded from high-yield to investment-grade quality. Currently, even though high-yield bonds are a risky and aggressive investment, higher spreads make these securities very popular among investors, especially ones with closer to investment-grade credit ratings.

Investment-Grade Bonds

Investment-grade bonds are not doing a lot to attract investors this year. But if downgrades and defaults will remain low in 2022, these securities will be a more appealing investment. Additionally, most of the companies were able to show strong earnings reports proving rich fundamentals. Last week Investment-grade bonds underperformed the same duration treasuries by -31bps, but the overall supply amounted to \$56 billion of new issuance, exceeding expectations of around \$35 billion. However, over the past years, duration of the Bloomberg U.S. Corporate Bond Index had shown a tendency to grow. Currently, the average duration amounts to 8.7 (close to an all-time high), and this kind of high sensitivity to changes in interest rates poses a risk to the Investment-grade bonds since the 10-year Treasury is expected to rise over the next year.



Fixed Income | Technical Trends

LDI Investing Flows

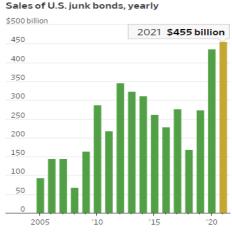
There are a few technical trends that we're looking at that are contributing to the very low-rate environment. One of these is the billions of dollars of inflows from pension funds, insurers, and other real money funds into the fixed income markets and particularly into high-grade long-end credit. This answers the biggest question in fixed income right now: why in the world would you lend someone money for 30 years at a very low rate? Many insurers and pension funds follow an investment philosophy known as liability driven investing -- where they find investments that will match their future liabilities. For many years, these pensions were



"underfunded" because the present value of their future liabilities were considerably greater than the current value of their investments. Because of this, many of these funds adjusted their asset allocations from the traditional 60/40 equity/fixed income portfolios into more aggressive 80/20 or even 90/10 equity positions. For the last decade, the S&P 500 has been on a tear and has risen well-over 250%. This has helped many of these funds become full-funded and no longer need an aggressive investment strategy. For many of them, they only need a 1-2% annual return to meet their future liabilities. Why invest in equities when you can easily earn this return in the fixed income space? The fact that many of these funds are becoming fully-funded at the same time and deciding to buy the same securities without any regard for price has led to record high valuations. As a result, this has made it much more difficult to find solid investments in the high-grade space and has led us to buy what we viewed as under-valued "rising-star" companies in CCL and KHC.

Debt Issuance Increase

Many corporations have taken advantage of the low-rate environment to both call (basically re-finance) or issue more debt at lower interest rates. As a result, 2020 had a record number of debt issuances, which has sustained into 2021 where there is currently a record supply of IG corporates as well as an unprecedented issuances in the high yield space: YTD there has been over \$455B HY bonds sold, which surpasses the record year 2020 was with \$435B. If you're like us, then you're probably wondering why there is still demand for the junk bonds with economic uncertainty (possible COVID resurgence through Omicron and high inflation) and so much supply for them. However, the current low rate environment combined with a stimulus-fueled economic rebound has led to these companies getting the opportunity to get cheap debt. Investors haven't been punished yet as 2021 default rates in the HY space are below 1% for the first time since 2007 compared to historical average of around 3.5%.



Note: 2021 data is as of Nov. 22. Source: S&P Global Market Intelligence's LCD

Fixed Income | Fundamental Trends



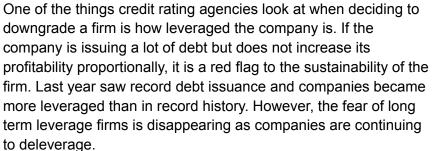
Corporate Credit Leverage Outlook



In 2020, many companies were downgraded due to fears of low liquidity and unstable free cash flows. However, 2021 has shown the massive wave of downgrades were too preemptive and companies were actually much healthier than expected. This had led to an overall increase in upgrades in the past year indicating the overall corporate debt market is

stronger than expected post-pandemic.

Corporate leverage mostly back to pre-pandemic levels

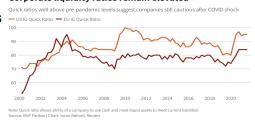




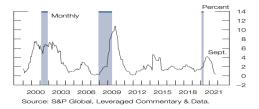
Overall Corporate Liquidity

The demand of equity-scared investors allowed firms to refinance their debt at lower rates and longer maturity. Refinancing has positioned firms to benefit in the long term since their yearly interest expense will decrease. Corporate credit has the liquidity to pay off short-term liabilities at rates similar to the Great Financial Crisis of 2008. Strong liquidity has resulted in default rates not seen since the 20th century. Firms were able to attract the needed demand for their debt due to COVID-19 uncertainty. However, easy accessibility to cash may not all be a good thing for the overall bond market. "Zombie" companies, a name coined for a firm who earn enough profit to only pay off their interest expenses up to three years, are at an all-time high and make up 16% of the Russell 3000 index. This puts into question the future of the B and CCC debt. Is there a massive default wave that is imminent?





2-7. Default Rates of Leveraged Loans



Market Profitability Reality

COVID-19 has continued to make investors worried about overall profitability of firms with supply chain disruption, inflation, flu variants, and record labor shortages. However, firms have actually performed much better than the Street expected; beating expectations by over 10% in the past five quarters. This has shown companies have stronger pricing power than expected and has continued to have a sustainable business model. Ultimately resulting in stronger faith in creditors to pay off their debt in the long term.



Fixed Income | Valuations Trends

Valuations Trends

Investment grade and high yield credit are traded at what's known as a spread to the US treasury yield curve. The spread can be thought of as the "risk-premium" over the US treasury that investors need to be compensated for. For a variety of reasons, nearly every sector of the credit market is at or near all time tights, which has resulted in the very low yield environment that we're seeing now. This can be seen in the IG and HY OAS spreads, which are at all time lows/tights to the yield curve. This clearly shows that investors are not being compensated at all for the risk that they are taking on. The reasons for this range from the LDI investing flows to the general positive outlook for the American economy to even the fact that the market is so flush with cash right now.

US Corp HY OAS 10.6 9.6 8.6 7.6 6.6 5.6 1 7/ 4.6 3.6 2.6 21/291 **US Corp IG OAS** 3.5 2.5 1.5 0.93 0.5 0 11/29/16 5129/19 5129120 11/2/12 11/29/19 11/2/20 11/29/1 5129121 21/29/2 512913

Energy and TMT Valuations Trends

There are however, a few sectors that are not at the all-time tights. Telecom is one of these sectors. Analysts believe this is because telecom companies are oftentimes very highly levered, so investors may be worried about these companies' ability to pay back debt if there is another economic downturn. Also, because of the high capital expenditure nature of telecom, these companies frequently issue more debt, which may harm existing debt holders.

Similarly, the energy sector is another sector not at all time tights. Analysts believe this is because of the uncertainty that climate change and possible

regulation may have towards these entities. The changes in climate change viewpoints can be seen in the massive jump in the OAS during the most recent climate change global convention.

Overall, the credit markets are at all time tights, and with the sustained amounts of strong demand we've been seeing particularly on the long-end. It doesn't seem like that will change anytime soon with the continued uncertainty in the global economy.

