

## The Fiat Standard – Lecture 1 (Introduction) • Study Notes

Course kickoff and framing for Dr. Saifedean Ammous' *The Fiat Standard*: why study fiat as a **technology**, how it differs from Bitcoin, and how the course/book are structured.

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### 1) Big Picture

- **Goal:** Understand the fiat monetary system *on its own terms*—its mechanics, incentives, benefits, and failure modes—using an engineering, first-principles lens similar to *The Bitcoin Standard*.
  - **Why now:** Modern fiat began on **August 15, 1971** (Nixon closes the gold window). The book (2021) is written at the 50-year mark of that experiment.
  - **Core framing:** Study fiat like an engineer would study a complex machine:
    - What are its inputs/outputs?
    - How is money created and destroyed?
    - What are typical failure modes?
    - What are the social/political/economic externalities?
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### 2) Key Analogies & Mental Models

- **Chesterton's Fence:** Before tearing down a system, first understand the function of the "fence." Even if fiat wasn't chosen by free markets, it persists—so *what function does it actually serve?*
- **Bitcoin vs. Fiat as Reference Systems:**
  - Bitcoin = simple, rule-bound **software** with **difficulty adjustment** (self-stabilizing issuance).
  - Fiat = politically mediated, **credit-based** system with **lending** as issuance; no analog to difficulty adjustment (more volatile, path-dependent).

- **Two Kinds of Saleability:**
  - **Across time:** Gold/Bitcoin tend to excel (hardness, stock-to-flow).
  - **Across space:** Fiat excels (fast, cheap global settlement relative to shipping gold).
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### 3) Course & Book Structure (18 Chapters, 3 Parts)

- **Part I – How Fiat Works (Chs. 1–6)**
- (Intro) Framing & method.
- **Origins:** Fiat emerges from political constraints/default management, not a clean design.
- **Fiat Technology:** Operational topology; most fiat **is lent into existence** (credit).
- **Fiat “Mining”:** Lending as creation; supply expands with credit booms, contracts in busts.
- **Fiat Balances:** Many large holders rationally maintain **negative fiat balances** (debt) to own scarce assets; savers holding cash are debased.
- **What Fiat Is Good For:** Government finance, bank backstops, and *saleability across space*.
- **Part II – Fiat Life (Chs. 7–12)**
- Social, cultural, and political consequences of a credit-based, inflationary money:
  - **Time preference** ↑ (future discounted more).
  - **Food:** Subsidized cheap calories; distorted guidelines.
  - **Science/Education:** Centralized funding ⇒ incentives for hype and conformity.
  - **Fuels/Energy:** Inflation + policy push away from dense, reliable fuels.
  - **Geopolitics:** USD/Fed dominance; IMF/World Bank development complex.
  - **Cost–Benefit of Fiat:** Tally benefits vs. systemic costs.
- **Part III – The Fiat Liquidator (Chs. 13–18)**
- **Bitcoin’s Value Prop:** Superior saleability across space *and* time; separation of **money** and **debt**.
- **Scaling:** Scarce blockspace; layers (Lightning) as market outcome.
- **Banking in a Bitcoin World:** Higher reserves, **demonetization** of non-monetary assets used as savings proxies, shrinking role for bonds.

- **Energy:** Mining draws on low-opportunity-cost energy; bounty for cheap, reliable power.
  - **Cost–Benefit of Bitcoin.**
  - **Endgame:** Debt jubilee-like transition vs. hyperinflation; CBDCs could alter dynamics.
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#### 4) Core Claims from the Introduction

- **Fiat is chiefly a *credit system*:** new money is created via lending, not printing.
  - **No difficulty adjustment:** Fiat supply is governed by politics + credit cycles ⇒ booms/busts.
  - **Rational strategy under fiat:** Borrow (negative balances) to acquire hard assets; cash savers are penalized.
  - **Fiat’s unique advantage: Saleability across space** enabled it to replace gold (not market-chosen but functionally useful).
  - **Bitcoin as analytical lens:** Using Bitcoin’s clean mechanics clarifies fiat’s opaque machinery.
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#### 5) Key Definitions

- **Saleability across time:** Ability to hold value into the future (low dilution).
  - **Saleability across space:** Low-friction transfer over distance.
  - **Difficulty Adjustment (Bitcoin):** Protocol mechanism tuning issuance to hash rate to stabilize supply issuance rate.
  - **Fiat “Mining”:** The process of **issuing credit** (new loans) that creates new fiat balances.
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## 6) Important Dates & Context

- **Aug 15, 1971:** Nixon ends USD convertibility to gold → modern fiat era begins.
  - **2021:** Publication; 50-year retrospective vantage point.
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## 7) Comparative Table (Condensed)

Property	Gold	Fiat	Bitcoin
Supply Rule	Physical scarcity	Policy/credit-driven	Programmatic (21M cap)
Issuance Control	Mining costs/physics	Central banks + banks (lending)	Protocol + miners
Difficulty Adjustment	No	No	<b>Yes</b>
Saleability Across Time	High	Low–Medium (inflation risk)	<b>High</b>
Saleability Across Space	Low–Medium (shipping)	<b>High</b> (electronic settlements)	<b>High</b> (digital bearer; layers)
Governance	Market/chemistry	Politics/Regulation	Open-source protocol + markets

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## 8) Study Prompts (Active Recall)

1. Why does the author adopt an **engineering** rather than historical lens for fiat?
2. In what ways is **lending** to fiat what **mining** is to Bitcoin?
3. How does the absence of a **difficulty adjustment** shape fiat's macro dynamics?
4. Explain **saleability across space** and why it mattered for fiat's rise post-1971.
5. Why might **negative fiat balances** (debt) be rational for the wealthy under inflation?
6. How does **separating money and debt** (Bitcoin) reconfigure savings/investment

behavior?

7. What kinds of social domains (diet, science, energy) does the book argue are reshaped by fiat incentives?
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### 9) Quotable Ideas (for notes)

*“Most fiat is **not printed**; it is **lent into existence**.”*

*“Bitcoin’s **difficulty adjustment** is the glue that makes the system cohere; fiat has no equivalent.”*

*“Gold loses value **across space**; fiat loses value **across time**.”*

*“To evaluate fiat honestly, treat it as a **technology** with functions and failure modes.”*

*(Paraphrased from the lecture for study purposes.)*

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### 10) What to Watch For in Lecture 2+

- **Ch. 2:** Political birth of fiat—less “invention,” more “emergent workaround” for sovereign constraints.
  - **Ch. 3–5:** Concrete mechanics (network topology, issuance via lending, negative balances).
  - **Ch. 6:** Enumerate fiat’s three functional advantages (gov finance, bank rescues, spatial saleability).
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## 11) Suggested Reading Cross-Links

- *The Bitcoin Standard*: Early chapters on money, hardness, and time preference; late chapters on difficulty adjustment.
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## 12) One-Page TL;DR

- The course/book studies **fiat as engineered credit** rather than neutral money.
  - **Lending creates money; politics + credit cycles** drive supply.
  - **Spatial saleability** explains fiat's functional dominance post-gold.
  - **Bitcoin** offers a contrasting baseline: fixed rules, difficulty adjustment, and a clean split between **money** and **debt**.
  - The next lectures deepen mechanics first, then map cultural/economic externalities, and finally model the **transition path** with Bitcoin.
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# The Fiat Standard – Lecture 2 (The Never-Ending Bank Holiday) • Study Notes

*How fiat began: not through deliberate design, but as a political workaround for insolvency and war financing. The “never-ending bank holiday” is the protocol installation of fiat.*

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## 1) Big Picture

- **Thesis:** The fiat standard emerged as a *default disguised as innovation* – central banks suspended gold redemption during crises, financed deficits with paper, and called it progress.
  - **Key lesson:** Fiat’s origin story is not engineering genius; it is government **managing insolvency**.
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## 2) Pre-War Setup: London as the Hub

- **Bank of England (BoE)** was the world’s financial center; sterling was the reserve currency.
  - The clearing role gave BoE confidence to **issue more pounds than gold held**, assuming foreign users wouldn’t redeem all at once.
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## 3) 1914: War Meets Gold Shortage

- **July 1914:** Depositors withdrew £12.3m from BoE’s £26.5m reserves (≈46%).

A gold run loomed.

- **War bonds issued:** £350m in bonds floated; <math>\frac{1}{3}</math> subscribed by the public.
  - **“Masterly manipulation”:** BoE secretly bought the unsold bonds itself, while the press (Financial Times) proclaimed oversubscription.
  - **Gold collection:** Citizens pushed to hand in gold at banks/post offices for paper; cost  $\approx 1\%$  of gold’s face value.
  - **Result:** Britain financed WWI with paper, kept the illusion of being on gold.
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#### 4) The “New Alchemy”

- By **confiscating gold** and **issuing credit**, paper was presented as “as good as gold.”
  - This was financial alchemy: the philosopher’s stone became the **printing press + checking account**.
  - **Inflation followed:**
    - 1915  $\rightarrow$  +12.5%
    - 1916  $\rightarrow$  +18.1%
    - 1917  $\rightarrow$  +25.2%
    - 1918  $\rightarrow$  +22.0%
    - 1919  $\rightarrow$  +10.1%
  - **Cumulative:** +124% in five years.
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#### 5) Post-War Choices

- **Honest option:** Return to gold at realistic parity  $\rightarrow$  deflation + recession.
- **Political option (chosen):** Maintain inflated spending, avoid wage/price adjustments, continue credit expansion.

##### United States:

- Stayed on gold until 1917  $\rightarrow$  absorbed Europe’s gold.

- Sharp 1920 recession, but resumed redemption by 1922.

