Texas Capital
ETF & FUNDS MANAGEMENT

# The Ins & Outs of Market Risk

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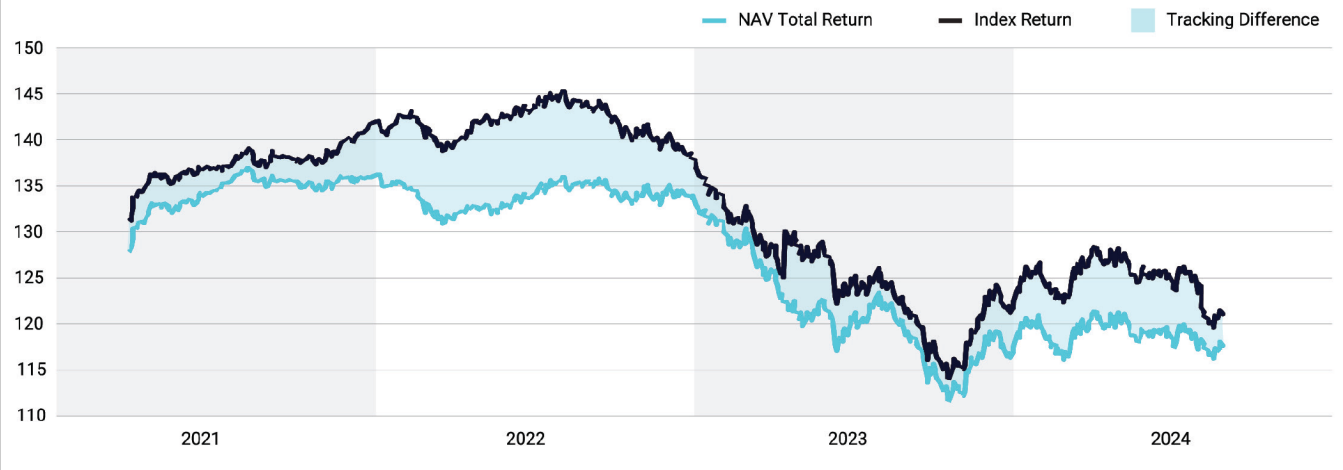
## What is Risk, and Why Does It Matter?

Broadly speaking, risk in the investing context is the possibility that an individual or institution may not reach their goals. And there are many risks to be aware of, such as interest rate risk, geopolitical risk and counterparty risk.

Let's put those portfolio threats aside and focus on the **investment/market risks** associated with ETFs. There are a number of risk metrics investors can use to see whether a given ETF is meeting its objective. It's important to know what these metrics are — and it's equally crucial to understand what constitutes a good number and what suggests cause for concern. To use a baseball analogy, knowing what slugging percentage represents is only half the battle — a savvy fan can put a player's figure in context, making an informed conclusion as to how good of a hitter someone truly is.

## Is Your ETF Doing Its Job? | *The Importance of Tracking Difference*

Although active ETFs have become more prevalent, the most popular funds are still passively managed. Whether a passive ETF increases or decreases in value, it's crucial to know whether the fund is doing its job. In other words, is a given passive ETF reflecting its benchmark index or meaningfully straying from it? This is where a metric known as **tracking difference** can be used. Tracking difference is the discrepancy between ETF performance and index performance over a specified period of time. For passive ETFs, tracking difference is arguably the most important risk metric to follow.




*This chart is for purposes of illustrating tracking difference only. The values, index and ETF are fictitious and do not represent the performance of any actual investments.*

Every ETF will have some element of tracking difference. For one thing, an ETF's total expense ratio (TER) can always be expected to contribute to tracking difference as it creates an exact drag on the fund's performance compared to its index. In this vein, investors obviously benefit from a lower TER as this minimizes the gap between an ETF's performance and its benchmark index.

