

Monetary Policy

ECO 120: Global Macroeconomics

Goals

- Specific Goals
 - Describe the Federal Reserve System and the tools they use to conduct monetary policy.
 - Describe and illustrate how monetary policy governing interest rates affects inflation and real GDP in the short run.
 - Ultimate goal: Be able to evaluate an economy's performance and suggest appropriate monetary policy.
- Learning Objectives
 - LO1: Apply the supply and demand model to predict quantity and price outcomes of a number of different markets.
 - LO5: Use the model of aggregate demand and supply to evaluate the short-run and long-run impacts of fiscal and monetary policy on production, employment, and the price level.

Reading and Exercises

- Federal Reserve System: Ch 22, pp. 578-582
- Monetary policy and the Interest Rate: Ch 22, pp. 582-593
- **Canvas Quiz due Wednesday 11:59 PM.**
Multiple-choice, 15 questions, unlimited attempts allowed, only best score counts
- **Homework/In-class Exercise due Friday 11:59 PM.** We will work together in class on TUESDAY.

What is money?

- Money is a commodity or token that is generally acceptable as a means of payment
- **Fiat currency:** Currency with no inherent value
- **Commodity money:** Opposite of a fiat currency, using something with an inherent value as currency
- Today the U.S. dollar is a fiat currency
- Informal markets using commodity money:
 - WW2 prisoners of war used to use cigarettes as currency
 - Recent times: Prisoners have used Ramen noodles as currency
 - [NPR Story: Ramen Noodles...](#)
- From 1889-1932 and from 1946-1971 the U.S. would redeem dollars for gold (Gold Standard)
- Since the late 1970s most world currencies are fiat currencies

Functions of Money

- Money has three important functions:
 - Medium of exchange
 - Unit of account
 - Store of value.
- **Legal tender:** Government recognized currency to be widely used for payments, and is accepted for payments to the government taxes, fees, payments for services, etc.