**Britain:**

- Attempted return to pre-war parity (1925).
  - Ignored inflation effects → gold undervalued, arbitrage drained reserves.
  - Chronic unemployment followed as unions resisted wage cuts.
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## 6) Exporting Inflation

- Britain pressured the US to inflate as well, reducing arbitrage pressure.
  - Together they created the **Gold Exchange Standard (1922)**:
  - Countries deposited gold at BoE/Fed.
  - Settlement networks added **saleability across space**, reducing the need for physical shipments.
  - But this system inflated the 1920s boom, leading to the **1929 crash** and **Great Depression**.
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## 7) Global Spread of the Protocol

- **1933 US:** Roosevelt's Executive Order 6102 → gold confiscation, devaluation (\$20 → \$35/oz).
  - **WWII & After:** Stronger governments, militarization, and eventual shift from sterling to the dollar.
  - **Bretton Woods (1944):** USD as reserve, still nominally redeemable for gold (foreign CBs only).
  - **1971 Nixon Shock:** Gold window closed; fiat dollar standard complete.
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## 8) The Fiat Standard Installation Protocol

1. Run unsustainable deficits.
2. Default on gold redemption (call it suspension/confiscation).
3. Replace citizens' gold with paper/credit.
4. Expand supply of paper notes/credit.
5. Impose controls on gold and capital flows.
6. Export inflation by persuading other nations to hold your currency as reserves.

**Outcome:** Both sterling and USD have lost **95% of their value vs. gold** since 1914.

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## 9) Core Takeaways

- **Not engineered, but improvised.** Fiat was a patch for insolvency.
  - **Default rebranded as policy.** Confiscation of gold is default by another name.
  - **Saleability across space** became fiat's key advantage, but at the cost of **time preference corruption**.
  - **Replication:** Britain's template spread worldwide; by 1971, the fiat system was global.
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## 10) Study Prompts

1. Why did Britain use war bonds + covert BoE purchases instead of admitting insolvency?
2. How did **gold arbitrage** expose the false return to pre-war parity in the 1920s?
3. What role did the **Gold Exchange Standard** play in fueling the 1920s boom and Great Depression?
4. Why is confiscation of gold considered a form of **default**?
5. How does this "installation protocol" echo in modern fiat crises (capital controls, devaluations)?

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## **11) Quotable Ideas**

*“By controlling banks and confiscating gold, central banks could create money by fiat. Paper was made as good as gold, and the printing press became the philosopher’s stone.”*

*“The fiat standard was not the design of an engineer. It was the central bank’s desperate solution to looming insolvency.”*

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## The Fiat Standard – Lecture 3 (Fiat Technology) • Study Notes

*A dispassionate “engineering study” of fiat: how the network functions, how money is actually created, and why central banks’ monopolies undermine savings, trade, and long-term growth.*

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### 1) Defining Fiat

- **Author’s definition:**  
*“A compulsory implementation of debt-based centralized ledger technology monopolizing financial and monetary services worldwide.”*
  - **Key properties:**
    - **Compulsory:** Required by law (e.g., taxes must be paid in fiat).
    - **Debt-based:** Money emerges as credit; the native token is **debt**.
    - **Centralized ledger:** Managed by banks & central banks, with the **Federal Reserve as the ultimate full node**.
    - **Monopolistic:** Until Bitcoin, all global financial services required fiat.
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### 2) Origins in Default

- Fiat arose from **government defaults on gold obligations**, not from careful design.
  - Never debated, voted on, or presented honestly—introduced as a **temporary measure** that became permanent.
  - **Every fiat currency** derives value from a past gold peg (or another fiat that once had one).
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### 3) How Fiat Creates Money

- Popular misconception: Governments simply print paper and hand it out.
- Reality: **Money is created via lending.**
- Future promises are treated as if they were present money.
- Banks with lending licenses can conjure credit that counts as money.
- All credit risk ultimately externalized to society through inflation.

#### Example: Buying a House

- Gold/Bitcoin standard: present goods (gold/satoshis) exchanged for house.
  - Fiat system:
  - Buyer borrows \$1m → bank *creates* \$1m that never existed.
  - Seller gets spendable cash; buyer gets house.
  - No present good sacrificed; risk absorbed by all currency holders.
  - **Analogy:** Fiat “block rewards” vary daily with net lending (new loans – repayments – defaults). No fixed issuance schedule.
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### 4) Network Topography

- **190 central banks** = nodes (members of IMF).
  - Thousands of private banks under them.
  - **One true full node:** U.S. Federal Reserve.
  - Can effectively exclude participants (e.g., Russia sanctions, SWIFT removal).
  - Holds global authority over validity of settlements.
  - Native token: **debt**, denominated in **USD**.
  - All other currencies = “USD ± country risk.” Long term, none outperform USD.
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## 5) Central Bank Functions (The Four Monopolies)

1. **Currency monopoly:** Issue national fiat, set supply & interest rates.
2. **International settlement monopoly:** Exclusive authority for cross-border payments.
3. **Banking monopoly:** License/regulate domestic banks, hold reserves, clear interbank payments.
4. **Government bond buyer:** Finance government by monetizing its debt.

*These four combined = society's entire liquid wealth becomes **collateral for government borrowing.***

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## 6) Consequences of Monopoly Design

- **Conflict of interest:** Same entity controls money, trade, banking *and* funds government.
  - **Capital destruction:** Citizens' savings constantly devalued to back government spending.
  - **Trade distortion:** Inflationary policy politicizes international trade; tariffs and restrictions follow.
  - **Stifled tech progress:** Restricting capital & trade undermines technological advancement.
  - **Analogy:** Mixing sewage water with drinking water pipes → poisonous and unsustainable.
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## 7) Global Reserve Breakdown (2020)

- **USD:** ~50% of reserves.
- **Euro:** 18%.
- **Gold:** 13%.

- **Yen:** 5%.
- **GBP:** 4%.
- **CNY + others:** <2% each.

Shows the USD's dominance as the global reserve unit.

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## 8) Core Takeaways

- Fiat's **native token = debt**, created through lending.
  - Central banks hold **dangerous monopolies** combining money, trade, banking, and government finance.
  - This structure systematically undermines:
    - **Capital accumulation**
    - **Trade**
    - **Technological advancement**
  - Result: **Century of crises, defaults, and hyperinflations** far more common than under gold.
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## 9) Study Prompts

1. Why is fiat better described as a **centralized debt ledger** rather than just printed paper?
  2. How does lending function as the equivalent of **mining** in fiat?
  3. What are the four monopolies of central banks, and why do they create systemic risk?
  4. Why does the Fed function as the **global full node** of the fiat system?
  5. How does fiat's structure destroy the drivers of growth (capital, trade, technology)?
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## 10) Quotable Ideas

*“The fundamental engineering feature of fiat is treating future promises of money as good as present money.”*

*“The government secures central banks’ monopolies, and in return central banks finance the government with society’s wealth as collateral.”*

*“Fiat destroys the three drivers of economic growth—capital accumulation, trade, and technological advancement.”*

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## The Fiat Standard – Lecture 4 (Fiat Mining) • Study Notes

*In fiat, **lending = mining**. New money is “issued” when licensed institutions create credit; physical cash merely converts digital balances to paper. The only durable brake isn’t code or chemistry—it’s recessions.*

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### 1) Big Picture

- **Analogy:**
  - **Gold:** dig & refine metal.
  - **Bitcoin:** expend energy, pass difficulty; predictable issuance.
  - **Fiat: issue debt;** money appears as bank credit when loans originate.
  - **Key claim:** Printing banknotes **does not** create supply; **lending does**. Notes are to fiat what an **OpenDime** is to bitcoin: a physical bearer *form* of already-existing units.
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### 2) How Fiat “Mining” Works (Step-by-Step)

1. A bank extends a loan (e.g., **\$1,000,000 mortgage**) → **new deposit** appears in seller’s account.
2. No saver’s existing deposit was transferred; **the loan created the deposit**.
3. Buyer gets a **present good** (house); seller gets **spendable cash today**; society absorbs the **default risk** via dilution/inflation.
4. Net supply each period  $\approx$  **new lending** – **repayments** – **defaults** (variable, unbounded).

**Core property:** *The system **treats future claims as present money** when the issuer is the state or a state-licensed bank.*

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### 3) Fiat vs. Gold vs. Bitcoin – Issuance Restraints

- **Gold:** Physical scarcity & non-consumption → large stock dampens new flow ( $\approx 1-2\%/yr$ ).
- **Bitcoin:** Protocol + **difficulty adjustment** → deterministic schedule (declining,  $\sim <2\%$  today).
- **Fiat:** No algorithmic cap; “restraints” are **political, legal, cultural—sporadic and unreliable**. The **effective brake** is the **bust** that follows credit booms.

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### 4) The Business Cycle as the Only Brake

- **Boom:** Credit expansion overstretches real capital (more *tickets* issued than *seats* exist).
- **Bust:** Projects liquidate, credit contracts, money supply shrinks → recession.
- **Reflation:** Policy re-expands credit to avoid pain → restarts cycle.

*Mises' maxim: “Credit expansion is not a substitute for capital.” More tickets  $\neq$  more chairs.*

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### 5) Incentives: Why Everyone Borrows (and Lends)

- **Individuals:** Mortgages/consumer credit are favored—debt gets easier in real terms if inflation outpaces interest.
- **Corporates:** “Become the bank”: issue store cards/financing; **borrow low, lend high** (e.g., 3–8% vs. 20% APR).
- **Governments/IGOs:** Debt issuance **creates money** and socializes dilution.

