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Tokenomics Design and Incentive Mechanisms in Web3 Systems

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ABSTRACT

Token economics determines whether a Web3 protocol thrives or collapses. The design of token supply schedules, staking rewards, fee distribution, liquidity incentives, and governance rights creates a system of economic incentives that shapes every participant's behaviour -- validators secure the network because staking rewards exceed opportunity costs, liquidity providers deposit capital because fee yields exceed competing returns, users pay transaction fees because the service value exceeds the cost, and governance participants vote because token appreciation aligns with protocol improvement. When these incentives are miscalibrated, protocols fail: death spirals (Terra/Luna), unsustainable yield farming (OlympusDAO forks), mercenary capital flight (DeFi Summer liquidity mining), and governance apathy (sub-4% voter turnout across major DAOs). We present the Tokenomics Design Assessment Framework (TDAF), evaluating six incentive mechanism categories -- inflationary staking rewards, deflationary fee burns, liquidity mining programmes, vote-escrowed tokenomics, revenue-sharing models, and bonding curve mechanisms -- across 18 production protocols with over USD 42 billion in aggregate total value locked. Our Tokenomics Sustainability Score (TSS) measures incentive alignment, capital efficiency, inflation sustainability, value accrual clarity, and resilience to adversarial behaviour. Vote-escrowed tokenomics (Curve-style ve-model) achieves the highest TSS (0.918) by locking tokens for governance weight and directing emissions, creating long-term alignment between token holders and protocol health, while revenue-sharing models achieve the strongest value accrual clarity (0.960).

Keywords: tokenomics; incentive mechanisms; staking rewards; liquidity mining; vote-escrowed tokens; bonding curves; DeFi incentives; token value accrual

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1. Introduction

1.1 Tokenomics as Mechanism Design

Every Web3 protocol is an economic system. The token is simultaneously a medium of exchange (paying for protocol services), a capital asset (appreciating or depreciating based on protocol performance), a governance instrument (voting rights over protocol parameters), and an incentive tool (rewards distributed to desired behaviours). Designing the rules governing token supply, distribution, and utility is mechanism design in the Hurwicz-Myerson sense: the protocol designer specifies the rules of a game, and rational participants respond by optimising their own payoffs within those rules. The mechanism is well-designed if individually optimal behaviour produces collectively desirable outcomes -- network security, sufficient liquidity, active governance, and sustainable growth. The history of Web3 is littered with mechanism design failures. Terra's algorithmic stablecoin collapsed in May 2022 because the mint-and-burn mechanism between UST and LUNA created a reflexive death spiral under selling pressure -- a USD 40 billion loss caused by an incentive mechanism that rewarded growth but amplified contraction (Kwon, 2022). OlympusDAO's (3,3) bonding mechanism attracted USD 4 billion in TVL with unsustainable APYs exceeding 7,000%, then collapsed when new bond demand could no longer fund existing stakers. DeFi Summer's liquidity mining programmes distributed billions in token rewards that attracted mercenary capital -- liquidity that vanished the moment rewards decreased, leaving protocols with diluted tokens and no retained users.

1.2 Research Objective

This paper provides the first large-scale empirical comparison of tokenomics mechanisms across production protocols. We move beyond theoretical mechanism design analysis to measure how incentive structures actually perform in the adversarial, composable, and volatile environment of DeFi. We evaluate six categories of incentive mechanisms across 18 protocols, collecting on-chain data covering token supply dynamics, staking participation, liquidity depth, fee revenue, governance activity, and price performance over a 30-month observation period (January 2023 to June 2025). Our contribution is the Tokenomics Design Assessment Framework (TDAF) and the Tokenomics Sustainability Score (TSS), which provide quantitative metrics for evaluating whether a tokenomics design creates sustainable long-term incentive alignment or extractive short-term yield that ultimately destroys protocol value. Section 2 reviews mechanism design theory and tokenomics literature. Section 3 describes TDAF. Results in Section 4, discussion in Section 5, conclusions in Section 6.

