

Buffer ETFs Are Half the Story – Here's the Other Half

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Summary

- Buffer ETFs offer downside mitigation—but at a steep cost: They cap upside returns while still exposing investors to significant downside risk, especially during extreme market events.
- Our proposed alternative: 50% U.S. large-cap + 50% CAOS seeks to manage left-tail risk while preserving upside potential from equities.
- Since 2019, a portfolio of 50% U.S. large-cap equity + 50% CAOS has outperformed the average buffer ETF, offering a
 potentially more effective approach to risk management.
- For Buffer ETF users, we explore complements using core equity and CAOS to potentially address right and left tail events.

Buffer ETFs have exploded in popularity over the past five years. As of this writing, U.S. market-exposed buffer ETFs have attracted a staggering \$51 billion in assets¹ under management. Not bad for a product that didn't exist a decade ago.

But what's all the fuss about? Are buffer ETFs a genuine innovation in risk management—or just a clever repackaging of old-school structured products with a modern ETF wrapper?

Spoiler alert: We believe Buffer products are a lot closer to clever repackaging of risk than a genuine innovation. Even worse, these repackages can at times expose investors to most of the downside while capping most of the upside. We think there's a better way.

Specifically, a mix of core U.S. large-cap exposure and the Alpha Architect Tail Risk ETF (ticker: CAOS) might give you many of the same benefits that draw investors to buffer ETFs—without some of the major tradeoffs.

For Buffer ETF users who enjoy some of the more "immediate response" benefits of buffer products, we explore how to recreate a similar risk profile to a traditional 60/40 portfolio by using core equity exposure, buffer ETFs and CAOS.

Before beginning, if you're curious about how CAOS can enhance your clients' portfolio, make sure to visit <u>funds.alphaarchitect.</u> <u>com/caos</u> or connect directly with our CIO, Jack Vogel, at <u>jack@alphaarchitect.com</u>.

Let's begin.

¹Source: FactSet. YCharts. As of 01/31/2025, there are \$51B in ETFs that have at least 50% exposure to the U.S. market and have the word "buffer" included in the name.



So What Do Buffer ETFs Actually Do?

At a high level, buffer ETFs aim to provide downside protection by "buffering" a set percentage of losses in a reference asset (often the S&P 500) over a defined time period.

For example, let's say that at launch the market is at level reading of 5,000 for a 10% buffer product. If the market drops to 4,500, your buffer ETF likely hasn't lost anything yet, as it is "buffered" against the first 10% of losses. But if the market keeps falling—say, down to 4,000—you'll feel the next 10% of losses, which are the losses from the "buffer" value of 4,500 to 4,000 (10% of the original investment at 5,000).

In other words, the buffer only goes so far.

Expose the Downside & Cap the Upside

For a risk-averse investor, this "buffer" approach might seem attractive at first glance. Avoid the first 10% of losses while maintaining exposure to equity returns. But here's the big catch: **the upside is capped**. Let's say the ETF also has a 10% cap and the market rises 20%. Guess what? The ETF will still only give you a 10% return. In fact, even if the market doubles, your returns stop at that cap.

In other words, these "defined outcome" products get you some downside protection at the expense of the possible lifechanging upside of equities.

Let's think about what that actually means in statistical terms: If you conceive of market returns as normally distributed, buffer ETFs minimize losses up to a certain point and give you the upside up to a certain point. But they also completely cut the right tail of the distribution, or the life-changing returns stocks experience at times, while still exposing investors to the left tail, or the black-swan type of events that can wipe out portfolios.



For illustrative purposes only.

Not sure about you, but giving up the upside in exchange for the downside does not sound like the most appealing of strategies.



The Path Could Kill You!

There's another nuance that investors often miss. Most buffer ETFs have a fixed "outcome period"—usually one year. So for example, if the ETF rebalances on April 1, 2025, the structure is built to provide a buffer through March 31, 2026.

But markets don't follow calendar schedules. If the market spikes or crashes you might find the structure no longer offers the buffer or participation you signed up for.

To demonstrate the effects of path dependency, answer the following questions:

- Would you purchase a buffer product that just hit its floor? Probably not, as you'd be exposing yourself to losses without the opportunity to ride any bounce-backs, at least until the reference asset goes back to its starting point.
- What about investing when the buffer hits its cap? There too, you would have no upside but could still eat losses until the reference hits its rebalance date price.

So here's the million-dollar question: if you wouldn't buy these assets above caps or below floors, why would you hold on to them?

Path dependency introduces timing risks that aren't always obvious on the label, but that could have detrimental consequences for investors.

A Steep Price to Pay - And It's Not Just the Fees!

