

Reassessing Restaking Risks - How Institutional Stakers and Node Operators Can Evaluate AVSs and LRT

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→ acquired by **Blockdaemon** (since Dec 2021)



What to expect

- 1 Why are we here? - State of Restaking
- 2 What is Restaking? - Brief Recap
- 3 Stacking of Considerations & Risks
- 4 Comparing to Bonds
- 5 Takeaways



What to expect

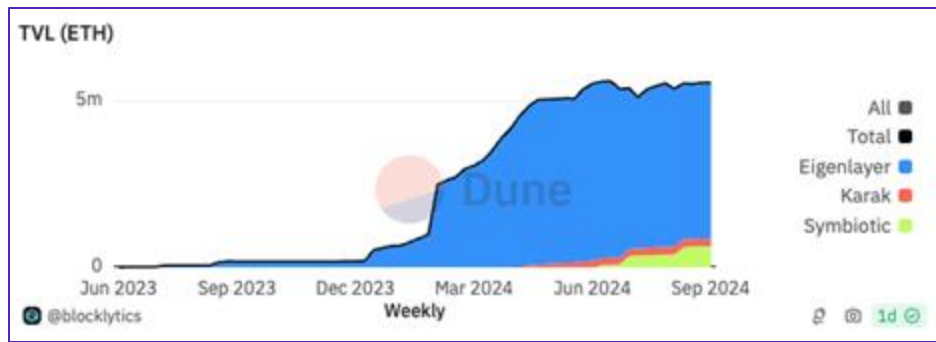


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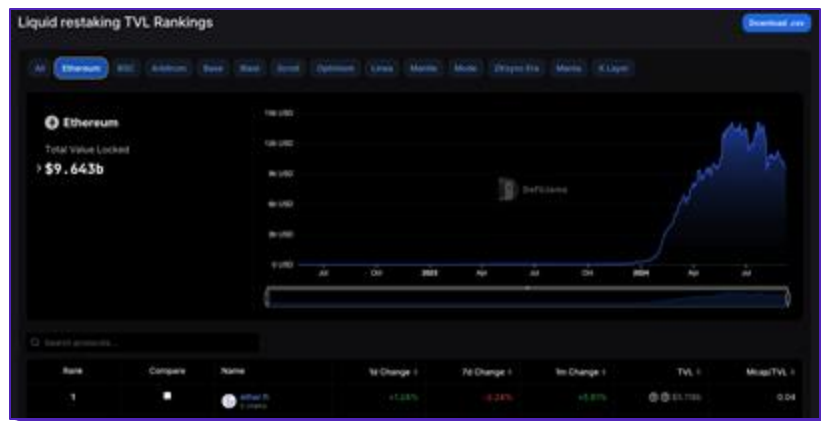


Why are we here? - State of Restaking

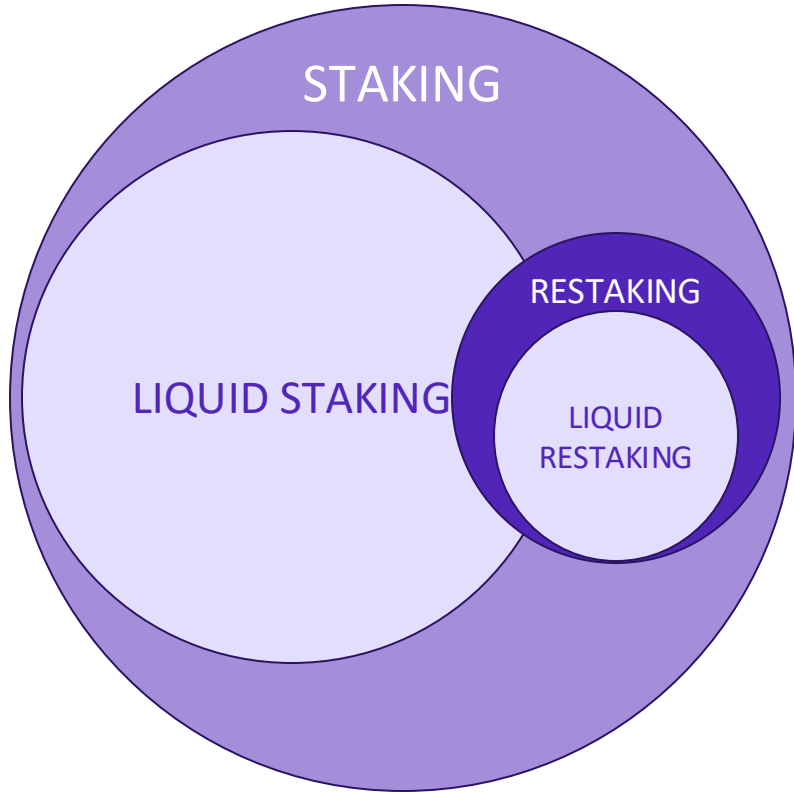
Quickly developing narrative! → in crypto historically means to better proceed with caution...



