The working machinery of the modern money system

¶ 4.1

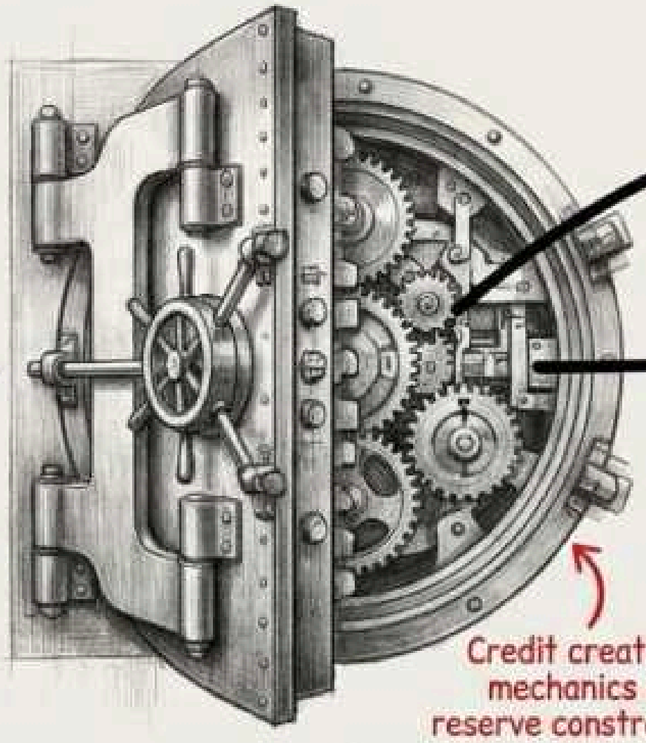
What is money now?



Not backed by this.

Understanding money without a gold standard.

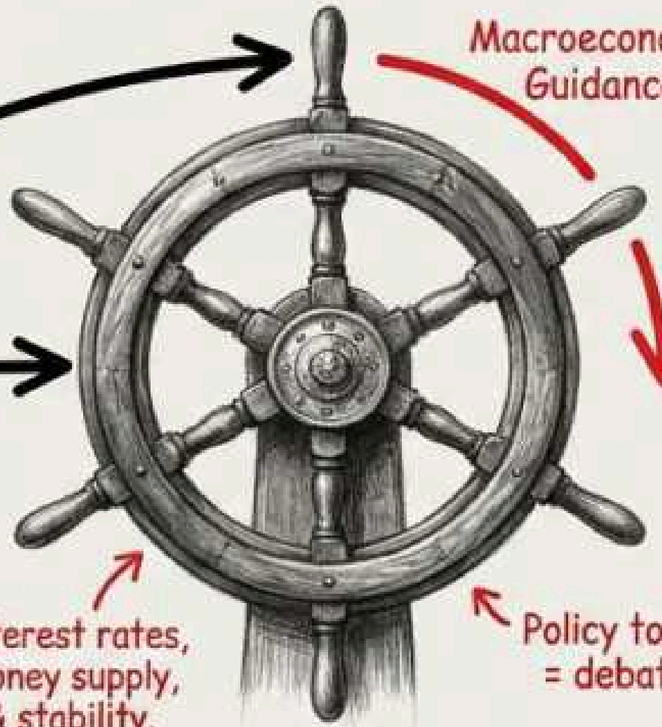
How do banks create it?



Credit creation mechanics & reserve constraints.

Uncovering the limits of bank-created money.

What do central banks do?



Macroeconomic Guidance

Interest rates, money supply, & stability.

Policy tools = debate

Explaining why economists fiercely debate central bank power.

Gemini Notebook

Fiat money derives value from legal authority and mutual acceptance

¶ 4.2

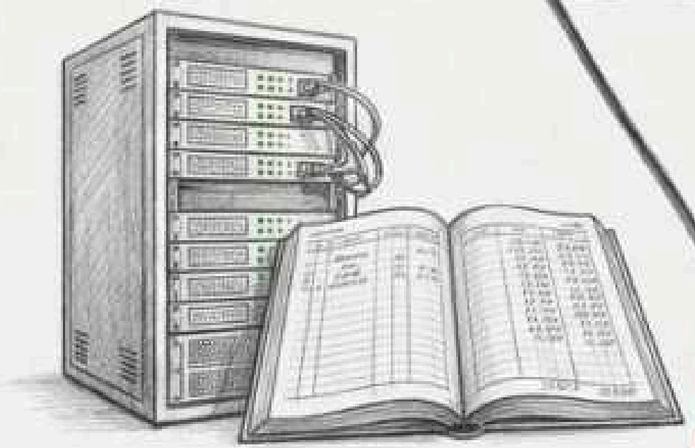


Modern money has no gold backing and little physical value. It functions purely on the trust that others will accept it, anchored by the state's requirement for tax payments.

Gemini Notebook

Money exists across three distinct layers

¶ 4.3



Numbers on a computer.
The vast majority of modern money.

Bank Deposits

Reserves



Accounts held by banks at the central bank to settle inter-bank payments.

Cash

Only a small share of the total supply.



Gemini Notebook

¶ 4.4

The act of lending brings new money into existence

The Myth



Banks do not simply collect savings to lend out.

