L30: Distribution and Vesting

Module D: Tokenomics

Blockchain & Cryptocurrency

December 2025

Learning Objectives

- Describe token allocation categories (team, investors, community) and their purposes
- Analyze vesting schedules and cliff periods
- Evaluate the impact of unlock events on token price
- Apply distribution analysis to real projects
- Case Study: Solana token unlocks

Building on L29: Token Economics

The Distribution Dilemma

[COMIC: Insider vs retail allocation]

A visual narrative showing the tension between early investors and public participants

What This Illustrates

- Early investors want rewards for risk
- Retail investors want fair access
- Teams must balance both without enabling dumps

The Question

How do we reward early contributors without enabling insider exploitation?

Visual framing: The allocation tension between insiders and community

The Problem: How do we fairly distribute tokens over time?

The Challenge
How do we fairly distribute tokens over time without enabling insider dumps? Early contributors deserve rewards, but instant liquidity creates misaligned incentives and pump-and-dump schemes.

Why It Matters

- Unfair distributions lead to insider selling and community distrust
- Historical example: ICO-era instant unlocks caused 90% crashes; FTX/Alameda token manipulation (2022)

What We Need

- Economic alignment of actors
- Alignment between team and community incentives over multi-year horizons

The Cryptoeconomics Question
Aligning individual and collective interests

Today's lesson: How Distribution & Vesting addresses this challenge

What is Token Distribution?

Definition: The initial allocation of tokens among different stakeholder groups.

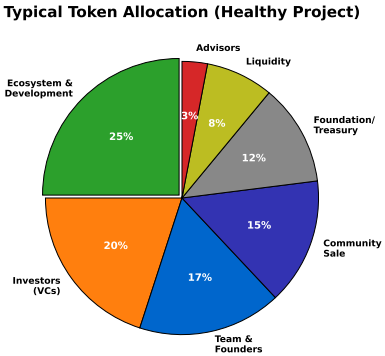
Common Allocation Categories:

- Team and Founders / Early Investors (Seed, Series A/B/C)
- Advisors / Community Sale (ICO/IEO/IDO)
- Ecosystem Development / Liquidity Provision
- Foundation/Treasury / Airdrops

Goal: Balance early supporter rewards with long-term community alignment.

Problem: How do we reward early contributors without enabling pump-and-dump schemes? — Distribution categories balance insider rewards with community fairness

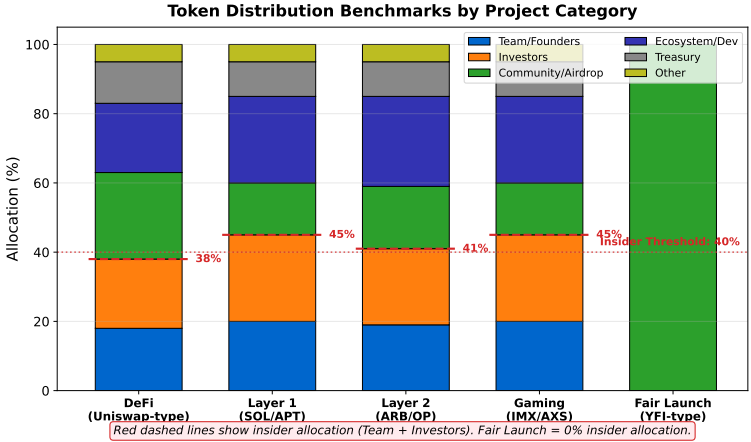
Typical Allocation Breakdown



Insiders (Team+VCs+Advisors): ~40% | Community: ~60%

Red Flag: Team + Investors ¿ 50% indicates high centralization risk

Distribution Benchmarks by Category



DeFi/L1/L2 projects allocate 38-45% to insiders; Fair Launch projects allocate 0%

Why Do Teams Lock Their Tokens for Years?

Best Practices:

- 15-20% of total supply
- 4 years minimum vesting
- 1-year cliff period
- Linear unlock after cliff

Why Long Vesting?

- Prevents insider dumps
- Demonstrates commitment
- Aligns long-term incentives
- Builds community trust

Example: 20M tokens, 1-year cliff, then 416,667 tokens/month for 48 months

Compare the approaches shown above

How Do Investment Rounds Differ?