Protocols	Chain	TVL
Live on Ethereum		
EigenLayer	Ethereum	\$17.645 B
Karak	Ethereum	\$915.49 M
Symbiotic	Ethereum	\$316.5 M
Live on Other Ecosystems		
Solayer	Solana	\$74.11 M
Merlin	Bitcoin	—
Pell Network	Bitcoin	\$133.84 M
Allstake	Solana & NEAR	\$12.72 M
Parasail	Filecoin	\$60.46 M
Octopus Network	NEAR	\$2.84 M



State of Restaking - Room to Grow



~28% \$ETH is in STAKING of which
~41% is in LIQUID STAKING
~16% is in RESTAKING
~12% is in LIQUID RESTAKING



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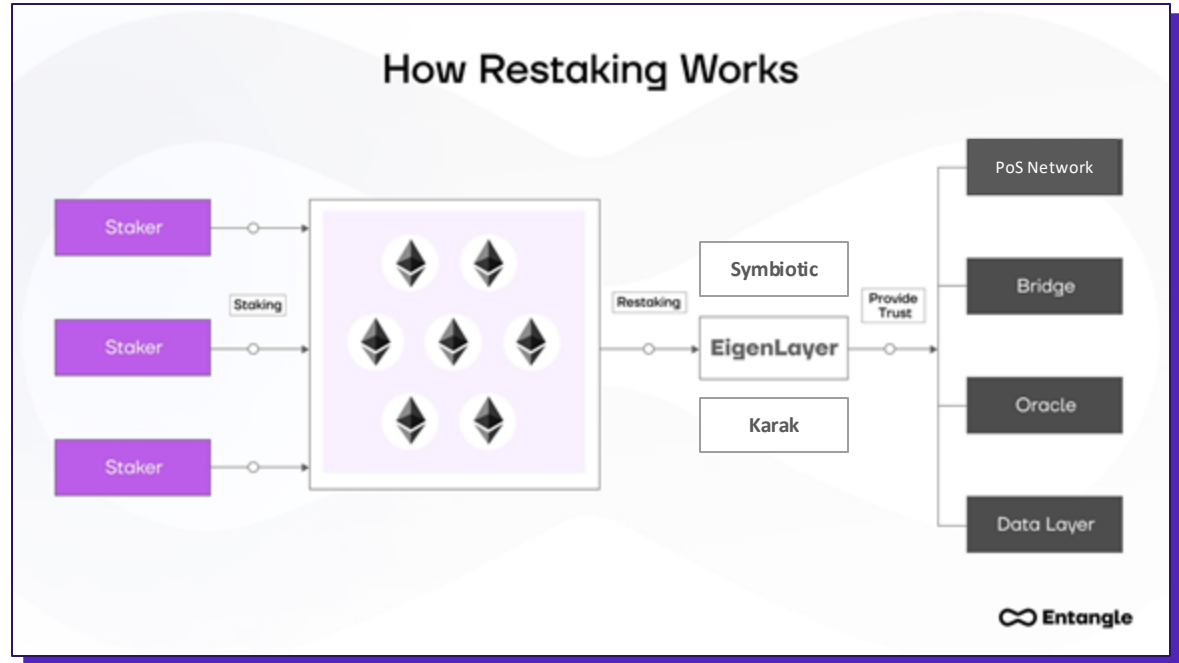
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What is Restaking? - Brief Recap

Restaking generally means **reusing staked collateral** to provide economic security to projects

- *for stakers*: additional reward opportunities for an increased level of risk
- *for AVSs (Actively Validated Services)*: “security as a service” tailored to their needs