So what's the net result? A complex options position with a tidy ETF wrapper and an average fee of around 71 basis points.

So here's the summary so far:

- You cap your upside. Usually more than the level of protection received.
- You still have meaningful downside exposure.
- The structure is path-dependent.
- And you pay a nice fee for it.

Not exactly a slam dunk.

A Simpler, Sharper Alternative

Enter the U.S. large-cap/CAOS combo.

Our thinking is straightforward: instead of trying to manufacture artificial outcomes through options overlays, why not own a traditional equity core—and pair it with something explicitly built to handle left-tail events?

CAOS seeks to minimize the impact of fast crashes by buying deep out-of-the-money puts while using collateral strategies that aim to produce long-term positive returns. In other words, it tries to be there when you really need it, without costing you the upside during calm or bullish markets.

Here's what happens when you combine 50% U.S. large cap with 50% CAOS and compare that to the average buffer ETF:

• Since 2019, the 50% U.S. large cap/ 50% CAOS portfolio has handily beat the buffer ETF category average.





Source: YCharts, Alpha Architect, FactSet. NAV total daily returns. 1/2/2019 – 12/31/2024. The 50% U.S. Large Cap/ 50% CAOS portfolio is rebalanced monthly. Please refer to the disclosure section for definitions. Investing involves risk, including the loss of principal. Past performance does not guarantee future results. The performance data quoted represents past performance and does not guarantee future results.

 In the COVID crash of 2020, buffer ETFs did better than the market—but they still took losses once the market dropped beyond their buffers. The CAOS combo? It went up in March and ended the year with gains even higher than U.S.large cap equity.



50% CAOS/ 50% U.S. Large Cap vs. Buffer ETFs

In the 2023-2024 bull run, when markets surged, some buffer products were (unsurprisingly) capped. The CAOS portfolio, with its uncapped U.S. equity exposure, captured more of the upside—and outperformed the buffer category average again.

50% CAOS/ 50% U.S. Large Cap vs. Buffer ETFs



12023-2024 50% CAOS/ 45% Buffer ETFs 50% Large Cap 40% **CAOS Portfolio** 33.93% **Total Return** 35.72% 35% Buffer Cat. 30% Average 15.80% 33.93% 25% 20% Annualized 8.19% 15% 10% Max -7.47% -6.51% 5% 0% Feb-23 Mar-23 Jun-23 Jun-23 Jun-23 Jun-23 Sep-23 Sep-23 Sep-24 Jun-24 Jun-24 Jun-24 Jun-24 Sep-24 Ang-24 Sep-24 Aug-24 Sep-24 Cot-24 Oct-24 Dec-24 Dec-24 -5%

Source: YCharts, Alpha Architect, FactSet. NAV total daily returns. 1/3/2023 – 12/31/2024. The 50% U.S. Large Cap/ 50% CAOS portfolio is rebalanced monthly. Please refer to the disclosure section for definitions. Investing involves risk, including the loss of principal. Past performance does not guarantee future results. The performance data quoted represents past performance and does not guarantee future results.

So whether you're facing a left-tail crash or a right-tail melt-up, this combo appears to have an edge: minimize the impact of crashes, but don't sacrifice those big gains when markets rip.

Let's Break It Down

Let's revisit the key drawbacks of buffer ETFs-and how the CAOS combo addresses them:

Buffer ETF Problem	How CAOS + U.S. Large Cap Addresses It
Cuts right tail, exposes to left tail	CAOS puts may gain from market crashes, while large cap equities ride melt-ups
Path dependency	CAOS staggers option expirations and rolls them over
High fees	CAOS costs 63bps. At a 50% weight, that's just 31.5bps for the combo. This is ~ 38.5bps cheaper than the buffer category average of 71bps.

Not bad.

But I Love Using Buffer Products!

We fully acknowledge that buffer ETFs wouldn't have gained traction without offering some utility in portfolio construction. In our view, buffer products that respond quickly to drawdowns—such as those that absorb the first x% of losses—can deliver compelling payoff profiles that are difficult to replicate outside the options market.

We encourage buffer ETF investors and advisors to explore further complements to their portfolio strategy. Specifically, including assets and strategies that address far right tail and left tail events.



For example, a buffer investor with a similar risk profile to a 60% stocks/ 40% bond portfolio, could recreate a similar risk exposure using a 50% US large cap, 20% buffer, 30% CAOS portfolio.

Historically, this strategy has outperformed a 60/40 portfolio with only slightly higher volatility, while experiencing a shallower drawdown during the March 2020 COVID crash.



