Unit 5 Economics

Macroeconomics: The Nation's Economy

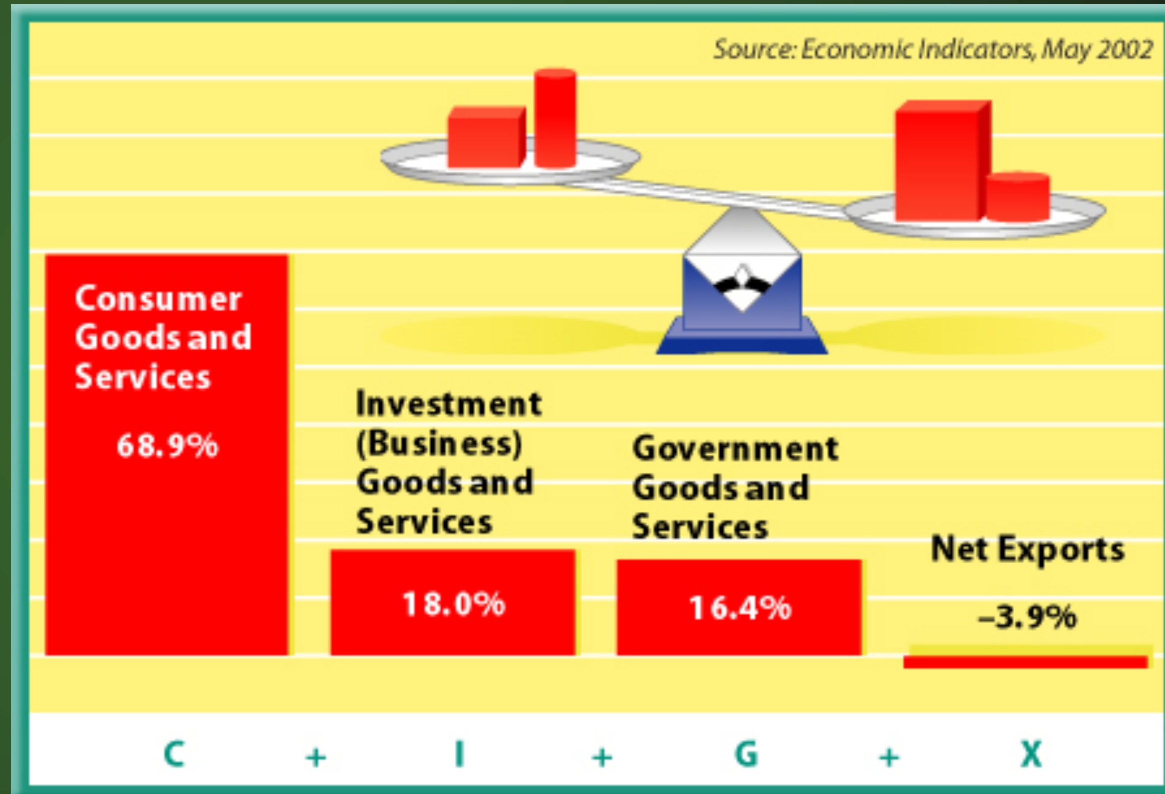
Ch. 13 – "Measuring the Economy's Performance"
Ch. 15 – "The Federal Reserve System and Monetary Policy"
Ch. 16 – " Government Spends, Collects, and Owes"
Ch. 17 – "Stabilizing the National Economy"

Measuring GDP

- **Definition:** the total dollar value of all final goods produced in a country during a year.
- GDP only accounts for **final products** so that parts are not double counted.
- Only **new products** are counted: used products are considered a transfer from one owner to another.
- GDP is computed by adding products purchased by consumers (C), businesses (I), government (G), and net exports (X) (the difference between exports and imports).
- C + I + G + X = GDP

Four Categories of GDP

- To compute GDP, economists add the total amount of expenditures from the consumer sector, the investment sector, the government sector, and net exports.



Measurements of Income

- National income (NI) is the total earned by everyone in the economy.
- NI is made up of wages and salaries, income of self-employed people, rental income, corporate profits, and interest on savings and other investments.
- Personal income (PI) is income received before paying personal taxes.
- Disposable personal income (DI) is income left to purchase goods or put in savings after paying taxes.

