PROJECT MERCURY

ME COLLATERAL

AN INTELLIGENT STORE OF VALUE TO ENHANCE MEME ECONOMICS

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V3.0

ABSTRACT

This Whitepaper introduces an alternative intelligent store of value replacement for the MEME-themed crypto assets called MERCURY COLLATERAL (ME), where the protocol implements a novel time-bound sell ratio lock mechanism with liquidity protection that prevents large investors from manipulating the market price. Additionally, MERCURY is backed by a pool of stable assets locked in a crypto reserve called Burn Vault to provide minimum guarantee price support, where the investors can cash out without impacting the market price. As a result, the investors are encouraged to HODL for an extended period, which fundamentally makes the economic model much safer than MEME and other reflection-based cryptocurrencies without disrupting its fun culture.

Disclaimer: Project Mercury is loosely based on the three-dimensional asset class model published by researchers from Anna University at the Dubai Blockchain Summit in Oct 2023 called JOKER protocol. Our project draws inspiration from certain philosophies outlined in the JOKER protocol whitepaper, envisioning an enhancement of MEME and reflection economics.

While the JOKER protocol focuses on advancing the DeFi and flatcoin asset class dynamics within lending and fractional protocols, Mercury's Protocol addresses the volatility affecting MEME token economics. It is essential to note that before the complete implementation of the Mercury Protocol project, the underlying logic may change without prior notice. We intend to transparently communicate our vision and objectives, providing clarity on the project's alignment with the principles of the JOKER protocol.

1. INTRODUCTION
1.1 THE MAJOR CRYPTO MARKET PROBLEM

Unpacking the Challenges: MEME Assets and Their Impact on the Crypto Industry

In the ever-evolving cryptocurrency market landscape, MEME economics has emerged as a unique asset subset, often characterized by its playful branding and viral nature. While these assets may capture attention and garner a dedicated community, their underlying economics have raised concerns beyond humor.

The Volatility Quandary: MEME assets tend to be highly volatile by their very nature. While volatility is inherent in crypto, the extreme price fluctuations associated with MEME assets pose a significant challenge. This volatility not only discourages everyday users from considering these assets as a reliable investment class but also introduces an element of unpredictability that affects market stability.

Speculative Trading Takes Center Stage: One of the primary issues plaguing MEME assets is their susceptibility to speculative trading. Traders often engage in short-term maneuvers, manipulating prices for quick gains. This speculative dominance distorts the market and shifts the focus away from the fundamental utility and value creation that these coins could offer.

The Dearth of Long-Term Incentives: MEME ecosystems often lack robust mechanisms to incentivize long-term holding. The absence of such incentives contributes to a culture of frequent buying and selling, exacerbating volatility and hindering the coin's ability to establish itself as a store of value over time.

Governance Woes: Governance structures within MEME ecosystems often need improvement, leading to decision-making challenges and protocol upgrades. Effective governance is paramount for adapting to market changes and addressing issues promptly. With it, MEME assets can avoid stagnation and a loss of user trust.

Limited Use Cases: Despite their popularity, MEME assets often need more diverse and practical use cases. This limitation constrains adoption and utility, preventing these coins from contributing meaningfully to the broader crypto industry beyond speculative trading.

BITCOIN CORRELATION AND PRICE FLUCTUATION

Synthetic commodity money is a new classification for scarce assets (like GOLD, SILVER, AND DIAMOND). Bitcoin is an example of Synthetic commodity money that could reform money and be a better alternative to traditional assets. Gold is one of the best stores of value for its unique properties, interwoven into cultures for thousands of years. People continued to hold gold for various reasons throughout the centuries. Modern economies have placed value on gold, thus perpetuating its worth. The concept of money is changing drastically, with cryptocurrency revolutionizing the world as a vital forefront runner.

The birth of Bitcoin solves many financial trust issues and, at the same time, introduces more problems. One of the critical crypto market investment risks we are facing nowadays is that the value of almost all crypto projects is pegged to Bitcoin. As a result, the entire market comes down when Bitcoin goes down. High correlations in the decentralized market prohibit diversification due to several price fluctuations affecting all other cryptocurrencies.

The main factor for such price fluctuations is the need for adequate control when big investors cash out in bulk, which completely crashes the token price. Innovative experiments to create other forms of money to bet against Bitcoin have been going on for so long that computer scientists introduced several protocols to minimize price fluctuations and de-correlate market dependencies.