Typical Investment Rounds:

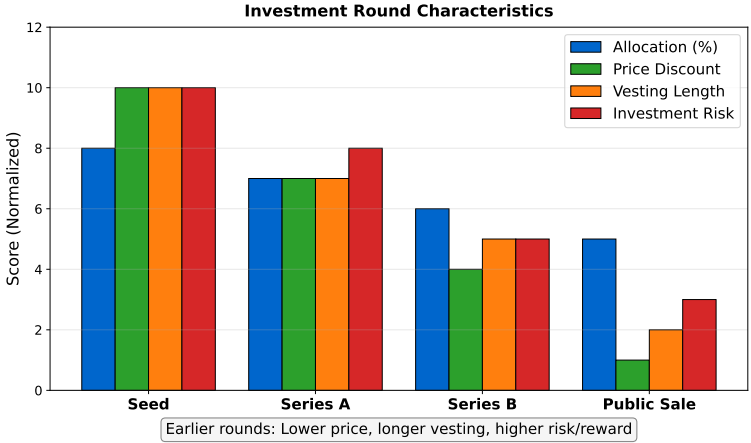
Round	Allocation	Price	Vesting
Seed	5-10%	Lowest	2-3 years
Series A	5-10%	Low	18-24 months
Series B	5-10%	Medium	12-18 months
Public Sale	10-15%	Highest	0-6 months

Key Considerations:

- Earlier investors = longer vesting
- Discount compensates for higher risk
- Too many investors = fragmented governance

Compare the approaches shown above

Investment Round Characteristics



Earlier rounds get bigger discounts but longer lock-ups and higher risk — Tiered vesting compensates early risk-takers while preventing immediate dumping

What Are the Different Community Sale Methods?

ICO (Initial Coin Offering, 2017 Era):

- Direct sale to public
- Minimal regulation

IEO (Initial Exchange Offering):

- On centralized exchange
- Exchange vets project

IDO (Initial DEX Offering):

- Launch on DEX (Decentralized Exchange)
- Immediate liquidity

Fair Launch:

- No pre-sale/VC rounds
- Same price for all (e.g., YFI)

Compare the approaches shown above

How Does Vesting Work?

Definition: Schedule controlling when allocated tokens become accessible.

Key Terms:

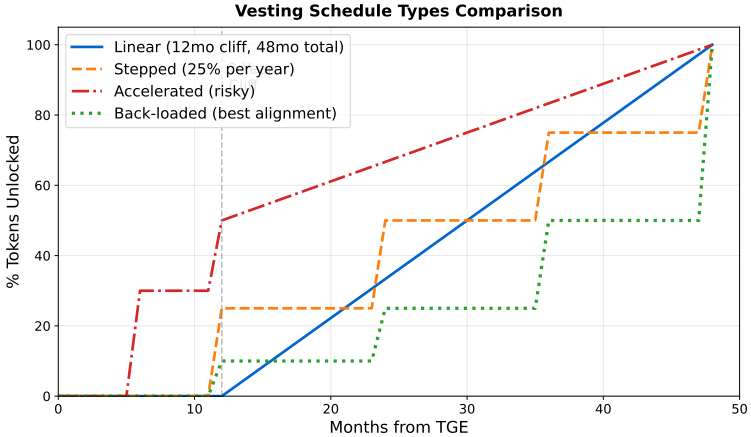
- **Cliff:** Initial wait period
- **Vesting:** Total unlock duration
- **Linear:** Equal regular unlocks
- **Unlock Event:** Transfer date

Example (1M tokens):

- Cliff: 12 months (0 unlock)
- Vesting: 48 months total
- Post-cliff: 27,778/month
- Full vest: month 48

Compare the approaches shown above

Vesting Schedule Types



Back-loaded vesting provides strongest long-term alignment; accelerated is risky

What's the Purpose of Cliff Periods?

