Financial Institutions and System

Week 3: What is money?

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Agenda

1. What is Money?

2. Class Discussion: The Evolution of Money

3. Class Activity: The Evolution of Money & Trust in Currency

1. What is Money?

What can be similar between these objects?

Throughout thousands of years of human civilization, many strange things have been used as money.

Cows in ancient Egypt.

Salt in ancient Rome.

Cigarettes in POW camps.

Rai stones in Micronesia.

Cheese in Italy.

Tulips in the Netherlands.

Whale teeth in Fiji.

Cowrie shells in Africa and Asia.

Beaver pelts in Canada.

Cocoa beans in Mesoamerica.

Feathers in New Guinea.

Tea bricks in Siberia.

Wampum in North America.

Tobacco in the American colonies.

Meaning of Money

Definition: Money (or the "money supply") is **anything generally accepted** as a payment for goods, services, or debt repayment.

Forms of Money:

- **Currency** (paper bills & coins)
- **Checks & Checking Deposits**
- **Digital Money & Cryptocurrencies**

Money vs. Other Concepts:

- **Wealth**: Total collection of valuable assets (property, investments).
- **Income**: Flow of earnings over time (a rate, not a stock).

Functions of Money

1. Medium of Exchange

- Eliminates the need for a **double coincidence of wants**.
- Reduces **transaction costs** and promotes **specialization**.

Requirements of a Good Medium of Exchange:

- Easily standardized
- Widely accepted
- Divisible
- Portable
- Durable

Functions of Money (Cont'd)

2. Unit of Account

- Standardizes the measurement of **value** in an economy.
- Reduces **transaction costs**.
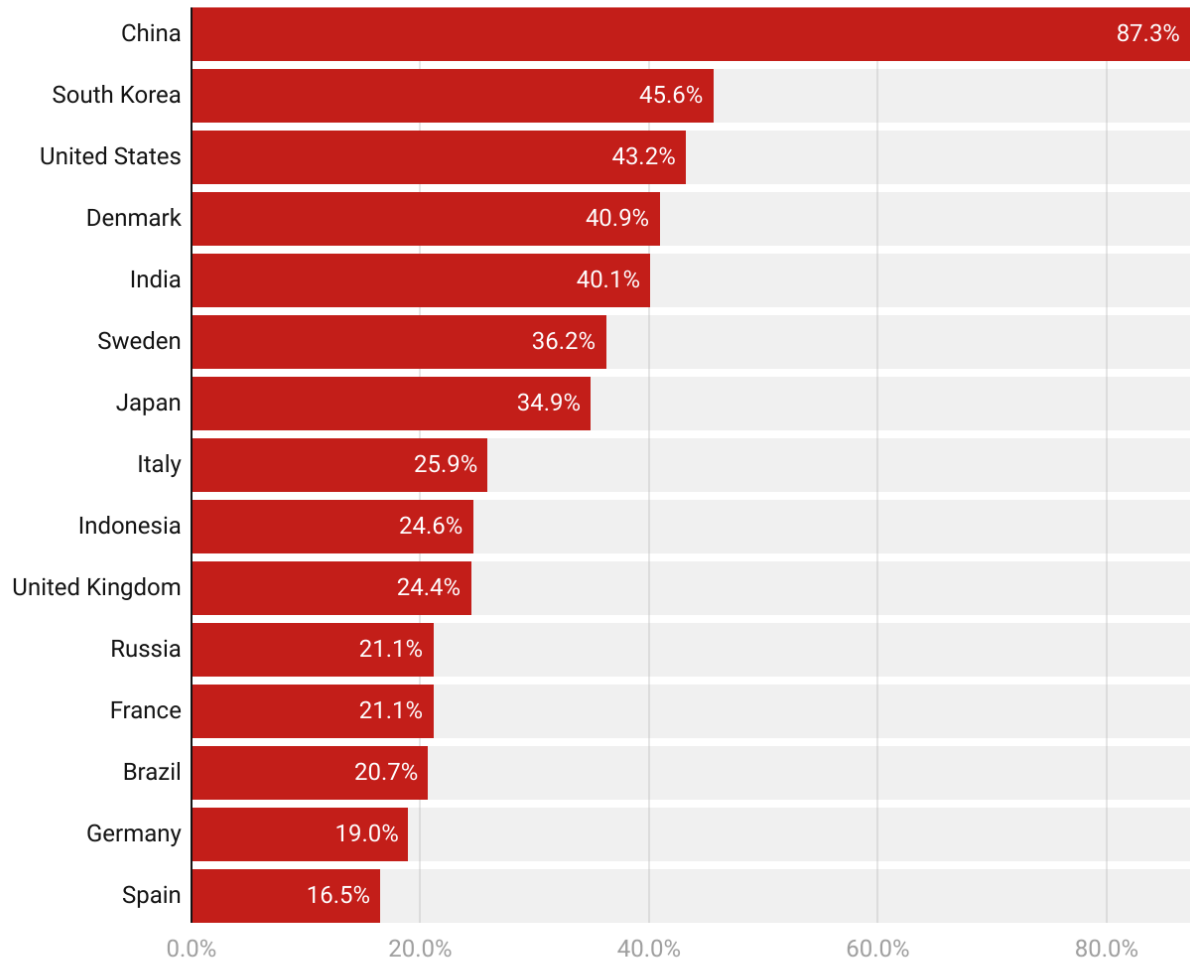
3. Store of Value