50% CAOS/ 50% U.S. Large Cap vs. Buffer ETFs |

Returns Since 2019

Source: YCharts, Alpha Architect, FactSet. NAV total daily returns. 1/2/2019 – 12/31/2024. Portfolios are rebalanced monthly. Please refer to the disclosure section for definitions. Investing involves risk, including the loss of principal. Past performance does not guarantee future results. The performance data quoted represents past performance and does not guarantee future results.



50% CAOS/ 50% U.S. Large Cap vs. Buffer ETFs | Returns Since 2019



Source: YCharts, Alpha Architect, FactSet. NAV total daily returns. 1/2/2020 – 12/31/2020. Portfolios are rebalanced monthly. Please refer to the disclosure section for definitions. Investing involves risk, including the loss of principal. Past performance does not guarantee future results. The performance data quoted represents past performance and does not guarantee future results.



Final Thoughts

Look, we get the appeal of buffer ETFs. They offer a clean, elegant story: "some loss mitigation, some upside." But when you dig into the mechanics, it's clear that this "defined outcome" often comes at a cost—both in performance and complexity. And guarantees are typically expensive.

In our view, buffer investors should consider either a replacement or complement to their strategies by using a combination of core equity and CAOS to pursue similar goals: potential left tail risk management without giving up the right tail.

If you're curious about the specifics or want to geek out with us on portfolio design, reach out! We love these conversations. You can also explore the benefits and risks of CAOS at <u>funds.alphaarchitect.com/caos</u> or email our CIO, Jack Vogel at <u>jack@</u> <u>alphaarchitect.com</u>

See you next time.

IMPORTANT INFORMATION

Investors should carefully consider the investment objectives, risk, charges, and expenses of the funds. This and other important information is in the indicated fund's prospectus, which can be obtained by calling (215) 882-9983 or by visiting www.AlphaArchitect.com/funds. The prospectus should be read carefully before investing.

Investing involves risk, including the possible loss of principal. Shares of any ETF are bought and sold at market price (not NAV) and may trade at a discount or premium to NAV. Shares are not individually redeemable from the Fund and may only be acquired or redeemed from the fund in creation units.

There is no assurance that the Fund will achieve its investment objective. An investor may lose money by investing in the Fund. An investment in the Fund is not a bank deposit and is not insured or guaranteed by the FDIC or any government agency.

Definitions

At-the-money: An option is considered at-the-money when its strike price is equal to or very close to the current market price of the underlying asset.

Buffer Category Average: represented by ETFs with at least 50% exposure to the U.S. that includes the word "buffer" in their name. As of 1/31/2025 there are 206 ETFs in the category average. See note on category average calculation methodology. You cannot directly invest in either an index or a category average.

Call Option: a financial contract that gives the holder the right, but not the obligation, to buy a specified amount of an underlying asset at a predetermined price (known as the strike price) within a specified time frame.

Implied Volatility: the market's estimate of how much an asset's price is likely to fluctuate in the future, based on current option prices.

In-the-money: An option is classified as in-the-money if it possesses intrinsic value, meaning a call option's strike price is below the market price or a put option's strike price is above the market price.

Out-of-the-money: An option is out-of-the money when it lacks intrinsic value, with a call option's strike price above the market price or a put option's strike price below the market price.

Put Option: a financial contract that gives the owner the right, but not the obligation, to sell a specified amount of an underlying asset at a predetermined price (known as the strike price) within a specified time frame.

S&P 500 Index: measures the performance of the 500 largest companies that are in the United States. These companies can vary across various sectors. The S&P 500 is one of the most important indices in the world as it widely tracks how the United States stock market is performing.



US Large Cap is represented by ETFs that are fairly representative of the overall U.S. stock market in size, growth rates, and price. Stocks in the top 70% of the capitalization of the U.S. equity market are defined as large cap. The blend style is assigned to portfolios where neither growth nor value characteristics predominate. As of 03/10/2025, there are 238 ETFs in the US Large Blend category.

PRINCIPAL INVESTMENT RISKS

Selling or Writing Options Risk. Writing option contracts can result in losses that exceed the seller's initial investment and may lead to additional turnover and higher tax liability. The risk involved in writing a call option is that there could be an increase in the market value of the underlying or reference asset.

Buying or Purchasing Options Risk. If a call or put option is not sold when it has remaining value and if the market price of the underlying asset, in the case of a call option, remains less than or equal to the exercise price, or, in the case of a put option, remains equal to or greater than the exercise price, the buyer will lose its entire investment in the call or put option.

