

INNOVATIONS IN FINANCE

LECTURE 3 : THE RISE OF SMART FINANCE BLOCKCHAIN, TOKENIZATION & WEB3

Make an impact



INTRODUCTION



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OUR GOAL : UNDERSTAND THE FUTURE OF FINANCE

Do you own crypto or NFTs?



PREVIOUSLY ON *INNOVATIONS IN FINANCE*

◆ **Recap:**

- AI → smarter decision-making
- APIs → financial connectivity
- Embedded finance → invisible banking



LEARNING OBJECTIVES

◆ Knowledge (know/understand):

- Understand the fundamentals of blockchain, smart contracts, and tokenization.
- Identify how DeFi and Web3 are challenging traditional financial infrastructure..

◆ Skills (be able to):

- Compare centralized vs. decentralized models.
- Analyze real-world use cases of blockchain in finance.
- Evaluate the potential and limits of token-based finance.

➔Curiosity, creativity and critical thinking will be rewarded



INTRO – BEFORE WE TALK BLOCKCHAIN...

Your wallet \neq your portfolio strategy



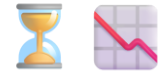
- ◆ You might own BTC, ETH, DOGE... or a meme that went to zero.
- ◆ But do you manage it, or just hope?
- ◆ **Finance still obeys the same laws: risk, return, and time horizon.**

DIVERSIFICATION 101: DON'T MARRY YOUR COIN 💔

Put your eggs in different baskets (and watch the baskets!)

- ◆ **Diversification** = spreading exposure across uncorrelated assets.
- ◆ Reduces portfolio volatility without necessarily reducing returns.
- ◆ **Crypto + equities + bonds + cash → build a near zero correlation**
- ◆ Correlation in stress = 1 😬.

VOLATILITY, TIME, AND THE DREADED MAX DRAWDOWN



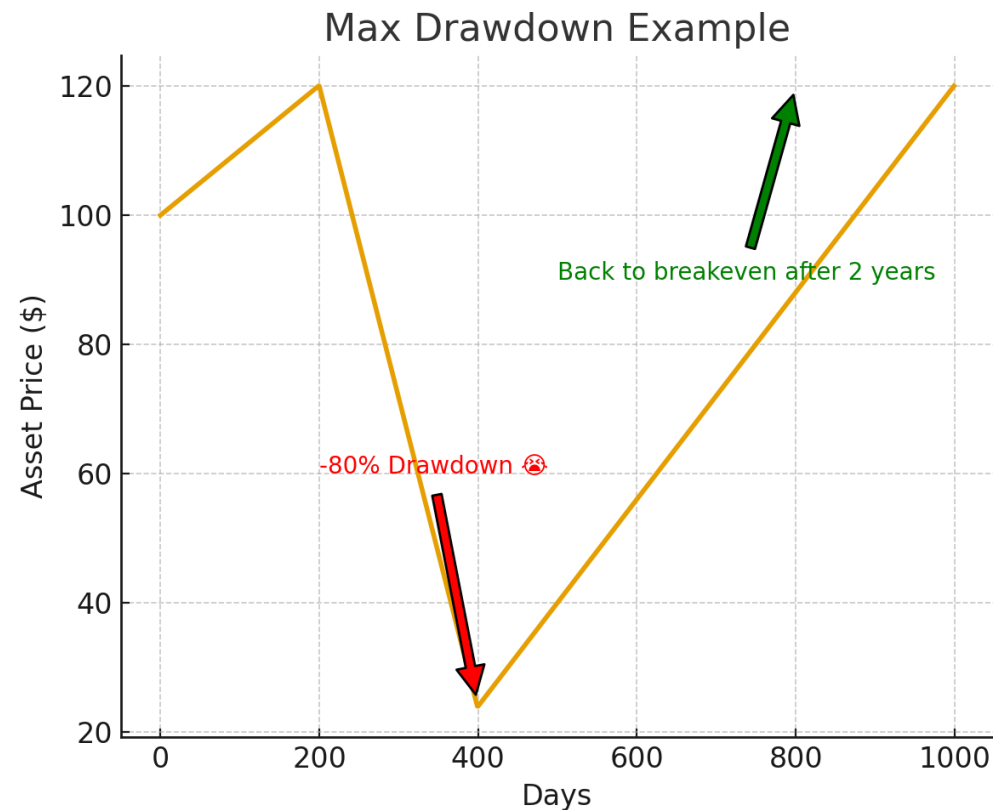
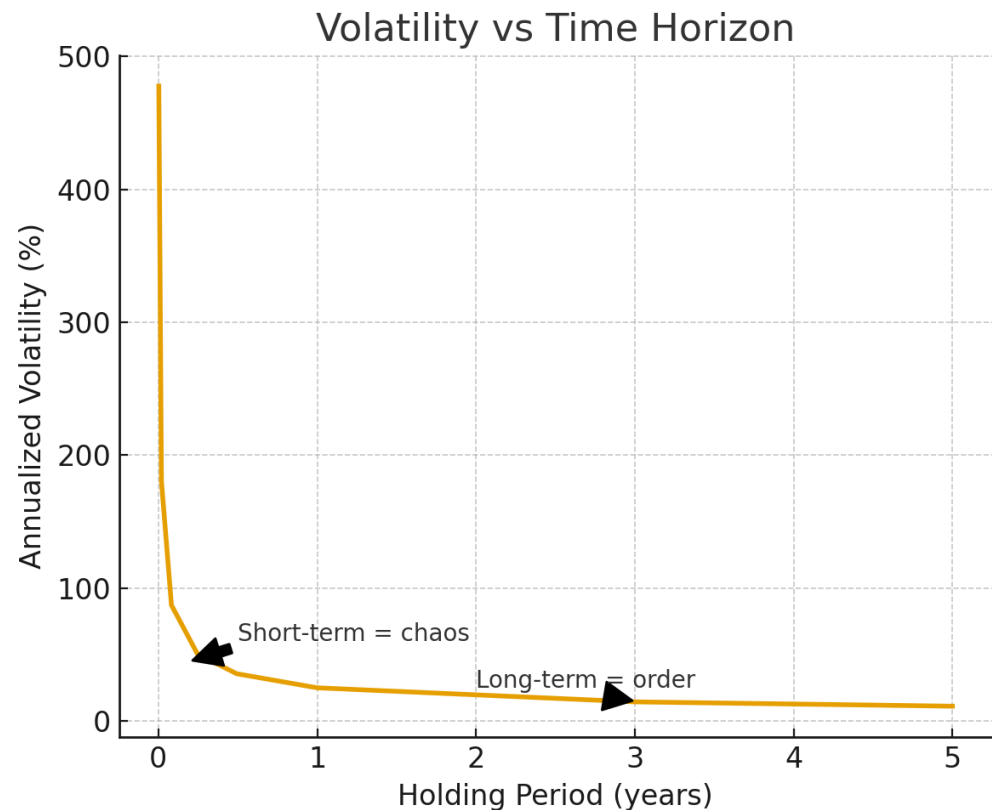
The longer you invest, the more you can survive storms