The Purchasing Power of Money

- When inflation occurs, the prices of goods and services rise, and the purchasing power of the dollar goes down.
- Purchasing power of a dollar is equal to the real goods and services the dollar can buy.
- **Inflation** can also be defined as the decline in the purchasing power of money.
  - Helps people with fixed debt
  - Hurts people with fixed income, and lendors
- Inflation must be taken into account when calculating the GDP.
- **Deflation** is a prolonged decline in the general price level.
  - Hurts anyone that owns anything, or produces anything!

Measures of Inflation

- The consumer price index (CPI) is a measure of the change in price of a specific group of products and services (a market basket) used by the average household.

$$\text{CPI} = \frac{\text{Price of Market Basket In Current Year}}{\text{Price of Same Basket In Base Year}} \times 100$$

- If the CPI > 100 = inflation (CPI=200 means prices have doubled)
- If the CPI < 100 = deflation (CPI=50 means prices are half what they used to be)
- *http://www.usinflationcalculator.com/*

Measures of Inflation

- The CPI is used to calculate the rate of inflation from one year to another.
- If the CPI in 1992 was 140 and the CPI in 2014 is 238, we can calculate the increase in inflation during the time period by the following method

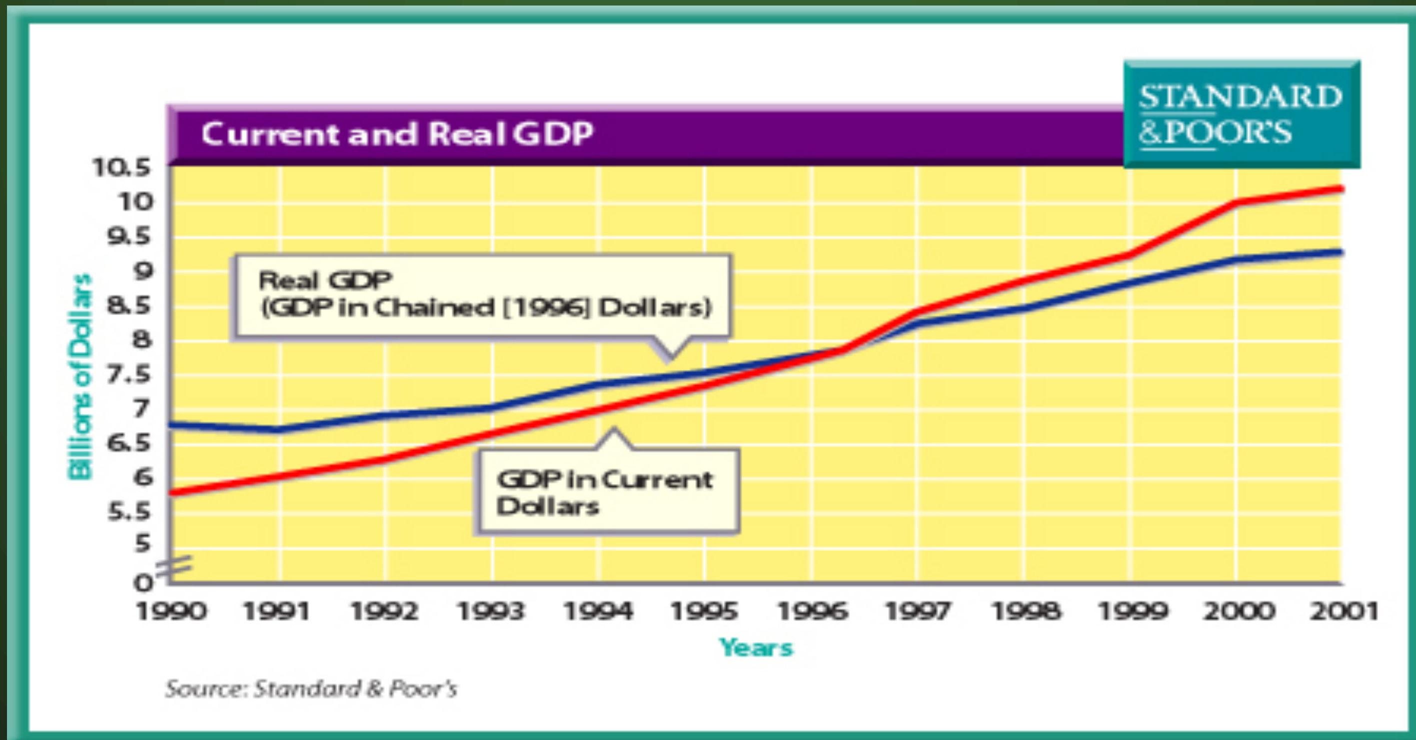
$$\text{Rate of Inflation} = \frac{(\text{CPI current year} - \text{CPI base year})}{\text{CPI base year}} \times 100$$

