Llama Diversified Index (LDI)

OKR: Launch a new product which will increase INDEXcoop AUM

Title: Llama Diversified Index (LDI)
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What problem are we solving?

There are currently no diversified portfolio offerings available as crypto-native structured products that optimize for returns relative to standard deviations among various sub-asset classes. Indices without an allocation to stablecoins (an essential component of a diversified crypto strategy) fail to rebalance toward risk-on assets during periods of market stress and toward risk-off assets during periods of market euphoria. Market weighted products do not typically allocate along the efficient frontier which leads to underperformance over time. This is especially the case with MVI. As DeFi evolves, the market is moving towards productive assets like stETH and we have seen multiple treasuries within the space position themselves towards productive assets. Unproductive-index products risk becoming obsolete in time as the market matures and productive assets develop a track record.

Why are we pursuing this problem?

LDI was designed in response to not being able to identify a suitable somewhat balanced diversified index product within the space. As DeFi matures, more sophisticated methodologies will emerge. As more non-retail money enters the space, there needs to exist proven products ready to receive this capital. In many ways, DAO Treasuries are first movers and as traditional capital sources flow into DeFi it is highly probable that this sophisticated capital follows the path of more native ultra high worth investment funds. Llama as a treasury management specialist has designed LDI for this market; by offering this product as a liquid ERC20 token, small retail investors now gain access to far more advanced strategies than they would have had the opportunity to invest in.

Primary

The Llama Diversified Index (LDI) is a risk-optimised diversified portfolio that contains productive assets wherever possible. LDI enables passive investment in a diversified set that provides access to the main thematic investment sectors on the Ethereum network. The diversified portfolio construction has already proven to have strong product market fit as Gitcoin has expressed interest in becoming an early investor in the product. In time, LDI will be integrated across DeFi, allowing for extrinsically productive opportunities to be generated on top of a balanced index, further enhancing the appeal of holding a diversified portfolio.

Key reasons for Index Coop to launch LDI:

1. Offer investors a diversified balanced product
    a. Advance methodology with risk optimised returns that utilises productive assets

2. Combine network effects through partnering with other teams
3. Offer an appealing structured product to ultra high net worth investors such as TradFi firms entering the space and DAO Treasuries

Key reasons for customer to buy LDI

1. Productive, horizontal diversification, methodology that takes risk during euphoria and buys the dip whilst offering risk optimised returns.
2. Set and forget ethereum ecosystem fund with ETH2.0, DeFi, Web3 and Metaverse exposure
3. Risk Optimised Returns within a balanced portfolio construct
4. No need to hold stable coins separately, they are all included within LDI.

Expected AUM

DeFi treasuries have amassed a total AUM of over $6B. As DAOs seek to diversify their treasuries, passive and diversified portfolio solutions will enable simplified management. The total addressable market for a diversified Ethereum-focused crypto portfolio is tremendous. Capturing a small portion of this overall market means generating significant AUM for Index Coop. A diversified crypto index product currently does not exist within DeFi and therefore represents a unique opportunity for Index Coop to partner with a treasury management specialist in Llama.

LDI has already secured approximately $3.5M of external funding. With a firm timeline to market, Llama can work with other potential partners to help secure AUM for launch or soon thereafter. Capturing a fraction of the traditional finance capital that flows into the ecosystem creates additional market surface area for LDI to tap into. Llama has discussed the LDI product with representatives of various university endowment groups and received positive feedback. This represents a new segment of the market to consider.

At the time of writing there are no alternative products on the market. There is a distinct first mover advantage especially when combined with TVL and on-chain liquidity which enables integrations to happen with relative ease and appeals to new capital flowing into the space.

Liquidity Mining - This is for Index Coop to present a recommendation.

How LDI Operates:

Llama will provide the composition of LDI prior to any rebalancing. All tokens are ERC20, all have on-chain liquidity and some have the ability to convert unproductive assets into productive assets (e.g. depositing the asset into a Yearn vault).