The Reality

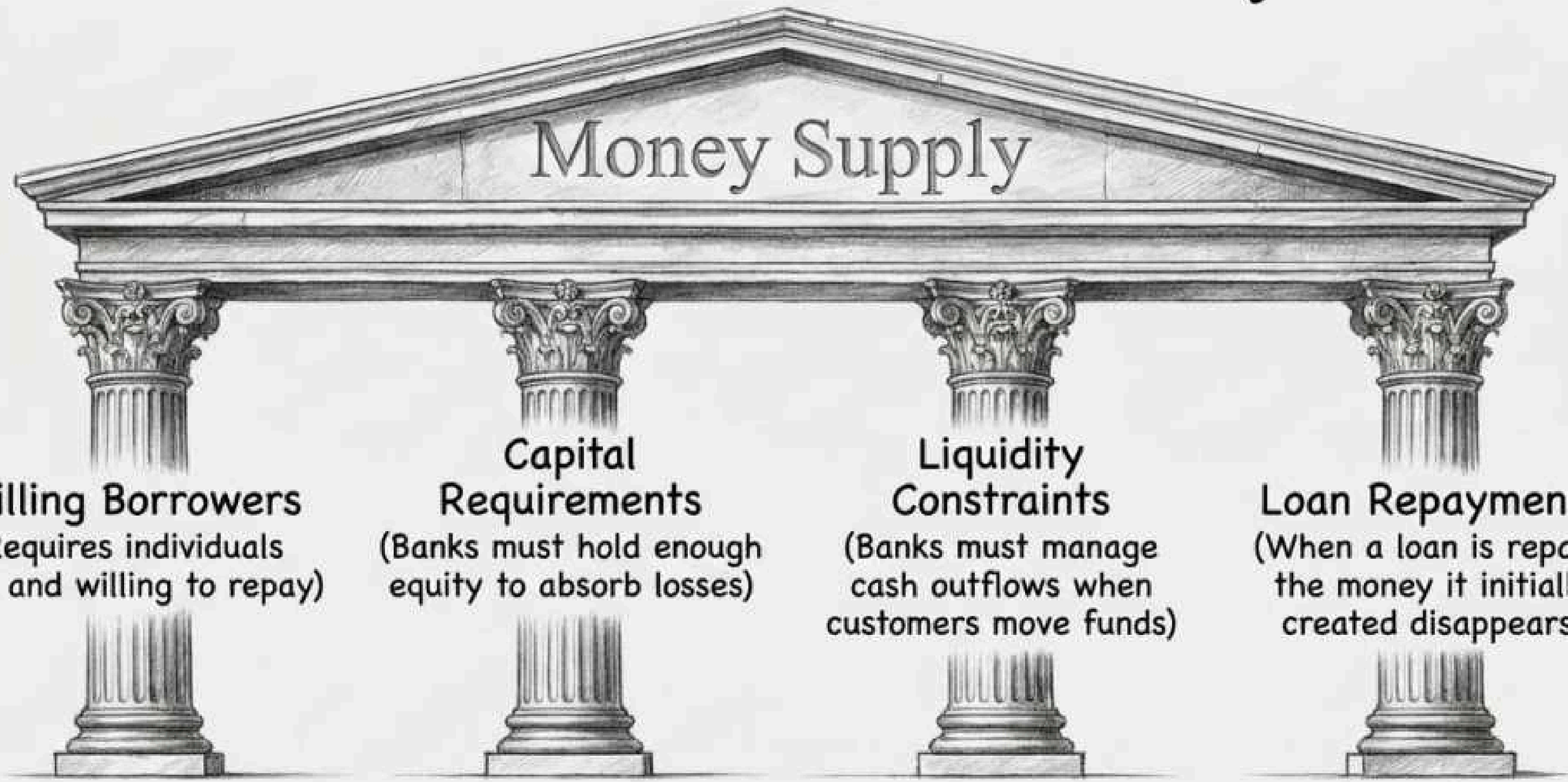


Commercial banks create new deposits—and therefore new money—every time they issue a loan.

Gemini Notebook

¶ 4.5

The four structural limits on bank money creation



The total money supply is a living mechanism—expanding with the issuance of new credit and shrinking as existing loans are retired.