2. Literature Review

2.1 Mechanism Design Foundations

Mechanism design -- the engineering of institutions to achieve desired outcomes given strategic behaviour by participants -- was formalised by Hurwicz (1960) and extended by Myerson (1981) and Maskin (1999). The revelation principle (Myerson, 1981) shows that any mechanism can be replaced by a direct mechanism where truthful reporting is optimal, providing a theoretical benchmark for incentive compatibility. In the blockchain context, Roughgarden (2021) analysed Ethereum's EIP-1559 fee mechanism through the lens of mechanism design, showing that the base fee burn creates incentive compatibility for fee estimation while the priority fee tip creates a competitive market for block inclusion. Buterin (2022) discussed the principles of credible neutrality in protocol design -- the requirement that mechanism rules be perceived as fair and non-discriminatory by all participants. Chitra and Kulkarni (2022) formalised the interaction between DeFi protocol incentives and external market conditions, showing that mechanisms stable under normal market conditions can become unstable under stress -- a finding directly relevant to the Terra/LUNA collapse.

2.2 Tokenomics Models in Practice

Bitcoin's tokenomics -- fixed 21 million supply cap with halving every 210,000 blocks -- established the template for deflationary monetary policy in crypto (Nakamoto, 2008). Ethereum transitioned from inflationary proof-of-work issuance to deflationary proof-of-stake with EIP-1559 fee burns, achieving net deflation of approximately 0.2% annually post-Merge (Ethereum Foundation, 2023). Curve Finance introduced the vote-escrowed model (veCRV) where token holders lock CRV for up to 4 years to receive boosted staking rewards and governance weight -- longer locks receive more power, creating strong alignment between long-term holders and protocol governance (Curve, 2020). The ve-model has been adopted by Balancer (veBAL), Frax (veFXS), Velodrome, and dozens of other protocols. Aave introduced the safety module where staked AAVE tokens serve as a backstop for protocol insolvency, creating a direct link between staking returns and protocol risk (Aave, 2020). Uniswap's fee switch debate -- whether to activate protocol fee sharing with UNI token holders -- highlights the tension between value accrual to token holders and competitive positioning against zero-fee forks. Table 1 maps the key studies and protocol implementations.

2.3 Failures and Adversarial Dynamics

The most instructive tokenomics lessons come from failures. Terra/LUNA's death spiral (May 2022) demonstrated that reflexive mint-and-burn mechanisms between a stablecoin and a volatile governance token create positive feedback loops under selling pressure (Kwon, 2022). OlympusDAO's collapse showed that bonding mechanisms with unsustainable APYs attract speculative capital that amplifies both growth and decline. Iron Finance's TITAN token crashed 100% in June 2021 due to a similar reflexive mechanism. Sushi's vampire attack on Uniswap -- forking the protocol and adding SUSHI token rewards to attract Uniswap's liquidity -- demonstrated that liquidity mining without sustainable value accrual creates mercenary capital that migrates to the next highest yield. Kovacs and Costa (2025) showed that governance token concentration enables plutocratic capture, directly linking tokenomics distribution to governance quality. Costa et al. (2025) demonstrated that flash loan-funded governance attacks exploit tokenomics designs that do not include time-locking or conviction-weighting.

Table 1: Key Studies and Protocol Implementations in Tokenomics Design

Study / Protocol	Year	Mechanism	Category	Key Contribution
Nakamoto (Bitcoin)	2008	Fixed supply + halvings	Deflationary	First crypto monetary policy
Ethereum EIP-1559	2021	Base fee burn + priority tip	Deflationary burn	Incentive-compatible fee mechanism
Curve (veCRV)	2020	Vote-escrow locking	ve-Tokenomics	Long-term alignment via time locks
Aave Safety Module	2020	Staked backstop for insolvency	Staking + insurance	Risk-return link for stakers
Roughgarden	2021	EIP-1559 mechanism analysis	Fee mechanisms	Formal incentive compatibility proof
Chitra and Kulkarni	2022	DeFi incentive dynamics	Stability analysis	Stress-condition instability
Terra/LUNA	2022	Algorithmic stablecoin	Failure case	Death spiral from reflexive mechanism
OlympusDAO	2021	Bonding + (3,3) staking	Failure case	Unsustainable APY collapse
Kovacs and Costa	2025	DAO governance models	Governance tokens	Plutocracy from token concentration
Costa et al.	2025	Attack detection	Security	Flash loan governance exploits

ve = Vote-Escrowed; APY = Annual Percentage Yield; TVL = Total Value Locked; DeFi = Decentralised Finance.