- ◆ **Volatility** ↓ as holding period ↑ (time smooths returns).
- ◆ Short-term = price noise; long-term = fundamentals.
- ◆ **Max Drawdown: largest peak-to-trough loss before recovery.**
- ◆ Example: “My coin dropped –80% but I’m still HODLing” = max drawdown champion 🏆.



WHAT IT LOOKS LIKE ON A CHART

Time heals (most) volatility — until it doesn't!






BLOCKCHAIN FUNDAMENTALS




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LET'S BUILD A BLOCKCHAIN TOGETHER!

The Blockchain Café ☕🍰

 **Customers** – make transactions (“I buy a croissant for 1 coin”)

 **Ledger Keepers (Nodes)** – record every transaction on their sheet

 **Auditor / Miner** – checks if all ledgers match before approving a block

 **Hacker (optional)** – tries to alter a transaction afterward

“In blockchain, no single person is trusted — everyone *collectively* maintains the truth.”



LET'S BUILD A BLOCKCHAIN TOGETHER!

The Blockchain Café ☕🍰





WHAT JUST HAPPENED AT THE BLOCKCHAIN CAFÉ?

What You Did

Each node wrote the same transaction

Auditor checked all copies before approval

Hacker couldn't change one record alone

We didn't need a central waiter

What It Represents in Blockchain

Distributed ledger – everyone holds a full copy




Consensus mechanism

Immutability & security

Decentralization – trust the network, not a single entity

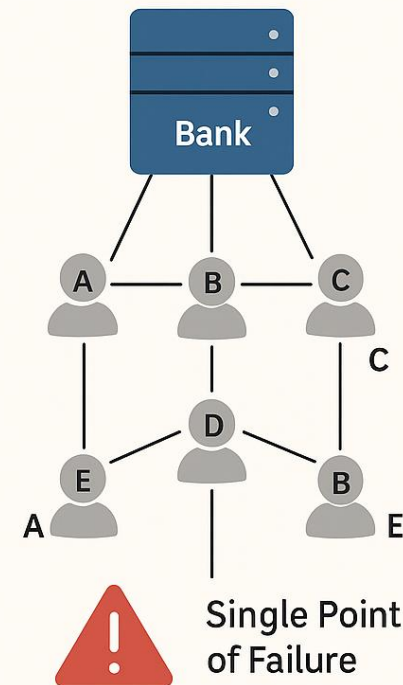


WHAT IS BLOCKCHAIN?