**Winners:** Biggest/cheapest borrowers (sovereigns, prime corporates).

**Losers:** Net savers, fixed-income earners, those denied cheap credit.

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## 6) Volatility and Levels of Money Growth

- Even “best-behaved” fiat systems show **oscillating growth** (often between ~0–10% with spikes negative in busts and >10–20% in booms).
  - **Averages matter:** Many users effectively face **double-digit annual dilution** over long spans—far above gold/Bitcoin issuance.
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## 7) Inflation: Not a Scalar, a Vector

- Official **CPI** reframes “inflation” (money growth) as “price changes,” then **games the basket** (substitution, hedonics, exclusion of housing, energy, food in key eras).
- **Vector view (Saylor):** Each good has its own inflation rate. Patterns:
- **Least inflation:** Digital/info goods & scalable industrial outputs (near-zero marginal cost) → TVs, storage, some electronics.
- **Some inflation:** Mass-produced processed foods, automated services.
- **Most inflation: Scarce** goods—prime **housing/land, quality food, healthcare, elite education, status/luxury** assets.
- **Financial assets:** The “price of future income” rises when rates are suppressed; to fund \$X of retirement income, required principal **explodes** as yields fall.

***Practical consequence:** The true cost of **providing for your future** (buying durable yield streams) rises much faster than headline CPI.*

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## 8) The Fiat Cycle (Inflate → Boom → Bust → Reflate)

1. **Inflation** is sold as “for a good cause” (wars, stimulus, development).
2. **Boom** masks resource scarcity with new claims.
3. **Bust/deflation** reveals insufficient real capital.
4. **Reflation** to avoid pain → sets up the next boom.

**Permitted debate** in mainstream econ narrows to: *how much* inflation now vs. *how much* reflation later—rarely whether persistent dilution is itself harmful.

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## 9) Consumption, Deflation, and Time Preference

- **Productivity deflation** (better, cheaper goods) does **not** halt spending; humans need present goods and invest when **marginal productivity > price** (e.g., early hard-drive buyers).
  - Fiat policy that fights benign deflation **raises time preference**: pushes **frivolous consumption** and weakens savings buffers.
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## 10) Systemic Risk Recap

- A single, inflation-prone credit engine underpins **savings, payments, banking, state finance**.
  - Society’s liquid wealth becomes **collateral** for government/creditor mistakes.
  - The network is **only as strong as its weakest lender**; dilution is **externalized** to all users.
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## 11) Study Prompts (Active Recall)

1. Explain why **loan origination** increases broad money, while **cash printing** does not.
  2. Contrast **difficulty adjustment** with fiat's **credit-cycle brake**. Why do busts become the de facto governor?
  3. Map an example purchase (house/car) showing who gets the **present good** and who bears **default risk**.
  4. Using the **inflation vector**, categorize goods you buy into low/medium/high inflation sensitivity and why.
  5. Why do corporations push private-label credit? Model the **borrow-low/lend-high** spread.
  6. How does falling yields raise the **capital required** to retire on \$50k/yr? (Back-of-envelope: required principal  $\approx$  income / yield.)
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## 12) Quotable Ideas

*"Fiat's version of mining is **getting others into debt**."*

*"No present good is sacrificed in a credit purchase; the **risk is socialized** via dilution."*

*"Credit expansion **is not** capital—issuing more tickets doesn't add seats."*

*"Inflation isn't a number; it's a **vector** across the goods you actually need to live and save."*

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## The Fiat Standard – Lecture 5 (Fiat Balances: Universal Debt Slavery) • Study Notes

*Fiat balances are not neutral “savings accounts” but negative, fragile, and revocable debt positions. The system incentivizes borrowing over saving, subsidizes debtors at savers’ expense, and erodes the very notion of financial security.*

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### 1) Comparing Balances Across Systems

- **Gold standard:**
    - Balance = **physical ounces/grams** in your possession.
    - Ultimate finality; atoms of gold cannot be arbitrarily revoked.
  - **Bitcoin:**
    - Balance = **satoshis** movable by your private keys.
    - Entire ledger reconciled every 10 minutes across all nodes.
  - **Fiat:**
    - Balance = **ambiguous, shifting debt claims**.
    - Supply definition disputed (M0, M1, M2, M3, M4).
    - No precise tally—new fiat constantly created/destroyed via lending/repayment.
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### 2) Properties of Fiat Balances

1. **Unquantifiable**
2. No agreement on what “counts” as money (cash, demand deposits, near-money assets).
3. “Future fiat” (claims with maturity) often conflated with “present fiat.”
4. M2 is often used for comparability, but even that is inconsistent across countries.

5. **Irreconcilable**
  6. No universal ledger; no network-wide reconciliation like Bitcoin.
  7. Balances are opaque and prone to fraud, laundering, and manipulation.
  8. Banks simultaneously act as money creators and destroyers.
  9. **Tentative & Revocable**
  10. Deposits can be frozen/confiscated (e.g., Canadian protestors, sanctioned nations).
  11. Cash itself can be devalued overnight (demonetization, hyperinflation, redenomination).
  12. True final settlement does not exist.
  13. **Negative in Aggregate**
  14. Outstanding debt > money balances.
  15. Most households, firms, and governments **owe more than they hold**.
  16. Net result: **global balance sheet is deeply negative**.
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### 3) Why Negative Balances Dominate

- **Debt = money creation.** Every loan expands supply, creating systemic incentives.
- **Rich:**
  - Use leverage to acquire **hard assets** (houses, businesses, stocks).
  - Run **negative fiat balances** but hold appreciating collateral.
- **Poor:**
  - Limited/no access to credit.
  - Forced to hold **positive balances** (cash/small deposits).
  - Constantly robbed by inflation and excluded from Cantillon effects.

*In fiat: **Borrowers = winners. Savers = losers.***

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#### 4) Fragility for All

- Even the wealthy are insecure: two missed payments can mean repossession.
  - Assets are collateralized; financial security is contingent on **constant debt servicing**.
  - Fiat system destroys the concept of **secure savings**.
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#### 5) Collapse of Savings as a Strategy

- **Gold coin era:** anyone could save simply by holding gold.
  - **Fiat era progression:**
  - **Cash savings** → rapidly devalued.
  - **Savings accounts (1930s–1970s):** offered interest above inflation briefly.
  - **Bonds (1970s–2000s):** became “savings vehicle,” but were a subsidy for governments.
  - **Stock indices (post-2008):** became default “savings,” though investing ≠ saving.
  - Result: individuals must become **portfolio managers**, learning:
    - Risk management
    - Macro trends
    - Monetary policy
    - Real estate, commodities, global markets
  - A doctor, engineer, or athlete must “earn money twice”:
    - First in their career.
    - Again through sophisticated investing just to preserve value.
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#### 6) Inflation and the Cantillon Effect

- **Cantillon effect:** those closest to money creation (governments, banks, large corporates) benefit first.

- Savers & wage earners lose purchasing power.
  - Borrowers enjoy devalued liabilities.
  - Financial success in fiat = acquire hard assets, financed with debt.
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## 7) Universal Debt Slavery

- **Individuals:** mortgages, car loans, consumer credit.
- **Corporations:** operate as leveraged entities, issuing credit to customers.
- **Governments:** largest debtors, enabled by central bank monetization.
- **Everyone:** forced onto the treadmill—borrow, service debt, borrow again.

*“Not taking on debt is reckless financial responsibility” in the fiat world.*

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## 8) The Narrow Bank Case

- Proposed: depositors’ funds parked directly at the Fed, earning its safe interest.
  - Would have offered low-risk savings, albeit still under inflation.
  - Regulators rejected it—not to protect consumers, but to protect the **fragile banking system**.
  - Reveals the truth: **the fiat system cannot tolerate safe savings options**, because they would expose the unsustainability of debt-driven finance.
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## 9) Civilization, Savings, and Time Preference

- **Hard money** (gold, Bitcoin): encourages saving, lowers time preference, builds long-term culture.
- **Fiat:** undermines savings, raises time preference, fosters insecurity and short-

termism.

- Civilization progresses with hard money, regresses with soft money.

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## 10) Study Prompts

1. Why is the total fiat balance globally **negative**?
2. Contrast reconciliation in Bitcoin vs. fiat. Why does irreconcilability matter?
3. How do incentives differ for rich borrowers vs. poor savers?
4. Trace the historical progression of savings “vehicles” in the fiat era.
5. What does the rejection of The Narrow Bank reveal about systemic fragility?
6. How does fiat alter human **time preference** and social cooperation?

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## 11) Quotable Ideas

*“In fiat, the rich hold negative balances and hard assets, the poor hold positive balances and paper.”*

*“Not saving, but borrowing, is the rational strategy under fiat.”*

*“Fiat has effectively destroyed savings as a financial instrument with enormously negative consequences.”*

***“The age-old wisdom of every grandmother—save for a rainy day  
—has been inverted. Fiat makes you borrow against all your  
sunny days.”***

## The Fiat Standard – Lecture 6 (What Is Fiat Good For?) • Study Notes

*Fiat is not without advantages. While it undermines savings and stability, it excels in three areas: **government finance, salability across space, and bank profitability**. These features explain why fiat persists despite its destructive consequences.*

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### 1) Three Claimed Benefits of Fiat

1. **Government Finance**
  2. Allows governments to spend first, then bill the public later via inflation.
  3. Enables wars, welfare states, and expansive bureaucracies.
  4. Discussed in depth in earlier chapters and *The Bitcoin Standard*.
  5. **Salability Across Space**
  6. Fiat vastly outperforms physical monies (like gold) in ease of transfer.
  7. Credit entries can move quickly, cheaply, and globally—without moving metal.
  8. **Bank Profitability**
  9. Fiat is optimized to make banks profitable via **fractional reserve banking**.
  10. With central bank backstops, banks can expand credit risk-free.
- 

### 2) Salability: A Core Concept

- **Definition (Carl Menger):** Money = the most *saleable* good.
- **Salability** = ability to sell at minimal loss (narrow bid–ask spread).
- Determined by **liquidity** and **market depth**.