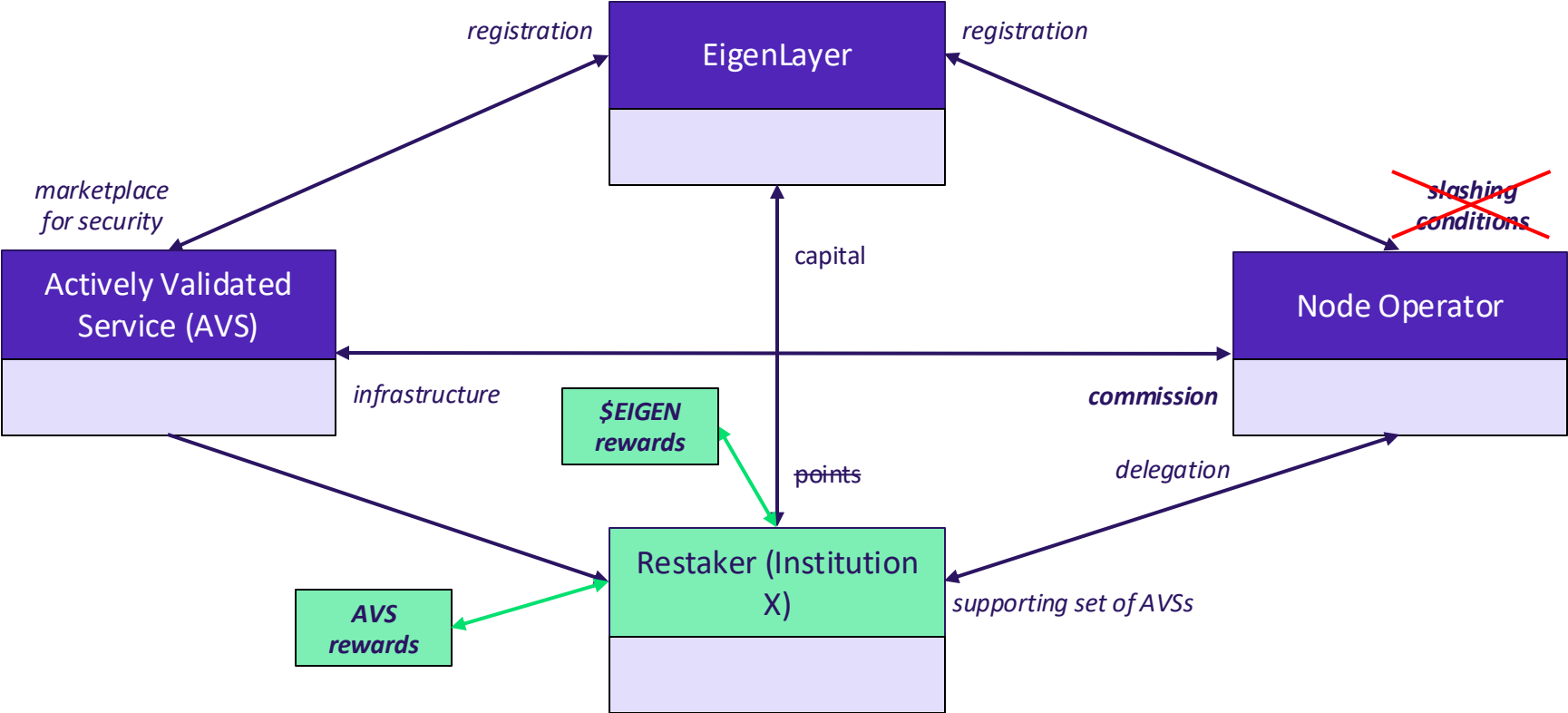


Note: All restaking protocols now *allow many ERC-20 tokens* beyond ETH/LSTs as collateral.

This can add utility to tokens of secured protocols and actually outsource their security as staking-as-a-service (so not just RE-staking anymore).



Restaking relations: EigenLayer at Stage 3a



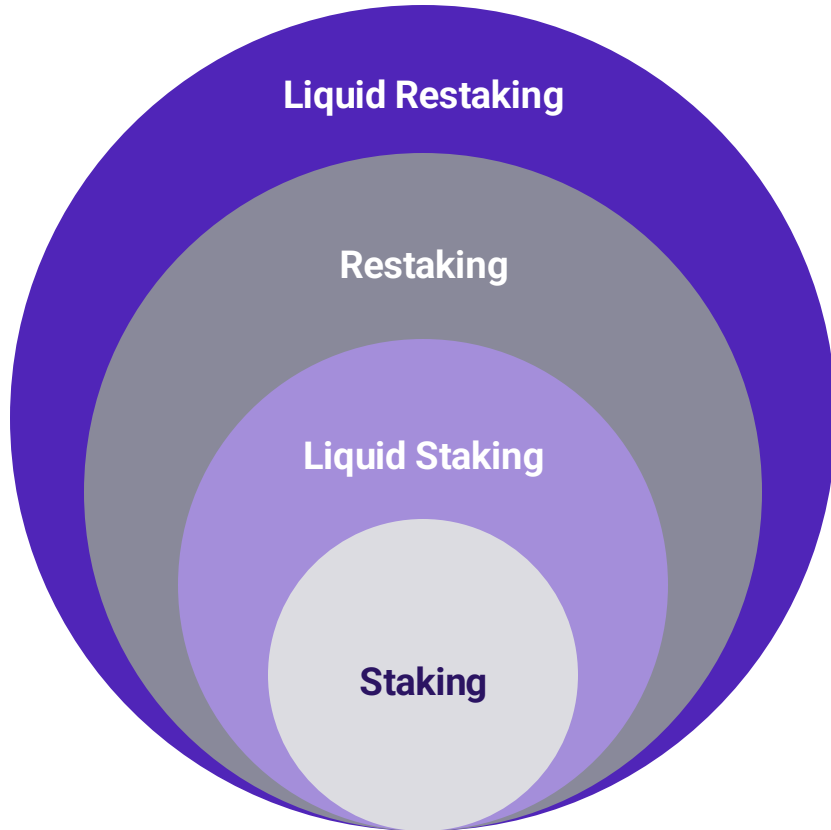
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Stacking of Considerations



