



ETP METHODOLOGY
WSB Macro Hedge ETP

WSB-ETP

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Exchange Traded Portfolio Methodology



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1. Introduction

The recent raft of government stimulus packages and quantitative easing (QE) strategies pursued by central and reserve banks around the world have prompted a number of familiar questions:

- What does the increased money supply mean for inflation and productivity?
- How does this additional cash affect wages, interest rates and FX markets?
- What is the net impact on risk-related yield, capital preservation and asset values?

Even if you are not an economist, nor familiar with Modern Monetary Theory, you may understand the following principle:

If the money supply is rising at a faster rate than the supply of goods and services, the law of supply and demand tells us that the currency will be debased.

Inflation is expected to increase following an extended period of no/low economic growth since the GFC of 2007-8, especially as demand and wages pick up following the recent global pandemic. Investors looking to protect their capital and capture asset appreciation are looking for yield and/or a hedge against inflation.

Even if inflation is running at 2% (the Fed's target), today's dollar will only be worth 98c next year, or it will cost you \$1.02 to buy the same amount of goods that cost \$1 today. There are several measures or indicators of inflation: e.g., cost of living (consumer prices and manufacturing input costs); wages (rate at which salaries increase relative to prices); and asset (e.g., the rate at which real estate values grow, relative to the cost of servicing a home loan). Traditionally, to offset inflation, consumers hope that their salaries match or outpace inflation, and/or that the interest rate on their savings remains above the cost of living index.

At times of higher inflation, investors try to hedge their risk using bonds or term deposits to generate yield (from interest income), or they buy gold to hedge against cash depreciation. However, with the current low interest rate environment, bond and deposit yields are minimal to negative (i.e., banks will charge you just for holding cash in your account). Holding gold can also be complicated by the need to pay for things like physical storage, insurance and transaction fees.

Bitcoin is seen as offering a hedge against inflation and currency depreciation - it represents a store of value (like gold), and it can be traded in multiple currencies, such as the Euro, which allows consumers to generate yield from exchange rate movement (similar to the FX markets). However, some commentators think that the volatility and extreme price movements in Bitcoin and other cryptocurrencies and digital assets make them unsuitable hedging instruments - but with tools such as derivatives (futures and options), the ability to generate yield from crypto using staking and lending facilities, plus access to diversified portfolios or structured products such as ETFs, consumers can offset the effect of inflation by adopting a more holistic investment and hedging strategy.



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2. Investment Objective

The **WSB Macro Hedge ETP** (Exchange Traded Portfolio) seeks to capture long-term capital growth and to outperform inflation, with the overall aim of retaining purchasing power.

The **WSB Macro Hedge ETP** will be passively-managed by investing primarily in fiat-linked crypto stable coins, tokenized commodities and crypto native assets that are expected to benefit, either directly or indirectly, from rising prices (inflation). Due to macro factors and the devaluing of USD, over time the ETP will be hedged against more stable currencies and assets, such as the EUR and CNY. More assets can be added (or removed) over time, as part of the regular review and rebalancing process. Initially, however, the basket will be 75-80% in fiat-backed stable coins, and 20-25% in wrapped cryptocurrencies and wrapped digital gold.

The **WSB Macro Hedge ETP** represents the real-time market performance of a basket of crypto assets, tokenized fiat currencies and commodities. The underlying basket methodology is rebalanced every three months and based on key factors such as their trade-weighted volumes and risk profile.

The **WSB Macro Hedge ETP** physically holds onto the underlying assets in a non-custodial way, powered by Balancer protocol.

The ETP is owned and administered by WSB Dapp under the principles:

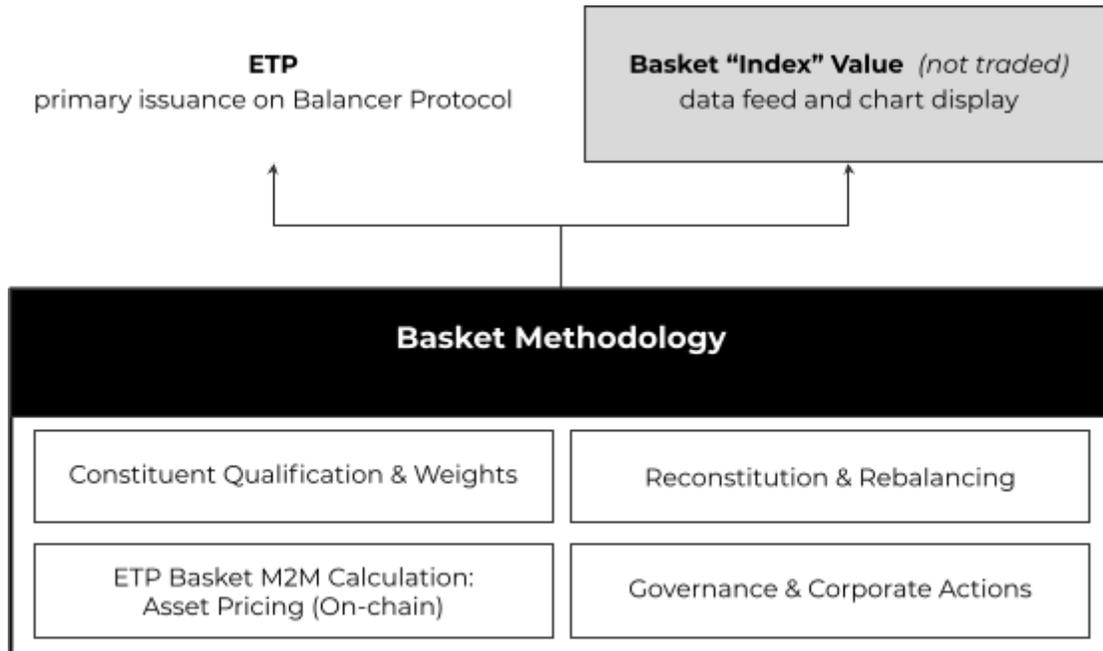
Representative	The ETP should closely follow the basket and represent it adequately.
Transparent	The ETP should be transparent in its design and reproducible in its calculation.
Timely	The ETP should be computed as frequently as necessary to reflect price changes in the constituent assets of the basket.
Robust	The ETP should be robust to disruptions such as erroneous data or pricing source outages, and be resistant to manipulation.



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Product tree logic:





3. Principal Investment Strategy

The ETP is a passively-managed exchange-traded portfolio that seeks to achieve its investment objective by investing primarily in fiat-linked crypto stable coins, tokenized commodities and crypto native assets that are expected to benefit, either directly or indirectly, from rising prices (inflation).

This investment strategy deploys techniques designed to mitigate or eliminate downside systemic risk by referencing a portfolio of assets based on the interpretation and prediction of large-scale events related to macro factors such as economic models, market conditions, historical trends, and international relations (e.g., geo-political, regulatory and cross-border trade).

4. Basket Construction, Asset Criteria & Portfolio Weighting

At inception, the WSB Macro Hedge ETP will hold the following assets and weightings:

Name	Ticker	Type	Weight
USD Coin (Centre)	USDC	Currency	40.00%
PAR Stablecoin (EUR)	EURS	Currency	35.00%
Wrapped Bitcoin	WBTC	Crypto	5%
Wrapped Ethereum	WETH	Crypto	5%
CoinShares Wrapped Digital Gold	WDGLD	Commodity	15%



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Guiding Principles for Basket Construction:

- **Basket Size:**
 - The initial basket size of this ETP will be set at 5 assets and may increase as future tokenized products are available in the marketplace.
- **Composite Asset Weightings:**
 - 75-80% in fiat-backed assets, and 20-25% in crypto and tokenized commodities.

Guiding Principles for Asset Eligibility Criteria:

- Coverage: Have active tradable markets and been trading for 60 days.
- Liquidity: Listed on Balancer and has at least 1 public pool with \$50,000 USD worth of liquidity.
- Token Holder Count: > 500 Addresses

Guiding Principles for Reconstitution & Rebalancing

- The proposed rebalancing review will be conducted every three months starting from when the ETP has launched.
- Rebalancing (as well as swaps, additions and removals) may be limited by relevant Balancer protocol mechanisms, availability of appropriate token pools within Balancer, overall token liquidity, and prevailing swap fees.



