

ECO 181 Lecture 06

Yushang Wei

Department of Economics

June 28, 2023

Macroeconomic Stabilization Policy

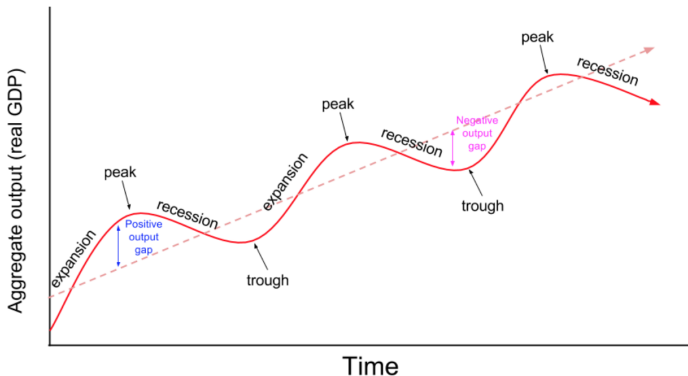
Why the global economy is recovering faster than expected?

Governments attempt to influence demand and thus the level of real GDP, unemployment and inflation.

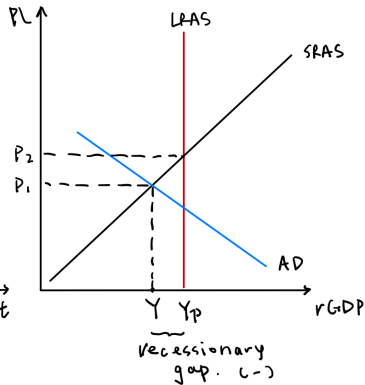
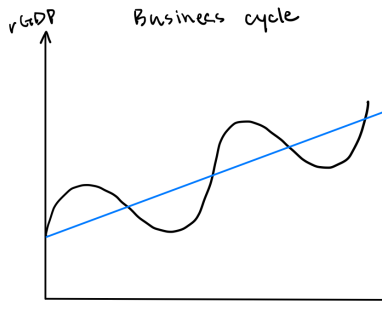
- ▶ Automatic stabilizers
- ▶ Discretionary fiscal policy
- ▶ Discretionary monetary policy

Automatic stabilizers

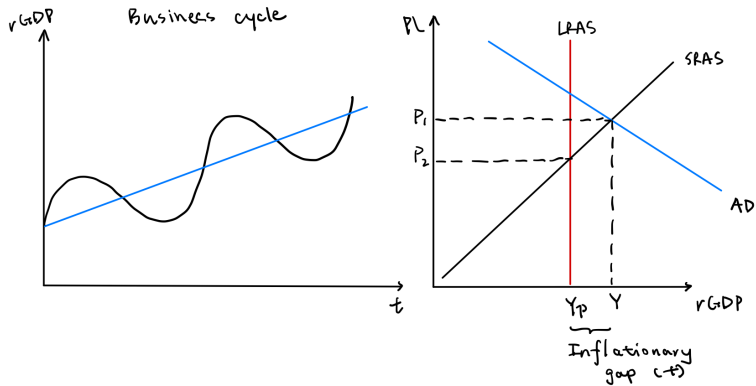
- **Automatic stabilizers:** change in government policy that occurs without direct government action; designed to help smooth business cycles.



Automatic stabilizers



Automatic stabilizers

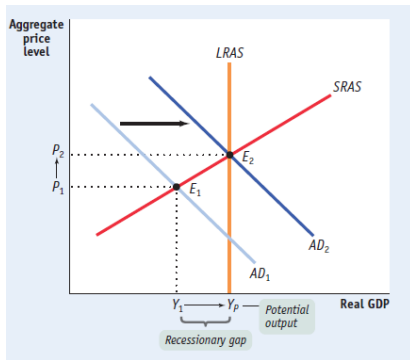


Fiscal Policy

- ▶ **Expansionary fiscal policy** is fiscal policy that increases aggregate demand.
 1. An increase in government purchases of goods and services
 2. A cut in taxes
 3. An increase in government transfers