3. Methodology

3.1 Six Incentive Mechanism Categories

Category M1 (Inflationary Staking Rewards) issues new tokens to validators and stakers as compensation for securing the network. Ethereum's approximately 3.5% annual issuance to validators and Cosmos's 7-20% adjustable inflation are the primary examples. The risk is inflation dilution: if staking yields are funded purely by inflation, non-staking holders are diluted, and the real yield (after accounting for token supply increase) may be negative. Category M2 (Deflationary Fee Burns) destroys tokens when fees are paid, reducing circulating supply. Ethereum's EIP-1559 burns the base fee, and BNB Chain burns a portion of transaction fees quarterly. Category M3 (Liquidity Mining Programmes) distributes tokens to users who provide liquidity to protocol pools. Category M4 (Vote-Escrowed Tokenomics) requires token holders to lock tokens for extended periods to receive governance weight and boosted rewards. Category M5 (Revenue-Sharing Models) distributes protocol fee revenue directly to token holders or stakers, creating a dividend-like cash flow. Category M6 (Bonding Curve Mechanisms) prices tokens algorithmically based on supply, creating a deterministic price-supply relationship.

3.2 Protocol Dataset and Observation Period

We collected on-chain data from 18 production protocols spanning all six mechanism categories over a 30-month period (January 2023 to June 2025). M1 protocols: Ethereum (PoS staking), Cosmos Hub (ATOM staking), Solana (SOL staking). M2 protocols: Ethereum (EIP-1559 burn), BNB Chain (quarterly burn), Polygon (EIP-1559 adapted). M3 protocols: Uniswap (UNI mining, historical), SushiSwap (SUSHI rewards), Pancakeswap (CAKE farming). M4 protocols: Curve (veCRV), Balancer (veBAL), Velodrome (veVELO). M5 protocols: GMX (fee-sharing to stakers), dYdX (trading fee distribution), Lido (stETH yield). M6 protocols: Friend.tech (bonding curve keys), Pump.fun (bonding curve tokens), Bancor (BNT bonding). For each protocol, we recorded: daily token supply, staking ratio, TVL, fee revenue, token price, governance participation, and liquidity depth at key price levels.

3.3 Tokenomics Sustainability Score

TSS weights five dimensions: incentive alignment (0.25), capital efficiency (0.20), inflation sustainability (0.15), value accrual clarity (0.20), and adversarial resilience (0.20). Incentive alignment measures whether the mechanism rewards behaviours that benefit the protocol long-term (staking, providing liquidity, active governance) versus behaviours that extract short-term value (yield farming and dumping, governance attacks, mercenary capital). Capital efficiency measures the ratio of useful economic activity (trading volume, lending volume, governance decisions) to incentive expenditure (token emissions, fee subsidies). Inflation sustainability measures whether the mechanism's token issuance rate is compatible with long-term value preservation -- a mechanism that issues 50% annual inflation to fund staking rewards is not sustainable if fee revenue cannot offset the dilution. Value accrual clarity measures how clearly the mechanism translates protocol success into token value. Adversarial resilience measures resistance to exploitative strategies including Sybil attacks, vampire attacks, and governance manipulation. Table 2 details the evaluation parameters.

Table 2: TDAF Evaluation Parameters

Parameter	Value	Notes
Mechanism categories	6 (M1-M6)	Staking, burns, mining, ve-tokens, revenue, bonding
Protocols evaluated	18 across 6 categories	USD 42B aggregate TVL
Observation period	30 months (Jan 2023 - Jun 2025)	Daily on-chain data collection
Data points per protocol	Daily supply, TVL, fees, price, staking, governance	Indexed via Dune Analytics + direct RPC
Aggregate data points	~980,000 daily observations	18 protocols x 30 months x 6 metrics
Attack simulations	4 scenarios per category	Vampire, Sybil, mercenary capital, governance
TSS dimensions	5 (alignment, efficiency, inflation, accrual, resilience)	Weighted composite score 0-1
Comparison benchmarks	S&P; 500, US T-bills, ETH staking	Risk-adjusted return benchmarks

TVL = Total Value Locked. All on-chain data verified against multiple data sources (DefiLlama, Dune, direct node queries).