$$70 = \frac{(238 - 140)}{140} \times 100$$

- The producer price index (PPI) measures the average change in prices that companies receive for their goods and services.
- The PPI usually rises before the CPI (leading indicator).

Current and Real GDP

- **<u>Inflation skews GDP</u>** by making it appear that more output was produced, when in reality only the prices of goods and services have increased.
- The **<u>GDP price deflator</u>** is used to remove effects of inflation from GDP so that different years can be compared in terms of spending value = ***<u>REAL GDP.</u>***



Macro…the Aggregate Approach

- The laws of supply and demand can be applied to the economy as a whole as well as to individual consumer decisions.
- When we look at the economy as a whole in this way, we are looking at **aggregates**—the summing up of all the individual parts in the economy.

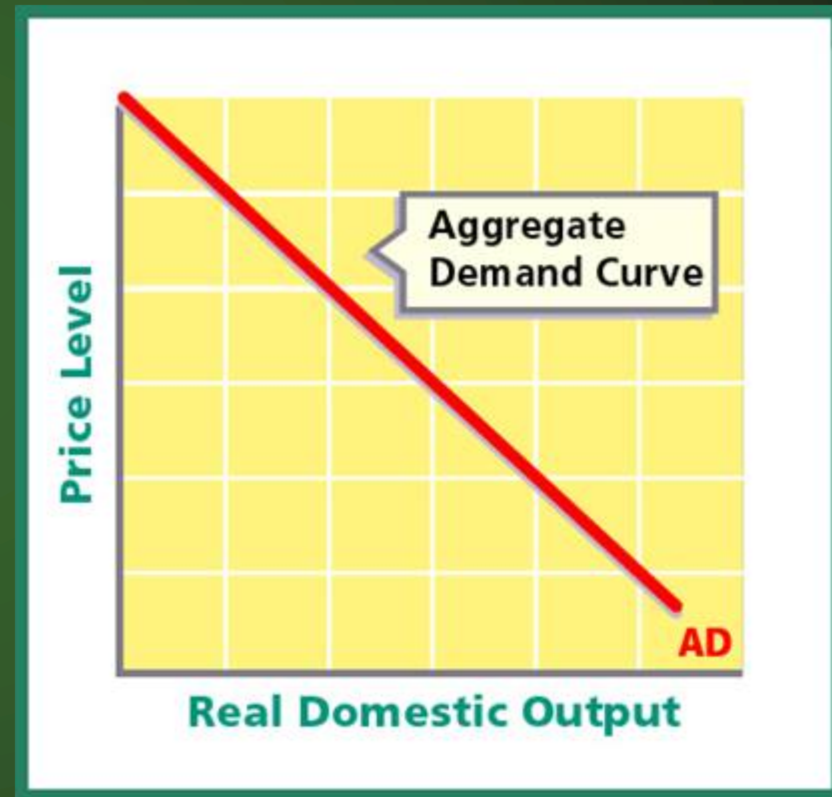
Aggregate Demand

- **Definition:** is the total quantity of goods and services demanded by all people in the economy.
- If the price level goes down, a larger quantity of real domestic output is demanded per year.
  - (AD↑)
- If the price level rises, A smaller quantity of real domestic output is demanded per year.
  - (AD↓)

Aggregate Demand Curve

- Aggregate demand may **<u>increase</u>** (curve shifts to the right) if consumers collectively spend more and save less or if better economic conditions are forecast.