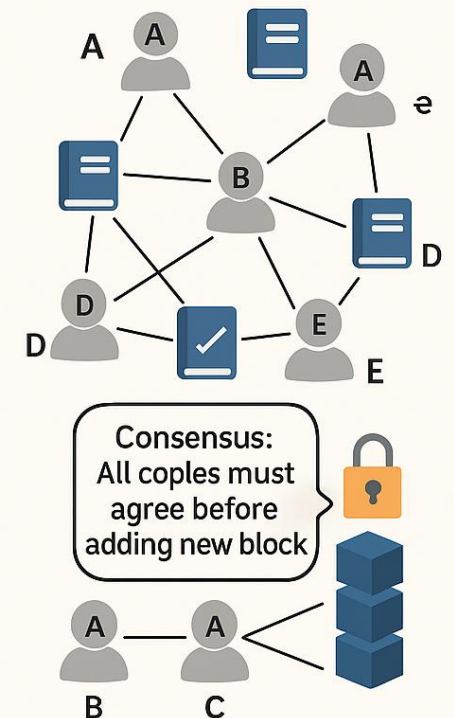
- ◆ Blockchain is a shared, digital ledger that records transactions in a secure, transparent, and decentralized way.
- ◆ Instead of being stored in a single central server (like a traditional bank), blockchain data is copied and stored across thousands of computers around the world.
- ◆ Once a block of data is added, it can't be changed—that's what makes it immutable.
- ◆ Before a new transaction is recorded, computers on the network must agree (reach consensus) that it's valid.
 -  **Decentralized**
 -  **Transparent**
 -  **Tamper-proof**

What is Blockchain?

Centralized Ledger



Decentralized Ledger





HOW TO REACH A CONSENSUS ?

Consensus Type	How It Works	Pros	Cons
Proof of Work	Compete through effort	Secure, proven	Energy-intensive
Proof of Stake	Chance based on what you risk	Energy-efficient, faster	Favors the wealthy (“the rich get to validate”)

HOW TO REACH A CONSENSUS ?

- ◆ Consensus Mechanism = Trust Without a Middleman
- ◆ 2 Main algorithms :

Proof of Work (PoW)

🔄 How it works: Miners compete to solve complex mathematical puzzles

✅ Pros: Highly secure, well-tested

⚠️ Cons: Energy-intensive, slow



Bitcoin

<https://btcscan.org/>

Proof of Stake (PoS)

🔄 How it works: Validators are selected based on the amount of crypto they "stake"

✅ Pros: Energy-efficient, faster

⚠️ Cons: Risk of centralization, "rich get richer" effect



Ethereum (since The Merge)

<https://etherscan.io/>



SMART CONTRACTS: PROGRAMMABLE FINANCE

◆ What is a Smart Contract?

- Self-executing code stored on a blockchain
- Automatically enforces terms of an agreement
- No intermediary, no manual execution

◆ Key Features:

- Trustless (runs without human intervention)
- Transparent (code is public)
- Immutable (can't be altered once deployed)

Use Case: Automated Loan Disbursement

Traditional system

- Bank verifies loan request
- Manual approval → delays
- Disbursement subject to business hours, intermediaries

With Smart Contract

- Conditions coded (e.g. credit score > X, collateral present)
- Auto-disbursement triggered instantly
- 24/7 execution, no manual check, fewer costs

SELF-CUSTODY AND WALLETS




- ◆ Crypto Assets are working with three pieces of information:
 - The address associated with a balance and used for sending and receiving funds
 - The address' corresponding public key
 - The address' corresponding private key
- ◆ The creation of a blockchain account starts with the generation of a private key (the corresponding public key is derived using an asymmetric cryptography mechanism)
- ◆ This private key represents the ownership of the account and is unique
- ◆ In blockchain mechanism, the user can store this key by himself (and all the associated responsibilities)

« Not your keys,
not your coins »



THE THREE LAYERS OF TRUST IN BLOCKCHAIN

“In traditional finance, we trust institutions.
In blockchain, we trust **the network, the code, and ultimately — ourselves.**”

Layer	What It Means	Example
 Network	Everyone holds and verifies the same truth	Consensus replaces intermediaries
 Code	Rules are executed automatically	Smart contract releases payment when conditions met
 Yourself	You control access to your assets	Wallets & private keys = your personal vault