Fiscal Policy

- Expansionary Fiscal Policy Can Close a Recessionary Gap

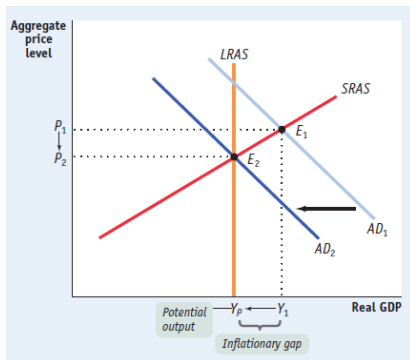


Fiscal Policy

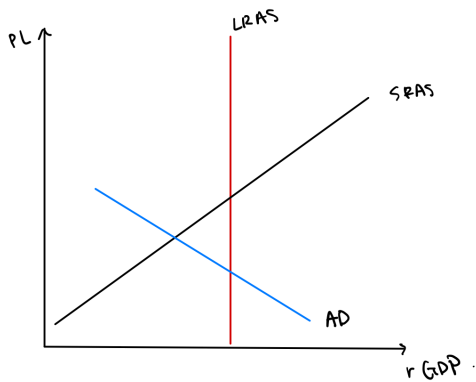
- ▶ **Contractionary fiscal policy** is fiscal policy that reduces aggregate demand.
 1. A reduction in government purchases of goods and services
 2. An increase in taxes
 3. A reduction in government transfers

Fiscal Policy

- Contractionary Fiscal Policy Can Close an Inflationary Gap



Multiplier Effect



Summary

- ▶ **Discretionary Fiscal Policy and Automatic Stabilizers**
 - ▶ Done by: The President and Congress
 - ▶ If a government has to take any action to make it happen, it is discretionary fiscal policy. If it is something that happens on its own, it is an automatic stabilizer.

Real World Example

► Policy Responses to COVID-19

United States of America

Background. The US confirmed the first case of COVID-19 in January. Following a widening outbreak in March and April, the number of new cases declined after a range of containment measures were put in place. Infections rose again in early summer as economic activity and traveling resumed, but gradually declined over the summer following stricter prevention measures. However, new cases picked up again in September and continued on an upward trend until early January. Since mid-January, new cases began declining and Covid-19 vaccinations sped up. The U.S. economy contracted by 31.4 percent in the second quarter of 2020, but have rebounded strongly since then. The unemployment rate stayed at 5.8 percent in May 2021.

Reopening of the economy. The containment measures in place vary by state and geographical area. As of early June, many states had lifted or eased mask mandates and eased restrictions on business and activities following the progress in the vaccination program. Nevertheless, some states still require mask wearing in indoor environment (especially in K-12 schools). Schools have reopened with options for in-person instruction, virtual learning or a hybrid model.

Real World Example

► Policy Responses to COVID-19

FISCAL

- On March 11, 2021, President Biden signed into law the American Rescue Plan, which provides another round of coronavirus relief with an estimated cost of \$1,844bn (about 8.8 percent of 2020 GDP). The plan focuses on investing in the public health response and providing time-bound assistance to families, communities and businesses. It extends the unemployment benefits programs (including supplemental unemployment benefits), sends direct stimulus payments of \$1,400 to eligible individuals, provides direct aid to state and local government, adds resources to the vaccination program and increases funding for school reopening.

On December 28 President Trump signed a US \$ 868bn (about 4.1 percent of GDP) coronavirus relief and government funding bill as part of the Consolidated Appropriations Act of 2021. The Act includes enhanced unemployment benefits of US \$ 300 weekly federal enhancement in benefits through March 14, direct stimulus payments of \$600 to individuals, another round of PPP loans, resources for vaccines, testing and tracing, and funding for K-12 education.