Note:

- xToken's products have been removed due to recent xSNX issues
- PAY has been removed due to the extended development lead time. PAY will be added as soon as the product is available. Expectations are within 3 months and commercial discussions assume PAY is within LDI as an incentive for Index Coop to deliver PAY.
- PAY is replaced with equal weighting of aDAI, aUSDC and aUSDT. When Balancer launches their wrapped aToken pools, the aToken holding will be deposited into Balancer to earn BAL rewards. Balancer expects the pools to be live around the end of October 2021.

Non - negotiables

1. LDI will be based on the v2 Set Protocol contracts
2. Exchange issuance / redemption at launch
3. TokenSet Standard Issuance / Redemption with option to redeem from constituents, as per BED
4. The methodologist will publish target allocations for each component.
5. A deep L1 liquidity pool would allow smaller trades to avoid the gas costs of issue / redemption by allowing efficient arbitrage to NAV.
6. Rebalancing will be done quarterly or every second month in order to:
    a. Match the methodology criteria [Describe]
    b. Add or remove tokens
7. High level document detailing the launch strategy and commitments for both communities written and cited in forum DG2. Variations thereafter need to pass through both communities' governance process prior to any deviation.
8. No single entity can change Fee Split without sign off from the other partner

Negotiables

1. Intrinsic productivity if opportunities emerge in the future, at its agreed upon by both parties
2. Unproductive version of the token
3. Stream Fee Split
4. Revenue Sharing
5. Joint Dev/technical support (No need for a FLI like POD, but if so, Llama and Index Coop can do it together)
6. Methodologist rewards
7. Index Coop KPI payments from Llama if criteria is met
8. Single sided staking

Launch composition:

Notes from Nov 9th:

1. *yTokens are removed*
2. *stETH is possible*
3. *aTokens would require new exchange issuance contract*
4. *Remove cCOMP and replace with COMP*
5. *Remove yLINK and replace with LINK*

LDI has proposed the following composition:

Asset Name	Allocation (%)	Relative Weighting (%)	Tactical Range		Set Labs Adapter
			Low	High	
Stablecoins	15.0%	15.0%	-	-	-
aUSDC	5.0%	33.33%	100.0%	100.0%	Aave

aDAI	5.0%	33.33%	100.0%	100.0%	Aave
aUSDT	5.0%	33.33%	100.0%	100.0%	Aave
Bitcoin	15.0%	15.0%	-	-	-
ibBTC	15.0%	100.0%	100.0%	100.0%	Sushiswap
Ethereum	35.0%	35.0%	-	gm-	-
stETH	35.0%	100.0%	100.0%	100.0%	Balancer v2
DeFi	20.0%	20.0%	-	-	-
UNI	5.0%	25.0%	25.0%	25.0%	Uniswap
AAVE	2.4%	12.0%	5.0%	23.0%	Sushiswap
COMP	4.2%	21.0%	5.0%	21.0%	Compound
ySNX	1.0%	5.0%	5.0%	18.0%	Yearn
MKR	3.4%	17.0%	5.0%	17.0%	Uniswap
xSUSHI	3.0%	15.0%	5.0%	15.0%	Sushiswap
yYFI	1.0%	5.0%	5.0%	13.0%	Yearn
Metaverse	10.0%	10.0%	-	-	-
AXS	5.0%	50.0%	44.00%	50.00%	Uniswap
MANA	1.5%	15.0%	10.00%	27.00%	Uniswap
SAND	2.5%	25.0%	10.00%	25.00%	Uniswap
ENJ	1.0%	10.0%	10.00%	25.00%	Uniswap
Infrastructure	5.0%	5.0%	-	-	-
LINK	3.1%	62.0%	62.00%	82.00%	Yearn
GRT	1.9%	38.0%	20.00%	38.00%	Uniswap
Total	100.0%	100.0%			

What are we building?