Liquid Restaking:

- Protocol Selection (continuous)

Restaking:

- Protocol Selection (continuous)
- + Asset Selection (continuous)
- + AVS Portfolio Selection (cont.)

Liquid Staking:

- Protocol Selection (1x)

Staking:

- Node Operator Selection (1x)



Risks in (Re)Staking

01

Slashing

(maliciously or stupid)

02

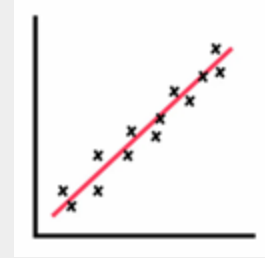
Downtime

(offline penalty)

03

Liquidity

(exit/withdrawal queue,
peg/depth for LSTs/LRTs)



Correlations are the real danger!

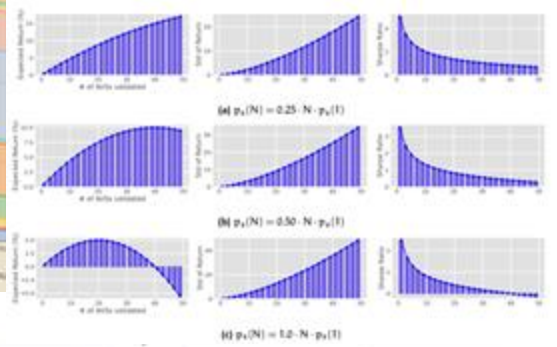
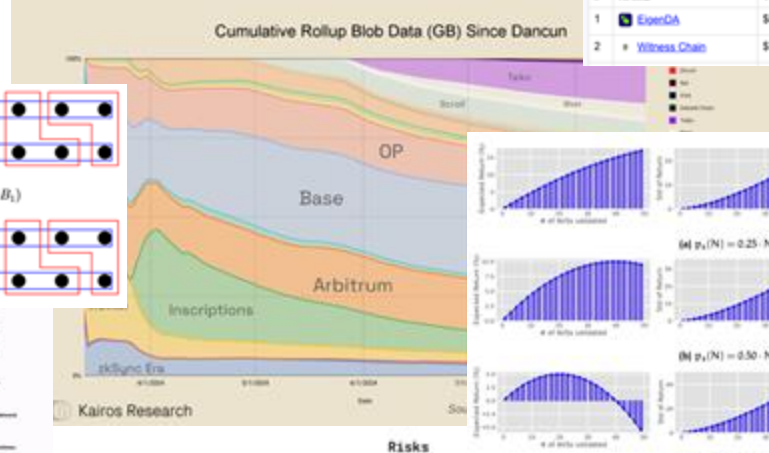
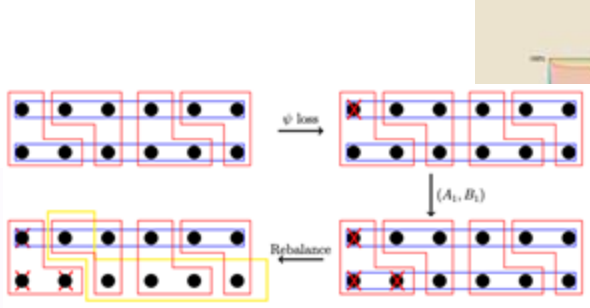
- Staking: **client bugs**
- LST / LRT / Restaking platforms: **smart contract bugs**
- AVSs: **correlated slashings**

Modeling of Restaking Risks is Evolving

But early and mostly highly mathematical...

Live data for AVSs, Operators and LRTs on EigenLayer and Symbiotic

#	NAME	TVR	# OPERATORS	OPERATORS	RISK
1	EigenDA	\$8.03B	244	4	High
2	Witness Chain	\$7.19B	101	4	Medium



ETH Staking

ETH Restaking

ETH Staking

Restaking

Risk from operator performance. Higher risk from operator performance as networks are new.

Operator



Risks on the left are potentially high, while rewards on the right are uncertain.