## Dimensions of Salability

1. **Across Time**
  2. Hardest money (highest stock-to-flow ratio) best holds value.
  3. Gold excelled historically; Bitcoin surpasses all.
  4. **Across Scales**
  5. Ease of divisibility and re-aggregation.
  6. Gold struggled at small scales; silver played a role until banks/notes solved divisibility.
  7. **Across Space**
  8. Cost and speed of transport.
  9. Physical goods (gold, silver, cattle) are heavy, costly, and risky to move.
  10. Fiat = pure information (ledger entries), far cheaper to move globally.
- 

### 3) Gold vs. Fiat in Spatial Salability

- **Gold:**
- Example: moving a 12.5kg bar (~\$700k) across the Atlantic.
  - 1919:  $\approx 0.2\%$  of value, plus risk of shipwreck salvage ( $\sim 3\%$ ).
  - Early 2000s:  $\approx 0.05\text{--}0.1\%$ , but  $\sim 4$  years to repatriate Germany's gold from the US.
  - Today:  $\approx 0.5\%$  of value per trip, 2–3 days transit.
- A bar could “pay for itself” after  $\sim 200$  round trips just in transport costs.
- **Fiat:**
- Wire transfer: \$10–50, arrives in 2–5 days.
- Credit card: 1–3% fee, instant authorization (but not final settlement).
- Final settlement still slow (weeks/months via central bank rails).
- Nonetheless, far cheaper and more convenient than moving physical gold.

**Conclusion:** Gold's poor spatial salability gave banks/central banks monopoly control over payment rails, paving the way for fiat.

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## 4) The Faustian Bargain

- To transact globally with speed, society accepted **credit-based rails**.
  - Result: gave up secure savings in gold for convenient payments in fiat.
  - Banks became gatekeepers; governments inevitably captured the rails.
  - Fiat's persistence reflects this tradeoff: efficiency in space, collapse in time.
- 

## 5) Bank Profitability Under Fiat

- **Fractional reserve banking** thrives because central banks remove failure discipline.
- Gold standard limited leverage through bank runs; insolvency = liquidation.
- Fiat standard: insolvency  $\neq$  death—just bailout and expansion.

### Key Turning Points

- **1913:** Federal Reserve created → formalized lender of last resort.
- **1930s:** FDIC + separation of retail/investment banking.
- **1980s (Greenspan era):**
- “Too big to fail” doctrine.
- Greenspan put = guaranteed rescues via interest rate cuts.
- Glass-Steagall repeal blurred retail/investment distinction.

### Modern Reality

- Most fiat creation today = **shadow banking system** (investment banks, hedge funds, repo markets).
  - Little regulation, no formal backstop—but practically guaranteed bailouts.
  - Banking profits from credit expansion *and* money creation.
-

## 6) Fractional Reserve Banking: The Illusion

- Keynesian view: FRB necessary for growth.
  - Austrian view: false—credit doesn't create capital, it reallocates it.
  - Analogy: issuing more tickets does not increase stadium seating.
  - Expansion only redistributes wealth, usually to the first receivers (Cantillon effect).
- 

## 7) Core Takeaways

- **Fiat succeeds at three things:**
  - Funding governments.
  - Moving value cheaply across space.
  - Making banking highly profitable.
  - These advantages explain fiat's resilience, but also its parasitic nature:
  - Governments parasitize citizens.
  - Banks parasitize depositors.
  - Savers are systematically destroyed.
- 

## 8) Study Prompts

1. Define **salability** and explain why it is central to money's function.
  2. Compare gold vs. fiat in **spatial salability**—why did fiat win?
  3. How does fiat subsidize banks while eliminating the discipline of insolvency?
  4. Why does “too big to fail” create moral hazard?
  5. Why is credit expansion not equivalent to capital formation?
  6. What is the **Faustian bargain** society accepted in trading gold's security for fiat's speed?
-

## 9) Quotable Ideas

*“The inadequacy of gold’s salability across space is what required trust in banks and central banks.”*

*“Fiat’s killer application is not stability or savings—it is moving credit cheaply across space.”*

*“The Fed was not the cure to the disease of insolvent banks. Insolvency was the cure. The Fed was the antidote to the cure.”*

***“Fractional reserve banking does not increase capital any more than printing stadium tickets increases seats.”***

## The Fiat Standard – Lecture 7 (Fiat Life) • Study Notes

*When money is corrupted, life is corrupted. Fiat's most profound effect on society is through its impact on **time preference**. By making saving harder, fiat raises time preference, shortens horizons, erodes civilization, and reshapes family, culture, and institutions.*

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### 1) Transition in the Book

- **Part I (Chs. 1–6):** Technical mechanics of fiat — its origins, operation, and incentives.
  - **Part II (Chs. 7–12):** Social and civilizational consequences of using fiat.
  - Chapter 7 focuses on **time preference**, the bridge between monetary distortion and societal outcomes.
- 

### 2) Why Time Preference Matters

- **Definition:** Trade-off between present vs. future satisfaction.
  - **Every decision** is a deal between *current self* and *future self*.
  - **Low time preference:** Future-oriented; savings, planning, capital accumulation.
  - **High time preference:** Present-oriented; consumption, short-term fixes.
  - **Money = main vehicle** to trade with your future self through saving.
-

### 3) Hard Money and Declining Time Preference

- Humans first saved durable goods → but limited by spoilage, coincidence of wants.
  - Money emerged as the universal savings technology.
  - **Harder money = better savings = lower time preference.**
  - Civilization advanced as money hardened (shells → metals → gold).
  - **Empirical support:**
  - Homer & Sylla's *History of Interest Rates* shows a **5,000-year trend of declining interest rates** (proxy for falling time preference).
  - By late 19th c., global gold standard → lowest rates in history (~2% for UK bonds).
- 

### 4) Fiat and the Reversal

- Fiat shifted money growth from **~2% (gold)** to **~14% average** (1960–2020).
  - Savings became unreliable → individuals reverted to primitive, hand-to-mouth existence.
  - **Hyperinflation = high time preference on steroids:**
  - Saving unthinkable; spend immediately.
  - Capital goods liquidated for survival.
  - Example: cutting fruit trees for firewood; eating seed corn.
  - Normal fiat inflation is **slow-motion hyperinflation**: same tendencies at lower speed.
- 

### 5) Social and Cultural Consequences

#### a) Capital and Quality Decline

- Hard money incentivizes **long-term investment and durability.**
- Fiat raises discount rates → favors **cheap, short-lived goods.**

- Example:
- Boston Public Library **McKim Building (1895, gold standard)**: still functional, minimal renovation.
- **Johnson Building (1971, fiat era)**: ugly, required \$78m renovation after 42 years.
- “Architecture sucks today” not because we can’t build, but because fiat society doesn’t care about 30+ years ahead.

#### **b) Families and Welfare State**

- Historically: family = insurance system (childhood + old age).
- Fiat gives state control of savings → expands welfare state → **displaces family roles**.
- Parents less central; children less dutiful; family ties weakened.
- Individuals under-invest in family, over-invest in present consumption.

#### **c) Crime and Social Decay**

- Higher time preference → weaker self-control, civility, and cooperation.
- Hyperinflation shows: crime rises, manners collapse, survival overrides morality.
- “Fiat man” discounts the future so heavily that **long-term norms disintegrate**.

#### **d) Environment**

- High discounting = overuse of natural resources.
- Why care for healthy soil 20 years ahead when profits today are pressing?
- Encourages **soil depletion, deforestation, and short-term exploitation**.

### **6) The Business Cycle Connection**

- Fiat inflation encourages malinvestment by **artificially lowering interest rates**.
- Projects that destroy capital get financed because money is expected to lose value anyway.
- Savers forced into bad investments.
- **Boom-bust cycle**: expansion of credit → resource misallocation → inevitable contraction.

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## 7) Civilization in Reverse

- Gold standard → lowered time preference → secure future → compounding progress.
  - Fiat → raises time preference → insecure future → decivilizing spiral.
  - **Fiat man:**
    - Consumes capital.
    - Discounts traditions, institutions, and the future.
    - Stumbles from one short-term fix to another.
    - Slides toward barbarism, despite inherited advanced technology.
- 

## 8) Study Prompts

1. Define **time preference** and explain its link to money hardness.
  2. How does fiat inflation act as a “future tax”?
  3. Contrast the **Boston Public Library buildings** as a case study of time preference in architecture.
  4. Why does fiat undermine family structures while strengthening the state?
  5. How does the Austrian business cycle theory connect to fiat’s manipulation of savings and investment?
  6. In what ways does fiat-driven high time preference contribute to **environmental destruction**?
- 

## 9) Quotable Ideas

*“When money is devalued, the future becomes hazy, and the incentive to save disappears.”*

*“Normal fiat inflation is just hyperinflation in slow motion.”*

*“Architecture today sucks because fiat people don’t care about what happens in 30 years.”*

*“The family was once man’s hedge against the uncertainty of life. Fiat money handed that role to the state.”*

***“Fiat man consumes his capital, discounts his traditions, and stumbles back toward barbarism.”***

## The Fiat Standard – Lecture 8 (Fiat Food) • Study Notes

*Fiat money did not make food scarce – it made **nutrients scarce**. Industrial farming, subsidies, and dietary guidelines shifted diets from nutrient-dense traditional foods to cheap, addictive, nutrient-poor substitutes. The result: depleted soil, degraded health, and an epidemic of chronic disease.*

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### 1) Big Picture

- **Inflation + government intervention** shape modern diets.
- Fiat reduces food *quality* while keeping calories abundant.
- Health crisis: obesity, diabetes, chronic disease are **symptoms of malnutrition**, not affluence.