- Aggregate demand may **<u>decrease</u>** (curve shifts to the left) if higher taxes are imposed on the overall economy or if bleak economic conditions are forecast.



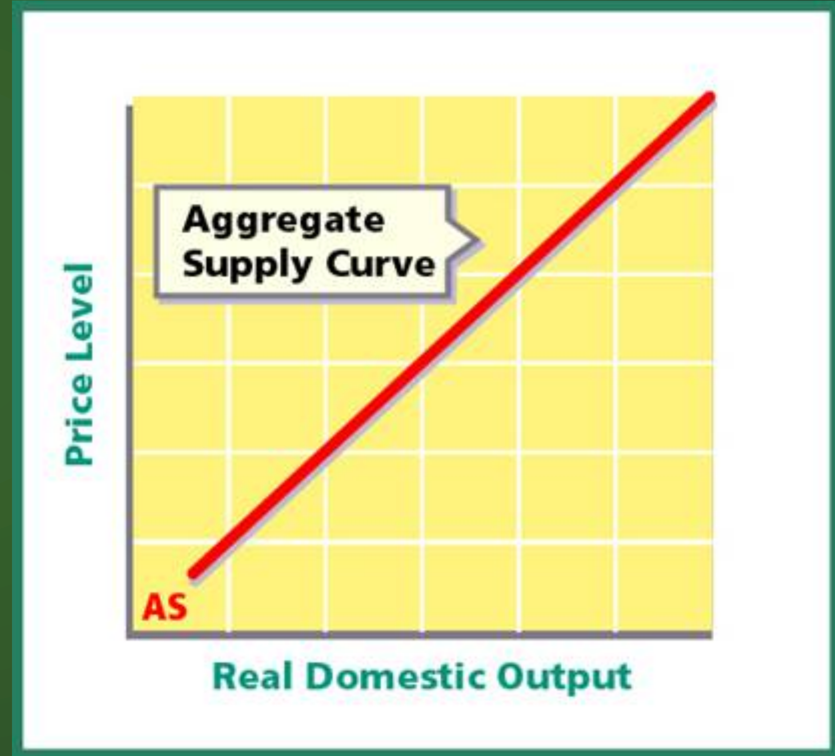
Aggregate Supply

- **Definition:** the quantity of all goods and services being produced at various prices.
- If the price level increases producers will want to supply more (AS↑)
- If the price level falls producers want to make less (AS↓)

Aggregate Supply Curve

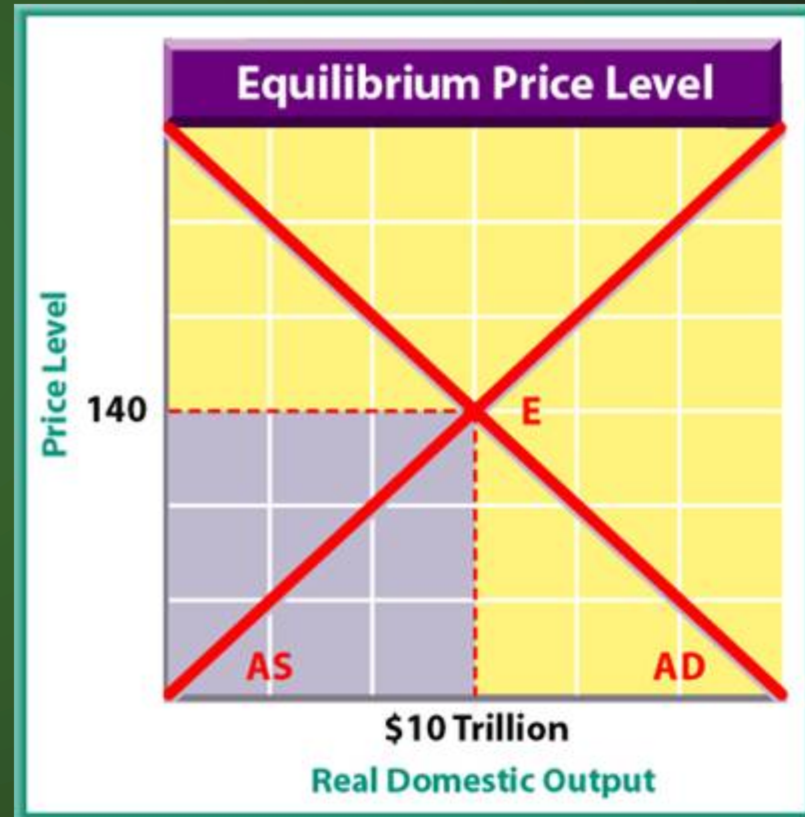
- Aggregate supply **<u>increases</u>** (curve shifts to the right) when all firms experience lower costs of production due to lower taxes or interest rates or lower prices for inputs.