Gemini Notebook

¶ 4.6

The Central Bank acts as the ultimate lender of last resort



Walter Bagehot, 1873
Lombard Street



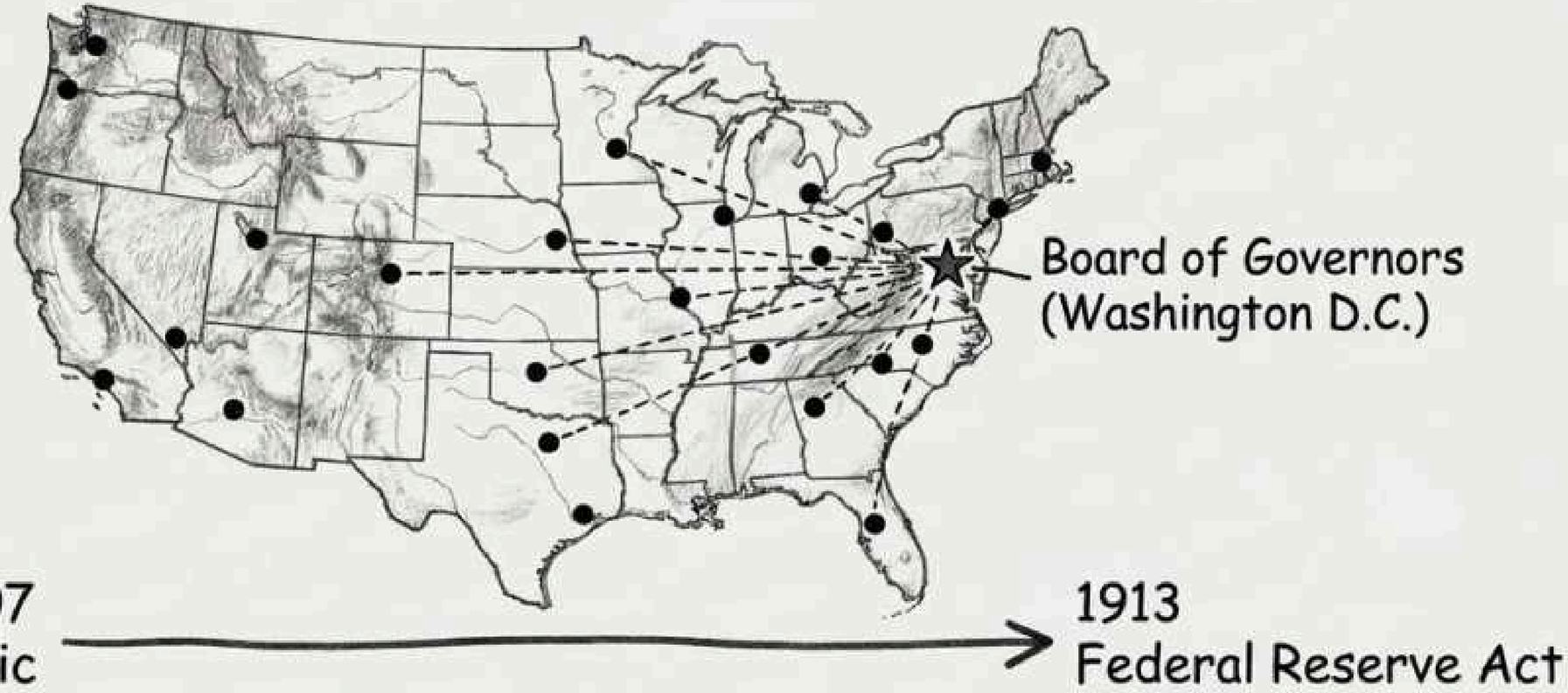
Lend Freely
+
High Rate
+
Good Collateral
=
Panic Resolved

Sitting at the center of the system, the central bank issues currency, holds bank reserves, sets short-term rates, and extinguishes financial panics using Bagehot's Rule.

Gemini Notebook

¶ 4.7

Suspicion of financial power shaped the Federal Reserve's decentralized design



The United States was exceptionally late to create a central bank, eventually designing a fragmented, 12-region system to avoid concentrating financial authority in one place.

Gemini Notebook

¶ 4.8

The four operational levers of central banking

Policy Interest Rate (Main Tool)

↳ The rate at which banks lend reserves to each other overnight.

Open Market Operations

↳ Buying or selling government bonds in the open market.

Reserve Rules

↳ Mandating exactly how much in reserves commercial banks are required to hold.

Discount Window

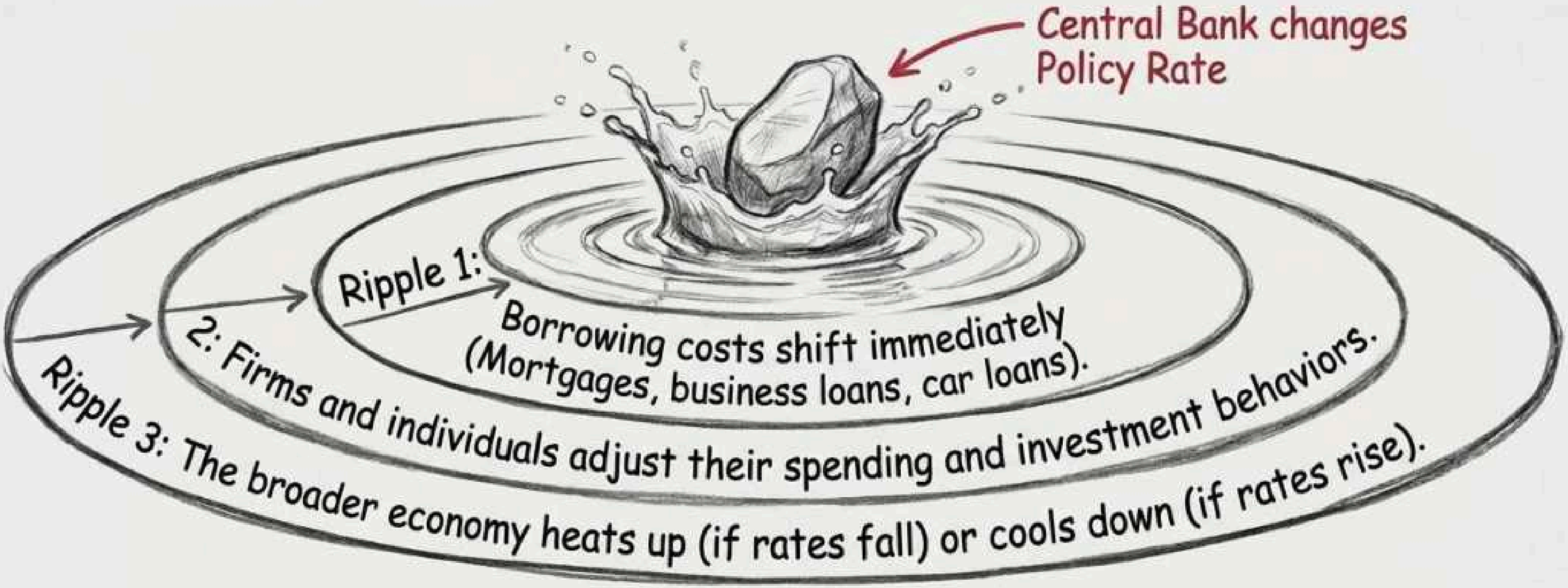
↳ A direct lending facility for commercial banks to borrow from the central bank.