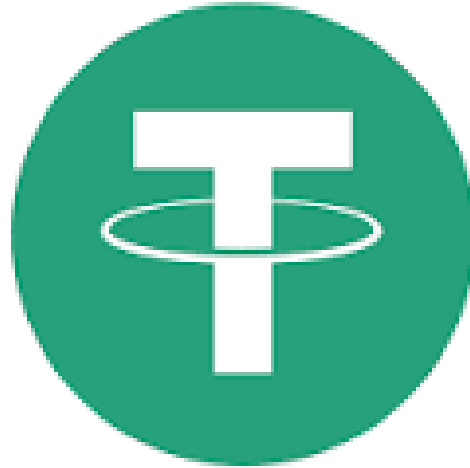


STABLECOINS & CBDCS



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THREE TYPES OF DIGITAL MONEY





CRYPTO-ASSETS ≠ CRYPTO-CURRENCIES

Criteria	Traditional Currency	Bitcoin & most crypto-assets
Stability	Low volatility	Highly volatile (can drop 10% in a day)
Widespread acceptance	Legal tender	Limited use as payment
Value reference	Central bank guarantee	Market speculation
Role	Medium of exchange	Store of <i>hope</i> (and data)
Core identity	<i>Currency</i>	<i>Asset</i>

CRYPTO WANTED FREEDOM... BUT GOT VOLATILITY.

- ◆ Bitcoin & Ether = innovative, but **too volatile for everyday use.**
- ◆ Stablecoins = bridge between crypto and fiat.
- ◆ **Pegged to stable assets** (USD, EUR, gold, etc.)
- ◆ Goal: combine stability of traditional money with speed o





HOW STABLECOINS WORK

- ◆ **Collateralized stablecoins:** backed 1:1 by fiat or bonds (USDC, USDT)
- ◆ **Crypto-collateralized:** backed by overcollateralized crypto (DAI)
- ◆ **Algorithmic:** use code + market incentives (Terra/LUNA... until it broke 🌟)
- ◆ Transparency and audits determine **trustworthiness**.

ALGORITHMS CAN FAIL...





ENTER THE CBDCS

When Central Banks Join the Game

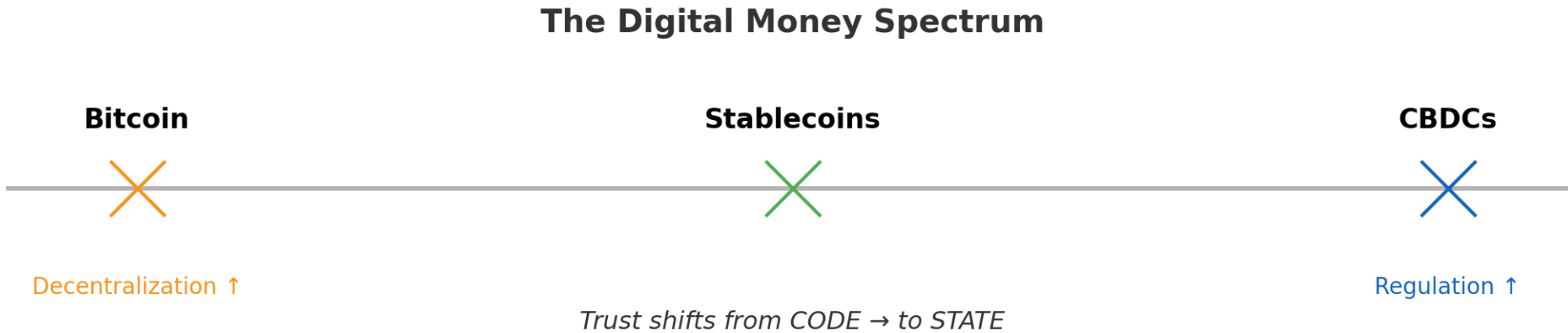
- ◆ CBDC = Central Bank Digital Currency
- ◆ Issued directly by a central bank, legal tender, digital form of fiat.
- ◆ Can be retail (for citizens) or wholesale (for banks).
- ◆ Goals:
 - improve payment efficiency,
 - fight illicit use,
 - preserve monetary sovereignty.
- ◆ Examples: China's e-CNY, ECB's Digital Euro, Bahamas' Sand Dollar.



STABLECOINS VS CBDCS: WHO DO YOU TRUST?

Feature	Stablecoins	CBDCs
Issuer	Private company (e.g. Circle)	Central Bank
Backing	Reserves or crypto collateral	State guarantee
Speed & Access	Instant, global	Depends on national rollout
Regulation	Emerging (MiCA, etc.)	Strictly regulated
Control	Users	Government / Central Bank

STABLECOINS VS CBDCs: WHO DO YOU TRUST?



- ◆ All digital, but not all equally decentralized
- ◆ Blockchain reshapes trust models:
- ◆ from “trust banks” → “trust networks” → “trust governments again (digitally)”.
- ◆ The key question: **Who controls the money — code, market, or state?**



TOKENIZATION IN FINANCE



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CASE: OWNING A SLICE OF THE EIFFEL TOWER?