- Aggregate supply **<u>decreases</u>** (curve shifts to the left) for the opposite reasons: higher taxes, higher interest rates, higher prices for inputs.



Putting Aggregate Demand and Aggregate Supply Together

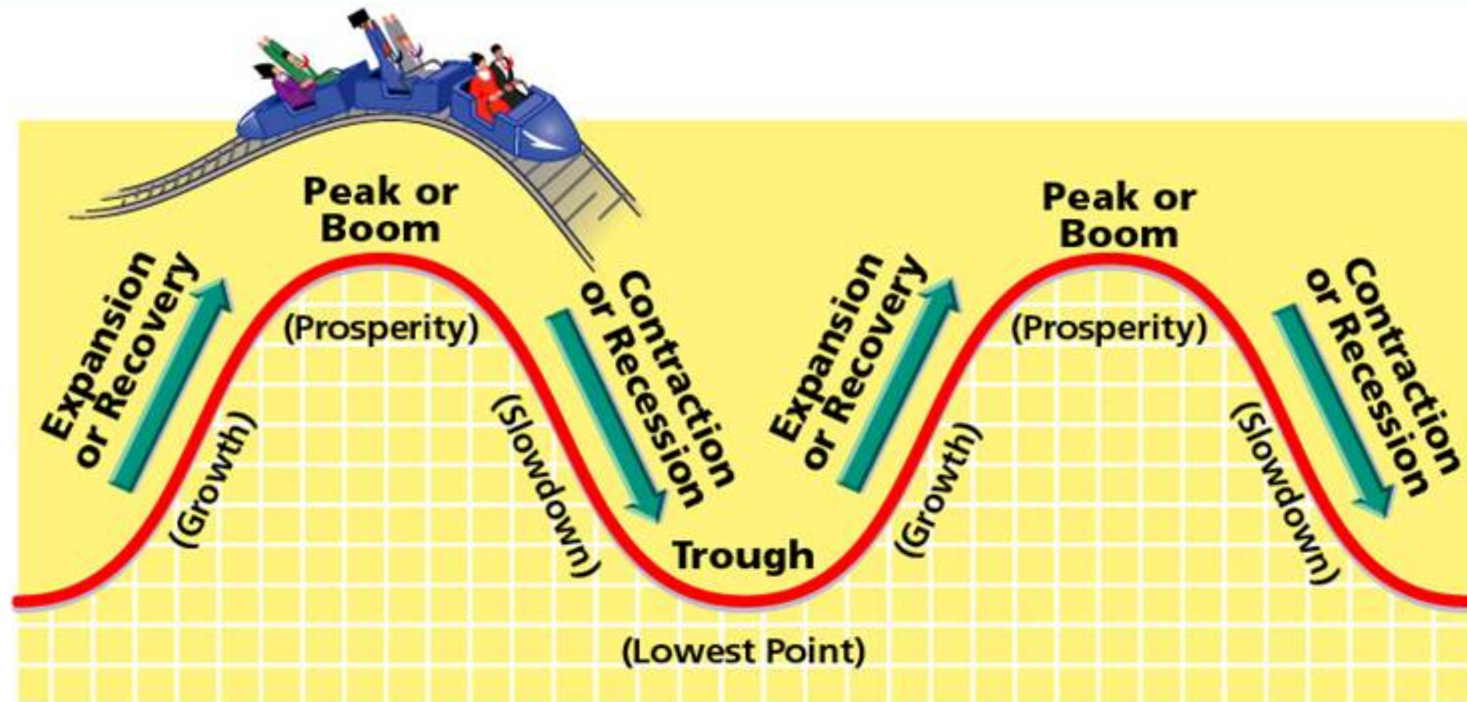
- If you combine the aggregate supply curve and the aggregate demand curve, you can find the **equilibrium** price and quantity (where two curves meet).
- The intersection of aggregate demand and aggregate supply gives the equilibrium price level and national output (real domestic product).