Heatmaps of Rebalance Ruin Spread vs Buffer, Num AVS

Operator	AVSs	Buffer	Ruin Spread
EigenDA	10	0.1	0.00
	20	0.1	0.00
	30	0.1	0.00
	40	0.1	0.00
Witness Chain	10	0.1	0.00
	20	0.1	0.00
	30	0.1	0.00
	40	0.1	0.00



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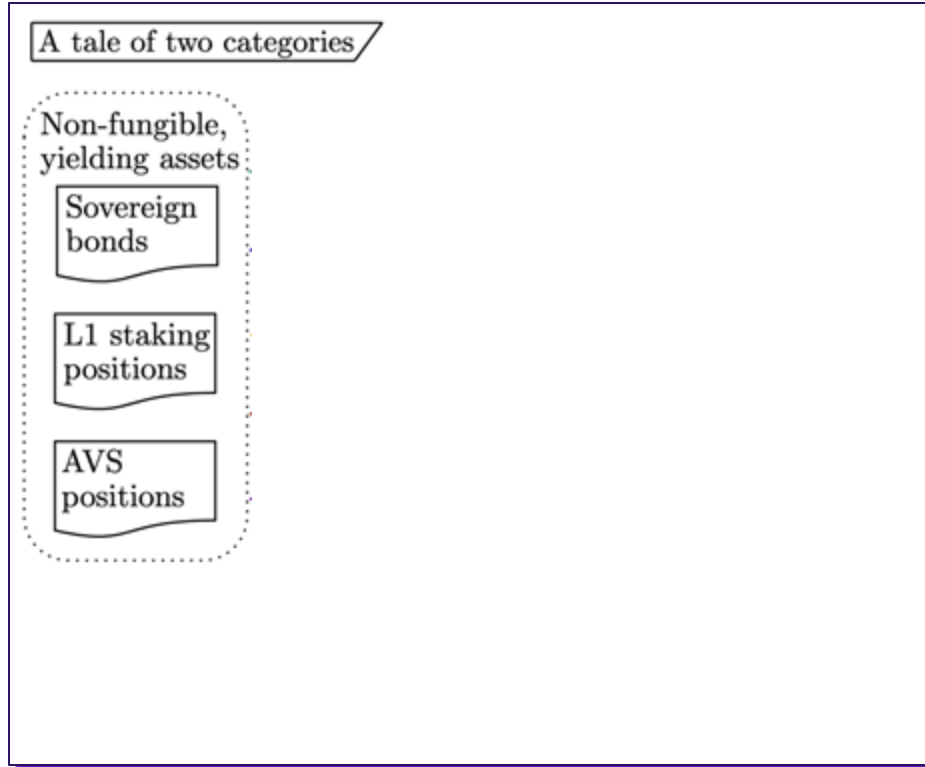


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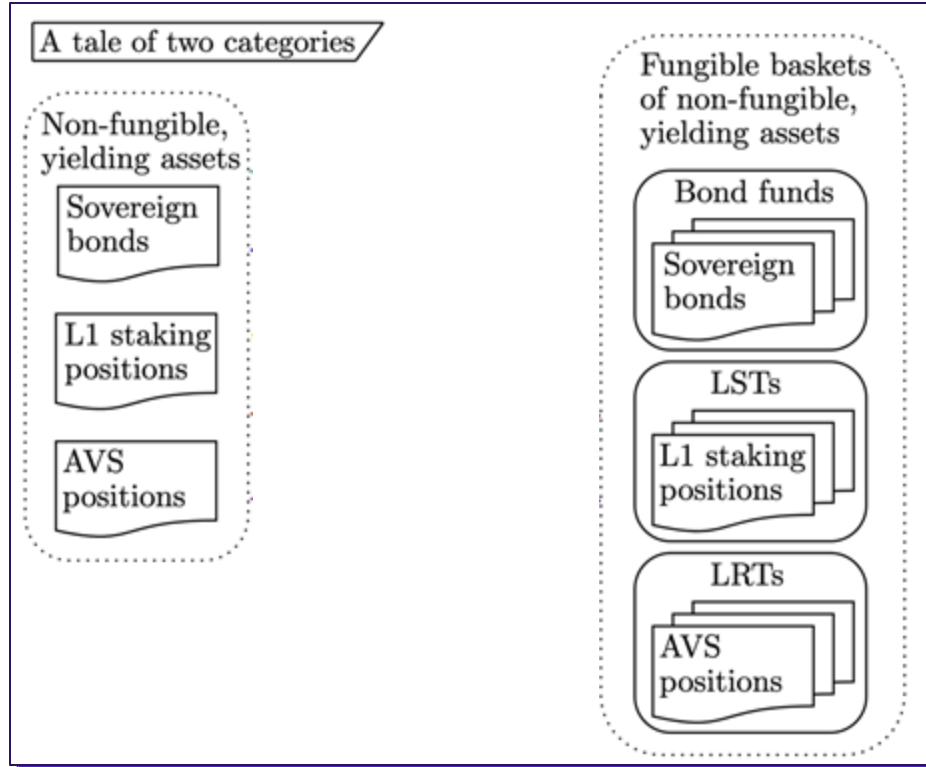
Comparing to Bonds