Two main mechanisms:

1. **Government financing and central planning** (subsidies, guidelines).
  2. **Time preference distortion** (short-termist farming and eating).
- 

### 2) Inflation, Farming, and Industrialization

- **1971 (Nixon ends gold redemption)**: unleashed credit expansion → sharp rise in food and fuel prices.
- Government response:
- Use fiat-financed subsidies to mask inflation.
- Tell farmers: **“Get big or get out”** (Earl Butz, Agriculture Secretary).
- Small farms collapsed; industrial monocrop megafarms rose.
- Results:
- Mass calorie production, low costs.

- Soil depleted; nutritional density plummeted.
- High time preference: extract soil fertility now, ignore future.

**Key distinction:**

- Industrialization made **calories cheap** but **nutrients scarce**.
  - CPI showed “stable prices,” but only because people substituted ribeye → soy burgers.
- 

### **3) CPI and the Illusion of Cheap Food**

- CPI measures “basket of goods” — but basket composition changes with money value.
  - As money devalues, people **trade down** to cheaper substitutes.
  - Example:
    - Ribeye \$10 → \$100 after inflation.
    - Consumer switches to soy burger for \$10.
    - CPI = 0% inflation (basket still \$10).
    - Outcome:
      - **Hidden inflation = nutritional loss.**
    - Statistics show “stable food prices”; reality shows worse food, worse health.
- 

### **4) Central Planning of Diets**

- **Government dietary guidelines = central planning for nutrition.**
- Same flaws as Soviet-style planning: ignores individual calculation, serves planners and special interests.

Three drivers:

1. **Keep CPI basket cheap** → promote grains, discourage expensive meat.
2. **Religious anti-meat ideology** (19th c. roots in American vegetarian reformers).
3. **Agribusiness lobbying** → profits from cheap, subsidized crops.

**Bootleggers and Baptists effect:**

- *Baptists*: anti-meat ideologues and “health” reformers.
  - *Bootleggers*: agribusiness profiting from cheap grain/oil subsidies.
  - Both push the same policies: more processed plants, less animal food.
- 

## 5) The Food Pyramid (Fiat Nutrition)

- Base: **6–11 servings grains** (bread, cereal, rice, pasta).
- Mid: fruits & vegetables (carbs, low protein).
- Meat, eggs, nuts, dairy: **small, optional portions.**
- Fats lumped with sugar: “avoid.”

**Message:** Replace nutrient-dense fats and animal foods with cheap, profitable, processed plant calories.

**Result:** Global adoption of grain-heavy, low-fat, high-carb diets → chronic disease explosion.

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## 6) The Five Pillars of Fiat Food

1. **Vegetable/seed oils** (toxic industrial byproducts, misnamed “vegetable oil”).
2. **Processed corn** (ubiquitous in syrup, feed, fillers).
3. **Soy** (cheap protein substitute for meat).
4. **Low-fat products** (sugar replaces fat, leading to metabolic collapse).
5. **Refined flour and sugar** (empty calories, addictive, nutrient-poor).

These five subsidized foods displaced traditional nutrient-dense staples (red meat, eggs, butter, whole milk).

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## 7) Health Outcomes: Fiat Nutrition → Fiat Disease

- Animal foods ↓ ~20% (1970–2015).
- Plant foods ↑ ~14%.
- Poultry ↑ (cheap substitute); red meat ↓ (nutrient loss).
- Vegetable oils ↑ massively.
- Butter, whole milk, eggs ↓.
- Obesity and diabetes curves skyrocket in 1980s, tracking adoption of guidelines.

### Key insight:

- Obesity ≠ overnutrition.
  - Obesity = **malnutrition + metabolic dysfunction**.
  - The body stores fat because it lacks proteins, fats, vitamins, and minerals.
- 

## 8) Weston Price vs. Fiat Science

- **Weston A. Price (1930s)**: traveled globally, studied isolated traditional diets.
- Findings:
- Traditional diets (meat, organs, dairy, seafood) → strong teeth, robust health, no chronic disease.
- Populations that adopted sugar/flour → rapid tooth decay, deformities, disease.
- No culture subsisted on plants alone.
- Ignored by fiat universities, just as Mises was in economics.
- Lesson: nutrient-dense animal foods are essential; industrial “fiat foods” destroy health.

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## 9) Soil as Capital

- Soil = **civilizational capital stock**.
  - High time preference farming:
  - Max yields today → deplete topsoil, compensate with chemical fertilizers.
  - Low time preference farming:
  - Rotational cropping + grazing → replenish soil, sustainable fertility.
  - Fiat's high time preference encourages **soil mining**, destroying future food security.
- 

## 10) Civilizational Decline Through Food

- Fiat man eats: addictive industrial sludge, soy, corn syrup.
  - Governments subsidize malnutrition while medical systems profit from disease.
  - Statistics show “growth” while bodies, minds, and soils deteriorate.
  - As with architecture, art, family, and culture, **food too collapses under fiat**.
- 

## 11) Study Prompts

1. Why does CPI understate food inflation, and how does substitution mask nutritional loss?
2. Explain the “bootleggers and Baptists” dynamic in dietary guidelines.
3. What are the **five pillars of fiat food**?
4. Why is obesity better understood as **malnutrition** than overnutrition?
5. Summarize Weston Price's findings and their implications for nutrition science.
6. How does fiat-driven high time preference affect soil management and farming practices?

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## 12) Quotable Ideas

*“Fiat inflation shows up in food not as scarcity of calories, but as scarcity of nutrients.”*

*“The ribeye became the soy burger – CPI called it stable prices.”*

*“Central planning of diets serves governments and corporations, not individuals.”*

*“Obesity is not affluence – it is malnutrition in disguise.”*

***“Soil is capital. Fiat farming liquidates it for short-term gain, leaving barren land for the future.”***

# The Fiat Standard – Lecture 9 (Fiat Science) • Study Notes

## Overview

This lecture examines how fiat money distorts education and science. Just as fiat money corrupts food production and consumption, it also undermines schools, universities, and the scientific process by centralizing control, removing market feedback, and incentivizing politically convenient but false outputs.

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## Part I: Fiat Schooling

### The Case for Schooling

- On the surface, free schooling seems virtuous:
- Poor parents could ruin children’s chances.
- Education promises high returns.
- Printing a little money for universal literacy appears harmless.

### The Problem with Fiat Funding

- When **students don’t pay tuition**, teachers become accountable to bureaucrats, not students.
- Government—not parents—becomes the “customer.”
- Schools turn into **instruments of political loyalty**, not centers of learning.
- Incentives mirror Mises’ critique of socialism: without **profit and loss signals**, capital is misallocated.

### Results

- **Costs:** Government schools in DC spend ~\$31k per student vs. ~\$24k for private schools, yet underperform.
- **Accountability:** Students can’t be expelled, teachers can’t be fired.
- **Perverse incentives:** Teachers get paid regardless of results, students misbehave, learning collapses.
- In Egypt, students waste mornings in state schools, then pay the same teachers

privately in the afternoon for real education—illustrating how value only emerges when **payment and accountability** exist.

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## Part II: Fiat Universities

### Illusion of “Private” Universities

- Even “private” universities depend on government:
- **Research grants** from agencies.
- **Student loans** subsidized by fiat credit.

### What Universities Have Become

- **Credential mills** — degrees > learning.
- **Debt traps** — subsidized loans inflate costs, lifelong debts are inescapable.
- **Political indoctrination camps** — loyalty to bureaucratic agendas ensures funding.
- **Country clubs** — students treated to a lifestyle experience rather than skills.
- **Corporate advertising arms** — repeating sponsor propaganda.
- **Make-work welfare for nerds** — endless production of unread papers.

### Subsidies → Overproduction

- Lowering loan costs causes **too many students** to attend.
  - Universities cater to debt expansion, not skill-building.
  - College becomes a **consumer good (experience)**, not a **producer good (skills)**.
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## Part III: The Corruption of Science

### From Learning to Publishing

- Professors judged on **journal publications**, not teaching.
- Administrators push faculty to publish, not to teach well.
- Journals = kingmakers of academic careers.

### **The Academic Publishing Cartel**

- Built into a **cartel** by publishers like Elsevier and Wiley.
- Universities:
- Pay exorbitant subscription fees.
- Provide free labor: professors write, edit, and review without pay.
- Journals reap billions while producing little real knowledge.
- Founded by figures like Robert Maxwell (father of Ghislaine Maxwell).

### **Why This System Fails**

- Publications measure quantity, not quality.
  - Few papers are ever read.
  - Incentive: “Get published, not get it right.”
  - **Inflation of journals and papers** = mass production of meaningless output.
- 

## **Part IV: Fiat Science in Practice**

### **Nutrition Science**

- **World Health Organization** and others rely on weak **association studies**, ignoring confounding factors.
- **Ansel Keys’ Seven Countries Study**:
- Cherry-picked data, ignored 15 countries.
- Equated margarine with fat.
- Formed the shaky basis for anti-fat dietary dogma.
- **Harvard Nutrition Dept.** (Frederick Stare) heavily funded by sugar industry → demonized animal fats, promoted sugar and processed foods.

### **Why Fiat Science Doesn’t Self-Correct**

- No market feedback.
  - No bankruptcy for failed ideas.
  - Endless supply of “scientific” journals to publish sensationalism.
  - Results: industrial junk food pushed as healthy, leading to mass illness.
-

## Part V: The Science-Industrial Complex

### Characteristics

- Science becomes captive to funding and political loyalty.
- Publications valued over truth.
- Sensationalism incentivized: apocalyptic predictions are rewarded.
- “The science” becomes ideology:
- Not experimentation, but dogma.
- Authority figures dictate commandments.