In theory, to design such price-resistant crypto-asset models,

1) A mechanism must exist where significant large investors' cashouts are controlled to preserve small investors.
2) A mechanism must also exist where investors can exchange crypto assets for FIAT or other stable assets without impacting the market price.

1.2 TARGET AND SOLUTIONS

Team MERCURY designed an innovative, risk-free, price-resistant investment class for the crypto economy with the following two fundamental characteristics.

A) Minimal price volatility footprint resisting bitcoin corrections

B) Growing Purchase Power

For example, suppose an investor buys $1000 worth of an asset class as a long-term investment. Their purchase power will gradually grow like a plant, irrespective of the crypto market position, bitcoin price, or other economic shocks.

After extensive research and testing, we are proud to introduce a new digital asset class called MERCURY COLLATERAL (ME), an intelligent store of value designed to enhance MEME economics by solving several cryptocurrency market corrections.

2. ME – A BETTER ALTERNATIVE TO MEME ECONOMICS

ME aims to be the world's first non-depreciating smart meme asset class with all the characteristics of GOLD by introducing three innovative protocol operations that help increase purchasing power significantly over time.

A. **TIME-LOCK SELL RATIO** is a novel design that prevents investors from selling their assets in large quantities. This mechanism regulates purchase power by enforcing a time lock on the holder's wallet, which prevents one from selling or transferring more than 1% of the asset in 24 hours. By enabling the time-lock, asset holders, especially whales, can't manipulate the price significantly, increasing long-regulated purchase power.

B. **BURN VAULT MECHANISM** is a new decentralized reserve pool similar to the Bretton Woods FIAT-Gold Reserve system that provides a minimum collateral price guarantee to investors irrespective of the market condition during the panic period.

C. **AUTOMATED LIQUIDITY POOL (ALP) MECHANISM** prevents exchange liquidity fluctuation to a greater extent by locking a portion of every transaction back in the liquidity pool, enhancing the overall market price of the crypto asset.

In summary, the ME asset class is designed to be precious in every way because it is scarce, non-dilutive, free from market distortions, resistant to economic shocks, and, most importantly, backed by another crypto asset, increasing integrity and trust.

3. WHAT PROBLEMS DOES MERCURY SOLVE?

A. DIGITAL ASSET INTRA-CORRELATION

Since the inception of Bitcoin in 2009, dozens of other cryptocurrencies (and synthetic commodities) have spun off, representing a financial value on an electronic, data-driven ledger of some sort. Most synthetic commodities' price and weight depend highly on the cost of Bitcoin, leading to a homogeneous system of synthetic commodities. Ideally, a digital asset would exist with almost no correlation to traditional asset groups and existing digital assets. That's where ME collateral comes in. The entire ethos of this project is a paradigm shift from price-based to time-based trading strategies.

B. TIME-BOUND BUY-SELL RATIO

ME controls the time-demand equilibrium every 24 hours using the Time-Lock mechanism tied to the number of tokens each investor holds in their wallets. Time-Lock ensures that the market cap of the collateral persists and the growth is consistent by adjusting the selling threshold dynamically.

C. WHALE-PROOF DEFI FARMING

Due to their extensive portfolio allocation, whales usually eat a higher percentage of all DeFi farming benefits than average users. MERCURY protocol fundamentals potentially limit the staking percentage across all wallets, and as a result, the benefits are evenly distributed to the users.

D. INFLATION HEDGE

ME will be an excellent hedge against inflation because its price will rise over time as the supply decreases. When other crypto assets lose their purchasing power to inflation, ME tends to be priced in those currency units and rise along with everything else, making it one of the best collaterals for DEFI protocols.

E. DEFLATION PROTECTION

People choose to hoard cash, and the safest place to hold cash is GOLD at any point in time. ME fundamentally has the same GOLD characteristics as a store of value, making it a worthy investment to de-risk from the value collapse.

F. EXPONENTIAL REWARDS

With the novel deflationary mechanics, ME holders earn passive trustless rewards instantly without staking needs. The benefits are directly proportional to the holding time, similar to traditional bonds and certificates.

G. DIVERSIFICATION OF CRYPTO PORTFOLIOS

Since ME is resistant to crypto corrections, it offers a different model to minimize portfolio classification risks, making it one of the best low-risk strategies for long-term asset holders who want to bet against Bitcoin.

