



Barclays Trailblazer Sectors 5 Index

As you plan for the future, selecting the right investments can make all the difference. You want to see your investments grow in value to meet your future financial needs, but you also want to control the amount of risk you take to limit potential losses. As the financial markets evolve, it is also important to be able to adapt your investments to the changing market conditions on a timely basis.

We realize these goals can be difficult to achieve, and that is why Barclays has developed a multi-asset class dynamic index called the [Barclays Trailblazer Sectors 5 Index](#) (the “Index” or “Trailblazer”).¹

Trailblazer aims to track a diversified portfolio of assets with the highest return potential for a given level of risk. Additionally, Trailblazer is designed to have the ability to change its portfolio as often as daily to adapt to shifting market conditions.

¹ The Trailblazer strategy involves fees, costs and certain risks. You should consult with professional advisors before making any investment that is based on the performance of Trailblazer.

Trailblazer: the key features

Broadly diversified underlying assets

Trailblazer tracks a dynamic portfolio that provide exposure to a diversified range of stocks, bonds and cash.

Controlling volatility for stable performance

The Index aims to limit its annual volatility² to a 5% target level, in order to control investment risk and provide more stable returns across different market environments.

Daily optimization for higher returns

On a daily basis, Trailblazer uses techniques from the Modern Portfolio Theory to find an optimal way to combine its underlying assets, in order to identify an optimal portfolio that is expected to provide the highest return potential subject to the 5% volatility target.

Strategic and timely portfolio rebalances

Rebalancing decisions are also made on a daily basis. Once certain trigger conditions are met, the Trailblazer portfolio is rebalanced on the next trading day. This approach is designed to allow Trailblazer to adapt to market changes quickly in more volatile markets, while avoiding unnecessary adjustments in calmer markets.



² Volatility is a measure of the degree to which the price of an asset fluctuates. It is widely used as an indicator of investment risk.

Broadly diversified underlying assets

Here are the building blocks that make up the Trailblazer portfolio:

- [Eleven stock ETFs](#), which provide exposure to companies in specific sectors of the U.S. equity markets;
- [Three bond ETFs](#), which provide exposure to U.S. treasury bonds, mortgage-backed securities and high-yield U.S. corporate bonds;
- and a [cash position](#).

Stock ETFs

[Energy](#): Energy Select Sector SPDR Fund (Ticker: XLE)
[Materials](#): Materials Select Sector SPDR Fund (Ticker: XLB)
[Industrial](#): Industrial Select Sector SPDR Fund (Ticker: XLI)
[Consumer Discretionary](#): Consumer Discretionary Select Sector SPDR Fund (Ticker: XLY)
[Consumer Staples](#): Consumer Staples Select Sector SPDR Fund (Ticker: XLP)
[Health Care](#): Health Care Select Sector SPDR Fund (Ticker: XLV)
[Financial](#): Financial Select Sector SPDR Fund (Ticker: XLF)
[Utilities](#): Utilities Select Sector SPDR Fund (Ticker: XLU UP)
[Technology](#): Technology Select Sector SPDR Fund (Ticker: XLK)
[Real Estate](#): iShares Dow Jones U.S. Real Estate Index Fund (Ticker: IYR)
[Communication Services](#): Communication Services Select Sector SPDR Fund (Ticker: XLC)

Bond ETFs

[Treasury Bonds](#): iShares 20+ Year Treasury Bond ETF (Ticker: TLT)
[Mortgage Backed Securities](#): iShares MBS ETF (Ticker: MBS)
[Corporate Bonds](#): iShares iBoxx High Yield Corporate Bond ETF (Ticker: HYG)

Cash

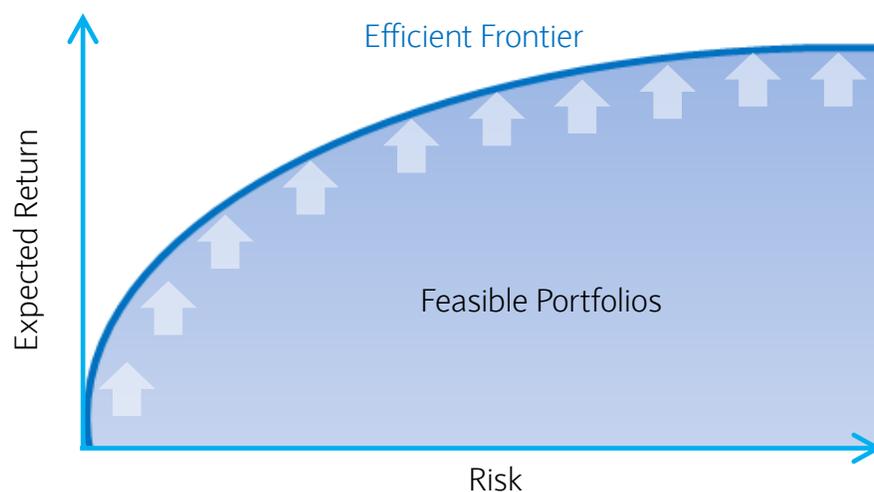
Finding the optimal Trailblazer portfolio: the two guiding principles

1. Modern portfolio theory

Each day, Trailblazer runs a process called “mean-variance optimization”, which aims to determine the optimal weight to be allocated to each of its underlying assets.

