

# Project report

FIM 590 - Fixed Income and Analysis

October 01<sup>st</sup> 2021

## Holdings

Portfolio					
Sector	Treasuries Markets and Interest Rate Swaps				
Initial Amount	\$ 10,000,000		Date	8/31/2021	
Initial Fund Allocations					
Fund	Fund Code	Portfolio Weight	Initial Amount invested	Closing price	Units held
iShares 7-10 Year Treasury Bond ETF	IEF	0.5	\$5,000,000.00	\$117.37	42600
iShares 1-3 Year Treasury Bond ETF	SHY	0.25	\$2,500,000.00	\$86.25	28986
iShares 20+ Year Treasury Bond ETF	TLT	0.25	\$2,500,000.00	\$149.77	16692
Total			\$10,000,000.00		

As of 30<sup>th</sup> August 2021, the fund consisted of 3 ETFs consisting of treasuries of different maturities. Weights were assigned keeping in mind the volatility ahead in terms of the special economic measures (for the pandemic) and future inflation expectation.

Below is the composition of the funds

**IEF** - This is a ETF consisting of around 11 treasury notes and a few cash derivatives. The treasury notes all have 7-10 years left to maturity. 70% of the notes mature between 2029 and 2031. The total fund value is around \$14.28 billion and a estimate duration of 8.05

**SHY** - This is a ETF consisting of around 75 treasury notes and bonds and a few cash derivatives .The treasury notes all mature before 30<sup>th</sup> September 2024. The total fund value is around \$20.29 billion and a estimate duration of 1.92

**TLT** - This is a ETF consisting of around 30 treasury bonds and a few cash derivatives .The treasury bonds all mature between May 2041 and August 2051. The total fund value is around \$15.36 billion and a estimate duration of 19.26

## Holding Period Return

Fund value as of 09/30/2021					
Fund	Fund Code	Units held	Closing price	Market Value	HPR (annual)
iShares 7-10 Year Treasury Bond ETF	IEF	42600	\$115.24	\$4,909,261	-19.73%
iShares 1-3 Year Treasury Bond ETF	SHY	28986	\$86.14	\$2,496,812	-1.52%
iShares 20+ Year Treasury Bond ETF	TLT	16692	\$144.36	\$2,409,695	-35.69%
Total				\$9,815,768	-20.00%

The portfolio gave a -20% annualized return overall.

## Commentary / thoughts on the returns

The portfolio performed poorly. The reasons for the for this can be broadly attributed to the following market developments:

- Fed's tapering of pandemic focused economic measures

The fed has been buying the \$120 billion worth of securities and MBS every month for the past year and a half. This month the Fed announced that they will begin slowly pulling back this stimulus. The purpose of this stimulus was to support the economy when the pandemic struck, and it has proved to be effective in most parts till now. However, this resulted in artificially low interest rates. It also amounted to more money in the US economy. Low interest rates and more money in the economy usually increases the inflation. This is also seen in the (inflation index) CPI data which increased from 0.1 in May of 2020 to 5.3 in August 2021. There is also an expectation of increased inflation for the immediate future.

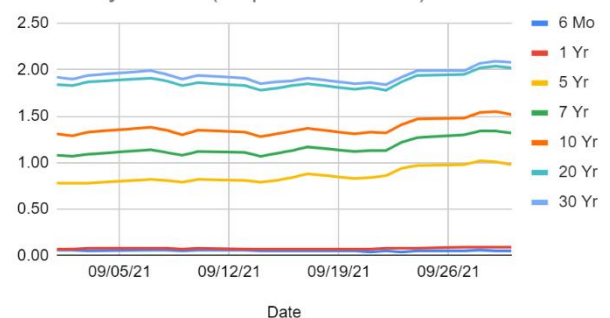
With this stimulus going away (start of tapering) and the increased expected inflation, we can expect interest rates to rise. With rising interest rates and risks in the market, we can expect the prices of bonds to go down.

- Economic conditions

According to the Federal Open Market Committee (FOMC) report, the economy overall is in a strong position. Even though the inflation is way above the usual Fed limit, the committee expects things to get back to normal soon. Given this outlook, the Fed is planning tapering and increasing the Fed rates after the tapering is complete to control inflation. This will also increase the borrowing cost in the future (towards normal levels) and further drive up the treasury yields as the long term yields usually follow the short-term yields.

Both these developments result in increasing the treasury yields. This was also seen in the yields data from the month of September. The graph shows that the yields for all maturities have increased. Short term rates show relatively lower increase compared to the medium and long term by average of 10 basis points. Medium term yields are increased the most ~ 20 basis points on average in the month of September while long term yields show an increase of 16 bps on average. This increase, combined with the duration of my invested funds explain well the returns my fund generated. TLT shows the maximum effect due to its high duration and moderate increase in yields while SHY was relatively stable due to low duration and stable rates.

Treasury Yields (September 2021)



## Next Steps and Rebalancing

The expectation now would be that this trend of increasing interest rates would continue due to the above-mentioned factors. Therefore, it makes sense to sell bonds or to take a stake in a fund that shorts bonds. However, there is still some uncertainty regarding the pandemic. Therefore, the stake in SHY should be increased as short-term rates can be supported by the Fed if situation demands. Therefore, action taken:

- Selling \$2mil and \$1mil of IEF and TLT respectively
- Buying \$1mil of SHY and \$2 mil in TBT which is a fund that shorts long term bonds.

New fund Composition as of 30th September 2021

Fund	Fund Code	Portfolio Weight	Current Holding	Closing price	Units held
iShares 7-10 Year Treasury Bond ETF	IEF	30%	\$2,909,261	\$115.24	25245
iShares 1-3 Year Treasury Bond ETF	SHY	36%	\$3,496,812	\$86.14	40595
iShares 20+ Year Treasury Bond ETF	TLT	14%	\$1,409,695	\$144.36	9765
ProShares UltraShort 20+ Year Treasury	TBT	20%	\$2,000,000	\$18.35	108992
<b>Total</b>			<b>\$9,815,768</b>		