Choosing a Fixed Income Allocation with Portfolio Optimization

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With inflation debated daily among investment professionals and media reporters, it is virtually impossible to predict interest rate movement or the economic landscape. Given that many retail investors focus on equity investments, choosing a fixed income allocation can be particularly difficult given the lack of accessible tools and models. As interest rates and inflation expectations evolve, a tactical rules-based approach to portfolio optimization can help provide investors with a flexible fixed income allocation in different scenarios.

The yield curve can help investors make decisions based on the economic cycle.

The yield curve is one of the most important concepts for fixed income investors to understand. The short end of the yield curve is anchored by Fed policy when they adjust their short-term target (i.e., Fed funds rate). The long end of the yield curve is partly driven by inflation expectations and economic growth forecasts. Short-term rates and long-term rates can move by different orders of magnitude depending on the phase of the economic cycle, which causes the yield curve to steepen as rates diverge or flatten as rates converge. During a recession, the Fed can lower interest rates to stimulate the economy. This would lead to a bull steepening if long rates don't come down as quickly. During the recovery part of the economic cycle, long-term inflation expectations usually rise, and the market can experience a bear steepening. During the expansion phase, however, the yield curve may experience a bear flattening when the Fed raises interest rates aggressively as the economy strengthens. Then an ensuing economic slowdown may lead to a bull flattening, where long-term inflation rates are expected to fall.

Different fixed income strategies are appropriate as short-term rates and inflation expectations change.

Three of the more common fixed income characteristics are duration, credit quality, and product/sector type. An investor's allocation to each of these may depend on the economic cycle and yield curve as discussed above. For example, duration is a measure of interest rate risk. Bond duration is expressed in years, and a bond with a longer duration is more sensitive to rising interest rates. Credit quality is the measure of a bond issuer's ability to repay its debt. A high yield bond, for instance, has a higher chance of default than an investment grade bond. However, high yield bonds can offer higher coupon payments and are more highly correlated to equities so they may perform better in periods of strong economic growth. Product types include corporate, municipal, agency, and Treasury bonds. Certain products like Treasury Inflation Protected securities ("TIPS") are indexed to inflation and can help protect a portfolio against rising inflation rates.

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Yield Curve Twist	Treasury Yield Change	Possible Explanation	Economic Cycle	Sectors to Overweight
Bull Steepening	ST rates and LT rates diverge as ST rates fall faster than LT rates	Fed highly accommodative by lowering interest rates	Recession	Treasury/Agency Investment Grade Fixed Rate
Bear Steepening	ST rates and LT rates diverge as LT rates rise faster than ST rates	Long-term inflation expected to rise	Recovery	Short duration TIPS High Yield
Bear Flattening	ST rates and LT rates converge as ST rates rise faster than LT rates	Fed hawkish by aggressively raising interest rates	Expansion	Investment Grade Floating Rate
Bull Flattening	Short-term rates and long-term rates converge as LT rates fall faster than ST rates	Investors expect long-term inflation to fall	Slowdown	Long Duration Treasury/Agency Investment Grade

Source: FolioBeyond, Alerian & S-Network Global Indexes

A rules-based approach can help investors adjust their fixed income allocations, addressing changing expectations in a rapidly changing environment.

As mentioned above, the fixed income sector fortunately offers a variety of strategies for different scenarios. Unfortunately, without perfect foresight it is impossible in any market to pick just one strategy. There is currently a lot of debate whether interest rates will rise, inflation is "transitory", or we're in a market bubble. A rules-based approach to fixed income portfolio optimization takes the "educated" guesswork out of portfolio optimization to address market movements. The S-Network FolioBeyond Optimized Fixed Income Index uses FolioBeyond's unique factor-based optimization algorithm to optimize portfolio allocations. The base model targets the return volatility of the Bloomberg Barclays U.S. Aggregate Bond Index (also known as Agg, ticker: LBUSTRUU) and optimizes allocations across 23 sector ETFs, subject to maximum allocations to any one sector. Although many other basic models use predominantly backward-looking variables, this model uses forward-looking value measures, momentum effects, correlations, volatility, and stress testing. These value measures are also adjusted for options, defaults, inflation, taxes, and other variables. Historical simulations seen below have shown that the FolioBeyond algorithm has outperformed the Agg. See here for more details on the FolioBeyond Fixed Income Algorithm.

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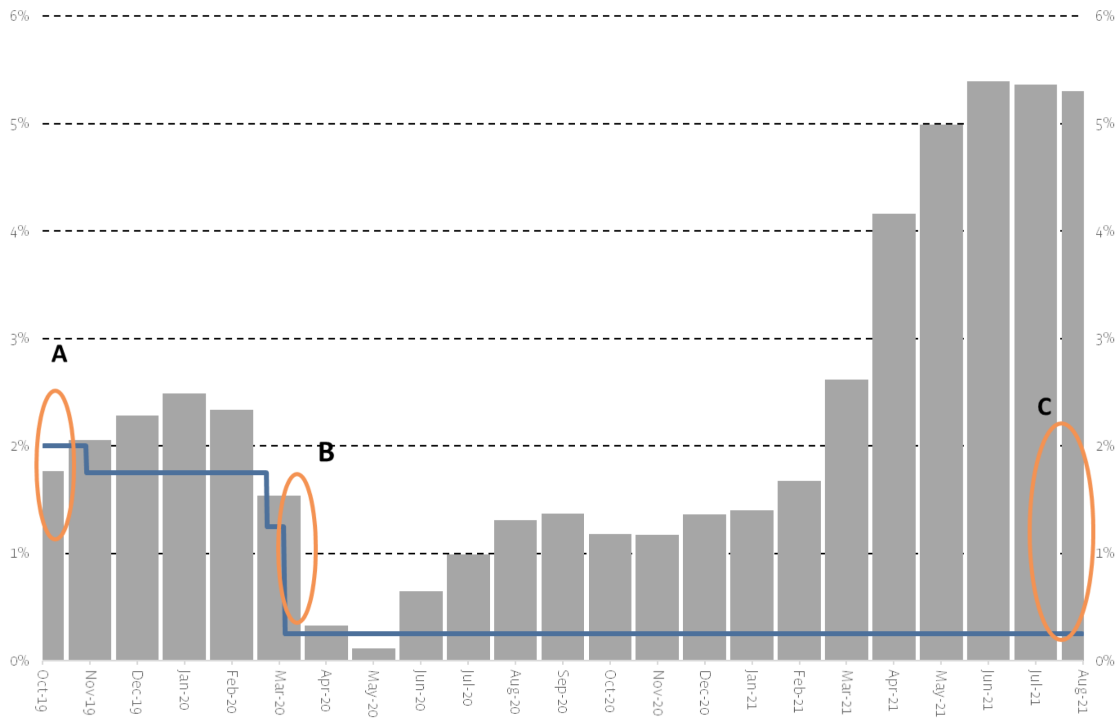