Central banks manipulate the monetary system not by direct decree, but by adjusting these four interconnected financial valves.

Gemini Notebook

¶ 4.9

The transmission mechanism is powerful but delayed



This chain reaction translates monetary policy to everyday life. The ultimate effects take months to to materialize, and their exact magnitude remains inherently uncertain.

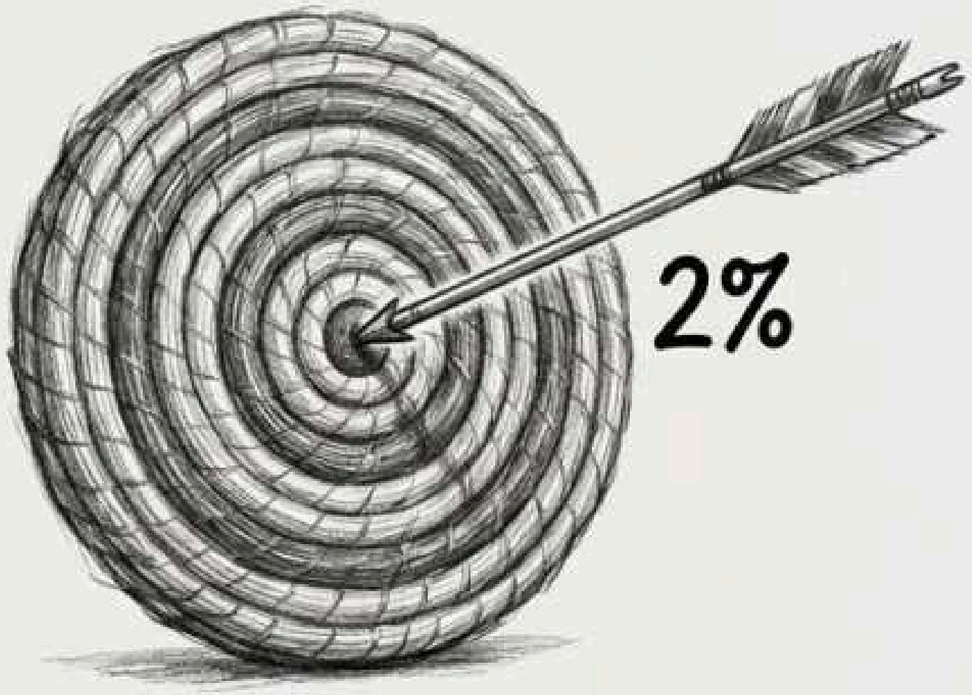
Gemini Notebook

¶ 4.10

Navigating the tension between employment and price stability



The US Federal Reserve
Dual Mandate



Formal Inflation Targeting
(Pioneered by New Zealand in 1990)

Central banks must decide whether to balance competing economic goals or singularly target a specific rate of inflation.

Gemini Notebook

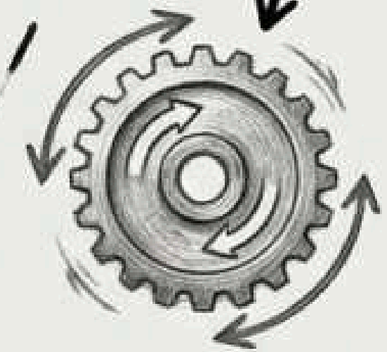
¶ 4.11

The Equation of Exchange links money growth directly to prices

$$M \times V = P \times Q$$



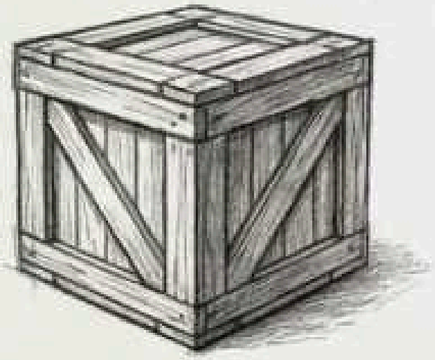
Money Supply



Velocity
(Speed of spending)



Price Level



Quantity of goods sold

If the quantity of goods grows slowly and the speed of spending is steady, faster growth in the money supply mechanically results in higher prices.

Gemini Notebook

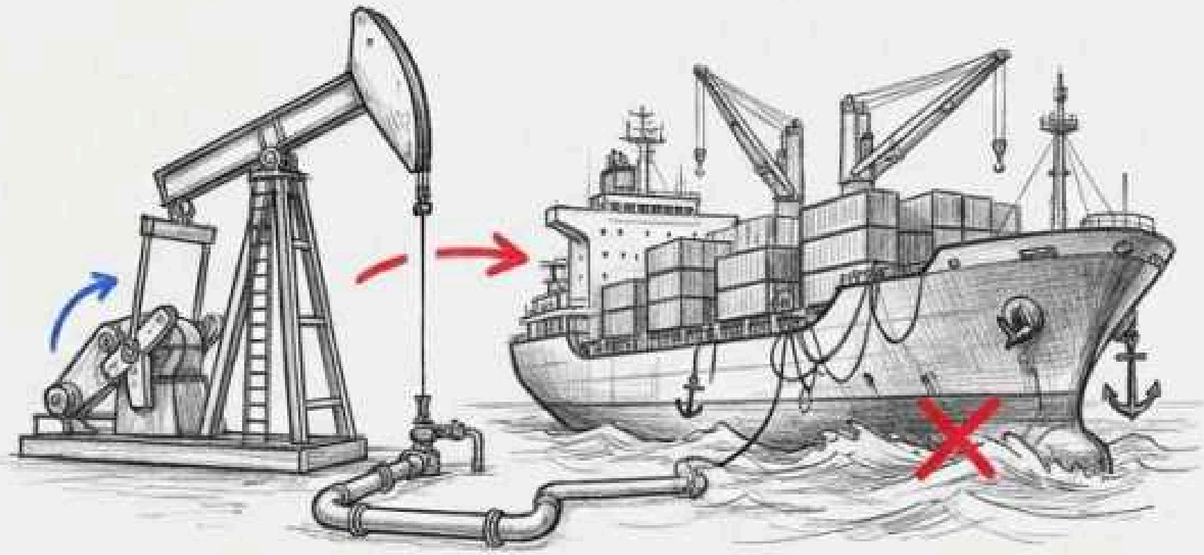
The Great Inflation Debate: Money supply versus real-world shocks