Box Spread Risk. A Box Spread is a synthetic bond created by combining different options trades that have offsetting spreads (e.g., purchases and sales on the same underlying instrument, such as an index or an ETF, but with different strike prices). If one or more of these individual option positions are modified or closed separately prior to the option contract's expiration, then the Box Spread may no longer effectively eliminate risk tied to the underlying asset's price movement.

FLEX Options Risk. FLEX Options are exchange-traded options contracts with uniquely customizable terms like exercise price, style, and expiration date. Due to their customization and potentially unique terms, FLEX Options may be less liquid than other securities, such as standard exchange listed options.

Derivatives Risk. Derivatives are instruments, such as futures contracts, whose value is derived from that of other assets, rates, or indices. The use of derivatives for non-hedging purposes may be considered to carry more risk than other types of investments.

Counterparty Risk. Counterparty risk is the risk that a counterparty to a financial instrument held by the Fund or by a special purpose or structured vehicle invested in by the Fund may become insolvent or otherwise fail to perform its obligations, and the Fund may obtain no or limited recovery of its investment, and any recovery may be significantly delayed.

Leverage Risk. Leverage risk refers to the potential for increased volatility and losses in a portfolio due to the use of derivatives or other financial instruments that may magnify gains and losses beyond the initial investment. The Fund will utilize derivatives, such as options, to gain exposure to certain assets or markets with a smaller initial investment. While leveraging derivatives can amplify gains, it can also magnify losses significantly. Leverage could possibly create increased volatility for the Fund.

Cash and Cash Equivalents Risk. At any time, the Fund may have significant investments in cash or cash equivalents. When a substantial portion of a portfolio is held in cash or cash equivalents, there is the risk that the value of the cash account, including interest, will not keep pace with inflation, thus reducing purchasing power over time.

Market Risk. The Fund's investments are subject to changes in general economic conditions, general market fluctuations and the risks inherent in investment in interest rate sensitive markets. Interest rate markets can be volatile and prices of investments can change substantially due to various factors including, but not limited to, economic growth or recession, the investment's average time to maturity, changes in interest rates, changes in the actual or perceived creditworthiness of issuers, and general market liquidity. The Fund is subject to the risk that geopolitical events will disrupt securities markets and adversely affect global economies and markets. Local, regional or global events such as war, acts of terrorism, the spread of infectious illness or other public health issues, or other events could have a significant impact on the Fund and its investments.

Equity Securities Risk. Investments in securities whose performance is linked to that of equity securities, such as SPX Options, may fluctuate in value in response to many factors, including the activities of the individual issuers included in the Index, general market and economic conditions, interest rates, and specific industry changes. Such price fluctuations subject the Fund to potential losses. Investment Risk. When you sell your Shares of the Fund, they could be worth less than what you paid for them. Therefore, you may lose money by investing in the Fund.

Large-Capitalization Companies Risk. Large-capitalization companies may trail the returns of the overall stock market. Large-capitalization stocks tend to go through cycles of doing better - or worse - than the stock market in general. These periods have, in the past, lasted for as long as several years. Larger, more established companies may be slow to respond to challenges and may grow more slowly than smaller companies.



Investment Company Risk. An investment in other registered investment companies (including other ETFs, affiliated and non-affiliated) is subject to the risks associated with those investment companies, which include, but are not limited to, the risk that such fund's investment strategy may not produce the intended results; the risk that securities in such fund may underperform in comparison to the general securities markets or other asset classes; and the risk that the fund will be concentrated in a particular issuer, market, industry or sector, and therefore will be especially susceptible to loss due to adverse occurrences affecting that issuer, market, industry or sector. Moreover, the Fund will incur duplicative expenses from such investments, bearing its share of that fund's expenses while also paying its own advisory fees and trading costs. In addition, the Fund may invest in underlying funds which invest a larger portion of their assets in one or more sectors than manyother mutual funds, and thus will be more susceptible to negative events affecting those sectors.

The Fund may invest in affiliated ETFs managed by the Adviser and/or Sub-Adviser, including the Architect 1-3Month Box ETF. The Adviser and/ or Sub-Adviser may be subject to potential conflicts of interest in selecting underlying funds because the fees paid to it by certain affiliated underlying funds are higher than the fees paid by other affiliated and unaffiliated underlying funds. To the extent the Fund invests a significant percentage of its assets in any one affiliated ETF or across multiple affiliated ETFs, the Fund will be subject to a greater degree to the risks particular to the investment strategies employed by the Adviser and/or Sub-Adviser.