### Historical Context

- **Thermodynamics** came after steam engines, not before.
  - **Aviation**: Wright brothers succeeded while leading scientists said flight was impossible.
  - Real innovation comes from **engineers and tinkerers**, not government-funded science.
- 

### Key Takeaways

1. **Schooling**: Free fiat schooling disincentivizes real learning; accountability disappears.
  2. **Universities**: Subsidized debt transforms universities into indoctrination camps and credential mills.
  3. **Publishing**: Academic publishing is a cartel prioritizing output quantity over quality or truth.
  4. **Nutrition Science**: Fiat science, funded by industrial interests, promotes harmful dietary dogmas.
  5. **The Science-Industrial Complex**: Science has shifted from open inquiry to hysterical ideology, serving political and corporate interests.
  6. **True Progress**: Real innovation comes from **market-driven tinkering and engineering**, not centrally planned fiat-funded science.
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# The Fiat Standard – Lecture 10 (Fiat Fuels) • Study Notes

## Overview

This lecture explores how the fiat monetary system has distorted global energy markets, particularly since the 1970s. Instead of addressing the **root cause of rising energy prices – monetary inflation** – governments manipulated energy markets, subsidized uneconomic alternatives, and created industries dependent on fiat subsidies. The result has been **stagnation in energy progress**, higher costs, unreliable power, and the reversal of industrial gains.

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## Part I: The 1970s Oil Crisis – Myth vs. Reality

- **Official Story:** Prices rose due to the 1973 Arab-Israeli War and the Arab oil embargo.
  - **Reality:**
    - Shortages began in 1972, before the war or embargo.
    - U.S. oil imports did not decline; oil is highly liquid and fungible – buyers simply switched suppliers.
    - Prices rose from \$2 → \$30 per barrel in a decade primarily because of **currency devaluation**.
  - **Parallel to Food Inflation:**
    - Rising energy prices were blamed on external shocks.
    - Governments avoided tackling the true cause: inflationary credit expansion after the gold window closed.
-

## Part II: America's Sensitivity to Energy Prices

- U.S. = most energy-intensive society:
  - Cars, suburbs, appliances, heating/cooling systems.
  - High consumption is **a sign of prosperity**, not guilt.
  - When energy prices rise:
  - Americans feel disproportionate pain.
  - Politicians scramble to offer **cheaper substitutes** instead of tackling inflation.
- 

## Part III: The Fiat Solution – Subsidized Alternatives

- Post-1970s, the U.S. government prioritized “**renewable energy**” experiments:
  - Synfuels
  - Photovoltaics (solar)
  - Biofuels
  - Natural gas
  - Nuclear
  - Trillions of fiat dollars poured into subsidies, mandates, and loans.
  - Result: **decades of promises**, “3–5 years away” hype cycles, but no replacement of hydrocarbons.
- 

## Part IV: Why Hydrocarbons Are Irreplaceable

- **Nature's batteries:** High-density, portable, energy-rich fuels.
- Advantages:
- High power output.
- High energy density per weight/area.
- Easy global transport (standardized barrels, pipelines).
- Without hydrocarbons:
- Modern life (electronics, aviation, steel, construction, medicine, computing,

Bitcoin mining) collapses.

- **Renewables' flaws:**

- Low power density (require massive land use).
  - Intermittent (sun/wind availability, not on-demand).
  - Require **batteries**, which multiply costs 10–20x.
  - Cannot even be manufactured without hydrocarbons.
  - More accurate to call them **“hydrocarbon laundering”**: hydrocarbons build the panels/turbines, which then produce “green” energy.
- 

## Part V: The Drivers of Fiat Fuels

1. **Government:** Reduce oil demand → suppress prices → political relief.
  2. **Ideological Cults:** Anti-human, anti-industrial beliefs (“humans are parasites on Earth”).
  3. **Renewable Industry:** Hucksters profiting from subsidies and regulations.
- 

## Part VI: Climate Hysteria as Justification

- **Changing narratives:**
- 1970s: “We are running out of oil!”
- 1980s+: “We have too much oil; burning it will destroy Earth!”
- Opposite reasoning, same conclusion: **use less oil.**
- **CO<sub>2</sub> crisis claims:**
- Hockey-stick charts, ocean acidification, sea level hysteria.
- None supported by long-term data (sea levels, temperatures, tree-line history).
- **COVID lockdowns as natural experiment:**
- Global emissions plunged, yet **CO<sub>2</sub> concentration trends remained unchanged.**
- Temperatures/climate showed no discernible impact.
- **Key Point:** Burden of proof lies on those advocating policies that would kill billions by dismantling hydrocarbon infrastructure.

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## Part VII: Hydrocarbons Save Lives

- CO<sub>2</sub> emissions correlate with **declining deaths from climate-related causes**:
- Modern technology (housing, infrastructure, medicine) shields us from storms, floods, and extremes.
- Climate-related deaths today are <10% of what they were a century ago.
- Hydrocarbons are not destroying Earth's climate; they are **enabling humans to survive it better**.

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## Part VIII: Energy Economics – The Market for Power

- People don't need abstract "energy." They need **power on demand**:
- Bursts of concentrated energy at specific times/places (e.g., starting a car engine).
- **Sunlight is infinite**, but useless without costly technology to capture, store, and deliver it as high-power energy.
- Renewables fail because:
- They don't match the marginal need for power.
- Conversion + storage (batteries) make them uneconomical.

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## Part IX: The Consequences of Fiat Energy Policy

- **Rising energy costs**:
- Rich countries face blackouts and unreliable grids (Germany, UK, California).
- Poor countries are denied industrialization due to "green aid" restrictions.
- **Stagnation in energy growth**:
- Pre-1970s: ~2% annual growth in per-capita energy consumption.
- Post-1970s: Stalled – humanity consumes about the same as 50 years ago.

- **Signs of regression:**
  - Aviation slower today than in 1960s–70s.
  - Supersonic flight abandoned.
  - Energy per capita plateaued.
  - Industrial revolution’s trajectory reversed.
- 

## Key Takeaways

1. Rising energy prices in the 1970s were caused by **inflation**, not embargoes.
  2. Hydrocarbons = **irreplaceable foundation** of modern civilization.
  3. Renewables are **subsidy-driven scams**, not viable substitutes.
  4. Climate hysteria constantly shifts narratives but always pushes the same anti-energy agenda.
  5. Hydrocarbons save lives by enabling resilience against nature.
  6. Energy demand is about **power at the margin**, not abstract totals.
  7. Fiat policies have stalled energy progress, reversed industrial gains, and made energy more expensive.
  8. The only true “alternative” to hydrocarbons is **poverty, cold, and darkness**.
-

# The Fiat Standard – Lecture 11 (Fiat States) • Study Notes

## Overview

This lecture examines how the fiat monetary system reshaped **global geopolitics**, empowering states through reserve-currency arrangements, central banks, and international financial institutions. Fiat states are not simply domestic entities – they operate within a global fiat cartel where the dollar reigns supreme. The result has been the **export of inflation**, debt slavery for developing nations, and the entrenchment of bureaucratic institutions like the **IMF** and **World Bank**.

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## Part I: The Reserve Currency Hierarchy

- **Two classes of money** (Emile Moreau, 1920s):
  - **First class:** Gold-backed reserve currencies (historically pound sterling, later U.S. dollar).
  - **Second class:** Dependent national currencies, backed by holdings of pounds/dollars.
  - Consequence:
  - Reserve currencies remain independent.
  - All other currencies lose monetary independence.
  - Core privilege: **Exporting inflation abroad** – foreigners hold your money as reserves, absorbing the cost of your monetary expansion.
- 

## Part II: Why States Want Reserve Adoption

- Larger global holdings = more room for domestic inflation without visible price shock.

- Example:
  - If supply = \$1B, printing \$1B doubles prices.
  - If supply = \$100B, printing \$1B is only 1% inflation.
  - Thus, global reserve adoption incentivizes:
  - **Expansion of fiat networks.**
  - Supporting **new central banks** worldwide.
  - Encouraging decolonization/national liberation that results in more central banks plugged into the system.
- 

### **Part III: Hayek's Critique of Monetary Nationalism**

- **International money** (e.g., gold standard):
  - Free flows across borders, like dollars within U.S. states.
  - No need for “trade balance” politics.
  - **Monetary nationalism** (fiat world):
  - Each nation tied to its central bank's reserves.
  - Trade and capital flows politicized.
  - Creates friction, trade barriers, and eventual militarism.
  - Prediction: more **protectionism, conflict, and totalitarianism** — borne out in 20th century.
- 

### **Part IV: Development Trapped by Fiat**

- Nations that failed to industrialize before 1914 faced an uphill battle:
  - Lost chance to industrialize under sound money.
  - After 1914, entered a world of fiat inflation, protectionism, and trade distortions.
  - “Developing world” defined not by poverty alone, but by **lack of exposure to hard money savings.**
-

## Part V: The International Misery Industry

### Institutions

- **IMF**: lender of last resort, provides bailouts with new fiat issuance.
- **World Bank**: funds “development projects” using Keynesian models of growth.
- **WTO/GATT**: manages trade distortions created by fiat currency misalignments.
- **Academia**: development economics justifies loans and debt slavery.

### The Cycle

1. World Bank sells nations on debt-financed projects (roads, hospitals, airports).
2. Projects fail due to corruption and central planning.
3. IMF bails them out, imposing policy conditions.
4. Country becomes a permanent client state, locked into dollar system.

### Incentives

- Bureaucrats enrich themselves with **lucrative careers**.
  - The U.S. strengthens **dollar hegemony**.
  - Local elites gain temporary spending power via foreign loans.
- 

## Part VI: Central Planning and “Social Cost-Benefit Analysis”

- IFIs rely on **aggregates** (GDP, CPI, literacy rates) — fictitious constructs.
  - Individuals’ lives reduced to spreadsheet numbers.
  - Projects justified if “benefits” (in GDP terms) outweigh “costs” (even if lives lost).
  - Austrian critique:
  - Value is **subjective** and **ordinal**, not cardinal.
  - Welfare cannot be calculated collectively.
  - Central planning always misallocates resources.
-

## Part VII: Political Corruption and High Time Preference

- IMF/World Bank loans = **infinite credit line** for politicians.
  - Domestic politics degenerates into a contest of **who can borrow the most**:
  - Borrow today, indebt future generations.
  - Use funds to buy votes, expand bureaucracy, consolidate power.
  - Result: **short-termism**, destruction of capital, and debt slavery.
- 

## Part VIII: Why This System Persists

1. **Careers for insiders** – tens of thousands thrive on bureaucracy.
2. **U.S. dollar dominance** – maintains reserve status.
3. **Leverage over other nations** – ensures foreign policy obedience.