- ◆ Didactic Example: Tokenizing the Eiffel Tower
 1. Valuation: Eiffel Tower hypothetical market value = €10B
 2. Legal Structuring: SPV (Special Purpose Vehicle) created to hold rights
 3. Token Creation: 10 million tokens issued → 1 token = €1,000 worth
 4. Regulatory Compliance: KYC/AML onboarding, regulated exchange listing
 5. Distribution: Investors purchase tokens via a digital platform
 6. Secondary Market: Tokens traded peer-to-peer or on exchanges
 7. Revenue Sharing: Token holders receive share of ticket sales or rental income
 - ✓ Democratized access
 - ✓ Increased liquidity
 - ✓ Transparent ownership
 - ✓ Programmable income via smart contracts





WHAT IS TOKENIZATION?

Turning Real Assets into Digital Tokens

- ◆ What is Tokenization?
 - The process of converting rights to a real-world asset into a digital token on a blockchain.
 - Each token represents ownership or a claim on a share of an asset (e.g. real estate, bonds, art).
- ◆ Use Cases:
 - Real Estate: Fractional ownership of buildings or land
 - Private Equity & Bonds: Liquidity in traditionally illiquid assets
 - Commodities: Trade gold, oil, or carbon credits via tokens
 - Luxury Goods & Art: Ownership and provenance tracking
 - NFTs: Unique tokens for digital/physical assets (e.g. art, collectibles, IP rights)
- ◆ Benefits:
 - Global access: Investors worldwide can participate
 - Fractional ownership: Democratizes access to large assets
 - Faster settlement: 24/7 markets with instant transactions
 - Transparent & auditable: Built-in tracking and compliance
- ◆ Challenges:
 - Regulatory uncertainty (e.g., securities classification)
 - Need for reliable asset valuation and custody
 - Technical integration with traditional systems



WHY IT MATTERS FOR FINANCE ?

From Paper Markets to Programmable Markets

- ◆ **Traditional finance** = intermediaries, delays, and costs.
- ◆ **Tokenization** = instant, transparent, and programmable.
- ◆ Liquidity for illiquid assets (real estate, private equity, art).
- ◆ Reduces settlement risk (T+2 → near real time).
- ◆ Enables composability: tokens can interact automatically via smart contracts.
- ◆ Example: a tokenized bond automatically pays coupons to wallets every 6 months.

NFTS IN LUXURY GOODS: THE ARIANEE X BREITLING CASE

◆ Brand Objective:

- Enhance customer relationship through a secure, digital-first ownership experience
- Guarantee authenticity and product traceability
- Empower customers with control over personal data and privacy

◆ NFT Integration with Arianee:

- Every Breitling watch now includes a blockchain-based digital passport (NFT)
- NFT contains details like:
 - ◆ Proof of ownership
 - ◆ Product origin (materials, sourcing, etc.)
 - ◆ Warranty and repair history
 - ◆ Acts as a digital twin of the physical watch

◆ Customer Benefits:

- Authenticity check without third parties
- Track repairs, extend warranties, and manage insurance
- Maintain anonymous ownership and full control over personal data
- Easy resale with verified provenance (secondary market trust)

◆ Benefits for Luxury Brands:

- NFTs as tools for loyalty, ownership verification, and after-sales service
- Unlock new digital customer experiences and secondary market control
- Promotes circular economy and product lifecycle traceability



.arianee



INVESTMENT MANAGEMENT: A NEW PARADIGM

- ◆ Traditional Model – Mutual Funds Today
 - Requires custodians, transfer agents, and clearing systems
 - T+2 settlement with risk of settlement failure
 - Manual, fragmented, and costly processes
 - Limited real-time transparency for investors



BlackRock

- ◆ Tokenized Mutual Funds – Blockchain Model:
 - Smart contract-based fund shares issued as tokens
 - Real-time Delivery vs Payment (DvP) on blockchain
 - Removes intermediaries → faster, cheaper, programmable
 - Greater investor access (24/7, fractional ownership, global reach)
- ◆ BlackRock USD Institutional Digital Liquidity Fund
 - Mainframe asset management (invest in US sovereign debt, mainly treasuries)
 - Fully tokenized



CHALLENGES & LIMITS

Tokenization Is Powerful — but Not Magic

- ◆ **Regulatory fragmentation** (MiCA, Pilot Regime, SEC uncertainty).
- ◆ **Custody and settlement still depend on traditional infrastructure.**
- ◆ **Valuation and governance of real assets remain complex.**
- ◆ **Market adoption still small** — need trusted intermediaries.
- ◆ **Key question:** Can we tokenize everything, or only what investors understand and regulators accept?



“If blockchain was about trust,
and stablecoins about money,
then tokenization is about **bringing the real
economy on-chain.**”



SMART FINANCE USE CASES



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INVOICING & BILLING ON CHAIN

◆ What's the idea?