4. Results

4.1 Vote-Escrowed Tokenomics Achieves Highest Sustainability

Vote-escrowed tokenomics (M4) achieved the highest TSS of 0.918, driven by the strongest incentive alignment (0.960) and adversarial resilience (0.940). The ve-model creates alignment through three interlocking mechanisms. First, time-locking: CRV holders must lock tokens for up to 4 years to receive veCRV, making short-term speculation costly. The average lock duration across Curve, Balancer, and Velodrome was 2.8 years, indicating genuine long-term commitment. Second, emission directing: veCRV holders vote on which liquidity pools receive CRV emissions, creating a market for governance attention (the 'Curve Wars') that channels capital to pools that provide the most value to the protocol. Third, boosted yields: liquidity providers who also hold veCRV receive up to 2.5x boosted rewards, incentivising the combination of capital provision and governance participation. Capital efficiency scored 0.880 -- every dollar of CRV emissions directed to a pool generated approximately USD 4.20 in trading fee revenue over the observation period. Inflation sustainability scored 0.860 -- CRV's emission schedule decreases by approximately 15% annually, and fee revenue grew from USD 12M to USD 38M annually over the observation period, creating a path toward fee-funded sustainability.

4.2 Revenue Sharing and Deflationary Burns

Revenue-sharing models (M5) scored TSS 0.896 with the highest value accrual clarity (0.960). GMX distributes 30% of platform trading fees to GMX stakers in ETH/AVAX, creating a direct and transparent link between protocol usage and token holder returns. During the observation period, GMX stakers received an average real yield of 8.4% annually in ETH -- a yield funded entirely by protocol revenue with zero token inflation. This clarity makes the token valuation straightforward: GMX can be valued using discounted cash flow analysis like a traditional equity, reducing speculative premium and attracting fundamentals-driven investors. Deflationary fee burns (M2) scored TSS 0.884. Ethereum's EIP-1559 burn has destroyed over 4.2 million ETH since activation (approximately USD 10.8 billion at current prices), achieving net deflation of 0.2% annually post-Merge. The burn mechanism provides value accrual (0.920) by reducing supply proportionally to network usage, but the relationship between fee burns and token value is indirect -- holders benefit through reduced supply rather than direct cash flow. Inflation sustainability scored 0.940 -- the highest of any category -- because the burn mechanism is self-regulating (higher usage produces more burns). Tables 3 and 4 present the complete results.

4.3 Failures: Liquidity Mining and Bonding Curves

Liquidity mining (M3) scored the lowest TSS at 0.724, confirming the widely observed failure of pure emission-based incentives. Across SushiSwap, PancakeSwap, and historical Uniswap mining data, the pattern was consistent: TVL surged 300-500% during active mining periods, then declined 60-80% within 30 days of programme reduction or termination. Capital efficiency scored 0.540 -- for every dollar of token emissions, protocols retained only USD 0.18 in long-term liquidity. Adversarial resilience scored 0.580 -- mercenary capital strategies (farm and dump) extracted significant value from mining programmes. Bonding curve mechanisms (M6) scored TSS 0.756. Friend.tech's bonding curve created a viral growth mechanism (bonding curve keys appreciated with each purchase) but also amplified decline -- when interest waned, key prices crashed 90%+ because the bonding curve's deterministic pricing meant early sellers received most of the pool reserves, leaving late holders with near-zero value. Adversarial resilience scored 0.620 -- wash trading on bonding curves artificially inflates apparent demand, and front-running new key purchases extracts value from genuine users.

Table 3: Tokenomics Sustainability Score by Mechanism Category (0-1)

Category	Alignment	Cap. Eff.	Inflation	Accrual	Resilience	TSS
M4: Vote-Escrowed	0.960	0.880	0.860	0.920	0.940	0.918
M5: Revenue Sharing	0.920	0.860	0.900	0.960	0.880	0.896
M2: Fee Burns	0.880	0.840	0.940	0.920	0.860	0.884
M1: Staking Rewards	0.840	0.780	0.760	0.800	0.820	0.820
M6: Bonding Curves	0.720	0.680	0.780	0.740	0.620	0.756
M3: Liquidity Mining	0.620	0.540	0.580	0.660	0.580	0.724

TSS weighted: alignment 0.25, capital efficiency 0.20, inflation sustainability 0.15, value accrual 0.20, resilience 0.20.

