

# DeFi: Banking Without Banks

Lending, borrowing, and trading through code instead of intermediaries. How it works, and why it matters.



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11 min

*Banks are a technology for coordinating strangers. You deposit money. Someone else borrows it. The bank sits in the middle, vouching for both parties, managing the risk, and taking a cut. This model is four centuries old. DeFi — Decentralised Finance — asks a simple question: what if we replaced the bank with code?*

## What Banks Actually Do

Before understanding DeFi, it's worth understanding what it's trying to replace. Banks perform several functions we often conflate:

**Custody:** They hold your money so you don't have to secure it yourself. This is genuinely valuable — defending assets against theft is expensive and specialised.

**Payments:** They move money between accounts, across borders, through time. The infrastructure is invisible until it fails.

**Intermediation:** They match lenders (depositors) with borrowers, managing the risk that borrowers might default. They assess creditworthiness, set interest rates, and absorb losses when things go wrong.

**Trust:** They vouch for parties who don't know each other. You trust the bank; the bank trusts (or verifies) the borrower. Trust is their product.

DeFi doesn't eliminate these functions. It performs them differently, substituting code for institutions and collateral for credit assessment.

*"DeFi doesn't eliminate trust. It changes what you're trusting. Instead of trusting a bank's risk management, you trust smart contract code and overcollateralisation. Both involve risk. The risks are different."*

## How Lending Works Without Banks

The DeFi lending model is radically different from traditional banking. There's no credit check, no application, no relationship manager. Here's how Aave or Compound work:

**Lenders** deposit crypto assets into a smart contract — essentially a pool of funds governed by code. In return, they receive tokens representing their deposit. Interest accrues automatically based on supply and demand.

**Borrowers** can take loans from the pool, but only if they post collateral worth more than they borrow — typically 150% or more. Want to borrow \$100,000 in stablecoins? Deposit \$150,000 in ETH first.

Why would anyone borrow this way? Several reasons: avoiding taxable sales of appreciated assets, accessing liquidity without selling, leveraging positions, or arbitraging across different protocols. The use cases are largely institutional and sophisticated.

#### KEY INSIGHT

DeFi lending doesn't work like bank lending because it can't assess credit. Banks lend based on your income, credit history, and ability to sue you if you default. Smart contracts can't evaluate humans. So DeFi requires overcollateralisation — you give more than you take. If you could be trusted, you wouldn't need to post collateral. Because you can't be trusted by code, you prove solvency with assets.

## How Trading Works Without Exchanges

Traditional exchanges (like the NYSE or Coinbase) use order books: buyers post bids, sellers post asks, the exchange matches them. This requires centralised infrastructure and someone to hold both parties' assets during the trade.

Decentralised exchanges like Uniswap work differently. They use "Automated Market Makers" (AMMs) — mathematical formulas that determine prices based on the ratio of assets in a pool.

Here's the simplified version: a liquidity pool holds two assets, say ETH and USDC. The ratio between them determines the price. If you add ETH (buying USDC with it), the ETH/USDC ratio changes, moving the price. The formula ensures there's always a price available — no need to wait for a matching buyer or seller.

Liquidity providers — people who deposit both assets into pools — earn fees from every trade. It's like being a market maker on a traditional exchange, but permissionless. Anyone can provide liquidity and earn the fees.

## Where Yield Comes From

"Yield farming" and high DeFi returns attracted enormous attention during 2020-2021. Interest rates of 20%, 50%, even 100% APY were advertised. This raised an obvious question: where does the money come from?

Sustainable yield in DeFi comes from three sources:

**Borrower interest:** People paying to borrow assets. This is real economic activity. Typical rates are 3-8% for stablecoins.

**Trading fees:** Liquidity providers earn a cut of each trade. On popular pools, this can be substantial. On obscure pools, it's minimal.

**Token incentives:** Protocols distribute their own tokens to users. This was the primary driver of extreme yields. But token incentives are essentially marketing budgets — sustainable only as long as token prices hold up and treasuries last.

When you saw 50% APY, it was almost certainly coming from token incentives. When those tokens collapsed, so did the yields. Current sustainable rates are in the 3-10% range — higher than traditional savings accounts, but not the lottery tickets that were advertised.