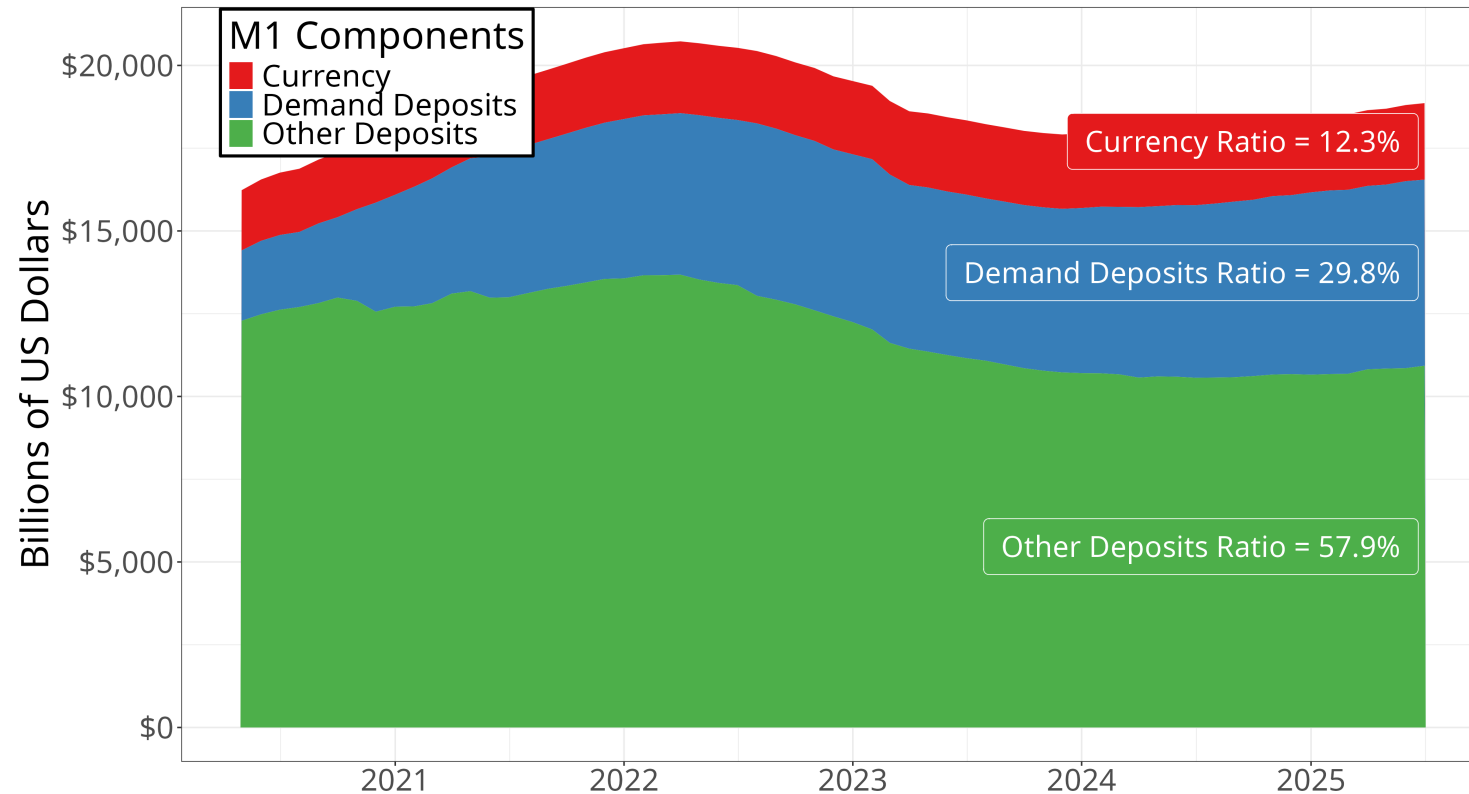
Functions of money

- Medium of exchange: eliminate the need for a double coincidence of wants.
- Unit of account: an agreed measure for stating the relative prices of goods and services.
- Store of value:
 - Money can be held and used for later consumption.
 - Money is not unique in this aspect. Stamps, baseball cards, houses, even computers and TV's can be stores of value.
 - With inflation, the value of money falls. Therefore, currencies that undergo hyperinflation cannot meet this function.