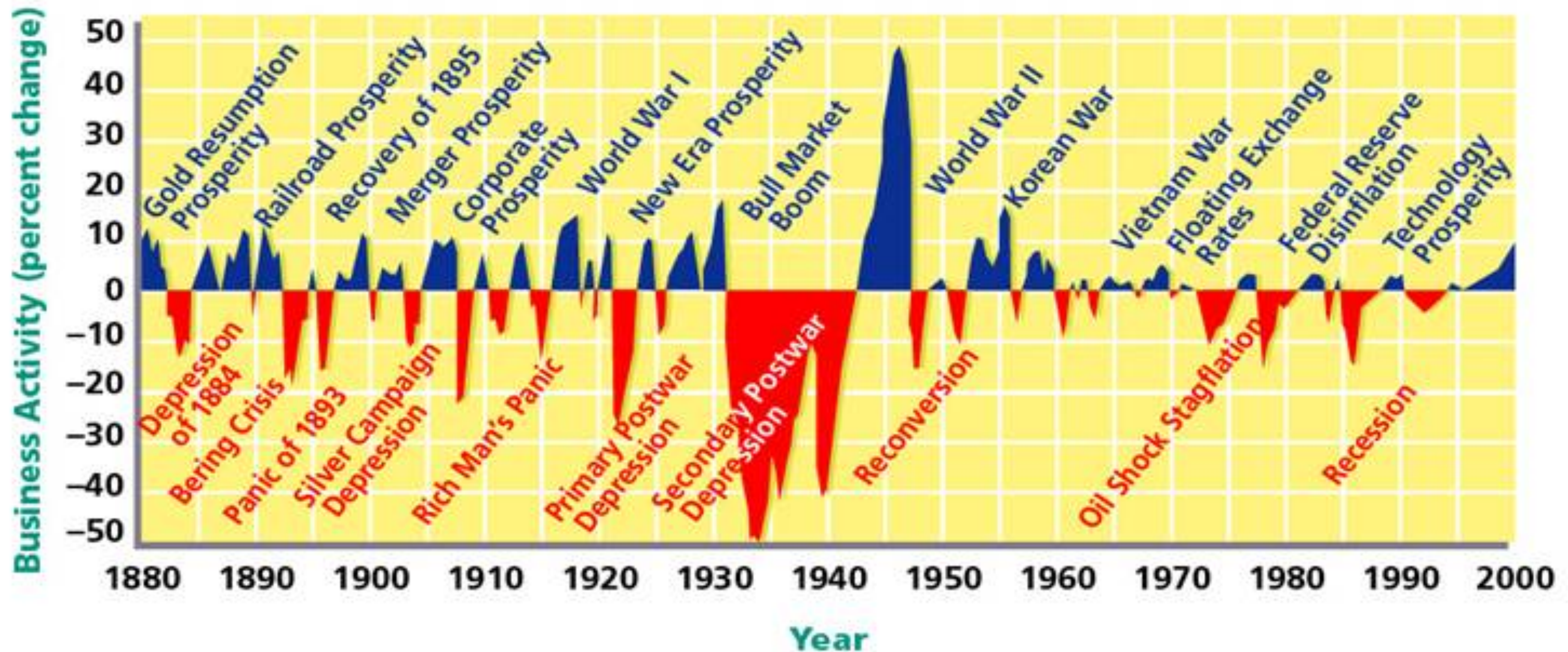
Business Cycle

- Definition: irregular changes in the level of total output measured by real GDP
- Begins with growth that leads to an economic peak, boom, or period of prosperity.
- Real GDP levels off and begins to decline, while business activity slows down (contraction).
- If real GDP doesn't grow for at least 6 months, economy is in a **recession** (business activity falls at a rapid rate).
- If recession continues to get worse, economy goes into a **depression**.
- The downward direction of economy levels off in a trough (lowest point in the cycle) and real GDP stops going down.
- Business activity increases and economy begins expansion or recovery.