- Use blockchain + smart contracts to automate invoicing, billing, and payment
- Each invoice is a smart contract: timestamped, tamper-proof, and self-executing

How it works: Example – SaaS Company

1. Service Usage Tracking

- A SaaS platform records user activity (e.g., API calls, usage minutes) in real-time
- Usage data is sent to a blockchain and triggers an automatic invoice

2. Smart Invoice Deployment

- A smart contract is generated: defines the customer, amount due, due date, and conditions for payment
- The invoice is immutable and time-stamped on the blockchain

3. Proof of Service

- The invoice includes proof of service delivered (usage logs linked to the smart contract)
- Client can audit and verify independently

4. Payment Execution

- Client's wallet is debited automatically at due date, or manually signed
- Funds are released to the provider if service criteria are met
- Late payments can trigger automated reminders or penalties

Why it's powerful

- ✓ Transparent & verifiable
- ✓ No intermediaries (banks or PSPs)
- ✓ Instant reconciliation
- ✓ Automates accounts receivable

DIGITAL IDENTITY MANAGEMENT

◆ What is Self-Sovereign Identity (SSI)?

- A decentralized approach to identity where users own and control their credentials
- Blockchain stores credentials' proofs, not the personal data itself
- User presents only the required claims, not full documents (selective disclosure)

How It Works in Financial Services (KYC/AML/Onboarding)

1. Credential Issuance

- A trusted issuer (e.g., a bank, gov't) verifies your ID once
- Issues a **verifiable credential**, digitally signed and linked to your wallet

2. Selective Disclosure in KYC/AML

- When applying for a loan or opening an account, you **share only what's needed** (e.g., "over 18", "EU citizen")
- The verifier (e.g., fintech, bank) checks the validity via the blockchain without storing the data

3. Credit Assessment & Reusability

- Credit score, salary history, or transaction records can be stored as credentials
- These are portable across institutions and **verified instantly**

Privacy by Design

- ✓ No central storage of identity = No honeypots for hackers
- ✓ Only **cryptographic proofs** on-chain (hashes of data)
- ✓ ID layers ensure **granular consent** for each use case

Focus: Europe's EUDI Wallet

EU The European Digital Identity Wallet (EUDI) aims to:

- Allow EU citizens to **store identity, diplomas, medical data** in a unified wallet
- Be compliant with **eIDAS 2.0 regulation**
- Enable frictionless access to public and private services (finance, telecom, gov.)

CREDIT SCORING REINVENTED: FROM BANKS TO BLOCKCHAIN

◆ The Problem with Traditional Credit Scoring

- ✗ Requires bank accounts, credit history, formal employment
- ✗ Biased, opaque, and excludes millions of unbanked individuals
- ✗ Controlled by centralized credit bureaus

◆ Blockchain & DeFi: A New Credit Paradigm

- ✓ Users can borrow without traditional banks
- ✓ Creditworthiness assessed via on-chain activity and smart contracts
- ✓ Transparent, programmable, and borderless

Alternative Creditworthiness Signals

- Wallet history: number of transactions, holdings, loan repayments
- Protocol behavior: interactions with DeFi apps (Aave, Compound, etc.)
- Reputation systems and NFT-based credentials (e.g., proof of staking, membership)

Smart Contract-Based Lending (Aave Example)

- 💡 No credit score needed
- Users deposit crypto as collateral → instantly borrow other assets
- Smart contracts enforce margin calls and liquidation thresholds
- Entire process is automated, transparent, and trustless

Evolving Models: From Overcollateralization to Reputation

- 🔗 Early DeFi required 150%+ collateral
- 🔍 Emerging protocols explore under-collateralized lending using:
 - Soulbound tokens as reputation badges
 - Web3 identity credentials
 - AI + analytics on wallet behavior

Use Case: Unbanked User in Nigeria

- 🌐 A user with no bank account but active DeFi usage can access credit:
 - Collateralized lending via Aave
 - Repayment history builds Web3 reputation
 - Future potential: borrow without collateral using wallet-based scores



WEB3 & DECENTRALIZED FINANCE

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WHICH INSTITUTIONS OFFER THESE TODAY?

Deposit – Borrow – Exchange – Invest



WHAT IS WEB3?

From Read → Read/Write → Read/Write/Own

	Web 1.0	Web 2.0	Web3
Period	~1990s–early 2000s	~2005–2020	2020+ (emerging)
Core Idea	“Read” – Static web	“Read & Write” – Social web	“Read, Write & Own” – Decentralized web
Users	Consumers only	Users as content creators	Users as owners (via tokens/NFTs)
Control	Website owners	Tech platforms (Google, Facebook, etc.)	Decentralized protocols, governed by users
Data	Hosted on servers	Stored in centralized databases	Stored on blockchains
Monetization	Banner ads	User data monetized by platforms	Users earn via tokens, royalties, yield
Example Sites	Yahoo,	Facebook, YouTube,	Aave, Uniswap, OpenSea, ENS

WHAT IS DEFI?