Real World Example

► Policy Responses to COVID-19

On August 8, President Trump issued executive orders mostly to address the expiration of certain Coronavirus reliefs provided by previous legislations. These included i) using \$44 billion from the Disaster Relief Fund to provide extra unemployment benefits ; ii) continuing student loan payment relief ; iii) deferring collections of employee social security payroll taxes ; and iv) identifying options to help renters and homeowners avoid evictions and foreclosures.

US \$ 483 billion Paycheck Protection Program and Health Care Enhancement Act. The legislation includes (i) US \$ 321 billion for additional forgivable Small Business Administration loans and guarantees to help small businesses that retain workers; (ii) US \$ 62 billion for the Small Business Administration to provide grants and loans to assist small businesses; (iii) US \$ 75 billion for hospitals; and (iv) US \$ 25 billion for expanding virus testing.

Real World Example

► Policy Responses to COVID-19

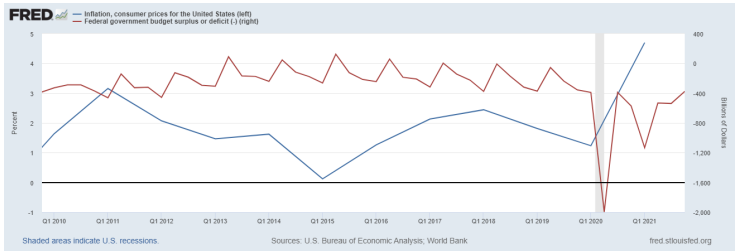
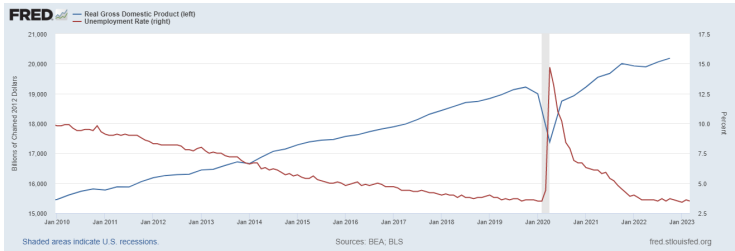
An estimated US \$ 2.3 trillion (around 11% of GDP) [Coronavirus Aid, Relief and Economy Security Act \("CARES Act"\)](#). The Act includes (i) US \$ 293 billion to provide one-time tax rebates to individuals; (ii) US \$ 268 billion to expand unemployment benefits; (iii) US \$ 25 billion to provide a food safety net for the most vulnerable; (iv) US \$ 510 billion to prevent corporate bankruptcy by providing loans, guarantees, and backstopping Federal Reserve 13(3) program; (v) US \$ 349 billion in forgivable Small Business Administration loans and guarantees to help small businesses that retain workers; (vi) US \$ 100 billion for hospitals, (vii) US \$ 150 billion in transfers to state and local governments and (viii) US \$ 49.9 billion for international assistance (including SDR28 billion for the IMF's New Arrangement to Borrow).

Real World Example

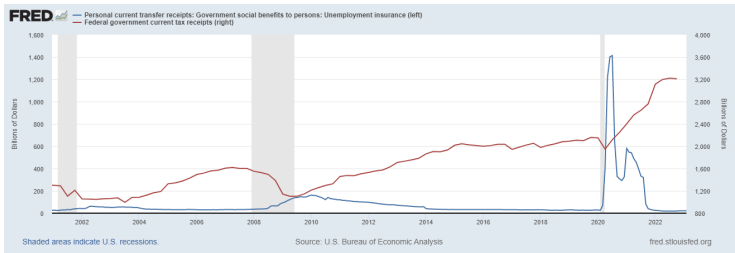
► Policy Responses to COVID-19

US \$ 8.3 billion [Coronavirus Preparedness and Response Supplemental Appropriations Act](#) and US \$ 192 billion [t.](#). They together provide around 1% of GDP for: (i) Virus testing; transfers to states for Medicaid funding; development of vaccines, therapeutics, and diagnostics; support for the Centers for Disease Control and Prevention responses. (ii) 2 weeks paid sick leave; up to 3 months emergency leave for those infected (at 2/3 pay); food assistance; transfers to states to fund expanded unemployment insurance. (iii) Expansion of Small Business Administration loan subsidies. And (iv) US \$ 1.25 billion in international assistance. In addition, federal student loan obligations have been suspended for 60 days.