On these three metrics, the IMF and World Bank are *successful*. All other “development” rhetoric is window dressing.

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## Part IX: True Drivers of Development

1. **Capital accumulation** → saving → higher productivity.
2. **Specialization & division of labor** → trade expands wealth.
3. **Innovation & technology** → sustained growth.

### How Fiat Undermines Them

- Debt lowers interest rates → discourages saving → undermines capital accumulation.
- Trade distorted by protectionism, tariffs, and current account manipulation.
- Innovation blocked by:
  - Restrictions on trade.
  - Intellectual property regimes enforced through IFIs/WTO.

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## Key Takeaways

1. Reserve currencies allow core nations to export inflation abroad.
  2. Developing nations trapped by fiat debt slavery never achieve true growth.
  3. IMF and World Bank serve bureaucrats, U.S. policy, and dollar supremacy – not poor nations.
  4. Central planning reduces human lives to statistics, ignoring subjective value.
  5. Fiat politics rewards high-time-preference leaders who sell the future for power today.
  6. True development comes only from **saving, trade, and innovation** under sound money.
  7. Without sound money, poor nations remain permanently vulnerable to predation.
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# The Fiat Standard – Lecture 12 (Fiat Cost-Benefit Analysis) • Study Notes

## Overview

Mainstream critiques of Bitcoin often obsess over its **energy consumption**, comparing it to entire nations. Yet almost no one asks the parallel question: **what are the costs of fiat?**

This lecture weighs fiat's benefits against its costs after a century of global dominance. The verdict: trivial efficiency gains, catastrophic systemic costs.

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## Part I: The Claimed Benefit of Fiat

- **Engineering advantage:** avoids moving gold around physically.
- 19th century: ships full of gold crossed oceans to settle trade.
- Risks: high cost, time, piracy, shipwrecks.
- With fiat:
- Only need digital communication (telegrams, SWIFT, electronic entries).
- Cheaper and faster than shipping gold.

### Estimating cost savings:

- Assume transaction fees to ship gold  $\approx$  **0.05–0.5%** of value shipped.
  - If ~10% of global wealth moved annually as gold  $\rightarrow$  fiat saves  $\approx$  **0.05% of global wealth per year.**
  - This is the **maximum plausible benefit** of fiat.
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## Part II: The True Costs of Fiat

### 1. Inflation

- **CPI is unreliable** (government bias, basket changes, productivity masking).
- Better measure: **money supply growth**.
- 1965–2020 averages:
  - Switzerland: 6.7%
  - U.S.: 7.4%
  - EU: 7.8%
  - Japan: 9.8%
  - U.K.: 10.8%
  - China: 20.3%
  - Simple average (all currencies): 30%
  - Weighted global average: **~14% annually**
- In 2019:
  - Global money supply: \$95T
  - Global wealth: \$360T
  - Fiat = 26% of wealth.
  - 14% debasement of that = **3.6% of global wealth lost annually (~\$15T in 2019)**.

### 2. Inequality

- Inflation **raises value of hard assets** (real estate, stocks).
- Rich hold assets → benefit.
- Poor hold cash → lose.
- Fiat mechanically transfers wealth from the bottom 90% to the top 10%.

### 3. Economic Distortions

- **High time preference**: discourages saving, encourages debt and consumption.
- **Business cycles**: credit expansion fuels booms, busts, and capital misallocation.
- **Capital destruction**: projects with negative real returns appear profitable if they lose money slower than inflation.
- **Overconsumption & shoddy goods**: people buy durable goods not for use but as stores of value, even if low quality.
- **Partial barter system**: fiat turns international trade into FX juggling, requiring geopolitical/macro awareness just to run business.

#### 4. Empowered Governments

- Fiat grants states **unlimited financing**:
- Funds wars far beyond taxpayer tolerance.
- Expands bureaucracy and surveillance.
- Human toll:
- **20th century total wars** and genocides financed by fiat.
- ~169 million killed by governments (democide).
- Fiat’s “proof-of-work” is **violence and coercion**, not honest accounting.

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### Part III: The Cost-Benefit Contrast

Category	Fiat Standard	Gold Standard
<b>Main benefit</b>	Saves ~0.05% global wealth/yr (avoids gold transport).	Slightly higher settlement cost.
<b>Inflation cost</b>	~3–4% of global wealth/yr lost (~\$15T/yr).	Near-zero inflation.
<b>Distribution effect</b>	Extreme inequality, favors elites.	Savings preserved.
<b>Capital allocation</b>	Distorted, capital-consuming projects funded.	Only sustainable projects thrive.
<b>Trade system</b>	Partial barter, FX distortions, tariffs, protectionism.	Seamless international money.
<b>Government power</b>	Unlimited wars, surveillance, debt slavery.	Wars constrained by gold reserves.
<b>Human cost</b>	~169M killed by states in 20th century, endless conflict.	Conflicts limited in scale/duration.

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## Key Takeaways

1. Fiat's only real benefit: **avoidance of gold shipping costs** (~0.05% of wealth).
  2. Fiat's systemic costs dwarf that:
  3. Inflation = \$15T/year lost.
  4. Widened inequality.
  5. Distorted economies and high time preference.
  6. Enabling of total war and authoritarianism.
  7. Fiat converts civilization into **a debt-slavery system**, financing destruction while enriching elites.
  8. Bitcoin reintroduces hard money discipline without the physical transport problem, preserving savings while enabling digital global settlement.
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# The Fiat Standard – Lecture 13 (Why Bitcoin Fixes This) • Study Notes

## Overview

The book is divided into three parts:

1. **How the fiat system works** (Chs. 1–6)
2. **Problems caused by fiat** (Chs. 7–12)
3. **Why Bitcoin fixes this** (Chs. 13–18)

Chapter 13 opens the third part. It explains how Bitcoin possesses four key properties that directly address fiat's failures:

1. **High salability across space**
  2. **Separation of money and debt**
  3. **Anti-fiat technology**
  4. **Neutral global currency**
- 

## 1. Bitcoin's Salability Across Space

- **Gold vs. Bitcoin**
- Gold settlement is **expensive, slow, and distance-dependent**.
  - Example: Sending a 400 oz bar (\$750k value) across the Atlantic costs ~\$3,000 and takes at least a day.
- Bitcoin settlement is **instant, digital, and distance-free**.
  - Example: Sending \$750k in Bitcoin costs ~\$1 in fees and confirms in minutes.
- **Key advantages:**
- Transaction cost **independent of distance or weight**.
- **Scales better:** moving \$10M or \$100M in gold is even more expensive; Bitcoin remains ~\$1.

- Even if Bitcoin fees rose **3,000x**, it would still beat gold for large settlement.
  - **Verification**
  - Bitcoin: run a full node for ~\$100–700, verifying all transactions cheaply.
  - Gold: true verification requires melting and recasting bars → expensive, impractical.
  - Result: gold systems centralize (e.g., London Bullion Market Association), while Bitcoin can stay decentralized.
  - **Implication:**
  - High spatial salability prevents monopoly capture by banks.
  - Enables thousands or millions of institutions to settle globally, unlike fiat's <200 central banks.
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## 2. Separation of Money and Debt

- **Definitions**
  - *Money*: present good, immediate settlement, no reliance on counterparties.
  - *Credit*: future promise of money, carries risk of default.
  - **Gold's weakness**
  - Low spatial salability pushed reliance on banks.
  - Banks blurred the line between money and debt (fiduciary media).
  - Credit masqueraded as money → fractional reserve banking → fiat.
  - **Bitcoin's strength**
  - Every 10 minutes, the network reconciles ownership of all coins.
  - Bitcoin IOUs cannot circulate on-chain; only actual coins settle.
  - Distinction between *present satohis* (real) and *future satohis* (IOUs) is crystal clear.
  - Banks cannot easily inflate supply without being tested by withdrawal.
  - **Result:**
  - Banks return to service providers, not money printers.
  - Governments lose their license to erase debts through inflation.
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### 3. Bitcoin as Anti-Fiat Technology

- **Core point:** Bitcoin demonetizes government credit.
  - Governments cannot arbitrarily inflate the supply.
  - Credit loses its ability to masquerade as money.
  - **Effect:** defangs fiat power.
  - No more infinite seigniorage.
  - Prevents central banks from financing endless wars, bureaucracy, and distortions.
  - **Bitcoin = reason restored** in a world corrupted by fiat credit.
- 

### 4. Bitcoin as Neutral Global Currency

- **Economic growth fundamentals:**
  - Capital accumulation
  - Division of labor & trade
  - Innovation & technology adoption
  - **Fiat destroys all three:**
  - Inflation & debt prevent saving (capital).
  - Trade restrictions & monetary nationalism cripple division of labor.
  - Bureaucratic planning & debt traps block innovation.
  - **Bitcoin fixes this:**
  - Hard money allows savings & capital formation.
  - Non-political currency enables free global trade.
  - Neutral settlement layer bypasses IMF/World Bank debt colonialism.
  - **Limits of Bitcoin:**
  - Cannot “end poverty” in absolute terms.
  - Poverty is partly a result of individual choices (e.g., overspending, lack of discipline).
  - But Bitcoin restores **economic freedom** so that those who *can* save and invest productively are no longer penalized.
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## Key Takeaways

- **Salability across space:** Bitcoin settlement is cheaper, faster, and more secure than gold, preventing centralization.
- **Separation of money and debt:** Bitcoin enforces a clear line between present goods (money) and future promises (credit).
- **Anti-fiat technology:** Bitcoin strips governments of their monetary monopoly.
- **Neutral global currency:** Bitcoin enables free market growth by removing political currency distortions.