Non-liquid vs. liquid positions



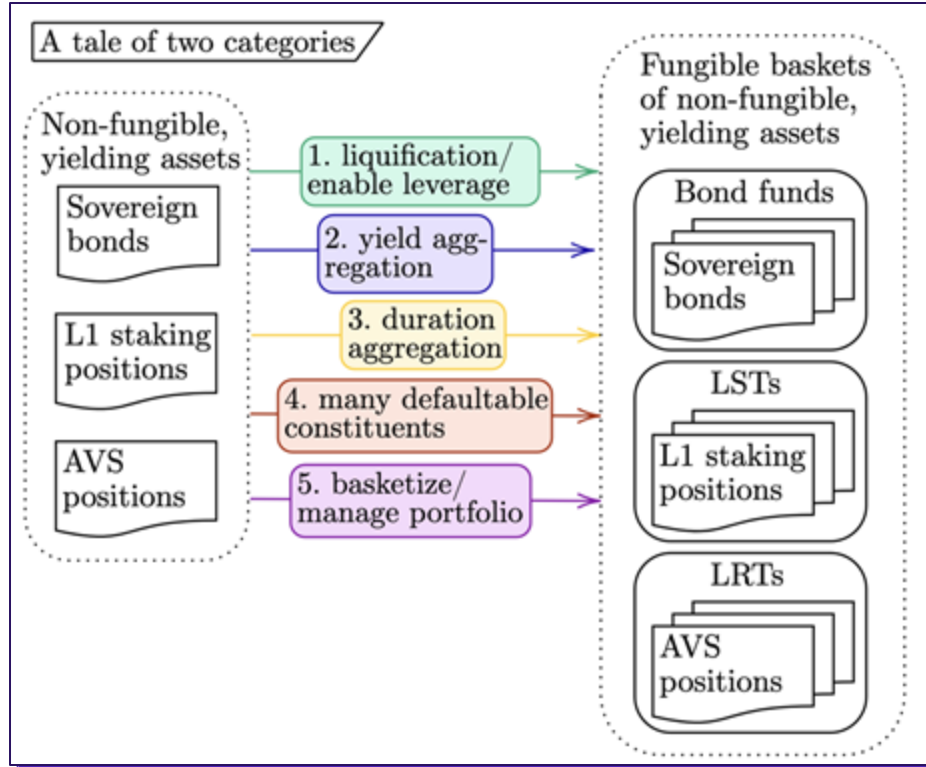
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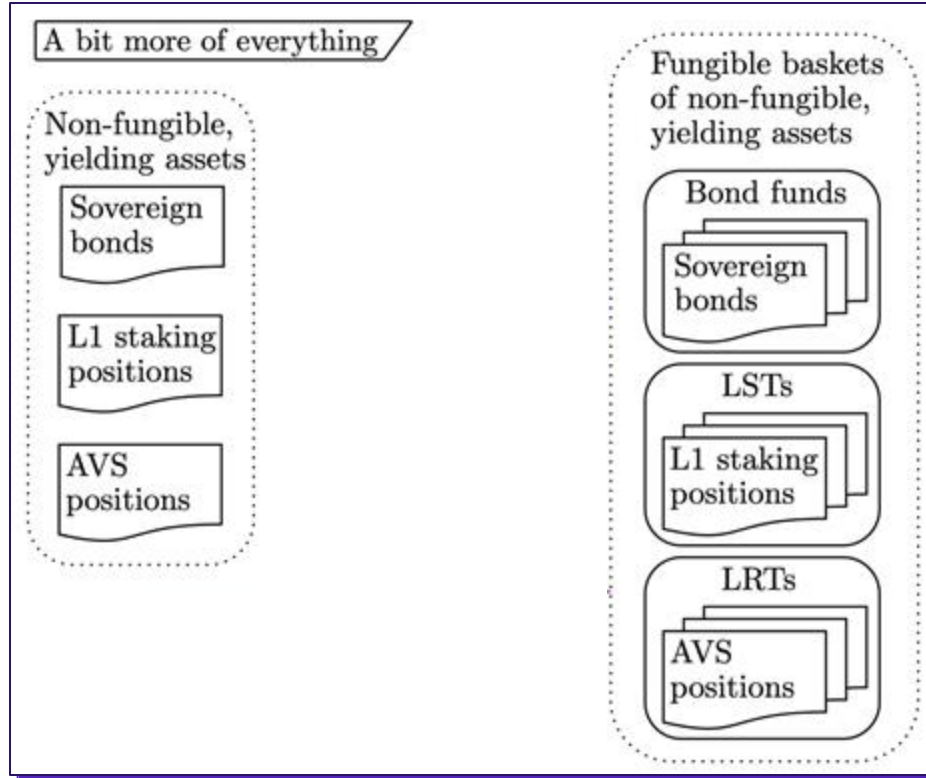
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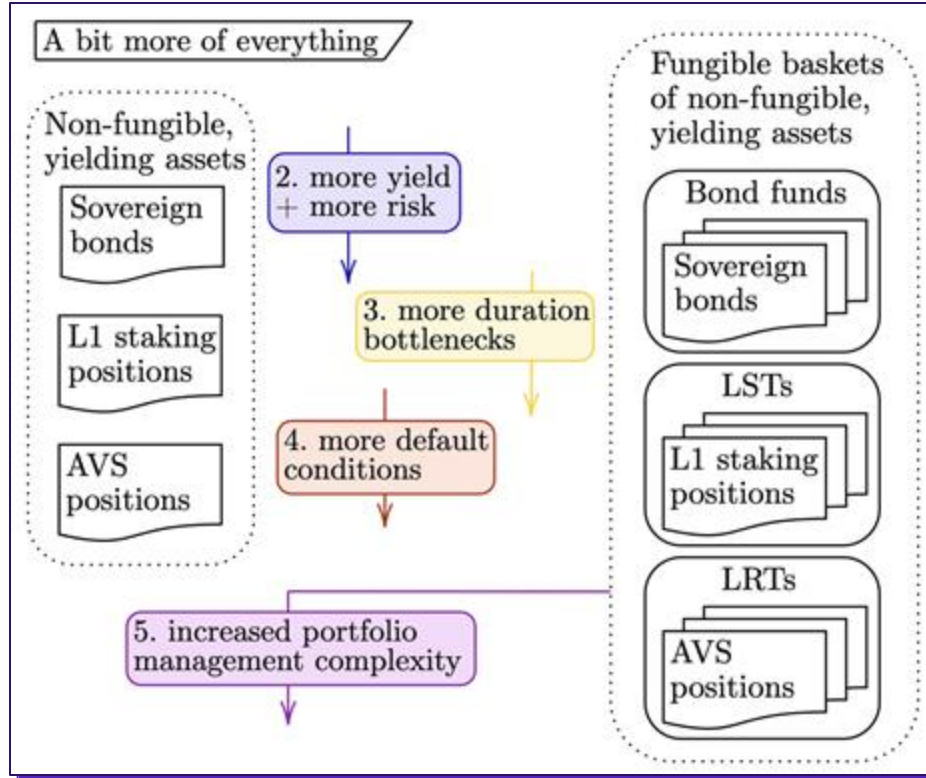
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Stacking of risks