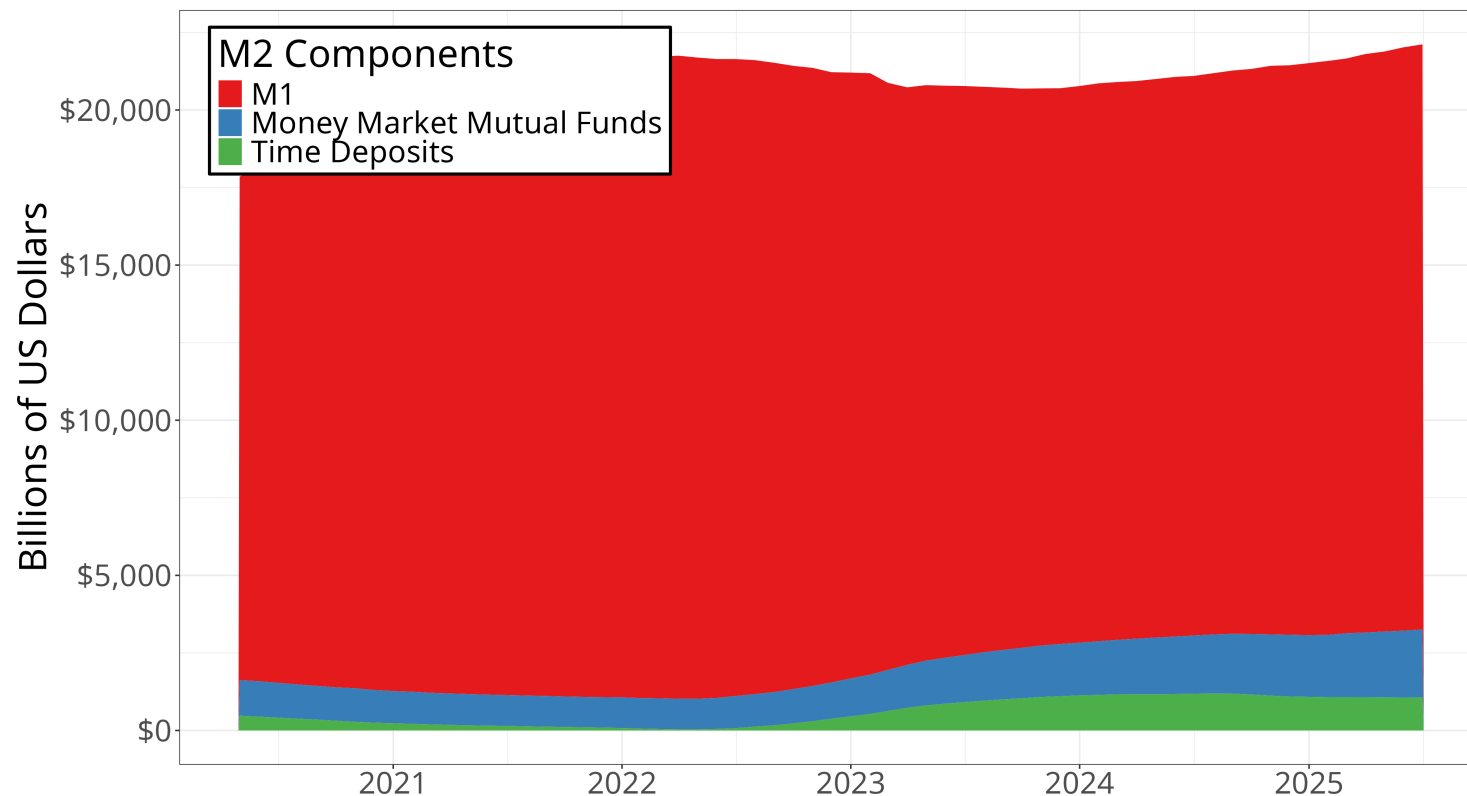
Official Measures of money

- Two primary forms of money: Currency and Deposits.
- Two measures of money called **M1** and **M2**
- M1: currency + demand deposits (eg: checkable deposits) + other liquid deposits (eg: savings accounts).
 - These are immediate means of payment
- M2: M1 + time deposits + money market mutual funds.
 - The additional items in M2 can *quickly* be converted into a means of payment.
- **Liquidity**: the property of an asset being quickly converted to a means of payment, with little to no cost.

Official M1 Measures of Money



Official M2 Measure of Money



Forms of Payment

- Checks: Contracts to pay on demand deposits held in a bank or financial institution.
 - Checks are not money, but the balance of demand deposits is part of M1
- Debit cards: Look like credit cards but function as checks with greater speed, pay deposits held in a bank to a merchant
- Credit cards: Loans from a financial institution to pay to a merchant.
 - Credit cards aren't money, but each transaction *eventually* involves multiple transactions involving money.
 - When you pay with a credit card to don't give the merchant money, the credit card company does.
 - Then after some time, you give the credit card company money to pay back the loan.

Modern Forms of Payment

- Payment apps such as Apple Pay, Google Pay, Venmo:
Function like debit cards, connect your checking account information to the app.
- ACH transactions (Automatic Clearing House): Electronic transactions in and out of checking or savings accounts
- Private cryptocurrencies such as Bitcoin. Is it money?
 - Electronically-defined asset with limited quantity
 - (1) Medium of exchange, (2) store of value, and (3) unit of account
 - Legal tender in El Salvador and Central African Republic
 - It's not a U.S. official measure of money
 - It's not something under direct control of U.S. central bank
 - Very tiny fraction of transactions of goods and services use cryptocurrencies

What is the Federal Reserve?