Source: Federal Reserve Bank of St. Louis, Bureau of Labor Statistics as of September 14, 2021

A - Portfolio Allocation on 10/17/2019

Company Name	Ticker	Product	Credit	Duration	Index Weight
SPDR Bloomberg Barclays High Yield	SJNK US	Corporate	High Yield	Short	29.8%
VanEck Vectors High-Yield Municipal Index ETF	HYD US	Municipal	High Yield	Long	29.7%
iShares Mortgage Real Estate ETF	REM US	Mortgage REIT	Investment Grade	Long	28.1%
iShares 20+ Year Treasury Bond	TLT US	Treasury	Government	Long	8.9%
Invesco Senior Loan ETF	BKLN US	Bank Loans	High Yield	Short	3.4%

B - Portfolio Allocation on 3/31/2020

Company Name	Ticker	Product	Credit	Duration	Index Weight
Ishares 1-3 Year Treasury Bond ETF	SHY US	Treasury	Government	Short	30.0%
Ishares Short Treasury Bond	SHV US	Treasury	Government	Short	30.0%
Ishares Agency Bond ETF	AGZ US	Government Agency	Agency	Intermediate	30.0%
Invesco Senior Loan ETF	BKLN US	Bank Loans	High Yield	Short	8.3%
SPDR Bloomberg Barclays High Yield	SJNK US	Corporate	High Yield	Short	1.8%

C - Portfolio Allocation on 9/14/2021

Company Name	Ticker	Product	Credit	Duration	Index Weight
iShares 0-5 Year TIPS Bond ETF	STIP US	Inflation Protected	Government	Short	30.1%
iShares Agency Bond ETF	AGZ US	Government Agency	Agency	Intermediate	30.1%
iShares Barclays 3 7 Year Treasury Bond Fund	IEI US	Treasury	Government	Intermediate	21.6%
Invesco Senior Loan ETF	BKLN US	Bank Loans	High Yield	Short	15.6%
iShares Trust United States Treasury	TIP US	Inflation Protected	Government	Intermediate	2.7%

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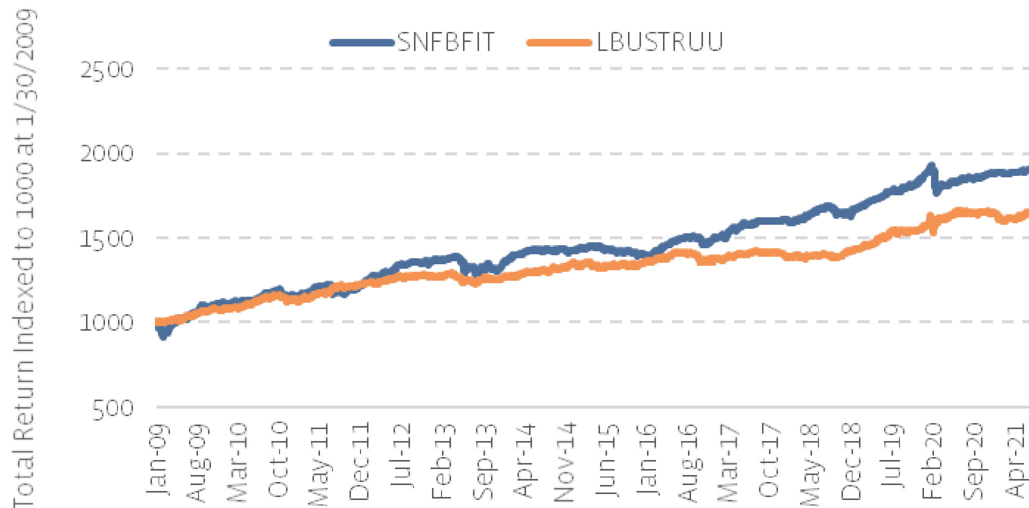
Portfolio Optimization Has Resulted in Returns Above the Benchmark Index



Source: Bloomberg, Alerian and S-Network Global Indexes
Data through September 14, 2021

Bottom Line:

A fixed income investment can serve as diversifier against equities, a source of income, or even protection against inflation when using TIPS. Different fixed income strategies can be appropriate during different parts of the economic cycle, but it's never straightforward what type of fixed income strategy is preferred at each point of the cycle. Investors can benefit from a rules-based approach to portfolio optimization, which can select appropriate portfolio allocations in different risk/return environments, while aiming to outperform the benchmark fixed income index.

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