Model of the Business Cycle



Business Activity in the United States



Causes of Business Fluctuations

- Business investment—companies expanding or scaling back, or companies using innovations in their business practices.
- Government activity—taxing and spending policies, and control of money supply in economy.
- External factors—non-economy related factors, such as wars or raw material costs.
- Psychological factors—people's optimistic or pessimistic outlook on future and economy can contribute to increased spending or more saving.

Economic Indicators

- Economists and the government create forecasts to try and aid in predicting the future of the economy
- Leading indicators seem to lead to a change in overall business activity.
- Coincident indicators change at the same time as the economic changes.
- Lagging indicators change after the economic change has already begun, and help economists determine how drastic and long-lasting this economic phase will be.

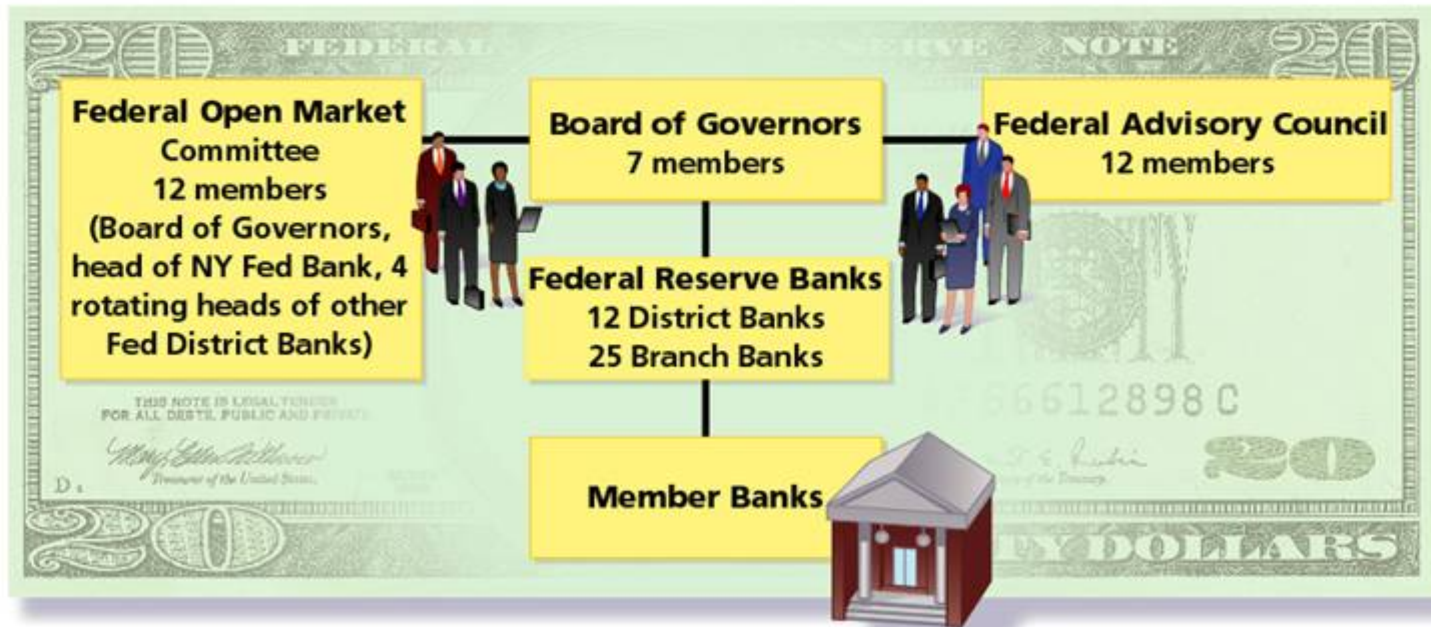
The Federal Reserve System

- Congress created the Federal Reserve System in **1913** as the central banking organization in the United States.
- The Fed is responsible for **monetary policy.**
- Monetary policy involves the changing rate of growth of the supply of money in circulation in order to affect the amount of credit, which affects business activity in the economy.