5. Key Balancer Smart Pool Concepts

- **Balancer Finance** is a non-custodial portfolio manager and liquidity provider platform.
- **Balancer Pools** are automated market makers with certain key properties that cause them to function as self-balancing weighted portfolios and price sensors.
- **Core Pool** - a Balancer Pool contract object - this is the "base" pool that actually holds the tokens as accounted for in the Balance Vault. Core Pool is effectively a primary issuance market. Core pools are tokenized in ERC-20 format, representing units of the underlying portfolio. Tokenization of Core Pools effectively makes them Exchange Traded Portfolios (ETPs) as the tokenized pool can be listed and traded on a secondary market.
- **Smart Pool** - a contract that owns (i.e., is the controller of) a Core Pool. Not all core pools are controlled by smart pools, only those that are tuned to perform certain functions or follow a certain thesis, hence they are different to uncontrolled public pools. A smart contract controlled pool can fully emulate a finalised core pool, while also allowing complex logic to readjust balances, weights, and fees. Such a construct is used to create an ETP to reflect and support a basket of assets. Hereby, a Balancer Smart Pool ETP represents a spot market exposure to a physical basket of assets that reflect the constituents and weights of the basket methodology.
- **BPT Token** - all pools in Balancer are also ERC-20 tokens known as BPTs (Balancer Pool Tokens), which represent proportional ownership of the pool's assets. When users add assets, they receive BPTs proportional to the amount of assets they are adding to the pool. When listed, these tokens can be traded on a secondary market.



6. Configurable Rights

Smart Pools are managed according to the rights granted to the controller on creation. By deploying a Smart Pool, WSB becomes the controller of the Smart Pool - and the Smart Pool itself becomes the controller of the Core Pool. Hence the ETP provider only has access to rebalancing of the assets, but not a custodial control over the funds in the Core Pool. The keys to the controller will be handed over to the WSB DAO once it's installed and live by the end of August 2021. Meanwhile, the \$WSB token holders will be able to vote on the assets and the weightings.

Set of rights for the ETP:

- 1) **Paused Swapping:** the controller will halt trading (swaps) on the underlying core pool. With paused swapping, the logic in the smart contract can toggle trading on and off. For instance, the controller might want to "short-circuit" the contract in certain pathological cases, such as market crashes.
- 2) **Add/Remove Tokens:** allows the controller to change the composition of the pool. This will occur in accordance with the basket methodology and rebalancing directives. Adding a token is a two-step process meant to mitigate this risk and lower the trust required. The protocol emits an event when a token is "committed" (about to be added), and enforces a minimum wait time before the controller can "apply" (actually add) the token. Current "add/remove token" function delay is set to 6 hours (1440 blocks).
- 3) **Change Weights:** the controller will call `updateWeight` (to directly update a single token's weight), or `updateWeights Gradually` (to linearly transform a set of weights over time). This will occur in accordance with the basket rebalancing events. Naturally, altering weights will change balances - which means transferring tokens - in order to leave prices unchanged. When updating weights gradually, the protocol enforces a minimum time between updates, and a minimum total time for the update. These parameters are set at create time, and are immutable thereafter. Current "change weights" function delay is set for gradual change over a 3 day period (17280 blocks).
- 4) **Change Swap Fee:** after contract deployment, the controller will be able to change the Swap Fee within the bounds set by the underlying core pool (e.g., it cannot be zero, or greater than 10%). With this right, it would be possible to implement fee optimisation strategies (i.e., to maintain the peg to the basket and minimise impermanent loss).
- 5) **Whitelist:** When enabled, no one can add liquidity (including the controller, beyond initial creation of the pool), unless they are added to a whitelist by the creator. Although this function is available to the controller, it will be disabled for this portfolio.
- 6) **Change Cap:** When enabled, the cap is set to the initial supply on creation - and can be changed later by the controller. Although this function is available to the controller, it will be disabled for this pool (there will be no cap for this pool).

7. BAL Liquidity Mining

To incentivise traders, fund managers, and liquidity providers and to pursue decentralisation, Balancer Labs implemented the concept of liquidity mining, where Balancer governance tokens (\$BAL) are distributed proportionally to the amount of liquidity each address contributed to each qualified pool, relative to the total liquidity on Balancer.