Typical Durations:

- Team: 12 months
- Investors: 6-12 months
- Advisors: 6 months
- Community: often 0

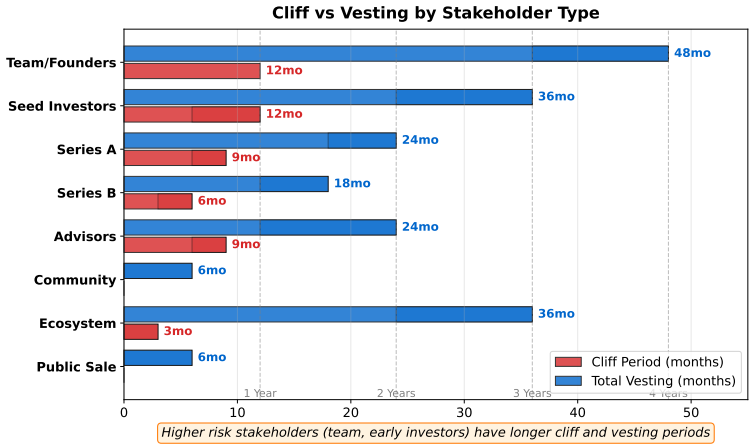
Why Use Cliffs?

- Prevents immediate dumps
- Tests commitment
- Project maturation time
- Reduces initial supply

Investor Perspective: Cliffs protect against early team departures

Compare the approaches shown above

Cliff vs Vesting by Stakeholder



Team/founders have longest cliff (12mo) and vesting (48mo); community often has none

How Do Unlock Events Impact Price?

Market Impact:

- Increases circulating supply
- Creates selling pressure
- Price drops before/during
- Market front-runs unlocks

Types of Unlocks:

- **Cliff:** Large one-time release
- **Linear:** Monthly/daily streams
- **TGE (Token Generation Event):** Initial launch when tokens first become transferable

Tools:
Token Unlocks, Messari, CoinGecko

Problem: How do unlocks affect token price? — Predictable unlock schedules allow markets to price in selling pressure, reducing volatility

Problem Check-In: Distribution & Vesting

Recall Our Problem

How do we fairly distribute tokens over time?

What We've Learned So Far

- Token allocation categories (team, investors, community) determine ownership concentration
- Vesting schedules with cliff periods prevent immediate insider dumps
- Structured distribution aligns incentives between early contributors and long-term community

Still to Address

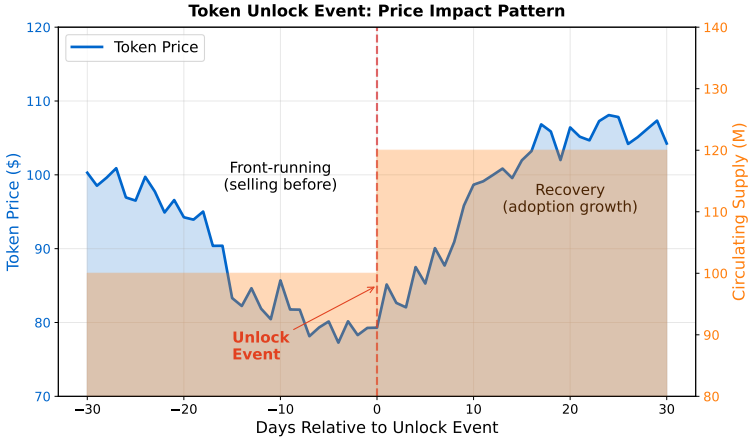
- How markets react to unlock events and strategies to manage selling pressure
- Can vesting schedules prevent all forms of insider manipulation?

Think About

- Based on what you've seen, how would *you* solve this problem?
- What trade-offs do you expect?

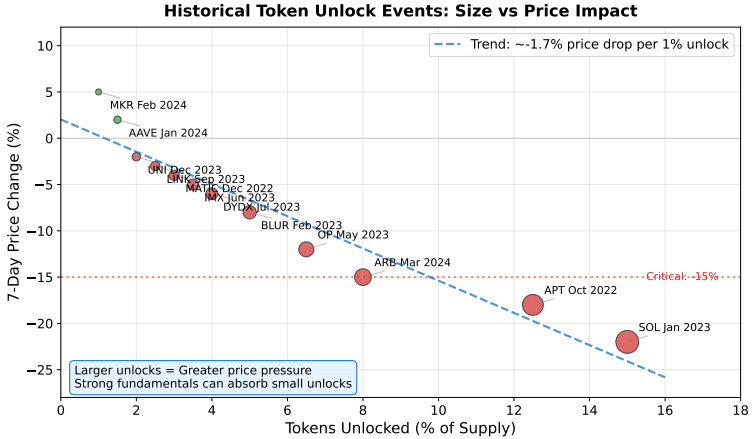
Pause and reflect: How does what we've learned so far address "How do we fairly distribute tokens over..."?