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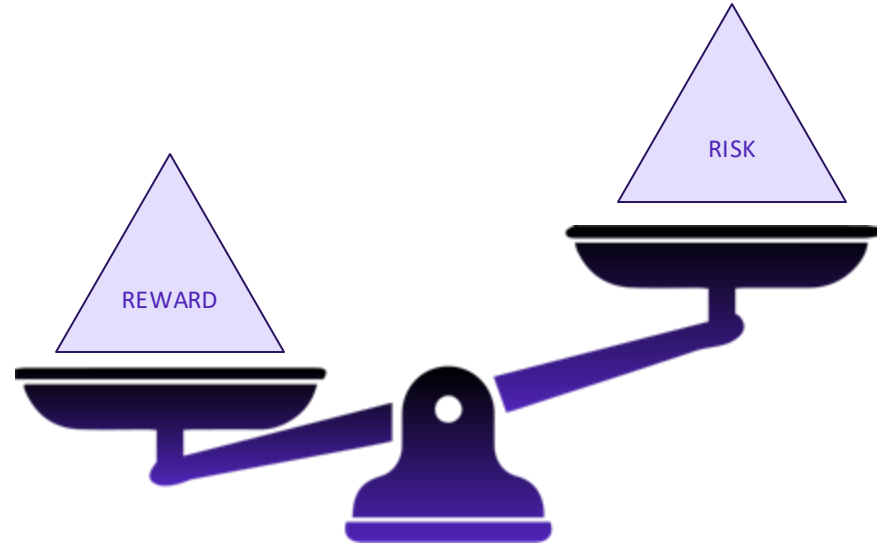


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Risk vs. Return of Restaking

- Restaking is new -> risk will be higher than potential return at the moment
- 6-12 months should see:
 - Risk reduced as software matures
 - Regulation is made clearer
 - Rewards begin to be earned in full on networks - just as we saw with traditional ETH staking



Staking options for institutions as of now:

Staking	<ul style="list-style-type: none">➤ ~3.5% native ETH rewards➤ Lowest risk (“Internet bond”)	 AVAILABLE NOW
Liquid Staking	<ul style="list-style-type: none">➤ Liquidity (swap in/out without delay)➤ Utility of LST (leverage, Defi, ...)➤ No 32 ETH increments needed*	 AVAILABLE NOW (Permissioned for Institutions: LIQUID COLLECTIVE)
Restaking	<ul style="list-style-type: none">➤ Developing opportunity for additional rewards (vs. risks)➤ Delegate to Blockdaemon or dedicated white-label set of AVSs	 Ecosystem developing
Liquid Restaking	<ul style="list-style-type: none">➤ Institutions need to understand risks and rewards	 Ecosystem developing



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APPENDIX / BACKUP



Stacking of Considerations: Checklist

Staking - Liquid Staking - Restaking - Liquid Restaking

Staking - Considerations of the node operator include:

- Is the node operator a known and trusted entity, with reputation at stake?
- What is the node operator's track record of performance?
- How 'good' of a job do they do operating infrastructure on the network, and receiving network rewards for doing so?
- What kinds of risk mitigations does the node operator have in place, to reduce the risk of slashing, mitigate operational or security risks, etc.?

Liquid Staking - Considerations of the LSP include:

- Are the liquid staking protocol's smart contracts audited? Has the code deployed to mainnet received security reviews and/or code audits?
- How long does deposited ETH pass through the protocol before it is programmatically staked via Ethereum's deposit contract?
- Has the liquid staking protocol's code been made public, so that external security researchers and participants can evaluate it?
- How long has the LSP been active without a meaningful security incident or loss of staked funds?

Restaking - Considerations of the AVSs and operators include:

- What are the slashing risks and conditions associated with the AVS? Under what circumstances can staked tokens be slashed, due to the behavior of the restaking operators, etc.?
- As with staking and liquid staking, are the AVS operators reputable and experienced?
- Do they have slashing mitigations in place that meet the slashing considerations of the AVS?
- What is the economic model of the AVS, and how does the AVS and the operators being delegated to manage economic incentives?
- Does the AVS have any governance mechanism?
- Does the AVS introduce any external risks due to the services it is offering, such as additional attack vectors or liquidation risks?

Liquid Restaking - Considerations of the LRTs include:

- All of the above, plus
- Diligence process of selecting and monitoring operators and AVSs (e.g. correlations, risk-reward trade-offs, liquidity)
- Compliance considerations



Attribute	Sovereign bonds	L1 staking positions	AVS restaking positions
<i>Liquidity/Leverage</i>	Illiquid as individual assets, not easy to borrow against		
<i>Yield</i>	Source: Sovereign treasury Denomination: Sovereign currency	Source: L1 protocol Denomination: L1 token	Source: AVS protocol Denomination: AVS specified
<i>Duration</i>	Fixed maturity	Withdrawals rate limited by the L1 protocol	Withdrawals rate limited by the AVS, the restaking protocol, <i>and</i> the L1 protocol
<i>Default</i>	No default because the Sovereign controls the money supply	L1 slashing where some or all of principal can be destroyed	Both AVS slashing <i>and</i> L1 slashing where some or all of the principal can be destroyed
<i>Portfolio construction</i>	Single asset portfolio		

Table 1: Non-fungible yielding assets

Attribute	Bond funds	LSTs	LRTs
<i>Liquidity/Leverage</i>	Liquid because of fungibility, easy to borrow against		
<i>Yield</i>	Source: Sovereign treasury Denomination: Sov. currency Aggregation over: Many interest rates and durations	Source: L1 protocol Denomination: L1 token Aggregation over: Many node operators	Source: AVS protocol Denomination: AVS specified Aggregation over: Many AVSs <i>and</i> node operators
<i>Duration</i>	Many different maturities	Withdrawals rate limited by the LST protocol <i>and</i> the L1 protocol	Withdrawals rate limited by the LRT protocol, the restaking protocol, each underlying AVS, <i>and</i> the L1 protocol
<i>Default</i>	Duration mismatch (<i>e.g.</i> , SVB collapse), or illiquid redemption market (<i>e.g.</i> , Sept. 2019 Repo Crash)	One/some of the L1 node operators getting slashed	One/some of the AVS node operators <i>or</i> one/some of the L1 node operators getting slashed
<i>Portfolio construction</i>	<u>Low complexity</u> : balancing many low risk assets	<u>Medium complexity</u> : selecting L1 node operators and/or collateral ratios	<u>High complexity</u> : choosing AVSs, AVS node operators, different interest denominations, L1 node operators and/or collateral

Table 2: Fungible baskets of non-fungible yielding assets