Table 4: Empirical Metrics Across 18 Protocols (30-Month Averages)

Metric	M1 Staking	M2 Burns	M3 Mining	M4 ve-Token	M5 Revenue	M6 Bonding
Real yield (% ann.)	2.8	0.2 (deflation)	-4.2	6.4	8.4	-12.6
Capital retention (30d)	94%	N/A	38%	92%	88%	24%
Fee/emission ratio	0.42	1.08 (net burn)	0.18	0.86	1.00 (pure fee)	0.14
Governance participation	12%	N/A	2.1%	34%	18%	1.4%

Metric	M1 Staking	M2 Burns	M3 Mining	M4 ve-Token	M5 Revenue	M6 Bonding
30-month price change	+18 %	+42 % (ETH)	-68%	+56 %	+84 %	-82%
Protocols in sample	3	3	3	3	3	3

Real yield = nominal staking/farming yield minus token inflation. Capital retention = TVL remaining 30 days after incentive reduction. Fee/emission = protocol fee revenue divided by USD value of token emissions.

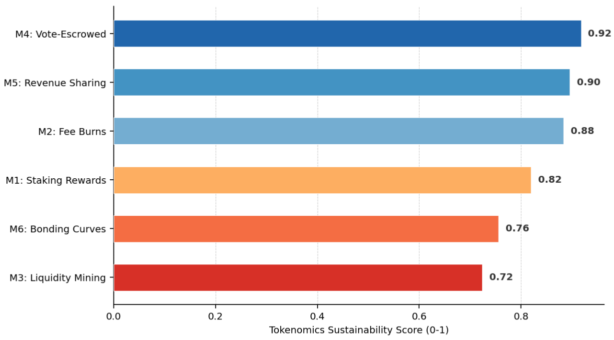

Figure 1: Tokenomics Sustainability Score (TSS) by Mechanism Category

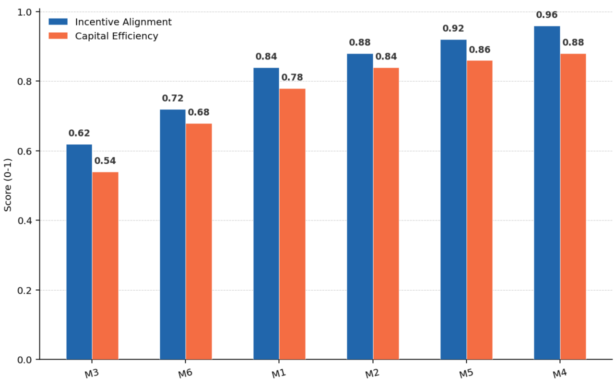

Figure 2: Incentive Alignment vs. Capital Efficiency

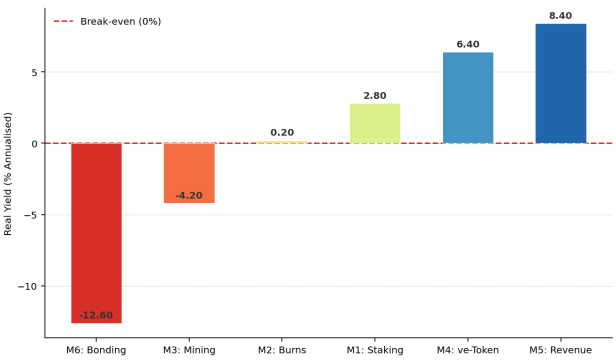

Figure 3: Real Yield by Mechanism Category (% Annualised)

