Blockchain, Crypto Economy & NFTs

FS 2026

Learning Objectives:

- Explain pump.fun's bonding-curve pricing mechanism
- Analyse why over 98% of tokens never graduate
- Apply the cryptoeconomics lens to meme-token value
- Evaluate mechanism-design alternatives

Central question: if anyone can create a token in 30 seconds, what determines whether it has any value?

This is the analytical mini.
It covers the economics only.
The live deployment workshop
is the separate full lecture.

What Is pump.fun?

A no-code meme-token launchpad on Solana:

- Launched January 2024; over 6 million tokens created (Source: Dune Analytics pump.fun dashboard, as of Q1 2025)
- No Solidity or Rust; UI-based token creation
- Embeds a bonding curve: price rises automatically as tokens are bought
- Graduation threshold: 69 SOL raised triggers migration to the Raydium DEX

Key Numbers (as of 2025):

$>$6M tokens launched
$\approx$98% never reach graduation
$\approx$0.022 SOL creation cost
$\sim$30 seconds to deploy

Expected outcome: near-zero value.

Source: Dune Analytics pump.fun dashboard (as of 2025).

The Core Cryptoeconomics Question

The barrier to creation is near zero:

- Anyone, 30 seconds, ≈$3
- No code, no audit, no gatekeeper

The barrier to value is enormous:

- A token with no narrative and no buyers is just data on a public ledger
- Value requires coordination, narrative, and buyers

That gap is the coordination problem.

Creation is permissionless and trivial.
Value is a social-coordination outcome that the protocol cannot manufacture.

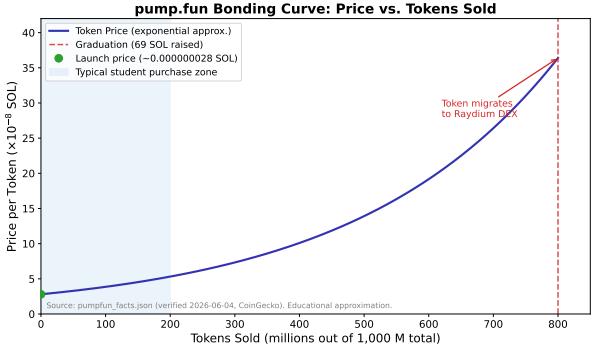
The pump.fun design isolates the coordination problem: the protocol supplies the curve; participants must supply the coordination.

Bonding Curve in 60 Seconds

How pump.fun prices a token:

- Fixed supply: 1,000,000,000 tokens
- Virtual AMM reserves set initial price near zero
- Each purchase raises the price for the next buyer
- At 69 SOL raised: graduates to Raydium, liquidity locked

Educational approximation: $p(x) \approx p_0 \cdot e^{kx}$, with x tokens sold, p_0 launch price.



Source: pumpfun_facts.json bonding_curve object (verified 2026-06-04). Exponential approximation of the constant-product AMM.

The 69 SOL Wall: Why 98% Never Graduate

Graduation failure rate (as of Q1 2025):

- Over 98% of pump.fun tokens launched in 2024 never reached the 69 SOL graduation threshold
- A token below 69 SOL stays tradeable on pump.fun but never receives Raydium liquidity
- The bonding curve stays open forever; without 69 SOL it never becomes a full DEX market

98% is the base rate, not the exception.

69 SOL $\approx$ \$10,000+
of net buying is required to reach Raydium.

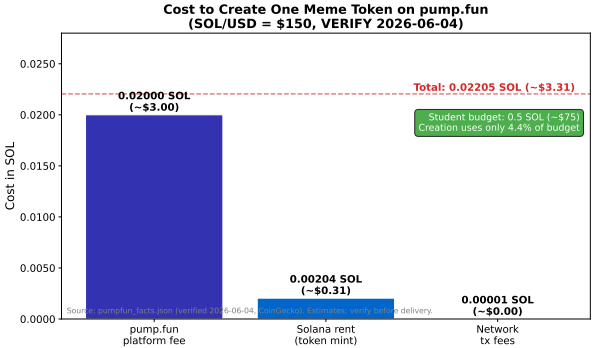
Source: Dune Analytics pump.fun dashboard (as of Q1 2025).

Fees: Why Creation Is Almost Free

Cost to create one token:

- pump.fun platform fee: ≈0.020 SOL
- Solana rent-exempt mint account: ≈0.002 SOL
- Network transaction fee: ≈0.000005 SOL
- **Total: ≈0.022 SOL (≈$3)**

Near-zero creation cost is exactly why supply is effectively unlimited and value is not.



Source: pumpfun_facts.json fees object (as of 2026-06-04, CoinGecko SOL/USD snapshot).

Why Does a New Token Have Near-Zero Value?

Four Socratic questions:

1. Who knows your token exists?
2. Why would anyone buy it?
3. What backs its value?
4. What would need to happen for it to reach 69 SOL?

For almost every launch the honest answers are: nobody, no reason, nothing, a coordinated buyer base that does not exist.

The coordination problem:

A token without narrative and without buyers is data on a public ledger.

Value requires coordination plus narrative plus buyers.

Value is not a protocol output; it is a social-coordination outcome.

Failure Modes: Rug Pulls and Whale Dumps

The dominant failure modes:

- Rug pull: creator abandons or drains the token shortly after launch
- Whale dump: a large early holder sells into thin liquidity, collapsing price
- Zero coordination: no buyers ever arrive, value stays near zero

Rug-pull reality check:

pump.fun accounted for over 50% of Solana rug pulls in 2024.
Most occurred within 24 hours of launch.

Source: Chainalysis 2025 Crypto Crime Report (rug-pull frequency on Solana meme platforms, as of 2025).

Design Space: What Would You Change?

Three mechanism-design questions:

- **Threshold:** graduation at 6.9 SOL instead of 69? More graduate, liquidity fragments, rug risk rises.
- **Lock-up:** creators barred from selling for 24h? Fewer rug pulls, weaker launch incentive.
- **Fee timing:** platform takes its cut at graduation, not creation? Aligns platform with creator success, fewer junk launches.

Mechanism design:

Parameter choices decide who benefits and who bears risk.

Current pump.fun parameters maximise launch volume and take revenue at creation, with no creator accountability.

Mechanism design: parameter choices determine who benefits and who bears risk (graduation threshold = 69 SOL).

Key Takeaways

The cryptoeconomics lens on meme tokens:

- **Mechanism:** the bonding curve automates price discovery; no order book
- **Incentives:** early buyers profit only if adoption grows; 98%+ never graduate
- **Failure mode:** zero coordination means zero value; rug pulls destroy early buyers
- **Design space:** thresholds, lock-ups, and fee timing change who bears the risk

The one-sentence takeaway:

The barrier to token creation is zero; the barrier to token value is enormous.

That gap is the coordination problem.

Cryptoeconomics framework: mechanism plus incentives plus failure modes plus design space, applied to pump.fun.

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Q10. The core lesson of the pump.fun case is:
A) Creation is hard B) Value is automatic C) Creation is trivial, value needs coordination D) Solana is insecure
C The barrier to creation is zero; the barrier to value is the coordination problem.