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## A Fund's Tracking Difference Can Also Be Impacted by Other Factors, Such as:

- **Cash Drag**: In a bull market, a portfolio that holds cash will tend to underperform an index with no cash component.
- **Sampling**: Some ETFs engage in what's known as full replication — owning all components of an index. Other ETFs, though, sample a majority of the index components, owning most, but not all, of its securities. By not fully replicating an index, an ETF is exposed to tracking difference (positive or negative).
- **Securities Lending**: Many ETFs earn extra income by lending out shares to short sellers. On one hand, this practice can improve a fund's performance. However, there are a couple of risks. First, if a security that has been lent out soars in value and bankrupts a short seller, the borrowed shares may not be returned. This turn of events would mean the ETF would not benefit from the security's jump in price, leading to underperformance relative to the index. To be clear, this is a rare event. To protect the lender from risk of loss, lent securities are always collateralized using cash or securities, usually government debt. Cash collateral is more common in the United States, while Europe tends to favor noncash. This is common practice for ETFs.
- **Trading Costs**: When an ETF buys or sells securities (to rebalance, for example), it incurs trading commissions. These costs also cause the ETF's performance to deviate from that of the index.

## From Tracking Difference to Tracking Error

Tracking difference is a measure of whether an ETF is keeping up with its index, but tracking difference fluctuates over time. That's where a measure known as **tracking error** can be employed. Tracking error is essentially the volatility of an ETF's tracking difference. The lower the number, the better. Tracking error shows you if the tracking difference is relatively consistent, or if it varies wildly over the course of the year.

Some investors conflate tracking difference with tracking error. They see a high tracking error and conclude that a given ETF isn't properly following its index. In reality, the tracking difference may simply be low but volatile.

It's important to note that, for the purpose of tracking difference and tracking error calculations, an ETF's performance can be measured by price or Net Asset Value (NAV). Price is based on the perceived value of the fund by buyers and sellers in the market, while NAV is based on the prices of the underlying securities and their weights making up the fund. NAV may have fewer uncontrollable variables impacting its measure of performance, arguably making it the better choice.

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## Other Passive Measures of Risk

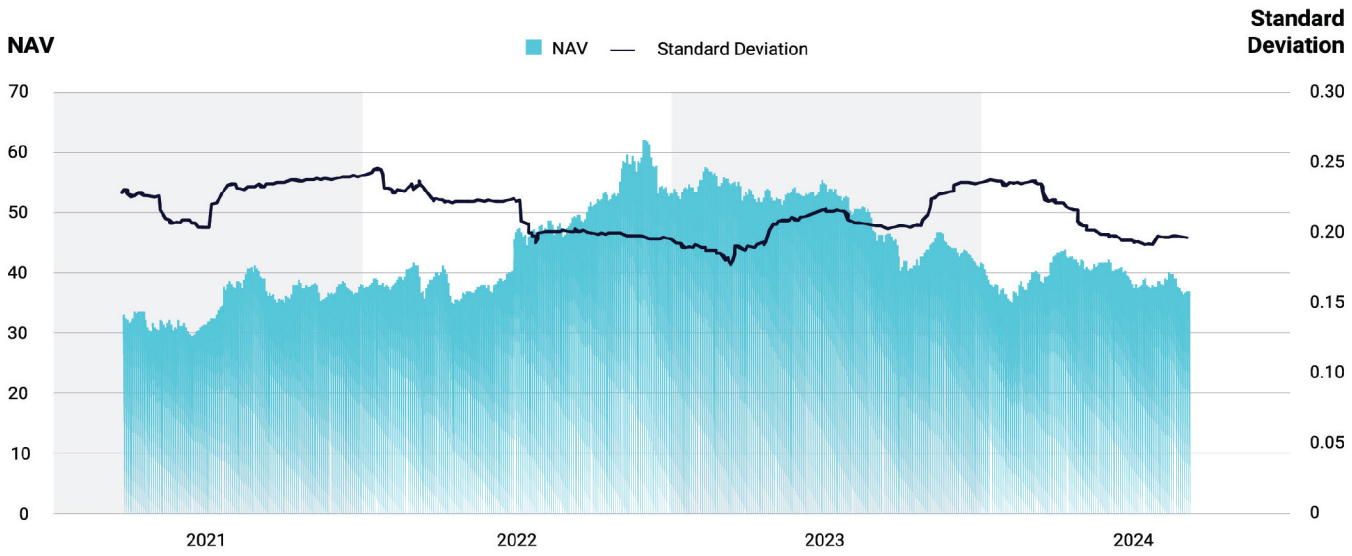
In addition to tracking difference and tracking error, there are two other key metrics used to measure ETF risk for passive ETFs: **beta** and **standard deviation**.