The mean-variance optimization process is based on Harry Markowitz’s Modern Portfolio Theory, which states that investors can maximize their expected return at any given risk level through diversification.

Mean-variance optimization, based on Modern Portfolio Theory



2. The risk-return trade-off

Investors often face the trade-off between risk and return -- namely, higher risk tends to be associated with higher return potential, and lower risk with lower return potential.

For example, among the underlying assets of Trailblazer:

- The stock and bond ETFs are the growth engines of the Index and provide the potential for earning returns. However, since stocks and bonds carry risks, so do the ETFs.
- On the other hand, cash carries no investment risk and does not earn returns.

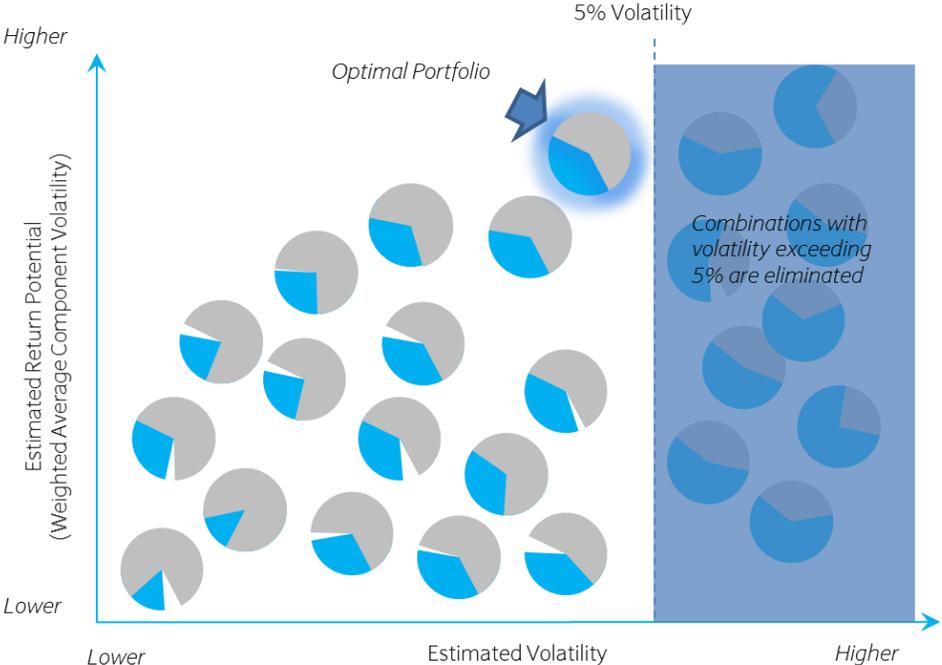
Daily optimization for higher returns

On each trading day, Trailblazer looks at every possible combination of its underlying assets, provided that the combined weight of the components does not exceed 100%. To allow for optimal results, Trailblazer does not impose any restrictive caps or floors on the weight of any individual component

- 1. First, the Index calculates the volatility of every portfolio combination based on how volatile each component has been and how the components have moved relative to each other.
- 2. Then, the Index eliminates all the combinations whose volatility exceeds the 5% target level.
- 3. Based on the trade-off between risk and return, the Index selects the combination that has the highest return potential by picking the combination of assets with the highest weighted-average volatility³.

This combination will be Trailblazer’s optimal portfolio for that day.

Illustration of the Trailblazer mean-variance optimization process



³What is the link between return potential and weighted-average volatility?

The return potential, or “expected return”, of a portfolio is the weighted average of its components’ expected returns. Therefore, it is necessary to forecast the expected return of each individual component.

Using the principle of risk-return trade-off, Trailblazer assumes that there is a direct relationship between how volatile an asset has been in the past and how high its return potential can be going forward.

Based on this premise, Trailblazer uses the weighted average of portfolio components’ past volatility as an estimate for a portfolio’s return potential.

Strategic and timely portfolio rebalances

As market conditions change, the optimal portfolio is also likely to change from day to day. How and when does Trailblazer rebalance its portfolio to adapt to these changes?

Rather than following a rigid monthly or quarterly schedule, Trailblazer determines at the end of each trading day whether it needs to rebalance the portfolio. A rebalancing will be triggered only if any of the three conditions below are met.

1. How volatile is the current portfolio compared to the 5% target volatility?

A rebalancing will be triggered if the current portfolio has a volatility above 6%.

2. Has the volatility level of any underlying asset changed significantly since the last rebalance?

A rebalancing will be triggered if any underlying asset's volatility has changed by more than 5%.