Real World Example



Real World Example



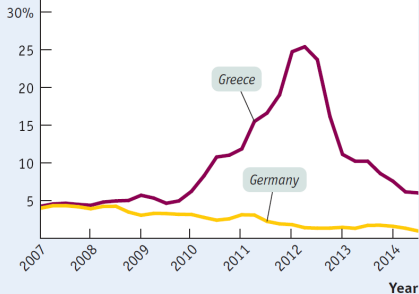
Long-Run Implications of Fiscal Policy

- **Why was Greece having these problems?** Largely because investors had become deeply worried about the level of its debt. Government debt is, after all, a promise to make future payments to lenders.

As late as 2008, the government of Greece could borrow at interest rates only slightly higher than those facing Germany, widely considered a very safe borrower. But in early 2009, as it became clear that both Greek debt and Greek deficits were larger than previously reported, investors lost confidence, sending Greek borrowing costs sky-high.

Sources: Federal Reserve Bank of St. Louis; OECD "Main Economic Indicators Complete Database."

Interest rate on
10-year bonds



Problems Posed by Rising Government Debt

- ▶ There are two reasons to be concerned when a government runs persistent budget deficits.
 1. Crowding out: when the economy is at full employment and the government borrows funds in the financial markets, it is competing with firms that plan to borrow funds for investment spending.
 2. Deficits, by increasing the government's debt, place financial pressure on future budgets.

Problems Posed by Rising Government Debt

- Why can't a government that has trouble borrowing just print money to pay its bills?

Yes, it can if it has its own currency (which the troubled European nations don't). But printing money to pay the government's bills can lead to another problem: inflation.

The Meaning of Money

- ▶ **Money** is any asset that can easily be used to purchase goods and services.
- ▶ **Roles of Money**
 1. **Medium of Exchange**: an item buyers give to sellers when they want to purchase goods and services.
 2. **Store of Value**: an item people can use to transfer purchasing power from the present to the future.
 3. **Unit of Account**: the yardstick people use to value and record debts and goods and services.
- ▶ Many assets can take on the form of a store of value. (and most are better stores of value due to inflation.) But only money can take on all 3 functions of money.

The Meaning of Money

- ▶ **Are credit cards counted as money?:** No, since they are a liability and not an asset.
 - ▶ Assets: any item of economic value that can be converted into cash. (house, car, jewelry)
 - ▶ Liability: a requirement to pay income in the future. (e.g. student loan, car loan)
- ▶ **Types of Money**
 - ▶ **Fiat money:** a medium of exchange whose value derives entirely from its official status as a means of payment. Fiat money is backed by the faith of the government.
 - ▶ **Commodity money:** the medium of the exchange was a good, normally gold or silver, that had intrinsic value in other uses.

The Monetary Role of Banks

► What Banks Do

- A **bank** is a financial intermediary that uses liquid assets in the form of bank deposits to finance the illiquid investments of borrowers.
- Currency in bank vaults and bank deposits held at the Federal Reserve are called **bank reserves**. Banks can create liquidity because it isn't necessary for a bank to keep all of the funds deposited with it in the form of highly liquid assets.

The Monetary Role of Banks

- ▶ To understand the role of banks in determining the money supply, we start by introducing a simple tool for analyzing a bank's financial position: a T-account.
 - ▶ A **T-account** is a tool for analyzing a business's financial position by showing, in a single table, the business's assets (on the left) and liabilities (on the right).

The Monetary Role of Banks

- ▶ Example: the T-account for a hypothetical business that isn't a bank— Samantha's Smoothies.