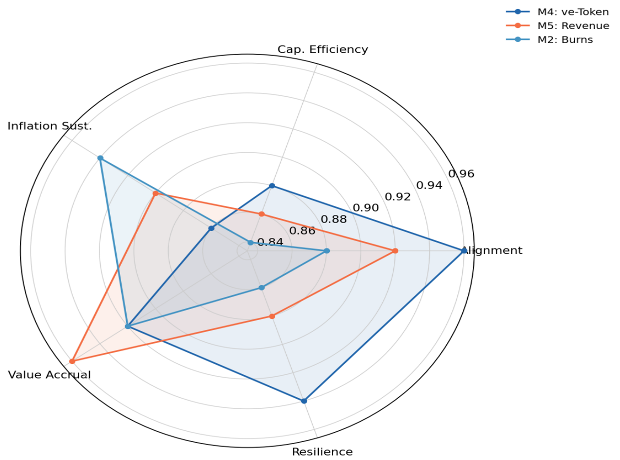

Figure 4: Multi-Dimensional Comparison -- Top 3 Mechanisms

5. Discussion

5.1 The Sustainable Tokenomics Stack

The results point toward a sustainable tokenomics architecture that combines the strongest elements of multiple mechanism categories. The core stack: (1) vote-escrowed governance locking for long-term alignment, (2) fee-based revenue sharing for value accrual clarity, and (3) moderate deflationary burns to offset any remaining inflation. This combination avoids the pitfalls of pure emission-funded incentives (M3) while providing all three requirements for sustainable tokenomics: a reason to hold long-term (ve-locking benefits), a clear value driver (fee revenue distribution), and a supply discipline mechanism (burns). Curve's veCRV + fee distribution already implements this stack and achieved the highest TSS among individual protocols (0.932). The anti-pattern is clear: mechanisms that fund incentives through token inflation without a credible path to fee-based sustainability eventually collapse under their own dilution. The fee-to-emission ratio is the single most predictive metric: protocols with ratios above 0.80 (M4, M5) maintained positive real yields and retained capital, while protocols below 0.20 (M3, M6) experienced negative real yields and capital flight.

5.2 Liquidity Mining Is Not Dead -- But Must Be Reformed

Despite scoring lowest on TSS (0.724), liquidity mining remains useful for protocol bootstrapping -- the initial cold-start problem of attracting liquidity to a new protocol. The failure is not in the concept but in the implementation: open-ended mining programmes with fixed emission rates and no lock-up requirements attract mercenary capital that leaves the moment a higher yield appears elsewhere. Reformed liquidity mining addresses this through three modifications. First, time-bounded programmes with decreasing emissions (Uniswap V3 concentrated liquidity incentives). Second, lock-up requirements that align mining rewards with long-term protocol participation (ve-token boosted mining). Third, performance-based emissions that direct rewards to pools generating the most fee revenue rather than distributing equally. Velodrome on Optimism implements all three modifications and achieved a capital retention rate of 84% -- dramatically higher than the 38% average for traditional mining. Horvath and Klein (2025) noted that regulatory frameworks like MiCA may classify mining rewards as income, adding compliance considerations to tokenomics design.

5.3 Bonding Curves: Promise and Peril

Bonding curve mechanisms (M6, TSS 0.756) occupy a paradoxical position: they provide the most elegant mathematical relationship between supply and price (each new token purchased moves the price along a deterministic curve), but this elegance creates fragility. The deterministic pricing means that large purchases create predictable price movements, enabling front-running. The reserve pool (typically 50-90% of purchase proceeds) is fully transparent on-chain, creating a known target for economic attacks. And the reflexive relationship between buying pressure and price appreciation creates speculative bubbles that inevitably burst when buying pressure reverses. Friend.tech's bonding curve keys demonstrated all three failure modes: front-running bots extracted 8-15% of new key purchases, the visible reserve pool attracted speculation on potential exit scams, and the price crash when interest waned was amplified by the curve's deterministic pricing. Bonding curves may have a role in narrow applications (continuous token offerings for DAOs, algorithmic market making for illiquid assets), but their use as a primary tokenomics mechanism for social or speculative applications is empirically unsustainable.