¶ 4.12



"Inflation is always and everywhere a monetary phenomenon."

Focus: Long-run money growth



Counterpoint: Supply shocks, oil prices, shortages, and sudden shifts in spending velocity.

While most economists agree on the long-term link between money and prices, fierce debate continues over how strongly physical supply shocks drive short-term inflation.

Gemini Notebook

Public guarantees neutralize the logical incentive for bank runs

¶ 4.13

Created 1933 after thousands of failures.



$250,000 guarantee per depositor.

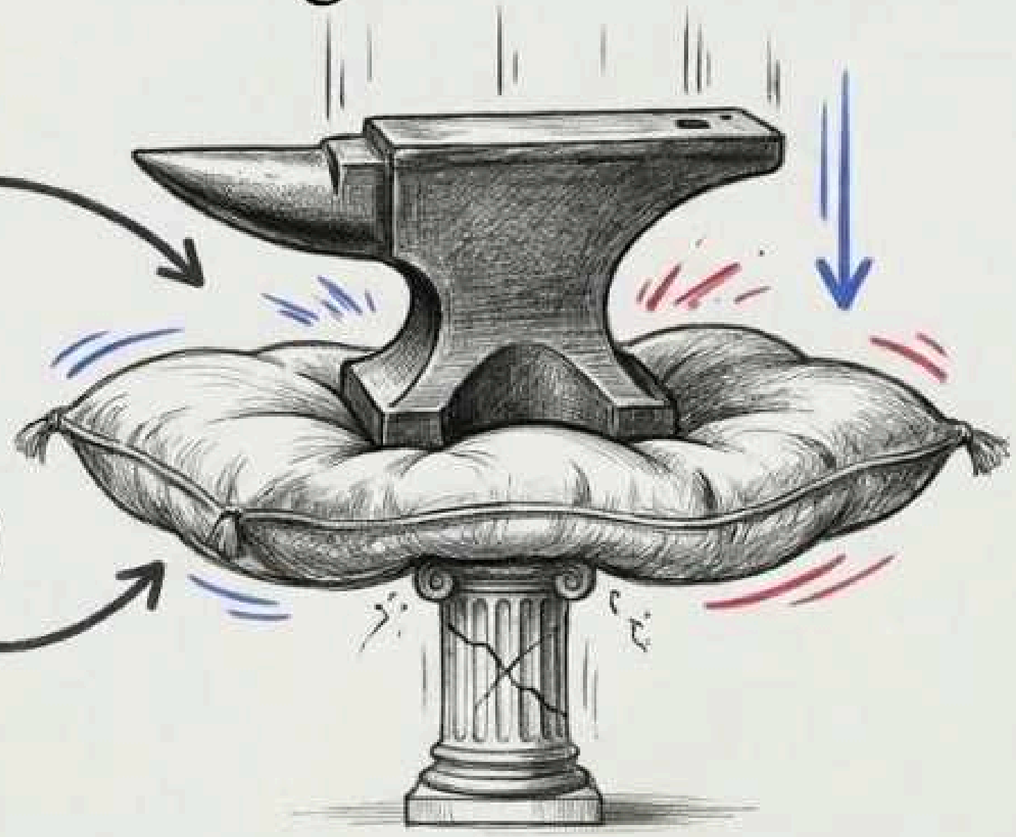
By guaranteeing that depositors will not lose their funds, the state removes the fear-driven rationale for mass withdrawals, stabilizing the entire fractional reserve system.

Gemini Notebook

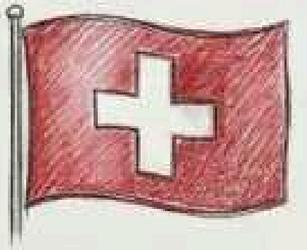
¶ 4.14

Capital acts as a mandatory cushion against financial ruin

Financial Losses



Capital (Bank's Own Funds)