Assets		Liabilities	
Building	\$30,000	Loan from bank	\$20,000
Smoothie-making machines	\$15,000		

The Problem of Bank Runs

- ▶ A **bank run** is when a large number of a bank's customers hurry to withdraw their deposits simultaneously because they believe the bank may fail.
- ▶ A **bank failure**: the bank would be unable to pay off its depositors in full.
- ▶ Example Link: Silicon Valley Bank (SVB)

BUSINESS

What SVB's Failure Means for the Bank and Its Clients

Analysis by Low De Wei and Priscila Azevedo Rocha | Bloomberg
March 16, 2023 at 8:05 p.m. EDT

Bank Regulation

- ▶ Should you worry about losing money in the United States due to a bank run? No. After the banking crises of the 1930s, the United States and most other countries put into place a system designed to protect depositors and the economy as a whole against bank runs. This system has four main features:
 1. deposit insurance
 2. capital requirements
 3. reserve requirements
 4. discount window

Bank Regulation

1. Deposit Insurance

- ▶ Almost all banks in the United States advertise themselves as a “member of the FDIC”— the Federal Deposit Insurance Corporation.
- ▶ The FDIC provides deposit insurance, a guarantee that depositors will be paid even if the bank can't come up with the funds, up to a maximum amount per account. The FDIC currently guarantees the first \$250,000 per depositor, per insured bank.

Bank Regulation

2. Capital Requirements

- ▶ The owners of banks have an incentive to engage in overly risky investment behavior, such as making questionable loans at high interest rates. That's because if all goes well, the owners profit; if things go badly, the government covers the losses through federal deposit insurance.
- ▶ To reduce the incentive for excessive risk taking, regulators require that the owners of banks hold substantially more assets than the value of bank deposits.
 - ▶ The excess of a bank's assets over its bank deposits and other liabilities is called **the bank's capital**.

Bank Regulation

3. Reserve Requirements

- ▶ Another regulation used to reduce the risk of bank runs is **reserve requirements**, rules set by the Federal Reserve that specify the minimum reserve ratio for banks. For example, in the United States, the minimum reserve ratio for checkable bank deposits is 10

Bank Regulation

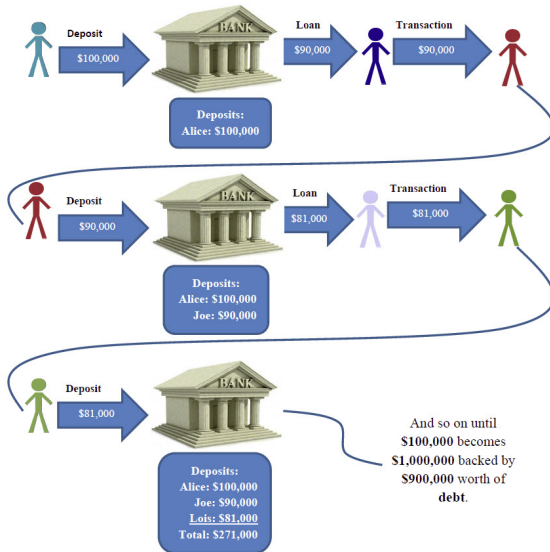
4. The Discount Window

- ▶ The **discount window** is an arrangement in which the Federal Reserve stands ready to lend money to banks in trouble.
- ▶ The ability to borrow money means a bank can avoid being forced to sell its assets at fire-sale prices in order to satisfy the demands of a sudden rush of depositors demanding cash. Instead, it can turn to the Fed and borrow the funds it needs to pay off depositors.

How Banks Create Money

- Round 1:** We start from zero and suppose that Alice comes into the bank and deposits \$100,000 in currency. The bank now has \$100,000 on deposit of which it can lend out 90% or \$90,000.
- Round 2:** The bank lends \$90,000 to Pete. Pete pays the \$90,000 to Joe for a boat, and Joe deposits it in the bank.
- Round 3:** Now, the bank is free to lend out 90% of this new deposit to Fred, which Fred pays to Lois for design and decorating services for his business office. Lois deposits the \$81,000 in the bank.
- ▶ By these three steps, the money supply has gone from \$100,000 to \$271,000.