Primary Teams Involved:

1. Product - PWG
    a. PWG shall manage liquidity and PWG will provide all the Dune dashboard to support this analysis.
    b. All other support is to be provided by Llama.
2. Engineering
    a. Smart contracts - INDEXcoop
    b. Backend - INDEXcoop
    c. Frontend - INDEXcoop
        i. Llama will also have a UI when the website is released and will also show other Index Coop products

3. Growth - GWG

Goals for MVP:

1. Launch a product that matches v0.1 methodology within a Set Protocol contract ($PAY has v2 Set Protocols, not sure which is required here)
2. Implementation on the main Ethereum chain only
3. Enable Issuance & Redemption with Positively Rebasing Tokens (aUSDC, aDAI, aUSDT, etc.)
4. Product will use (and require adaptors for):
    a. Aave
    b. Yearn
    c. Lido
    d. BadgerDAO
    e. Compound
5. Periodic (during rebalance) harvest of reward token
6. Implementation should allow for upgradeability, protocols / vaults to be added.
    a. For PAY to be included and for aTokens to be deposited into Balancer waToken pools to earn additional yield (two step deposit, not possible with current tech capabilities)
7. Create a $ETH:$LDI DEX pool.
    a. Seed/ liquidity mining TBD
8. Periodic fee collection by creation of LDI tokens without depositing underlying based on AUM streaming fee calculation only
9. Periodic rebalance between tokens based on methodologist requirements.
10. Tokensets, IC & Llama page created.
    a. Buy flow
    b. Redemption flow
11. Arb bot that keeps the DEX market to NAV.
    a. Internalizes profit of the arb transaction into the Index Coop. [Could be outsourced to flashbots at no cost]
12. Any changes to the fee structure or permission on the contract must be accompanied with an email, detailing the technical changes and any implication of these changes being proposed. Llama at all times will be a mandatory approval signer on any permissions relating to LDI. ie: It is impossible to change the fee split without written explanation via email and Llama on-chain approval by being a mandatory multi-sig signer.

How will we measure success?

Primary: AUM in the product.
Secondary: Revenue to INDEXcoop

Job Stories

1. When my DAO deposits to XXX, we can be sure that I will earn a constant return from my investment.
2. I want to generate safe income by investing in yield earning products with low volatility.
3. I want to reduce the number of transactions I make to save gas and simplify my tax returns. Having part of my portfolio in a managed fund with only capital gains makes my life so much easier.

Open Questions

1. Is the fund constructed from 100% liquid ERC 20 tokens. (Use of wrap adaptors adds significant Dev work prior to launch) See:
    a. https://gov.indexcoop.com/t/product-feasibility-awareness/2398
    b. https://docs.google.com/spreadsheets/d/1hJw2w0mnanWWEyh7DMc7aWaw6_KV0F4MG62kcrVqlaM/edit#gid=99999820
2. Does the product need aTokens?
    a. aTokens behave differently to cTokens as the number of aTokens increases over time.
3. Is Exchange Issuance required for launch?
4. What fees will be applied to the product?
    a. Streaming fees?
    b. Issue / redeem?
    c. share of profit?

Risks

Technical Risk:

- Use of yield generating tokens in diversified product - not currently implemented
    - Wrappers are relatively straightforward.
    - Automated rebalance not currently available - would require multiple multisig transactions.
    - Calculation of NAV is more complex
    - Exchange issuance / arbitrage / redemption is more complex.
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Market Risk

- Liquidity available for underlying income generating tokens
- How much trade volume to support DEX liquidity vs need for liquidity mining
- ….

Execution Risk

- Dependent on $PAY liquidity - larger purchases will either need manual issuance, or suffer if $PAY liquidity is low
- R&D is required for multiple components of the technical build(?)
- Getting products through governance in a timely manner
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Notes

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Resources

- *IIP-60 for LDI*
- Product Feasibility post
- Product Feasibility analysis