- The Federal Reserve, aka the **Fed**, is the United States's central bank.
- A central bank is a bank for the banks.
- Overnight band lending/borrowing: Financial institutions often use overnight loans to borrow funds from the Fed or from other banks in order to meet their depositors' demands for their money.
- Regulate the country's depository institutions
- Influence interest rates, inflation rates, real GDP, unemployment, etc.

Overnight Lending and Borrowing

- **Federal funds lending:** When financial institutions make overnight loans to each other
- **Federal funds rate:** The interest rate that financial institutions charge each other for overnight loans.
 - The federal funds rate is a *private market rate*. The Fed *influences* it, but doesn't set it.
 - As of November 17, 2025, the federal funds rate was 3.88%.
- **Discount window borrowing:** When financial institutions can borrow directly from the Federal Reserve
- **Discount window primary credit rate:** Interest rate that the Fed charges financially sound institutions for overnight loans.
 - The Fed sets the discount rate
 - As of November 17, 2025, discount window primary rate was 4.0%.

Reserves and Interest on Reserves

- Banks hold a fraction of their total deposits **on reserve**, lend out the rest.
- Reserves could be vault cash, but most is held electronically in **reserve accounts** at the Federal Reserve.
- The Fed used to have *reserve requirements*: banks were required to keep a minimum percentage of deposits on reserve
- **Interest rate on reserve balances (IORB)**: Since October 2008, the Fed pays banks interest on funds held in reserve accounts
- Since 2020, the Fed no longer has a reserve requirement, but because with the ability to earn interest, banks keep large amounts of funds on reserve