Unlock Event Price Impact



Market front-runs unlocks; price typically drops 15-20% around major events

Historical Unlock Events: Size vs Impact



Larger unlocks correlate with deeper price drops; strong projects can absorb small unlocks

What Can We Learn from Solana's Unlock Events?

Background:

- 500M SOL (to 700M by 2030)
- Major unlocks 2021-2025
- VC: a16z, Multicoin, etc.

Key Events:

- Jan 2023: 13.8M (seed)
- Mar 2023: 17.8M (early)
- Ongoing: validator unlocks

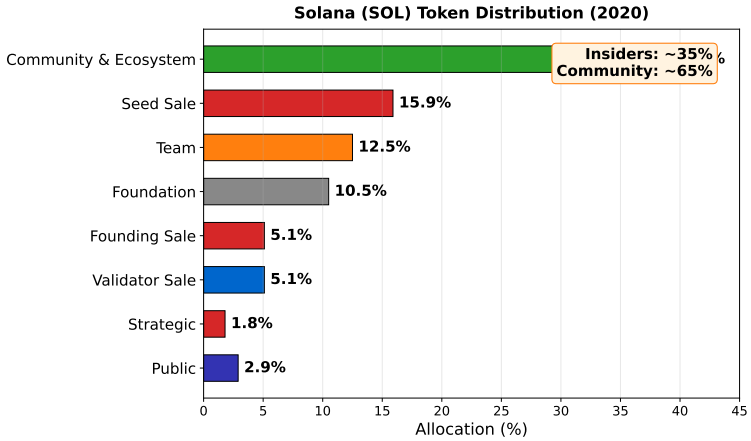
Price Impact:

- 15-20% drops at unlocks
- Long-term recovery
- Market front-runs events

Lesson:
Strong fundamentals absorb unlock pressure over time

Compare the approaches shown above

Solana Distribution Breakdown



Insiders 35% with long vesting helped manage dilution over time

How Can Projects Manage Unlock Pressure?

Staking Incentives:

- High yields lock tokens
- Ex: SOL 7% APY (Annual Percentage Yield—yearly return including compounding)

Gradual Unlocks:

- Daily/monthly releases
- Smooths supply shock

Lockup Extensions:

- Voluntary extra vesting
- Bonus for extended locks

Strong Fundamentals:

- Demand ¿ supply growth
- Adoption absorbs pressure

Problem: Can we mitigate unlock selling pressure? — Staking incentives, gradual releases, and strong fundamentals absorb supply shocks over time

Why Use Airdrops for Distribution?

Airdrop Types:

- **Retroactive:** Past users (UNI)
- **Holder:** Existing holders
- **Task-based:** Actions
- **Governance:** DAO participation

Benefits:

- Bootstrap community
- Decentralize ownership
- Reward early adopters

Risks:
Hunters, immediate selling pressure

Compare the approaches shown above

What Made Uniswap's Airdrop So Successful?

September 2020:

- 400 UNI per address
- 250,000 addresses eligible
- 150M UNI (15% supply)
- $1,200 value at claim

Impact:

- Instant decentralization
- Massive publicity
- Long-term holding
- DeFi airdrop standard

Key Insight: Retroactive airdrops reward genuine users, not speculators

Compare the approaches shown above

What Are the Red Flags in Token Distribution?

Excessive Insiders:

- Team + VCs ¿ 50%

Short/No Vesting:

- Team vesting ¡ 2 years
- No cliff period

Opaque Distribution:

- No published allocations
- Unknown wallet holders

Centralized Control:

- Foundation ¿ 30% forever

Multiple red flags = high risk of insider dumping

Continued

What Are Points Programs and Why Are They Popular?

What are Points?

- Off-chain loyalty tracking
- Converts to tokens at TGE (Token Generation Event—the initial token launch)
- Replaces traditional airdrops

How They Work:

- Track actions (deposits, trades)
- Accumulate proportionally
- Convert at TGE

2024 Examples:

- EigenLayer: restaking
- Blast: L2 deposits
- Ethena: USDe staking

Criticism:
Opaque, favors whales, mercenary capital

Compare the approaches shown above

Problem Solved? Distribution & Vesting

The Original Problem

How do we fairly distribute tokens over time?