4. TECHNICAL ARCHITECTURE

MERCURY PROTOCOL will be implemented as Smart Contracts, including an Open Zeppelin layer to assist with corrections as required. The contract enforces several rules to maintain price balance when a transaction or sale occurs.

A) If the transaction originates from the Owner's Wallet, the receiver gets 100% of the transaction amount without a fee; otherwise, 10% will be deducted as tax.
B) The contract will enforce the following when a user initiates a transaction
    i. If the transfer amount is 0.75 % of the sender's balance, the address will be locked for 24 hours.

ii. If the transfer amount is between 0.5% and 0.75% of the sender's balance, the address will be locked for 12 hours.
iii. If the transfer amount is below 0.5 % of the sender's balance, No lock occurs.
iv. A sender can make only two transactions within 24 hours.

C) The contract also enforces the following when a user receives a transaction.

i. If a recipient receives more than 0.75 % of the wallet balance, the contract will lock the wallet for 24 hours.
ii. If a recipient receives between 0.5% and 0.75 % of the wallet balance, the contract will lock the wallet for 12 hours.
iii. If a recipient receives less than 0.5% of the wallet balance, there won't be any lock, and the user can transfer funds instantly.

4.1 PROTOCOL OPERATIONS

PRECHECK

The protocol enforces two levels of precheck restrictions in general. At any point in time,

1) Investors can't make more than two transactions from a wallet in 24 hours

2) Investors can't transfer more than 1% of their wallet balance in 24 hours

POST CHECK

The protocol achieves consistent purchase power increase after every transaction through four novel protocol dynamics.

A) Regulates supply after every transaction by burning 4% of the amount forever from circulation.
B) Regulates exponential rewards by equally distributing 4% of the transaction amount among holders.
C) Regulates selling pressure fluctuations by accumulating 1% of the transaction amount in Burn Vault.
D) Regulates exchange liquidity fluctuations by locking 1% of the transaction amount in LP.

4.2 TIME-LOCK DYNAMICS AND ALP DEMONSTRATION

Using the following example, let's look at how the time-lock mechanics and ALP work.

Sam has 20,000 ME tokens in his wallet

SCENARIO 1:

Sam initiates a transaction to sell 1000 tokens in the exchange

Validation: PRECHECK (FAILED)

The transfer amount is 5% of his wallet balance, exceeding the acceptable 1% daily limit. As a result, the contract will not allow the transaction

SCENARIO 2:

Sam initiates a transaction to sell 100 ME tokens in the exchange

Validation: PRECHECK (PASSED)

The transfer amount is 0.5% of the wallet balance and is within the acceptable 1% daily limit. As a result, the contract approves the transaction after performing the following six protocol operations

- Increases the daily transaction counter by 1
- Lock the Wallet for 12 hours since it reaches 50% of the 1% limit
- Accumulates 1% (1 ME token) of the transaction amount in Burn Vault.
- Send 1% (1 ME token) of the transaction amount to the exchange liquidity pool.
- Burn 4% (4 ME tokens) of the transaction amount forever from circulation.
- Distributes 4% (4 ME tokens) of the transaction amount as rewards equally among holders.

SCENARIO 3:

Sam initiates a transaction to sell 200 ME assets in the exchange

Validation: PRECHECK (PASSED)

The transfer amount is 1% of the wallet balance and is within the acceptable threshold of 1% daily limit. As a result, the contract approves the transaction after performing the following six protocol operations

- Increases the daily transaction counter by 1
- Lock the Wallet for 24 hours since it reaches 100% of the 1% limit
- Accumulates 1% (2 ME tokens) of the transaction amount in Burn Vault.
- Send 1% (2 ME tokens) of the transaction amount to the exchange liquidity pool.
- Burn 4% (8 ME tokens) of the transaction amount forever from circulation.
- Distributes 4% (8 ME tokens) of the transaction amount as rewards equally among holders.

SCENARIO 4:

The investor initiates three sell transactions of 50 ME tokens, each consecutively with the exchange

TRANSACTION 1:

Validation: PRECHECK (PASSED)

- The 1st transfer amount is 0.25% of the wallet balance and is within the acceptable 1% daily threshold. The contract approves the transaction after performing the following five protocol operations

- Increases the daily transaction counter by 1 (Total Transaction in 24 hours = 1)
- Accumulates 1% (0.5 ME tokens) of the transaction amount in Burn Vault.
- Send 1% (0.5 ME tokens) of the transaction amount to the exchange liquidity pool.
- Burn 4% (2 ME tokens) of the transaction amount forever from circulation.
- Distributes 4% (2 ME tokens) of the transaction amount as rewards equally among holders.