- Saves **purchasing power over time**.
- Other assets (real estate, stocks) also store value.
- **Money loses value with inflation**.

Evolution of the Payments System

1. **Commodity Money**: Precious metals, cigarettes, other physical valuables.

2. **Fiat Money**: Government-issued currency with no intrinsic value.

3. **Checks**: Written bank instructions for fund transfers.

4. **Electronic Payments**: Online banking, bill payments.

5. **E-Money (Digital Money)**:

   - Debit cards
   - Stored-value cards (smart cards)
   - E-cash (cryptocurrencies, PayPal, mobile wallets)

Online Payment Statistics By Country in 2022

Online Payment By Country

Country	Percentage
China	87.3%
South Korea	45.6%
United States	43.2%
Denmark	40.9%
India	40.1%
Sweden	36.2%
Japan	34.9%
Italy	25.9%
Indonesia	24.6%
United Kingdom	24.4%
Russia	21.1%
France	21.1%
Brazil	20.7%
Germany	19.0%
Spain	16.5%

Source: Enterprise Apps Today

Are We Headed for a Cashless Society?

Predictions of a cashless society have been around for decades, but why hasn't it happened yet?

Barriers to a fully cashless economy:

- **High setup costs** for digital payment infrastructure.
- **Security & privacy risks** with electronic transactions.

However, **e-money usage is increasing** and is likely to grow further.

Will Bitcoin Become the Money of the Future?

Bitcoin & Cryptocurrencies:

- A decentralized form of **e-cash** secured through cryptography.
- **Created in 2009**, Bitcoin is mined by solving cryptographic puzzles.

Pros & Cons of Bitcoin as Money:

✅ **Advantages**

- Low transaction fees
- Anonymity & decentralization

❌ **Disadvantages**

- High **price volatility**
- Limited use as a **unit of account** and **store of value**

Does Bitcoin meet all the criteria to function as money?

Why Do Central Banks Care About Money?

1. Monetary Policy & Economic Control

- Central banks regulate the money supply to stabilize the economy.
- Adjusting interest rates influences inflation, employment, and GDP growth.
2. Inflation & Price Stability
- Too much money? Inflation rises
- Too little money? Deflation risks
- Central banks use tools like open market operations to manage inflation.
3. Financial Stability & Asset Prices
- Excess money in the system may fuel asset bubbles (stocks, housing).
- Central banks monitor liquidity to prevent financial crises.
4. Economic Growth & Investment
- Money supply affects credit availability for businesses & consumers.
- Optimized liquidity supports healthy economic expansion.
5. Exchange Rates & Global Trade
- Money supply influences currency strength
- Impacts international competitiveness & capital flows.

Why Are Central Banks Developing Digital Currencies?

Central Bank Digital Currencies (CBDCs) are reshaping the future of money. But why?