How Distribution & Vesting Solves It

- Vesting schedules with cliffs create time-locked incentive alignment
- Community airdrops with anti-sybil measures reward genuine users
- Gradual unlock schedules smooth supply shocks (daily/monthly releases)

Remaining Limitations

- Vesting can be circumvented via derivatives (token loans, synthetic positions)
- Airdrops are often farmed by professional hunters, not real users

Open Questions

- What distribution model best aligns long-term interests without creating insider advantages?
- Risk: Incentive misalignment, free-rider problems

Distribution & Vesting partially solves "we fairly distribute tokens over time" but introduces new trade-offs

The Economics of Distribution & Vesting

Incentive Structure

- Aligning individual and collective interests
- Rewards for honest behavior, penalties for cheating
- Protocol gains security, participants earn rewards

Economic Security

- Attack cost must exceed potential gain
- Honest behavior = Nash equilibrium (game theory: no player benefits from unilaterally changing strategy)

Cryptoeconomic security: Honest behavior must be the Nash equilibrium

Key Economic Question

Who Pays, Who Earns?

Protocol gains security, participants earn rewards

Design Principle

$$\text{Attack Cost} > \text{Potential Gain}$$

Design Space: Distribution & Vesting

Alternatives Considered

1. Reward curves, slashing conditions
2. Alternative reward mechanisms

Trade-offs Made

- Every design optimizes some properties
- ... at the expense of others

Design Questions

- What would YOU change?
- What's optimized? What's sacrificed?
- Are there other approaches?

Key Insight

No Perfect Solution

All blockchain designs involve trade-offs between decentralization, security, and scalability.

Every design is a trade-off. Understanding alternatives reveals the "why" behind choices.

Failure Modes

Failure Modes: Distribution & Vesting

Critical Failure Mode

- **What breaks:** Incentive misalignment, free-rider problems
- **Why it happens:** Economic incentives misaligned

Root Cause

- Assumption violated
- Incentive structure broken
- External shock

Historical Context

- Multiple real-world failures documented
- Patterns repeating across protocols

Early Warning Signs

- ! Unusual economic behavior
- ! Incentive misalignment
- ! Centralization drift

Prediction: What could cause this to fail? How would you detect it early?

The Unlock Event Panic

[COMIC: Cliff and vesting unlock panic]

A visual narrative showing the market chaos when large token unlocks approach and insiders prepare to sell

What We Learned

- Vesting with cliffs prevents immediate dumps
- Markets front-run predictable unlock events
- Staking incentives can absorb selling pressure

The Takeaway

Well-designed distribution creates alignment, but unlock events remain inevitable stress tests.

Visual synthesis: The recurring drama of token unlock calendars

Summary

Distribution:

- Determines ownership concentration
- Healthy: Team+VCs ¡ 40%
- 3-4 year vesting standard
- Cliffs prevent immediate dumps

Next: Token Classification and Valuation

Next Lesson: L31 – Token Classification

Compare the approaches shown above

Market Dynamics:

- Unlocks = predictable pressure
- Points replacing airdrops (2024)
- Transparency builds trust
- Check Token Unlocks first

Questions for Reflection

1. Why do early investors typically have longer vesting than public sale participants?
2. How did Solana's unlock events impact its price trajectory?
3. What are the pros and cons of retroactive airdrops vs. task-based airdrops?
4. How can a project mitigate selling pressure during major unlocks?
5. What vesting schedule would you design for a new token launch?

Key point: Questions for Reflection

Quiz

Quiz Questions (1–5)

Q1. What is the primary purpose of a cliff period in token vesting?
A) Increase token price B) Ensure minimum commitment before unlocks C) Reduce gas fees D) Enable governance
Answer: B – Cliff periods prevent immediate dumping and ensure team/advisors commit for minimum duration.

Q2. What is considered a red flag for team and investor allocation?
A) Team 10%, VCs 20% B) Team 15%, VCs 25% C) Team 30%, VCs 25% D) Team 5%, VCs 10%
Answer: C – Team + VCs ¿ 50% indicates high centralization risk.