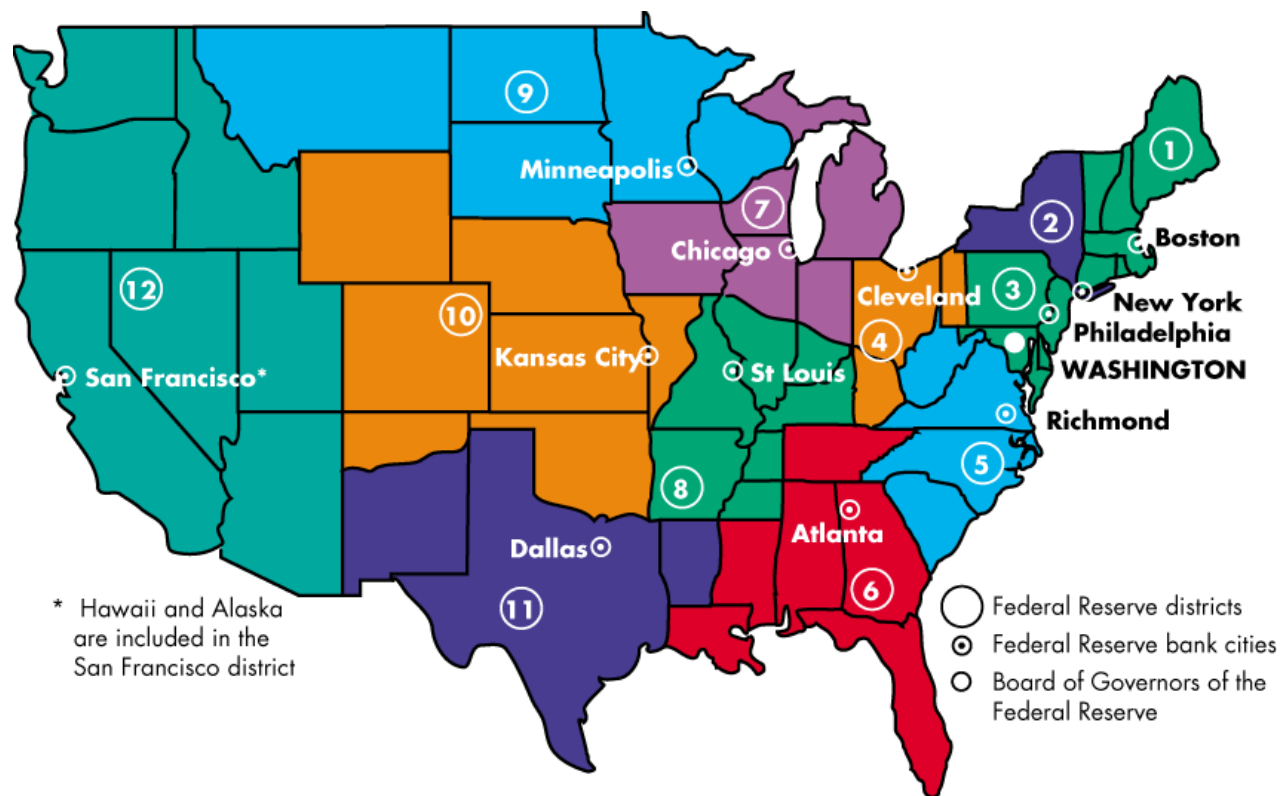
Structure of the Federal Reserve

- Board of governors.
 - Seven members appointed by the president and confirmed by the senate.
 - Each has a 14-year term. A new seat comes up every 2 years.
 - One chairperson with a 4-year renewable term (part of the 14-year full term).
- Federal Reserve Districts
 - Twelve Federal Reserve Districts, each with a Federal Reserve district bank.
 - Federal Reserve District banks are non-profit, private (non-government) institutions.
 - New York Fed implements monetary policy.

Federal Open Market Committee

- The **Federal Open Market Committee (FOMC)** is a small group of Federal Reserve System leaders that make decisions on interest rates and the quantity of money in circulation
- Board of governors (7 members)
- President of the New York Fed
- Four presidents of the other regional feds (rotating)
- Meet every six weeks
- Meeting calendar, minutes, and press releases:
<https://www.federalreserve.gov/monetarypolicy/fomccalendars.htm>

Federal Reserve Districts



Federal Reserve Districts



Monetary Policy

- **Monetary policy:** When the central bank changes interest rates or the quantity of money in order to achieve macroeconomic objectives
- Federal Reserve System Mandate: *Promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates*
- Primary monetary policy tool: Interest rate on reserve balances (IORB)
 - Suppose Fed pays higher interest on reserve balances
 - Banks will charge higher rates for loans
 - Banks are willing to pay higher interest rates on deposits
 - Leads to a general increase in interest rates throughout the economy
- Change Money Supply: Open Market Operations
 - Fed owns U.S. government securities. What would happen if the Fed sold some of these securities?
 - This exchange takes reserves out of the economy, and more bonds into the economy

Ripple effects of the interest rate

Suppose the Fed decreases interest rates.

- Investment increases.
- Consumption increases.
- Net exports increase.
 - What happens to demand for dollars vs. other currencies?
 - Lower return in the U.S., lower demand for dollars.
 - Value of the dollar falls.
 - * U.S. residents buy fewer foreign goods → decrease in imports.
 - * U.S. goods become relatively less expensive → increase in exports.

Expansionary Monetary Policy

- **Expansionary monetary policy:** Monetary policy to **increase** aggregate demand
- Usually intended to boost the economy, increase real GDP, increase employment/decrease unemployment
- Involves **decreasing interest rates**
 - Fed decreases interest rate paid on reserve balances (IORB)
 - Usually decreases discount lending rate by the same amount
 - Banks respond by decreasing interest rates on loans and deposit accounts
 - Consumers and businesses borrow more
 - Increase in consumption demand and investment demand
- Usually accompanied by open market purchase of bonds to increase money supply

Contractionary Monetary Policy

- **Contractionary monetary policy:** Monetary policy to **decrease** aggregate demand
- Usually intended to decrease the inflation rate
- Involves **increasing interest rates**
 - Fed increases interest rate paid on reserve balances (IORB)
 - Usually increases discount lending rate by the same amount
 - Banks respond by increasing interest rates on loans and deposit accounts
 - Consumers and businesses borrow less
 - Decrease in consumption demand and investment demand
- Usually accompanied by open market sale of bonds to decrease money supply