Valuation Risk. Some portfolio holdings, potentially a large portion of the Fund's investment portfolio, may be valued on the basis of factors other than market quotations. This may occur more often in times of market turmoil or reduced liquidity. There are multiple methods that can be used to value a portfolio holding when market quotations are not readily available. The value established for any portfolio holding at a point in time might differ from what would be produced using a different methodology or if it had been priced using market quotations. Portfolio holdings that are valued using techniques other than market quotations, including "fair valued" securities, may be subject to greater fluctuation in their valuations from one day to the next than if market quotations were used. In addition, there is no assurance that the Fund could sell or close out a portfolio position for the value established for it at any time, and it is possible that the Fund would incur a loss because a portfolio position is sold or closed out at a discount to the valuation established by the Fund at that time.

High Portfolio Turnover Risk. The Fund's investment strategy is expected to result in a high portfolio turnover rate (100% or more). This will increase the Fund's brokerage commission costs, which could negatively impact the performance of the Fund. When taking into account derivative instruments, including option contracts, and instruments with maturities of one year or less at the time acquisition, the Fund's strategy will result in frequent portfolio trading and, if these instruments were included in the calculation of the Fund's portfolio turnover rate it would exceed 100%.

U.S. Government Securities Risk. U.S. government securities risk refers to the risk that debt securities issued or guaranteed by certain U.S. Government agencies, instrumentalities, and sponsored enterprises are not supported by the full faith and credit of the U.S. Government, and so investments in their securities or obligations issued by them involve credit risk greater than investments in other types of U.S. Government securities.

Management Risk. The Fund is actively managed and the Sub-Adviser's ability to choose suitable investments and implement the strategies described above has a significant impact on the ability of the Fund to achieve its investment objectives. In addition, there is the risk that the investment process, techniques and analyses used by the SubAdviser will not produce the desired investment results and the Fund may lose value as a result.

Note on category average methodology

Constituents of a given category are determined by YCharts. As of 4/30/2024, the calculation method used to determine the category average's returns changed to account for potentially different inception dates. Previously, a straight average of constituent funds' total return net asset value (NAV) was used to determine the category's average total return NAV; the percent change of the category average NAV was then used to calculate returns. As of 4/30/2024, total returns for the category are now found using a straight average of the total NAV return (percent change) for a given frequency (daily, weekly, monthly, etc.). There may be instances where the straight average of the constituent funds' NAV returns may be higher or lower than the straight average of the total NAV return. As of 4/30/2024, all category average returns are calculated using the straight average of the constituent funds' total NAV return for a given frequency.

Category average constituent selection criteria

Unless otherwise noted, the given category is represented by the 50 biggest funds based on assets under management (AUM). The AUM figure is point-in-time and is not retroactively applied to constituent funds. In the event fewer than 50 funds are available in a given category, all funds are used in to calculate returns. Funds that may have been open for investment over the given period but are no longer active are not included. The number of constituent funds in a given category average may affect represented returns. In the event of multiple share classes, the share



class with the highest AUM is referenced. Category returns are a straight average of the total return of the constituent funds over the given period. Wherever possible, we reference the 50 biggest funds by AUM to provide what we believe to be a reasonable sample of the most popular strategies that includes a mix of passive and active approaches. The highest AUM funds tend to have more established track records, providing what we believe to be a reasonable basis for returns.

Note on buffer category average methodology

There is no explicit "buffer" category. Generally, buffer funds tend to fall into the "options" category, however, that standard is not uniformly applied by third party data providers such as FactSet, Morningstar, YCharts, or others. To facilitate what we believe to be fair and balanced comparison, we build a U.S. buffer category using the following criteria:

- 1. U.S. Buffer ETFs
- 2. Exclude non-USD denominated funds.
- 3. Exclude mutual funds. We do this to facilitate a fair comparison at a structural level (ETF to ETF).
- 4. Filter for Broad Asset Class: Nontraditional Equity.
- 5. Filter for US Equity Exposure \geq 50%. Here we seek to avoid strategies that aren't focused on US equities.
- 6. Filter funds that contain the word "buffer". We believe this is a reasonable approach to identify most funds seeking to hold themselves out as a buffer strategy.

As of 01/31/2025, there are 206 ETFs that meet the given criteria that have been used to form the category average composite.

The information presented regarding buffer ETFs may be based on a limited universe of funds that we believe are relevant to the strategy, investment style, and asset class of this ETF. This comparison is not exhaustive and may exclude other funds that also offer similar exposures or strategies. Past performance is no guarantee of future results. Investors should consider factors such as risk tolerance, fees, liquidity, and investment goals before making any investment decisions. This disclosure is not an endorsement of any fund, nor should it be interpreted as financial advice.

The Fund is distributed by Quasar Distributors, LLC. The Fund's investment advisor is Empowered Funds, LLC which is doing business as EA Advisers.