Beta is a measure of an ETF's volatility relative to the market. By definition, the overall market's beta is 1.00. An ETF with a beta greater than 1.00 has exhibited more volatility than the market over a specified period of time. In contrast, an ETF with a beta less than 1.00 has been less volatile than the overall market.

Beta is also a function of correlation: An ETF with a positive beta (greater than 0) is positively correlated with the overall market, whereas an ETF with a negative beta (less than 0) is inversely correlated to the overall market. Most passive ETFs will have a positive beta. Sectors that tend to exhibit high levels of volatility will have a positive beta greater than 1, and more defensive sector ETFs will have a beta that is positive but less than 1. Examples of passive ETFs that may, depending on the market environment, have a negative beta include inverse ETFs (exchange-traded funds that use derivatives to achieve the opposite returns of a specified benchmark) and government bond ETFs.

**Standard deviation** compares the long-term average return of an investment to the shorter-term returns it achieved along the way. It's common to look at the historical average returns of an investment when deciding if it's a good opportunity. But average returns don't tell the whole story. Suppose two ETFs both average a 7% return over the past 10 years. But when looking at individual years, one returned 7% every year, while the other had some years with double-digit performance and others with low single-digit returns. Clearly, the ETF that rose 7% each year displayed lower volatility than its counterpart — and likely took less risk to achieve the same long-term return.

It's crucial to note that standard deviation includes both upside and downside volatility. So, a high number could indicate increasing returns, decreasing returns or a combination of both.




*This chart is for purposes of illustrating standard deviation only. The values and ETF are fictitious and do not represent the performance of any actual investments.*

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## Active Measures of Risk

Passive ETFs may still dominate, but active products are becoming increasingly popular with investors. Fortunately, we also have measures of risk to assess these ETFs as well. As with passive ETFs, investors can use both beta and standard deviation when judging whether an active product is meeting its objective.

In addition, there are two key risk metrics specifically applicable to active ETFs:

- **Alpha**: A measure of how an ETF performs relative to a particular index or benchmark over a specified period of time, after adjusting for volatility. Alpha offers a window into the active performance of an ETF, allowing investors to see whether a fund is outperforming or underperforming a passive benchmark. This measure is expressed as a percentage. For instance, an ETF with an alpha of 3% will have exceeded its benchmark by this amount, after taking into account the volatility of the fund's portfolio.
- **Sharpe Ratio**: A measure of an ETF's excess returns relative to its volatility. The Sharpe ratio indicates how much excess return is generated per unit of risk taken, and a higher number implies that an investor is being compensated for taking on extra risk with relatively outsized returns. The Sharpe ratio gives investors a sense of whether an active ETF fund is taking a substantial amount of risk in order to generate outperformance. Ideally, an ETF is delivering above-average returns with low volatility. The Sharpe ratio is also expressed numerically (the higher the better), with anything above 1 considered to be good.

## Sidebar | *Liquidity Risk*

ETF investors are also faced with potential liquidity risk. This is especially true if a significant portion of a fund's assets are concentrated in thinly traded securities. An ETF's liquidity is tightly linked to the liquidity of its underlying holdings. As a result, a fund that has a large weighting in small companies with large bid-ask spreads and low volume will usually have poorer liquidity than a fund that predominately owns large-capitalization stocks with tighter spreads and high daily volume.

## Conclusion

ETFs have specific roles to play in an investor's portfolio. There's no guarantee that a given ETF will rise in value, as any number of market factors could lead to a decline. But whatever the market environment, it is crucial that the ETF is performing its role correctly. Investors should look at the key risk metrics for a given fund to see whether the ETF is truly doing its job. That can help determine whether it's a hold, or if it's time to sell and move on to a product more likely to meet their objective.