Don't Confuse Monetary Policy with Fiscal Policy

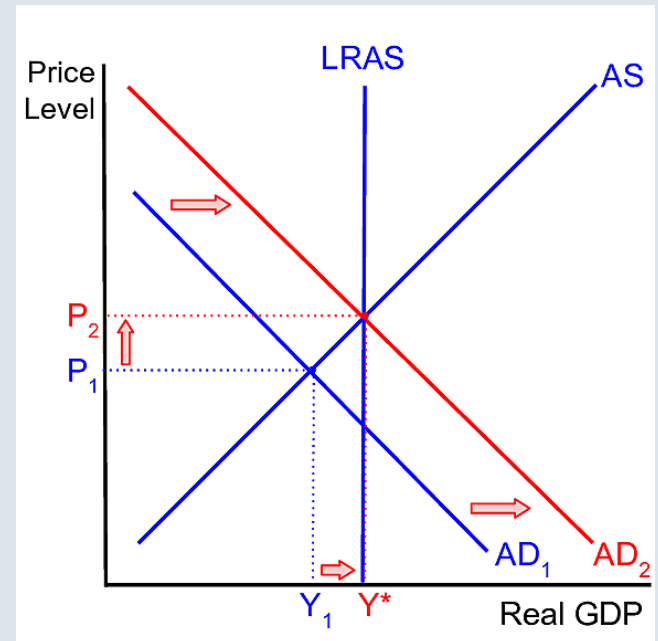
- **Monetary policy:** When the **central bank** changes **interest rates** or the **quantity of money** in order to achieve macroeconomic objectives
 - Only affects aggregate demand, not aggregate supply
- **Fiscal policy:** When elected officials in Congress and the President make decisions on any of the following in order to achieve macroeconomic objectives
 - Consumer taxes (affects aggregate demand)
 - Business taxes (affects aggregate supply)
 - Transfer payments such as Social Security benefits, unemployment benefits, welfare benefits (affects aggregate demand)
 - Government spending on infrastructure or goods and services (affects aggregate demand, possibly also aggregate supply)

Monetary Policy to Counteract Recession

Process

- Suppose the economy is in a recession with low inflation.
- Goal: Increase aggregate demand
- *Decrease* interest rates (IORB and federal funds rates)
- Consumption and investment increase
- Aggregate demand shifts to the right
- Price level increases, real GDP increases

Impact on Aggregate Demand

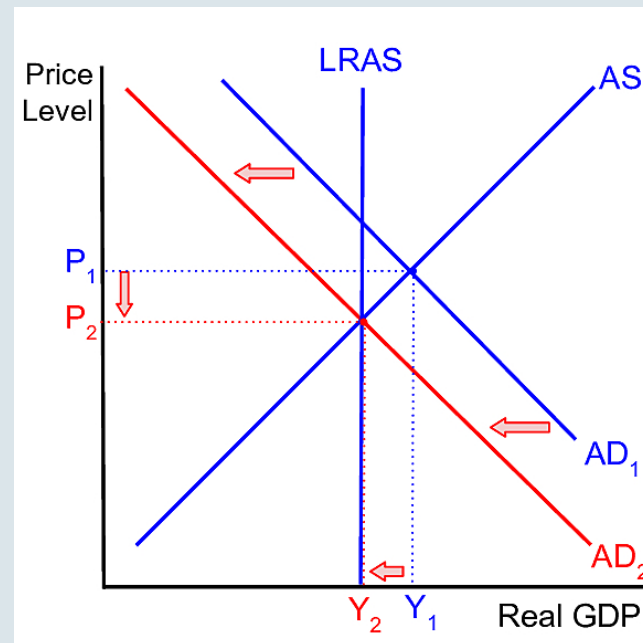


Monetary Policy to Bring Down Inflation

Process

- Suppose the economy is experiencing high inflation, expansionary gap
- Goal: Decrease aggregate demand
- textitIncrease interest rates (IORB and federal funds rates)
- Consumption and investment decrease
- Aggregate demand shifts to the left
- Price level increases, real GDP decreases

Impact on Aggregate Demand



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