◆ DeFi = Decentralized Finance

- A global financial system built on blockchains (mainly Ethereum)
- Replaces banks and brokers with smart contracts

◆ How It Works:

- Peer-to-peer (P2P) financial services
- Powered by self-executing smart contracts
- Non-custodial: users keep control of their funds

◆ Core Concepts:

- **Yield Farming:** Earn rewards (often tokens) by providing liquidity to DeFi protocols
- **Staking:** Lock crypto in a protocol to secure the network and earn interest
- **Liquidity Pools:** Smart contracts that hold token pairs (e.g., ETH/USDC) to facilitate swaps and earn fees
- **DEX** : Decentralized Exchange

Benefits of DeFi:

- ✓ Open 24/7, global access
- ✓ Transparent and auditable
- ✓ Composability ("Money Legos") – apps build on each other





AAVE — THE BANK WITHOUT BANKERS

◆ Traditional Bank

- Borrower → fills a credit file
- Bank → analyses, approves, charges interest
- Risk = bank's balance sheet
- Execution time = days/weeks

◆ AAVE

- Borrower locks crypto collateral (ETH, BTC, etc.)
- Smart contract → instantly issues loan (in stablecoin)
- Risk = collateralized & automated
- Execution time = seconds

“Aave replaces credit committees with smart contracts and collateral.”

UNISWAP — THE MARKET MAKER WITHOUT A TRADER

◆ Traditional Market Maker

- Trader A wants to exchange EUR for USD :
EUR/USD for 5
- Market Maker (Bank/Broker) provides bid/ask spread : **1,1705/1,1710**
- FX Execution via interbank or dealer platform :
Mine
- Fees/Spreads embedded in price

◆ Result :

- Centralized liquidity provision
- Spreads and fees determined by intermediaries
- Slippage risk and limited transparency

◆ Uniswap AMM

- Trader A connects wallet to Uniswap
- Swap EUR/USDC via a liquidity pool (EUR/USDC pair)
- *Smart contract* calculates price using constant product formula ($x * y = k$)
- Liquidity Providers earn fees automatically

◆ Result :

- Liquidity provided by users (LPs), not intermediaries
- Price adjusts based on supply & demand
- 24/7 market access without permission
- Fees go to LPs, not banks



CURVE — THE ART OF YIELD FARMING

◆ What Is Yield Farming?

- Yield farming is the practice of earning rewards (fees or tokens) by providing liquidity to decentralized exchanges like Curve

How It Works on Uniswap

1. Deposit Tokens in a Liquidity Pool

- Example: USDC–ETH pool
- You deposit **equal value** of both tokens

2. Receive LP Tokens

- These tokens represent your **share of the pool**

3. Earn Fees

- Every time someone swaps tokens, a **0.3% fee** is collected
- Fees are **proportionally distributed** to all liquidity providers

4. Optional: Farm Rewards

- On some platforms (or past versions), LP tokens can be **staked** in farming programs to earn extra tokens (like UNI)

Risks to Know:

- **Impermanent Loss:** If token prices diverge significantly
- **Smart Contract Risk:** Bugs or exploits
- **Low Volume Pools:** May not generate significant fees



DAOS AND FINANCIAL GOVERNANCE

From Shareholders to Token Holders



- ◆ **A DAO (Decentralized Autonomous Organization)** is a digital-native organization run by smart contracts and governed collectively by its members (no central authority).
 - Rules encoded on the blockchain
 - Transparent, automatic execution
 - Decisions made through token-based voting
- ◆ **Governance:**
 - **Members vote** on proposals using governance tokens
 - Every token = 1 vote (typically)
 - Used to decide: new features, partnerships, budgets, treasury usage
 - Examples:
 - ◆ **Uniswap DAO** votes on fee structures
 - ◆ **Aave DAO** manages risk parameters and lending protocols



CORPORATE VS



DAO

	Traditional Corporation 	Decentralized Autonomous Organization (DAO) 
Governance	Centralized: Board of directors & executives	Decentralized: Token holders vote via smart contracts
Decision-Making	Top-down: Executives decide, employees implement	Bottom-up: Proposals submitted & voted by community
Transparency	Limited (internal reports, audits)	Full on-chain transparency, open to all
Execution	Human-led implementation, subject to delays/errors	Automated by smart contracts upon vote approval
Access	Restricted: Shareholders or internal employees	Open to anyone with governance tokens
Voting Rights	Based on equity ownership or appointment	Based on token holdings
Treasury	Managed by CFO/team, low visibility	On-chain, transparent & community-controlled