How Banks Create Money



Reserves, Bank Deposits, and the Money Multiplier

Case 1: Now suppose that someone opens a bank, appropriately called *First National Bank*. *First National Bank* is only a depository institution—that is, it accepts deposits but does not make loans. In this imaginary economy, all deposits are held as reserves, so this system is called *100-percent-reserve banking*. Now consider the money supply in this imaginary economy. Before *First National Bank* opens, the money supply is the \$100 of currency that people are holding.

► T-account:

First National Bank			
Assets		Liabilities	
Reserves	\$100.00	Deposits	\$100.00

► If banks hold all deposits in reserve, banks do not influence the supply of money.

Reserves, Bank Deposits, and the Money Multiplier

Case 2.1: Let's suppose that First National has a reserve ratio of $1/10$, or 10 percent. This means that it keeps 10 percent of its deposits in reserve and loans out the rest. Now let's look again at the bank's T-account:

First National Bank			
Assets		Liabilities	
Reserves	\$10.00	Deposits	\$100.00
Loans	90.00		

- Thus, when banks hold only a fraction of deposits in reserve, banks create money.

Reserves, Bank Deposits, and the Money Multiplier

Case 2.2: The creation of money does not stop with First National Bank. Suppose the borrower from First National uses the \$90 to buy something from someone who then deposits the currency in Second National Bank. If Second National also has a reserve ratio of 10 percent, it keeps assets of \$9 in reserve and makes \$81 in loans. Here is the T-account for Second National Bank:

Second National Bank			
Assets		Liabilities	
Reserves	\$ 9.00	Deposits	\$90.00
Loans	81.00		

Reserves, Bank Deposits, and the Money Multiplier

Case 2.3: Second National Bank creates an additional \$81 of money. If this \$81. is eventually deposited in Third National Bank, which also has a reserve ratio of 10 percent, this bank keeps \$8.10 in reserve and makes \$72.90 in loans. Here is the T-account for Third National Bank:

Third National Bank			
Assets		Liabilities	
Reserves	\$ 8.10	Deposits	\$81.00
Loans	72.90		

Reserves, Bank Deposits, and the Money Multiplier

First National Bank			
Assets		Liabilities	
Reserves	\$10.00	Deposits	\$100.00
Loans	90.00		

Second National Bank			
Assets		Liabilities	
Reserves	\$ 9.00	Deposits	\$90.00
Loans	81.00		

Third National Bank			
Assets		Liabilities	
Reserves	\$ 8.10	Deposits	\$81.00
Loans	72.90		

- How much money is eventually created in this economy?

Reserves, Bank Deposits, and the Money Multiplier

- ▶ The amount of money the banking system generates with each dollar of reserves is called the **money multiplier**.

What determines the size of the money multiplier?

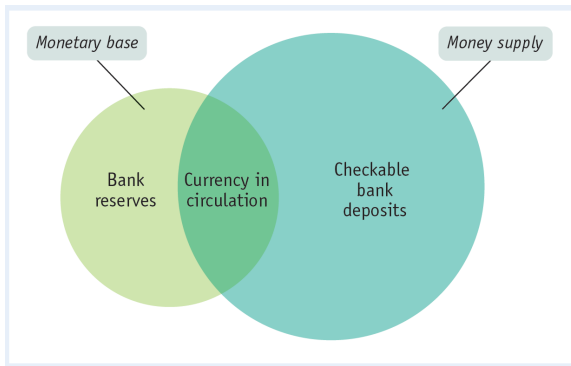
- ▶ The money multiplier is the reciprocal of the reserve ratio.
rr: the reserve ratio for all banks in the economy

$$\text{Money Multiplier} = \frac{1}{rr}$$

- ▶ **Excess reserves** are a bank's reserves over and above its required reserves.