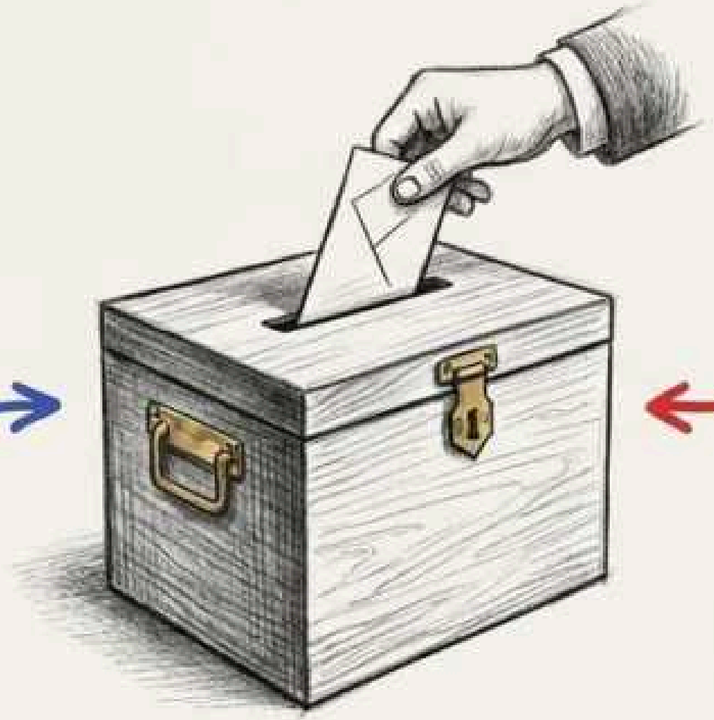
Basel Agreements

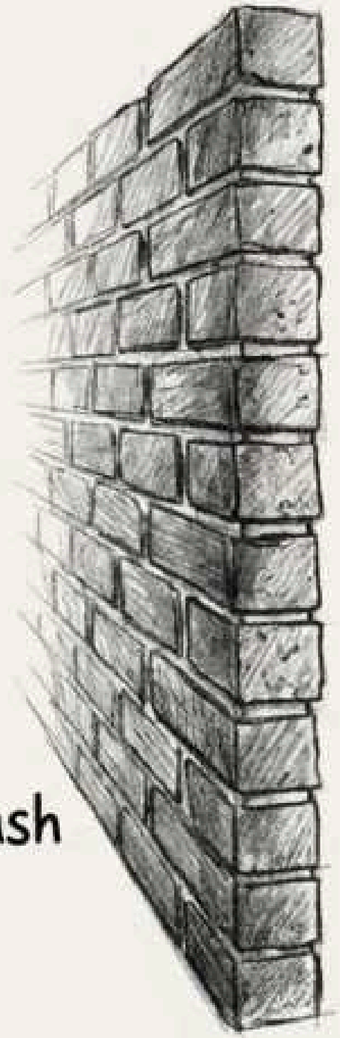
Regulators enforce minimum international standards dictating how much of a bank's own money must be kept at risk, ensuring they can absorb shocks without failing.

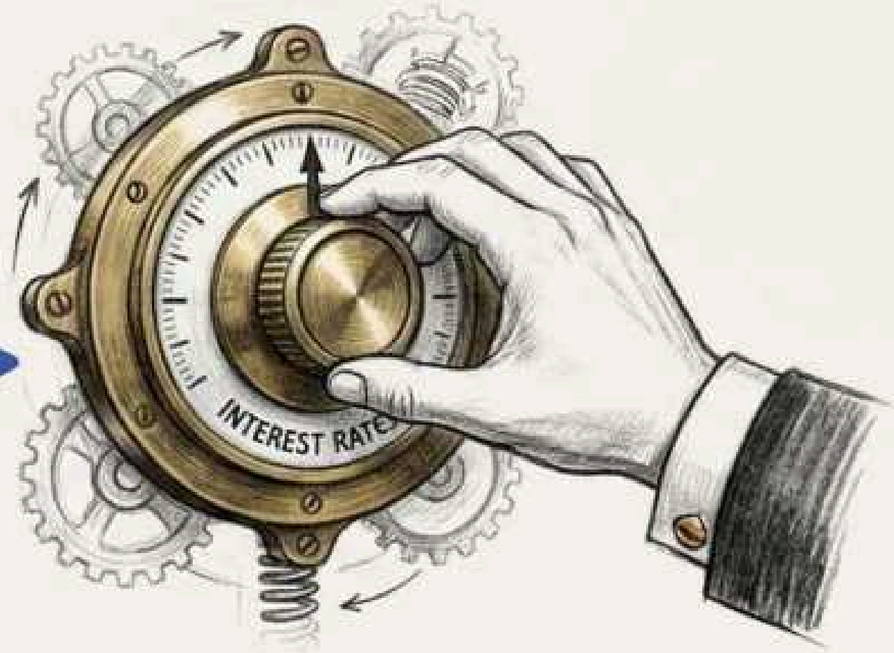
Gemini Notebook

The independent central bank trades democratic control for long-term stability

¶ 4.15







Elected leaders face the temptation to print money or slash rates right before an election, sparking future inflation.

Independent banks avoid election cycles but wield immense, unelected power—requiring intense public transparency.

Gemini Notebook

The three mechanisms of modern exchange rates

¶ 4.16

1. Floating



Rates set daily by the open market (Norm since 1971).

2. Pegged



Smaller countries locking their currency's value to a larger one.