BENEFITS & LIMITS OF DEFI

Benefits

Accessibility 24/7 global

Transparency of rules

Programmable money

Composability between apps

Limits

Smart-contract bugs & hacks

Volatility & lack of consumer protection

Complex UX & limited scalability

Regulatory uncertainty



THE WEB3 MINDSET

From Users to Owners

- ◆ **Wallet = identity + bank account.**
- ◆ **Tokens = ownership + governance + incentives.**
- ◆ **Communities = new institutions.**
- ◆ **Finance, gaming, art, and social all converge on-chain.**
- ◆ **Web3 is not just tech — it's a cultural shift toward participation and transparency.**





RISKS, REGULATION, AND TRUST



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WHAT CAN GO WRONG?

Innovation Runs Faster Than Risk Control

- ◆ **Smart-contract bugs** → irreversible loss (DAO Hack 2016 – \$60 m)
- ◆ **Protocol hacks / bridge exploits** → billions stolen (Ronin, Poly Network...)
- ◆ **Stablecoin failures** → loss of peg (Terra/LUNA 2022 – \$40 bn)
- ◆ **Custody risk** → lost private keys, exchange bankruptcies (FTX)
- ◆ **Systemic risk** → interconnected DeFi protocols amplify contagion



THE REGULATORY RESPONSE

◆ Europe:

- MiCA (Markets in Crypto Assets)
 - ◆ Adopted in 2023, in force from 2024–2025
 - ◆ Rules on: Stablecoins
 - ◆ Licensing for crypto service providers
 - ◆ Market abuse & investor protection

◆ USA: SEC & Ongoing Legal Debate

- SEC actions against Binance, Coinbase, Ripple (XRP)
- Dispute on whether tokens are securities
- Lack of clear classification is causing uncertainty



THE PARADOX OF TRUST

Decentralization Promised “Trustless” — But People Still Need Trust.

- ◆ **Users must trust developers, auditors, oracles, platforms.**
- ◆ **Self-custody = responsibility many don’t want.**
- ◆ **Transparency ≠ understanding.**
- ◆ **Re-intermediation emerging: custodians, auditors, on-chain compliance.**



INSTITUTIONAL BRIDGES: REGULATED DEFI

Can Code and Compliance Coexist?

- ◆ **“Regulated DeFi” platforms: KYC wallets, permissioned pools.**
- ◆ **Project Mariana (BIS + SNB + MAS): FX swaps on tokenized deposits.**
- ◆ **Aave Arc, JP Morgan Onyx, SDX → institutional DeFi pilots.**
- ◆ **Goal = keep efficiency of smart contracts + maintain AML/CFT controls.**



THE FUTURE OF TRUST

From Institutions to Infrastructure — and Back Again.

- ◆ **Blockchain = trust in network**
- ◆ **Smart contracts = trust in code**
- ◆ **Regulation = trust in rules**
- ◆ **The future is hybrid finance (TradFi × DeFi)**
- ◆ **Goal: combine efficiency of code + protection of law**



WRAP-UP



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KEY TAKEAWAYS FROM TODAY

- ◆ Blockchain creates a trustless infrastructure
 - ◆ Tokens unlock liquidity in illiquid markets
 - ◆ Web3 enables new decentralized financial models—but with new risks
 - ◆ Regulators are catching up fast (and not always gently)
- ➔ Can Web3 finance really scale beyond crypto natives?



BLOCKCHAIN, TOKENIZATION & WEB3 ESSENTIALS

What is the main purpose of a smart contract in finance?

- A. To replace central banks
- B. To enable automatic and trustless execution of agreements
- C. To issue cryptocurrencies
- D. To store personal identity data on-chain



BLOCKCHAIN, TOKENIZATION & WEB3 ESSENTIALS

Which of the following is an example of a stablecoin that failed due to algorithmic flaws?

- A. USDC
- B. TerraUSD (UST)
- C. Tether (USDT)
- D. Binance USD (BUSD)



BLOCKCHAIN, TOKENIZATION & WEB3 ESSENTIALS

What is the formula used by Uniswap's automated market maker (AMM) model?

- A. $x + y = z$
- B. $x - y = k$
- C. $x * y = k$
- D. $x^2 + y^2 = z^2$



BLOCKCHAIN, TOKENIZATION & WEB3 ESSENTIALS

True or False: Tokenization allows fractional ownership of real-world assets like real estate or mutual funds.



BLOCKCHAIN, TOKENIZATION & WEB3 ESSENTIALS

What is one major challenge users face with Web3 wallets?

- A. Too many customer service agents
- B. Over-regulation
- C. Losing access due to lack of password recovery
- D. Instant transaction approvals



Make an impact