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8. Portfolio Management & Expense Structure

Type	Name
Advisor	Techemy Capital Ltd.
Portfolio Manager	WSB Dapp

The following table describes the fees and expenses that the manager will apply to create or redeem units in the ETP. In addition, unit holders may pay other transaction fees, such as network gas fees on deposit and withdrawals of the ETP.

Type	Amount
Performance Fee	n/a
Swap Fee*	+0.025%
Liquidity Providers	+0.025%

* Unit holders may vote to vary the swap fee rate from time to time.

* The Swap Fee is paid by Balancer users and not the ETP investors.



9. Technical Constraints of Balancer Pools

Balancer is designed to be a flexible and agnostic DeFi protocol. Due to constraints such as gas and math approximations, there are some limitations built into the protocol, including:

- **ERC-20 compliance:** pool tokens have to be ERC-20 compliant. There are no upgrade mechanisms in the contracts to allow for token upgrades. Any upgrade will need to be manually coordinated and moved into new pools. Tokens that have internal transfer fees or other non-standard balance updates (e.g. AMPL) may be excluded from the constituent lists at the discretion of the ETP provider.
- **Minimum Bound Tokens - 2.** A functional pool must contain at least two tokens. (If the pool creator can remove tokens, it is possible to remove them all and have one or zero, but of course no swaps are possible if there is only one token, and a 0-token pool cannot be restored).
- **Maximum Bound Tokens - 20.** The maximum number of tokens that can be in a given pool is 100. However, a circuit breaker and other factors may constrain the feasibility of pools larger than 20-30 assets.
- **Maximum Swap In Ratio - 1/2.** A maximum swap in ratio of 0.50 means a user can only swap in less than 50% of the current balance of tokenIn for a given pool.
- **Maximum Swap Out Ratio - 1/3.** A maximum swap out ratio of 1/3 means a user can only swap out less than 33.33% of the current balance of tokenOut for a given pool
- **Minimum Swap Fee - 0.0001%.** There is a minimum swap fee of 0.0001% (or a hundredth of a basis point) to counteract any unfavorable pool rounding.
- **Maximum Swap Fee - 10%.** This is to prevent malicious pool controllers from setting predatory trading fees. (for instance, a pool controller could front-run a large trade and set the fee to 99%).
- **Minimum Balance - $(10^{18}) / (10^{12})$.** The minimum balance of any token in a pool is 10^6 wei. **Important:** this is agnostic to token decimals and may cause issues for tokens with less than 6 decimals. Also note that this is only enforced on initial token binding.

10. ETP Specs

- **Constituent Assets** will be mirroring the basket composition to maintain parity.
- **Reconstitution & Rebalancing** will be implemented in accordance with the basket methodology and the Balancer protocol.
- **Asset Pricing** - Balancer protocol does not use outside price oracles. When portfolio asset prices start to differ from market prices, arbitrators sweep in to eliminate price differences. Asset prices in Balancer Pools do not move unless someone makes a trade.
- **Governance** - The ETP manager is responsible for the oversight and transparency of all aspects relating to the provision of the ETP with periodic reviews in accordance with the basket methodology. In this ETP product, the ETP Managers are the \$WSB Token holders.



11. Principal Investment Risks

- **Passive Management Risk**
 - May not be able to fully capture beta compared to an active strategy, but this should be offset by reduced volatility and reduced cost of holding a diversified portfolio.
- **Currency Exchange Rate Risk**
 - Exchange rates as between constituent assets may enhance or diminish the returns generated from the portfolio (from the impact of asset correlation).
- **ETP Risk**
 - These are still relatively novel products, subject to changes in technology.
- **Market Event Risk**
 - New regulations

12. Product Provenance

Original WSB Dapp Voting Proposal (June 30, 2021):

<https://gov.wsbdapp.com/t/etp-2-macro-hedge/380>

Result of WSB Dapp ETP Vote (July 7, 2021):

<https://wsbdapp.medium.com/landmark-unlocked-result-of-the-2nd-wsbdapp-etp-vote-5bc9ba5ab054>

Snapshot Voting proposals

<https://snapshot.org/#/wsbdapp.eth/proposal/QmZ5KSYBGoLPunJ8SWBdDe6VXJ8ed1kmjz52mNU2ieLhUB>