3. Shared



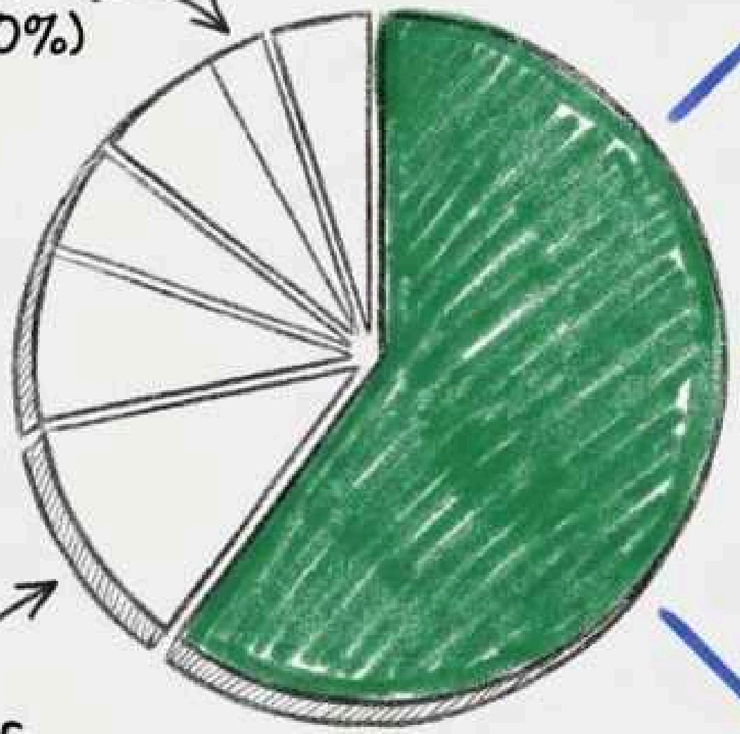
Multiple nations adopting a single currency (11 European nations launched in 1999, physical cash in 2002).

Gemini Notebook

The outsized, structural dominance of the US Dollar

¶ 4.17

US Dollar
(approx. 60%)



US Dollar
(approx. 60%)



Used to price
global commodities.



Used to settle
international trade.

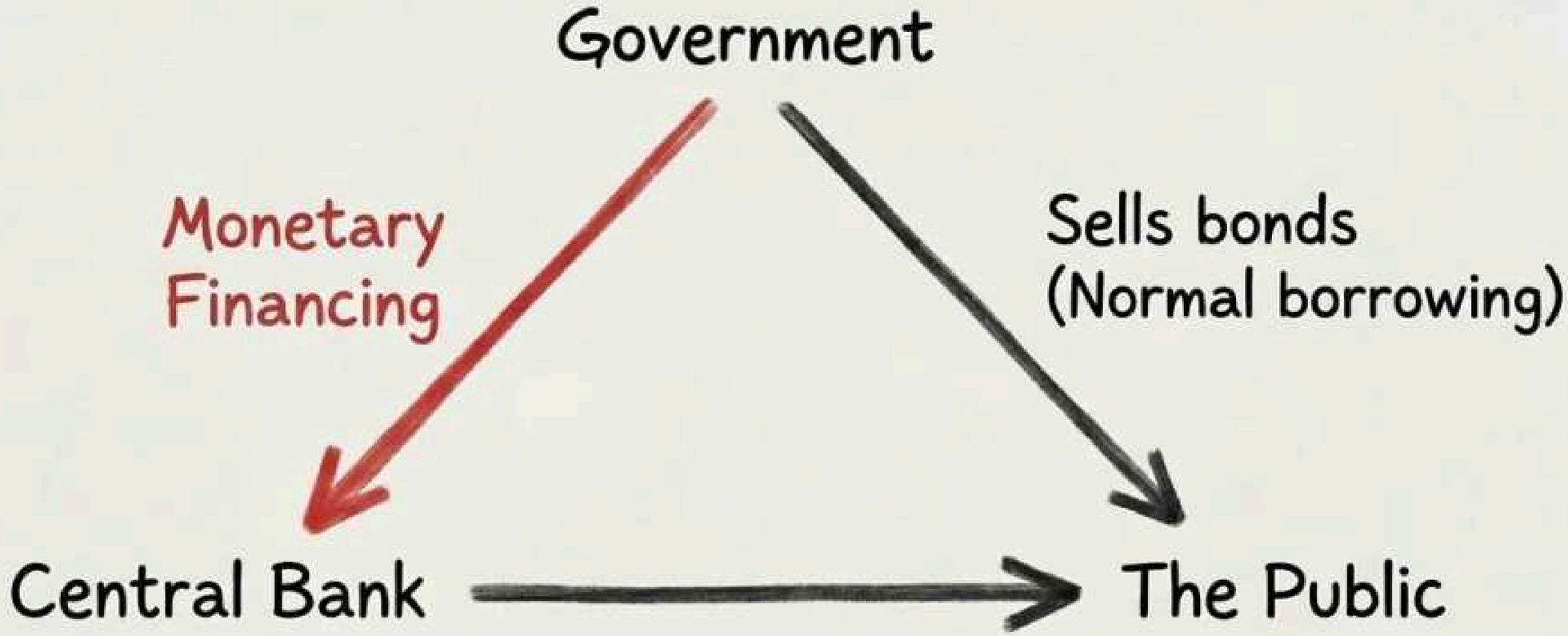


Comprises nearly 60%
of all global central
bank reserves,
per IMF data.