3. How different is the current portfolio compared to the new optimal portfolio?

A rebalancing will be triggered if there is a difference of 10% or more in the total weight allocated to stocks or bonds.

Once a rebalance is triggered, Trailblazer will adjust its portfolio to match the new optimal portfolio for that day, subject to certain weighting constraints. The rebalance will occur on the following trading day.

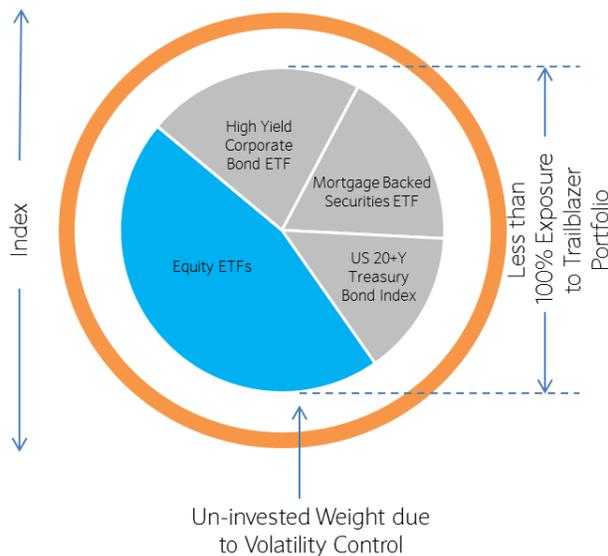
This dynamic rebalancing approach avoids unnecessary adjustments to the portfolio when the market is stable but also allows the index to rebalance as frequently as daily when market conditions are volatile.

Controlling volatility for stable performance

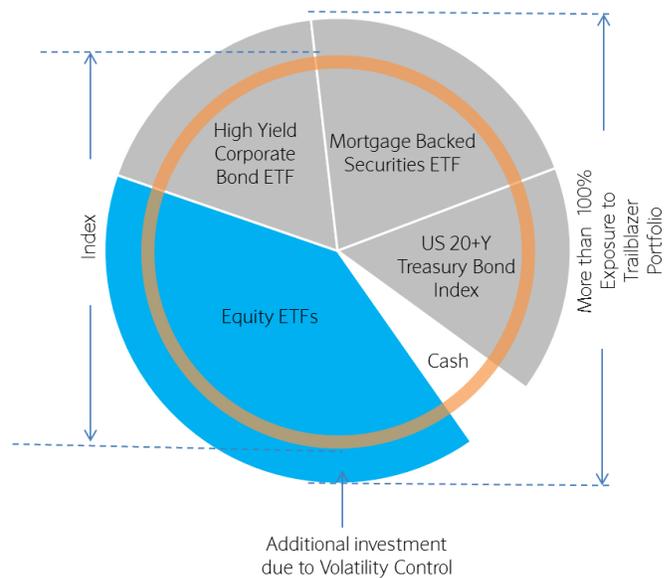
In addition to dynamically rebalancing the portfolio, Trailblazer also adjusts its exposure to the portfolio up or down in an attempt to maintain the 5% volatility target. This is called “Volatility Control”.

The Index may increase or decrease its level of exposure to the portfolio – subject to a minimum of zero and a maximum of 150% - if the portfolio’s actual volatility deviates from the target level of 5%.

If the recent volatility of the portfolio exceeds 5%, the Index tends to allocate less than 100% exposure to the portfolio and leave the residual weight un-invested:



If the recent volatility of the portfolio is below 5%, the exposure allocated to the portfolio may exceed 100% and can be up to 150%:



The exposure level may be adjusted as often as daily in response to volatility change of the portfolio. The more volatile the portfolio has been, the lower the exposure level tends to be, and vice versa.

Risk factors

An investment in Trailblazer also involves fees, costs and risks. The following is a summary of these fees and costs and certain risks associated with Trailblazer. You should consider the following, and consult with your advisers and read any product documentation carefully, before investing in any financial product based on the performance of Trailblazer.

- The Trailblazer strategy may be unsuccessful. Historical volatility may prove to be a poor measure of predicting future returns and future volatility and, if it is, the index portfolio may not be optimized and may perform poorly. The volatility control mechanism may not achieve its intended goal, and the index may not achieve its target volatility of 5%. In addition, when Trailblazer's exposure to its portfolio is greater than 100%, any negative performance of the portfolio will be magnified and the level of the index may decrease significantly.
- Trailblazer includes deductions for a fee of 0.85% per year and a cost equal to the 3-month US dollar LIBOR rate. These deductions will reduce index performance, and Trailblazer will underperform similar portfolios from which these fees and costs are not deducted.
- Trailblazer may at any time be invested in only one or a small number of index components, which produce lower returns than an investment in a more diversified pool of assets.
- Any exposure to cash in the portfolio will earn no return. In addition, if the volatility control mechanism causes exposure to the Trailblazer Portfolio to be less than 100%, the difference will be un-invested and will earn no return.

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