Note: There won't be any wallet lock since the % of the transaction amount is less than 0.5%

TRANSACTION 2:

Validation: PRECHECK (PASSED)

- The 2nd transfer amount is 0.25% of the wallet balance and is within the acceptable 1% daily threshold. The contract approves the transaction after performing the following six protocol operations

- Increases the daily transaction counter by 1 (Total Transaction in 24 hours = 2)
- Lock the Wallet for 24 hours because the total transaction reaches the 24-hour threshold
- Accumulates 1% (0.5 ME tokens) of the transaction amount in Burn Vault.
- Send 1% (0.5 ME tokens) of the transaction amount to the exchange liquidity pool.
- Burn 4% (2 ME tokens) of the transaction amount forever from circulation.
- Distributes 4% (2 ME tokens) of the transaction amount as rewards equally among holders.

TRANSACTION 3:

Validation: PRECHECK (PASSED)

Though the transfer amount is within the acceptable 1% daily threshold, the wallet is locked after the 2nd transaction; hence, the contract will not approve the 3rd transaction.

4.3: BURN VAULT

The primary objective of the burn vault design is to provide investors with a way to cash out their holdings without impacting the market price.

After every transaction, 1% of the transaction amount is deducted as tax and accumulated in a separate contract as stablecoins called Burn Vault.

The protocol does the following two steps once a transaction amount is deposited.

1) Convert the received amount into a stable asset through an exchange
2) Lock the converted stable asset in the Burn Vault

With this accumulation process, the assets stored in the vault always grow proportionally to the daily transaction volume. When a holder decides to cash out and send the token asset to the Burn Vault address, the Burn Vault, in turn, credits his wallet back the proportional amount of stable assets to the Vault price set by the protocol.

VAULT PRICING MODEL:

The Burn Vault Swap price varies every minute and depends on the following two variables

a) Total ME Supply (A)
b) Total USD Value locked in Vault (B)

The protocol sets a new price dynamically in the Vault using the following formula.

Vault Price Per Asset = (Total USD Value locked in Vault)/ (Total ME Supply)

For example,

The total circulating supply is 100,000

The total Value Locked is 2000 USD

Then the Vault Price set by the protocol will be 0.02 $ (2000 / 100,000)

When a user sends 100 token assets to burn Vault, he will get (100 x 0.02) 2 USD in return

Moreover, the token assets swapped via Burn Vault will be removed permanently from circulation, making the investment more scarce and increasing the price further.

BENEFITS AND RESTRICTIONS

1) The protocol also restricts a holder from swapping more than 0.01 % of the total circulating supply using Burn Vault in 30 days.

5. USE CASE – SAFE DEFI HEDGE COLLATERAL

The protocol dynamics are structured in such a way to be a secured store of value in crypto, making it one of the robust candidates for long-term DeFi usage and investments. The collateral backing via Burn Vault permanently bonds the value, giving a minimum price guarantee to investors and optimizing the risk factor to a bare minimum. The Time-Lock concept further

makes it Whale-Proof, avoiding price manipulation and increasing the floor price consistently. The deflationary mechanics will drive the price up consistently as the supply becomes scarce, and investors earn exponential interest by simply holding the collateral in their wallets. These qualities make ME collateral one of the most intelligent investments to regulate linear purchase power growth.

6. FINAL THOUGHTS

ME Collateral brings a remarkable degree of innovation in cryptocurrency mechanics. The protocol fundamentally changes the model from a price-based trading strategy to a time-based system that guarantees more reliability and independence from the performance of other cryptocurrencies, including bitcoin. The protocol's price resistance model opens up many opportunities in DeFi for essential applications that genuinely benefit everyone fairly.

The novel dynamics present an optimistic view for a future with supply-based cryptocurrencies, guaranteeing a more diverse, fair, and independent market. Although the price can be volatile in the short term, its value will increase and stabilize over the long term. Through the years, like GOLD, ME Collateral will serve as the best hedge against inflation as an investment worth considering.

7. REFERENCES

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