Gemini Notebook

The inflation danger of monetary financing

¶ 4.18

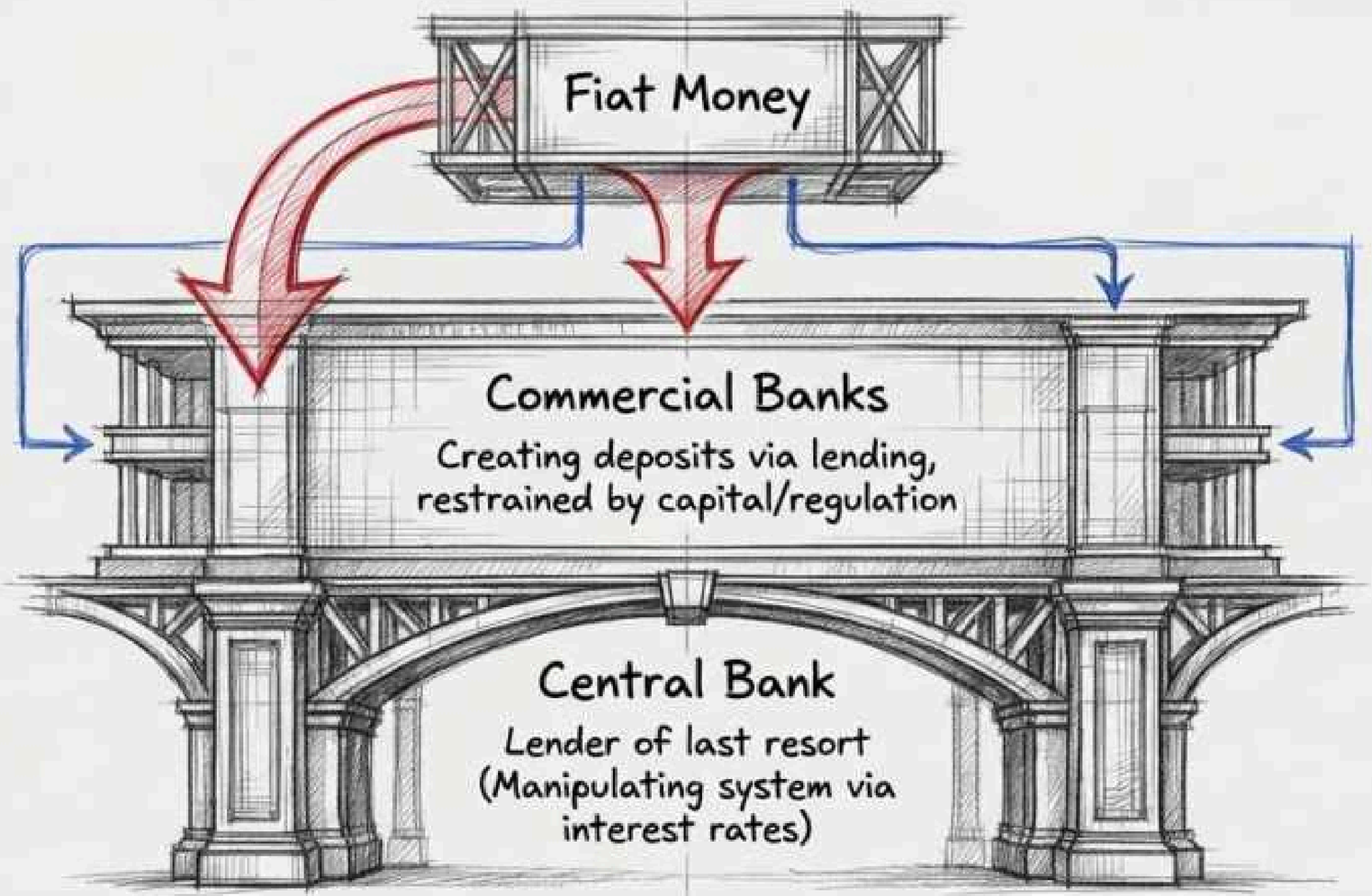


When a central bank directly buys government debt to fund spending—bypassing the public—it creates immediate reserves. Economists warn this shortcut frequently sparks severe inflation.

Gemini Notebook

The Master Blueprint of Modern Money

¶ 4.19



Modern money is a highly regulated architecture of credit. While economists agree excessive money growth fuels inflation, fierce debates remain over the exact mechanics, timing, and how much unchecked power central banks should yield.

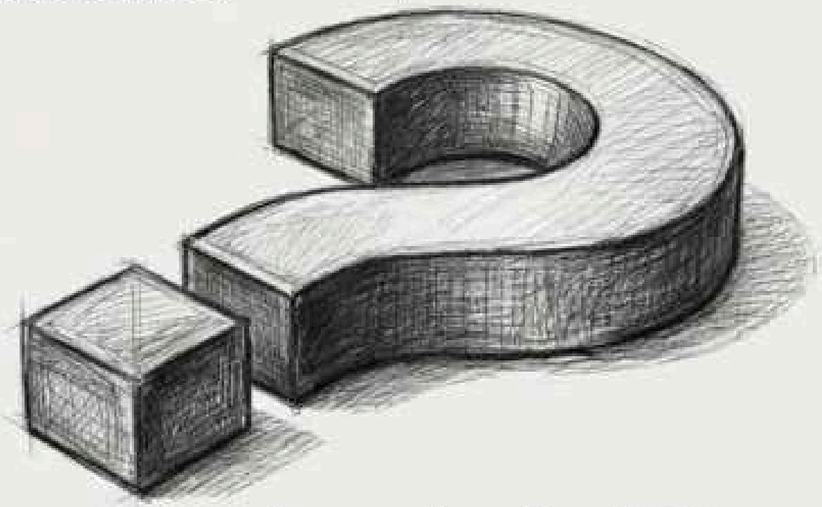
Gemini Notebook

Power vs. Accountability: Which danger worries you more?

¶ 4.20

Scenario: A Central Bank run directly by the elected Government

Pros	Cons
Clearer democratic accountability? Voters can directly punish or reward economic performance.	Overwhelming pressure to print money and slash rates right before elections?



Does the threat of unelected, unchecked financial power outweigh the risk of politicians printing money for short-term electoral gain?

Gemini Notebook