Q3. Which investment round typically has the longest vesting period?
A) Public Sale B) Series B C) Series A D) Seed
Answer: D – Seed investors get 2-3 years vesting (longest) due to earliest entry and highest risk.

Q4. What is linear vesting?
A) Tokens unlock all at once B) Equal amounts unlock at regular intervals C) Exponential unlock schedule D) Random unlock dates
Answer: B – Linear vesting releases equal token amounts monthly/daily after the cliff period.

Q5. What was the typical price impact of Solana's major unlock events?
A) 5-8% drop B) 15-20% drop C) 30-40% drop D) No impact
Answer: B – SOL dropped 15-20% around major unlocks as market front-ran selling pressure.

Quiz Questions (6–10)

Q6. What is the recommended minimum vesting period for team tokens?
A) 6 months B) 1 year C) 2 years D) 4 years
Answer: D – Best practice is 4 years minimum for team tokens to ensure long-term alignment.

Q7. Which airdrop type rewards past users who already used the protocol?
A) Task-based B) Holder airdrop C) Retroactive D) Governance
Answer: C – Retroactive airdrops reward genuine past users (e.g., Uniswap's 400 UNI per address).

Q8. What was the value of Uniswap's airdrop per eligible address in September 2020?
A) $400 B) $800 C) $1,200 D) $2,000
Answer: C – 400 UNI per address was worth approximately $1,200 at claim time.

Q9. Which sale method involves launching directly on a decentralized exchange?
A) ICO B) IEO C) IDO D) IPO
Answer: C – IDO (Initial DEX Offering) provides immediate liquidity on decentralized exchanges.

Q10. What is a typical team allocation percentage of total token supply?
A) 5-10% B) 15-20% C) 30-40% D) 50-60%
Answer: B – Best practice is 15-20% for team allocation to balance incentives and decentralization.

Quiz Questions (11–15)

Q11. What is the primary risk of airdrops to protocols?
A) Too expensive B) Airdrop hunters and immediate selling pressure C) Legal issues D) Technical complexity
Answer: B – Airdrop hunters farm rewards without genuine interest, creating immediate sell pressure.

Q12. How many tokens unlock during a 12-month cliff period?
A) 50% of allocation B) 25% of allocation C) 10% of allocation D) 0 tokens
Answer: D – Cliff means zero tokens unlock during that period; all unlocking starts after cliff ends.

Q13. Which vesting type provides the strongest long-term alignment?
A) Linear B) Front-loaded C) Back-loaded D) Accelerated
Answer: C – Back-loaded vesting releases more tokens later, keeping incentives aligned longer.

Q14. What is TGE in token distribution?
A) Token Growth Event B) Token Generation Event C) Total Gas Estimation D) Treasury Governance Entity
Answer: B – TGE (Token Generation Event) is the initial launch with first token unlocks.

Q15. What strategy can mitigate unlock selling pressure?
A) Delete tokens B) Staking incentives with high yields C) Burn all unlocked tokens D) Ban selling
Answer: B – High staking yields incentivize holders to lock tokens instead of selling (e.g., Solana 7% APY).

Quiz Questions (16–20)

Q16. What replaced traditional airdrops as the primary distribution mechanism in 2024?
A) ICOs B) Points programs C) NFT drops D) Mining
Answer: B – Points programs track off-chain activity and convert to tokens at TGE (e.g., EigenLayer, Blast).

Q17. Which project is an example of a Fair Launch with no pre-sale?
A) Ethereum B) Solana C) YFI (Yearn Finance) D) Cardano
Answer: C – YFI had a fair launch where everyone bought at the same price with no VC rounds.

Q18. What percentage of Uniswap's total supply was airdropped in September 2020?
A) 5% B) 10% C) 15% D) 25%
Answer: C – Approximately 150M UNI (15% of supply) was airdropped to 250,000 addresses.

Q19. What is the recommended maximum for Foundation/Treasury holdings?
A) ¡10% B) ¡20% C) ¡30% D) ¡50%
Answer: C – Foundation holding ¿30% indefinitely is a centralization red flag.

Q20. Why do earlier investors receive longer vesting periods?
A) Regulatory requirement B) Compensates for higher risk and bigger discounts C) Technical limitation D) Random assignment
Answer: B – Early investors take highest risk, get biggest discounts, so longer vesting aligns long-term incentives.