1. Greater Control & Policy Efficiency

- Enables real-time monitoring of money flows.
- Enhances monetary policy transmission (interest rate changes work faster).
  2. Financial Inclusion & Access
- Helps unbanked populations access financial services.
- Digital wallets remove dependence on physical banks.
  3. Lower Transaction Costs & Efficiency
- Instant, low-cost payments (domestically & cross-border).
- Reduces reliance on expensive intermediaries (banks, payment processors).
  4. Security & Fraud Prevention
- Harder to counterfeit than physical cash.
- Reduces money laundering risks via better transaction tracking.
  5. Strengthening International Payments
- Faster cross-border transactions without delays from banking intermediaries.
- Reduces dependence on SWIFT & correspondent banking systems.

Will digital currencies replace cash completely?

Measuring Money: Monetary Aggregates

How do we measure money?

- ◆ M1 (Most Liquid Assets)

- Currency + Traveler's Checks + Demand Deposits + Other Checkable Deposits

- ◆ M2 (Less Liquid Assets)

- M1 + Savings Deposits + Small-Time Deposits + Money Market Accounts + Mutual Funds

# The Federal Reserve's Monetary Aggregates

Table 1 Measures of the Monetary Aggregates

	Value as of August 31, 2020 ($ billions)
M1 = Currency	1,920.4
+ Demand deposits	2,317.0
+ Other checkable deposits	1,176.4
Total M1	5,413.8
M2 = M1	
+ Small-denomination time deposits	351.9
+ Savings deposits and money market deposit accounts	11,593.4
+ Money market mutual fund shares (retail)	1,105.2
Total M2	18,464.3

Source: Federal Reserve Statistical Release, H.6, Money Stock Measures:

https://www.federalreserve.gov/releases/H6/current .