The Money Multiplier in Reality

- ▶ The **monetary base** is the sum of currency in circulation and bank reserves. It is different from the money supply, consisting mainly of checkable bank deposits plus currency in circulation. Each dollar of bank reserves backs several dollars of bank deposits, making the money supply larger than the monetary base.



The Federal Reserve System

Who's in charge of ensuring that banks maintain enough reserves?

Who decides how large the monetary base will be?

- ▶ The answer, in the United States, is an institution known as the Federal Reserve (or, informally, as “the Fed”). The Federal Reserve is a **central bank**—an institution that oversees and regulates the banking system and controls the monetary base.

The Structure of the Fed

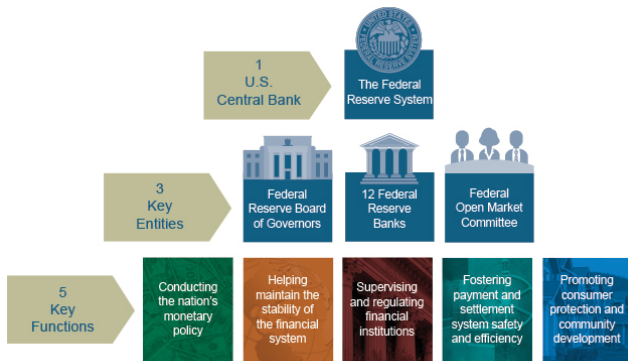
- ▶ The legal status of the Fed, which was created in 1913, is unusual: it is not exactly part of the U.S. government, but it is not really a private institution either.
 - ▶ The Federal Reserve system consists of two parts:
 1. the Board of Governors
 2. the 12 regional Federal Reserve Banks.
 - ▶ It is an independent institution owned by its members. This independence means that they can make policy without approval from anyone.
 - ▶ Two Mandates of the Fed:
 1. keep unemployment low! (keep real economy happy)
 2. keep inflation low! (keep financial economy happy)

The Structure of the Fed

- ▶ The Board of Governors, which oversees the entire system from its offices in Washington, D.C., is constituted like a government agency:
 - ▶ Its *seven* members are appointed by the president and must be approved by the Senate.
 - ▶ They are appointed for 14-year terms, to insulate them from political pressure in their conduct of monetary policy.
- ▶ The *12 Federal Reserve Banks* each serve a region of the country, providing various banking and supervisory services.
 - ▶ Each the regional bank is run by a board of directors chosen from the local banking and business community.
 - ▶ The Federal Reserve Bank of New York plays a special role: it carries out *open-market operations*, usually the main tool of monetary policy.

The Structure of the Fed

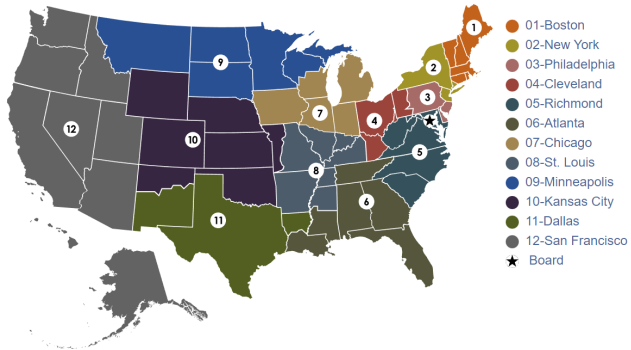
► The Federal Reserve System



The Structure of the Fed

► The Federal Reserve System

Federal Reserve Banks



The Federal Reserve officially identifies Districts by number and Reserve Bank city.

The Structure of the Fed

- ▶ Decisions about monetary policy are made by the Federal Open Market Committee, which consists of the Board of Governors plus five of the regional bank presidents.
- ▶ The president of the Federal Reserve Bank of New York is always on the committee, and the other four seats rotate among the 11 other regional bank presidents.
- ▶ The chairman of the Board of Governors normally also serves as the chairman of the Open Market Committee.