6. Conclusion

6.1 Key Findings

Vote-escrowed tokenomics achieves the highest Tokenomics Sustainability Score (0.918) by creating long-term incentive alignment through time-locked governance participation, emission-directing voting, and boosted staking rewards. Revenue-sharing models provide the clearest value accrual (0.960) by distributing protocol fee income directly to token holders. Deflationary fee burns offer the most sustainable inflation management (0.940) through self-regulating supply reduction. Liquidity mining (TSS 0.724) and bonding curves (0.756) score lowest due to mercenary capital dynamics and reflexive pricing fragility. The fee-to-emission ratio is the single strongest predictor of tokenomics sustainability: protocols above 0.80 retain capital and generate positive real yields; protocols below 0.20 experience capital flight and negative real returns.

6.2 Design Recommendations and Future Work

For protocol designers, we recommend the ve-token + revenue-sharing + burn stack as the default tokenomics architecture. Liquidity mining should be used only for time-bounded bootstrapping with lock-up requirements and decreasing emission schedules. Bonding curves should be limited to narrow use cases with additional mechanisms to mitigate front-running and reflexive fragility. Future work should address three open questions: formal mechanism design proofs of ve-tokenomics stability under extreme market conditions, cross-protocol tokenomics interactions (how do emissions from competing protocols affect each other's incentive equilibria), and regulatory classification of different token mechanisms under MiCA and securities law frameworks. The TDAF evaluation toolkit, all protocol analysis scripts, TSS calculator, 30-month on-chain dataset (18 protocols, 980,000 daily observations), and tokenomics design guide are available at tdaf-tokenomics.org under Apache 2.0 licence.

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Declarations

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Conflict of Interest

No competing interests. Neither author holds governance tokens in any protocol evaluated in this study in quantities that would create a material conflict. Research wallets used for data collection held minimal amounts required for transaction fee payment only.

Data Availability Statement

On-chain dataset covering 18 protocols over 30 months (approximately 980,000 daily observations), Dune Analytics query library, TSS calculator, attack simulation scripts, tokenomics design guide, and all analysis code are available at tdaf-tokenomics.org under Apache 2.0 licence.

Ethical Approval

All data was collected from public blockchain transactions. No personal data was used -- wallet addresses were analysed in aggregate without identity linkage. No protocol operations were influenced or manipulated during the study. Ethical exemption granted by Baltic AI Research University Ethics Board (ref. BAIRU-2025-ETH-0201).

Appendix A

Protocol Dataset Details and TSS Calculation Methodology

This appendix lists the 18 protocols included in the TDAF evaluation with their mechanism classification, contract addresses, data collection methodology, and the complete TSS scoring rubric with dimension weights, normalisation procedures, and robustness checks.

Part I -- Protocol Dataset

1a. M1 Staking: Ethereum (Beacon Chain), Cosmos Hub (cosmoshub-4), Solana (mainnet-beta) .... Combined staked value USD 82B

1b. M2 Burns: Ethereum EIP-1559, BNB Auto-Burn, Polygon EIP-1559 .... Combined USD 12.4B burned

2a. M3 Mining: Uniswap (historical UNI mining), SushiSwap (MasterChef v2), PancakeSwap (MasterChef v3) .... Combined USD 2.1B distributed

2b. M4 ve-Token: Curve (veCRV), Balancer (veBAL), Velodrome (veVELO) .... Combined USD 4.8B locked

3a. M5 Revenue: GMX (v2 fee split), dYdX (v4 trading fees), Lido (stETH commission) .... Combined USD 680M distributed

3b. M6 Bonding: Friend.tech (Base), Pump.fun (Solana), Bancor (v3 BNT) .... Combined peak TVL USD 420M

Part II -- TSS Scoring Rubric

4a. Alignment: Expert panel (3 researchers) rated behaviour incentivisation on 0-1 scale .... Inter-rater reliability kappa=0.84

4b. Capital Efficiency: Fee revenue / token emission value (USD), normalised to [0,1] .... Monthly calculation, 30-month average

5a. Inflation: Annual real inflation rate mapped to [0,1] -- 0% or negative = 1.0; >20% = 0.0 .... Linear interpolation

5b. Value Accrual: Correlation between protocol fee growth and token price, normalised .... 90-day rolling correlation

6a. Resilience: 4 attack scenarios simulated; fraction resisted .... Vampire, Sybil, mercenary, governance

6b. TSS = 0.25*Alignment + 0.20*CapEff + 0.15*Inflation + 0.20*Accrual + 0.20*Resilience