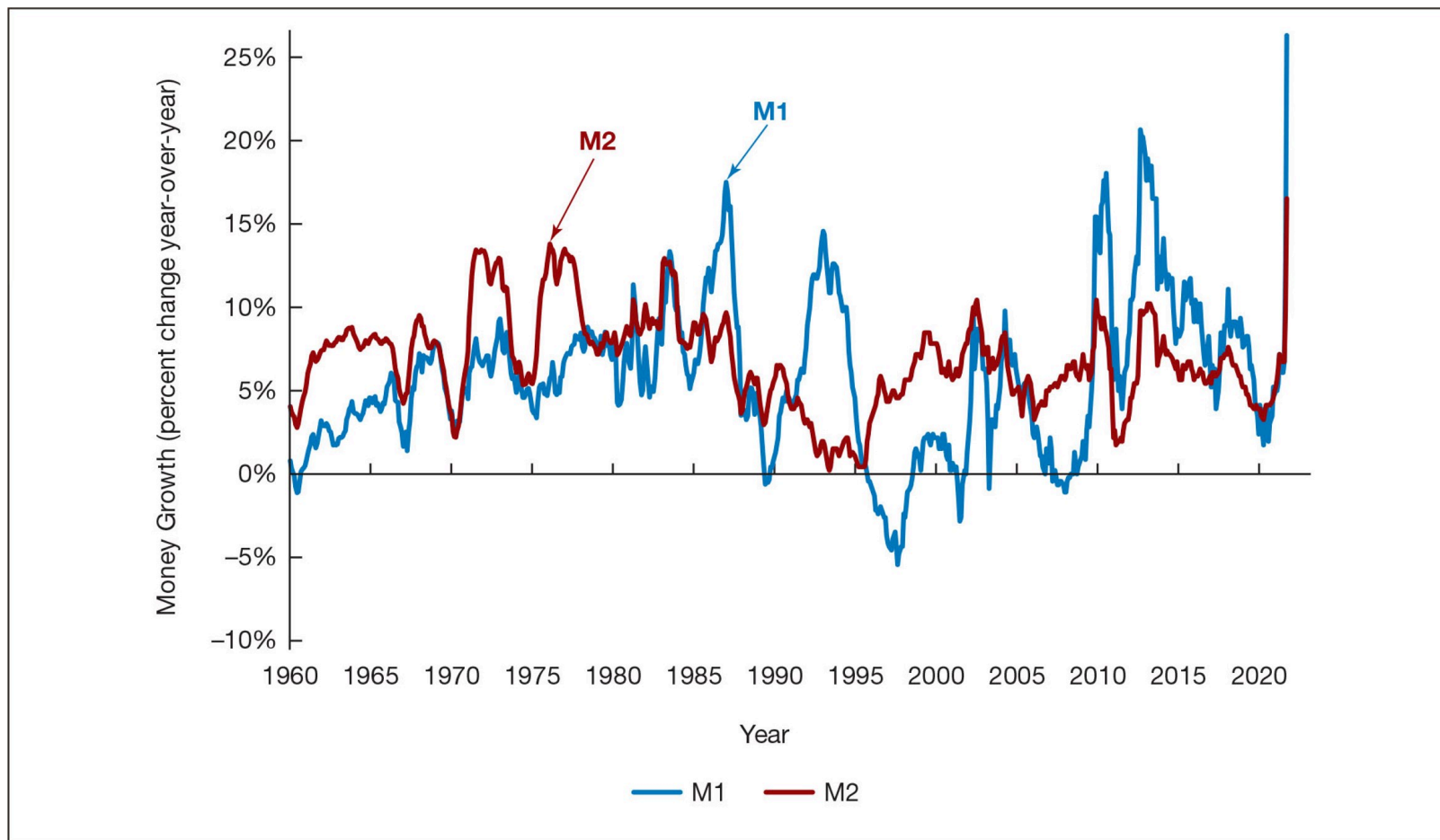# Monetary Aggregates Over Time
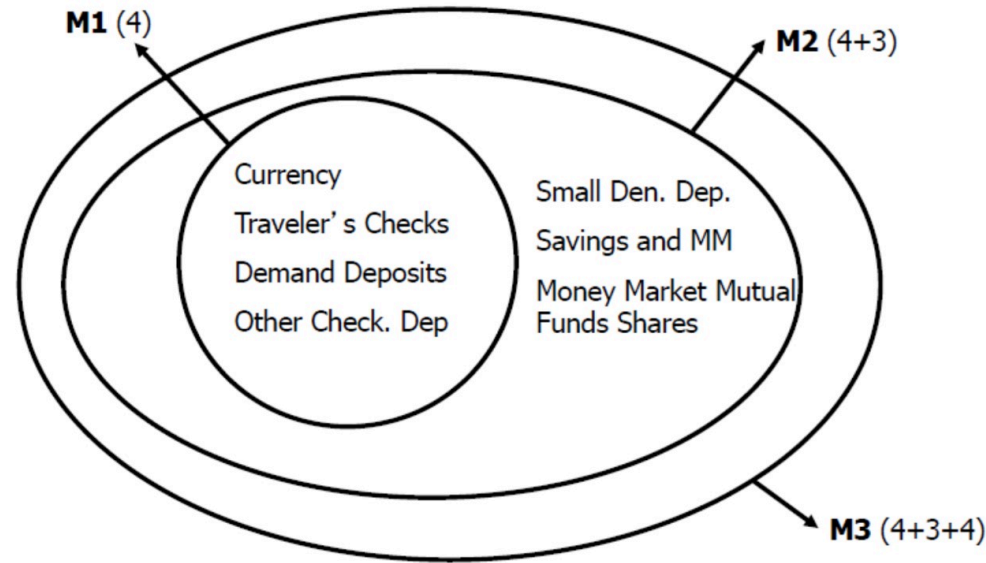
M1 vs. M2: Why does it matter?

- If M1 and M2 move **together**, choosing a measure is less important.
- But when they diverge, **monetary policy decisions become more complex.**

Conclusion: the choice of monetary aggregate is important for policymakers.

Growth Rates of M1 & M2 (1960-2020)

2. Class Discussion: The Evolution of Money

Discussion & Brainstorming

Topic: *The Evolution of Money*

Key Questions:

1. Looking at historical examples (cows, salt, shells, etc.), what characteristics made them function as money?
2. Which of these forms of money do you think was the most effective? Why?
3. Why did societies move from commodity money (gold, salt, etc.) to fiat money (paper currency)?
4. Could any of the ancient money forms still work today in certain economies?
5. Why was wampum valuable to some societies but meaningless to others?
6. Do you think the perception of cryptocurrency is cultural, just like historical money?
7. Will central bank digital currencies (CBDCs) replace cash?
8. If you had to design a new form of money, what qualities would it need to be widely accepted?
9. What lessons can we learn from historical money that might help us understand Bitcoin & cryptocurrencies?

3. Class Activity: The Evolution of Money & Trust in Currency

Any QUESTIONS?

Thank You!

Next Class

- (Mar 28) Chapt. 4: The Meaning of Interest Rates (video lecture and 'class' assignment will be provided)