## What Went Wrong in 2022

The crypto crash of 2022 tested DeFi thoroughly. Some protocols failed spectacularly. Others survived and even strengthened. Understanding what broke is essential:

**Algorithmic stablecoins collapsed.** Terra/Luna's UST lost its peg and evaporated \$40 billion in weeks. The mechanism that was supposed to maintain stability instead created a death spiral. This wasn't DeFi per se — it was a flawed stablecoin design — but the contagion spread.

**Centralised lending imploded.** Celsius, Voyager, BlockFi, and Genesis weren't DeFi protocols — they were centralised companies offering yields. When their risk management failed (spectacularly), billions in customer funds vanished. The lesson: calling something "crypto" doesn't make it decentralised or transparent.

**Overcollateralised DeFi survived.** Aave, Compound, MakerDAO, and Uniswap processed massive liquidations without platform failures. The liquidations were painful for borrowers but the protocols worked exactly as designed. Code doesn't panic.

#### THE RORY SUTHERLAND TAKE

The 2022 collapse wasn't a failure of decentralisation — it was a failure of centralisation wearing a decentralised costume. The things that broke were centralised entities making discretionary decisions about risk. The things that survived were genuine smart contracts executing code. DeFi's weakness is smart contract risk (code bugs). Its strength is transparency and mechanical execution. The failures came from trusting humans who claimed to be protocols.

## The Risks You're Taking

DeFi risk is different from traditional finance risk, not absent:

**Smart contract risk:** Code can have bugs. Audits reduce but don't eliminate this risk. Exploits have cost billions. The most battle-tested protocols (Aave, Uniswap, MakerDAO) have stronger track records, but "battle-tested" is relative in a young industry.

**Oracle risk:** DeFi protocols need external price data to function. If a price oracle is manipulated or fails, liquidations can happen incorrectly or opportunities for exploitation emerge.

**Liquidation risk:** If you borrow against volatile collateral and prices drop too fast, you can be liquidated at the worst possible time — selling low because you're forced to, not because you chose to.

**Regulatory risk:** Governments are still determining how DeFi fits into existing frameworks. Protocol developers have faced enforcement actions. Future restrictions could limit access or functionality.

**Composability risk:** DeFi's "money legos" connect protocols together. This creates leverage and interconnection. A failure in one protocol can cascade to others that depend on it.

## The Investment Perspective

For sophisticated investors, DeFi presents distinct opportunities and challenges:

**Yield opportunities** exist but require active management and risk understanding. Lending stablecoins to battle-tested protocols offers yields above traditional alternatives, with smart contract risk as the trade-off.

**Exposure to DeFi growth** comes primarily through protocol tokens (AAVE, UNI, etc.). These are governance tokens that may or may not capture protocol value. Revenue models vary widely. Due diligence is essential.

**Infrastructure usage** makes sense for active crypto participants. DEXs for trading. Lending protocols for leverage or yield. The tools exist and function well.

**The rational approach:** DeFi works. The surviving protocols have proven resilient. But it's infrastructure for the crypto economy, not a get-rich-quick scheme. Use it when it serves a purpose. Avoid it when traditional solutions are adequate. Size any exposure to reflect both the opportunity and the risk.

## Building a New System

DeFi is now processing billions of dollars daily through code that anyone can inspect and no one can alter. Love it or fear it, this is new. Financial services that previously required armies of employees, regulatory licenses, and centuries of trust-building now run on mathematics and open-source software.

The question isn't whether DeFi will replace traditional banking — it almost certainly won't entirely. The question is which financial services will be better performed by code and which will remain the domain of human judgment and institutional relationships.

Payments, market-making, and collateralised lending seem suited to automation. Credit assessment, relationship banking, and complex advisory work seem to require humans. The boundary will shift over time as technology improves and regulation

clarifies.

For now, DeFi exists as a parallel financial system — smaller, riskier, and more experimental than traditional finance, but also more transparent, accessible, and innovative. It's not for everyone. But for those who understand it, the tools are powerful.

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