### Conclusion:

Bitcoin doesn't promise utopia. It promises the **economic freedom** that fiat destroyed — enabling saving, trade, and innovation to flourish once again.

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# The Fiat Standard – Lecture 14 (Bitcoin Scaling) • Study Notes

## Overview

- Global digital payments today: **2–3 billion non-cash transactions per day**.
  - Bitcoin's on-chain peak: **~500,000 transactions/day** (~0.017% of global volume).
  - To process all digital payments on-chain, Bitcoin would need a **6,000× capacity increase**.
  - Naïve solution: bigger blocks = more transactions.
  - Problem: larger blocks undermine **decentralization**, which is Bitcoin's core value.
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## 1. The Naïve Scaling Approach: Bigger Blocks

- **Idea:** Increase block size → more transactions per block.
  - **Reality:**
    - Larger blocks → harder to download & sync → fewer nodes can participate.
    - Leads to **centralization** (only powerful computers can keep up).
    - Example: To handle global non-cash transactions, Bitcoin would need **5 TB blocks every 10 minutes**.
    - No consumer hardware can support this.
    - Would shrink the network to a handful of operators.
  - **Trade-off:**
  - **Efficiency vs. decentralization.**
    - Centralized systems (e.g., PayPal, Visa) are already efficient.
    - Bitcoin's value lies in being **decentralized and uncapturable**.
-

## 2. Why On-Chain Scaling Won't Happen

- **Decentralization is non-negotiable:**
  - Bitcoiners resisted block size wars; preserving small blocks preserves sovereignty.
  - Running a node must remain possible for anyone (~\$100–700 hardware).
  - **On-chain = cash settlement:**
  - Bitcoin transactions are **final settlement**, not retail payments.
  - More comparable to interbank transfers than buying coffee.
  - Consumer payments can run on **second layers**.
- 

## 3. Market for Scarce Block Space

- Bitcoin block space = scarce resource.
  - Analogy: **shuttle bus** leaving every 10 minutes, limited seats, auction for entry.
  - Result:
  - Transaction **count** has plateaued since ~2016 (~200–300k/day).
  - **Value per transaction** has skyrocketed (from ~\$10 avg in 2011 → ~\$30–40k avg today).
  - Total **settlement volume** continues to grow (billions daily).
  - **Economic pattern:**
  - Low-value uses get priced out → off-chain.
  - High-value uses dominate on-chain.
  - Just as cows don't graze in Manhattan, trivial transactions won't live on Bitcoin's blockchain.
- 

## 4. Second-Layer Scaling

- **Already happening:**
- Exchanges, casinos, and services settle internally off-chain.

- On-chain only for deposits/withdrawals.
  - **Lightning Network:**
  - Based on **multisig channels**.
  - Two parties lock coins → update balances off-chain infinitely.
  - Closing channel = one on-chain settlement.
  - Routing through other nodes allows global connectivity.
  - Lightning = cheap (fractions of a cent) but limited by **liquidity**.
  - **Other second-layer models:**
  - Custodial systems (exchanges, apps).
  - Physical Bitcoin tools (e.g., OpenDime).
  - Multisig arrangements.
- 

## 5. Liquidity and Investment in Lightning

- Putting Bitcoin into channels = **investment**, not cash holding.
  - Similar to investing in a payments company.
  - Provides liquidity for routing payments in exchange for fees.
  - This specialization → emergence of **professional liquidity providers**.
  - Likely outcome: **hub-and-spoke model**:
  - Tens of thousands of large, well-connected nodes.
  - Individuals open a few channels to these hubs.
  - More centralized than coffee-on-chain dream, but far more decentralized than fiat.
- 

## 6. Risks and Trade-Offs

- **Censorship:**
- A node operator can refuse to serve you, but cannot prevent you from opening your own channel or going elsewhere.
- **Centralization of liquidity:**
- Hubs may form, but unlike fiat banks, they:

- Cannot inflate supply.
  - Cannot control protocol rules.
  - Cannot unilaterally censor the entire network.
  - **Key point:**
  - Bitcoin doesn't need to be decentralized enough to process every coffee purchase.
  - It only needs to be decentralized enough to resist **monetary capture**.
- 

## Key Takeaways

1. **On-chain scaling is impossible** without sacrificing decentralization.
  2. Bitcoin's on-chain layer = **final settlement**, not everyday payments.
  3. Block space scarcity leads to prioritization of **high-value transactions**.
  4. **Second layers (Lightning, exchanges, multisig)** handle small, high-frequency payments.
  5. Providing liquidity = **investment industry**, leading to specialization and efficiency.
  6. Even with some centralization of payment routing, Bitcoin remains **fundamentally uncensorable, non-inflatable, and decentralized enough** to preserve its value proposition.
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# The Fiat Standard – Lecture 15 (Bitcoin Banking) • Study Notes

## Overview

- Banking historically provides **two essential services**:
- **Custody (deposit banking)**: keeping money safe and accessible.
- **Investment allocation**: channeling capital into productive enterprises.
- Under fiat, both functions have been distorted by inflation, debt, and state monopolies.
- Question: **How would banking work under a Bitcoin standard with fixed supply money?**

This lecture explores custody, investment, savings evolution, and why Bitcoin likely leads to **equity-based banking** instead of debt-based banking.

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## 1. Custody (Deposit Banking)

- Homes are not designed as vaults; specialized custodians provide security.
  - In a Bitcoin world:
  - Custodians will still exist.
  - Clients trade off some censorship resistance for convenience.
  - Risk of abuse is limited because:
    - Bitcoin is cheap and easy to withdraw on-chain (~500k daily transactions available).
    - Users can take custody at any time.
  - **Key point**: Even if much Bitcoin is custodied, monetary policy remains secure as long as individuals retain exit options.
-

## 2. Investment Allocation

- Banks act as intermediaries: match savers with businesses needing capital.
- Requires **human judgment** (entrepreneurship) — cannot be automated fully.
- Two models:
- **Credit-based lending (interest).**
- **Equity-based investment (ownership shares).**

In fiat, credit dominates because debt = money creation. In Bitcoin, equity will dominate (explained below).

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## 3. Evolution of Savings

- **Gold standard:** saving was simple — hold gold coins.
  - **Fiat eras:**
  - **Bank deposits** → inflation eroded value.
  - **Bonds** → became “savings accounts” but eroded over time.
  - **Stocks (index funds)** → became surrogate savings vehicles, detached from fundamentals.
  - **Real estate, art, gold, etc.** → pressed into service as savings due to fiat decay.
  - Result: individuals juggle complex portfolios just to preserve wealth.
  - **Bitcoin fixes this:**
  - High salability across time and space.
  - No yield = no distortion from monetary demand.
  - Returns simplicity: **saving = holding Bitcoin.**
- 

## 4. Bitcoin Demonitizes Assets

- In fiat, stocks, bonds, and houses are treated as money → inflated valuations.
- In Bitcoin:

- Houses = consumer goods (not savings vehicles).
  - Stocks = real investments (valued on dividends, not “store of value”).
  - Bonds = largely unnecessary.
  - **Bold prediction:** Bitcoin may **end the bond market**.
  - Bonds exist because fiat credit creation rewards lending.
  - Without inflationary credit, bonds lose purpose.
  - Bitcoin provides better liquidity and homogeneity than bonds (all satoshis are fungible).
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## 5. Fragility of Fiat vs. Robustness of Bitcoin

- Fiat system: built entirely on debt → fragility.
  - Bank runs, crises, contagion.
  - Needs central banks as “lenders of last resort.”
  - Bitcoin system:
  - Value not dependent on credit repayment.
  - Final settlement always possible on-chain.
  - Removes systemic fragility from interconnected debt webs.
- 

## 6. Why Equity > Debt in Bitcoin Banking

Three main reasons:

1. **No more money-printing via debt**
2. Lending doesn't “mine” new money.
3. Removes artificial incentive for credit expansion.
4. **No lender of last resort**
5. Credit = high risk of total loss.
6. Without bailouts, fixed-interest contracts are unsustainable.
7. Equity absorbs risk honestly (both upside & downside).
8. **Cash abundance & declining interest rates**

9. Hard money encourages accumulation of cash balances.
  10. More savings → lower interest rates.
  11. Austrian view: interest = measure of civilization/time preference.
  12. Trend over 5,000 years: falling interest rates → eventually ~0% nominal.
  13. At 0% nominal, lending unattractive → equity dominates.
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## 7. The Endgame: Banking on a Bitcoin Standard

- Banking separates cleanly into two roles:
  - **Deposit banking:** full-reserve custody, funded by depositor fees.
  - **Investment banking:** equity investment, maturity-matched, sharing upside & downside.
  - Credit shrinks to marginal role (loans among family/friends).
  - Broader system = **more robust, less fragile, equity-driven finance.**
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### Key Takeaways

1. **Custody remains** but is disciplined by Bitcoin's withdrawability.
2. **Investment allocation persists** but shifts from debt to equity.
3. **Bitcoin restores saving simplicity** — just hold Bitcoin.
4. **Bonds lose purpose** without fiat's debt-creation incentive.
5. **Interest rates trend toward 0% nominal** as time preference declines.
6. **Equity-based banking** becomes dominant: honest risk-sharing replaces fixed-interest illusions.

### Conclusion:

Bitcoin banking = **full-reserve custody + equity finance**. This eliminates fiat's debt fragility, collapses the bond market, and restores stability to global finance.

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