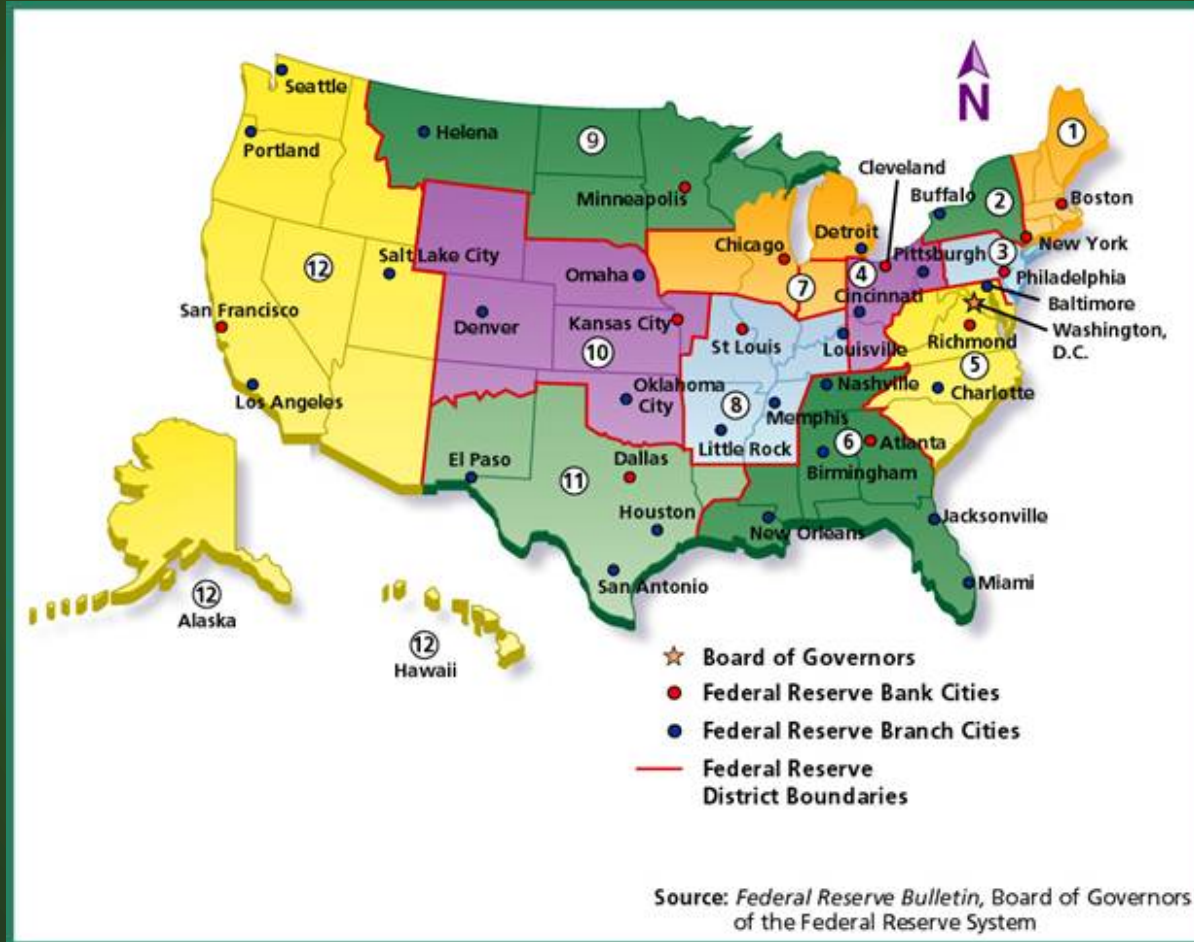
Organization of the Federal Reserve System

- The **Board of Governors** oversees **12** district Federal Reserve banks and regulates activity of member banks.
- The **Federal Advisory Council** reports to the board of governors on general business conditions in the country.
- The **Federal Open Market Committee** decides what the Fed should do to control money supply.

Organization of the Federal Reserve System



The Twelve Districts of the Federal Reserve System



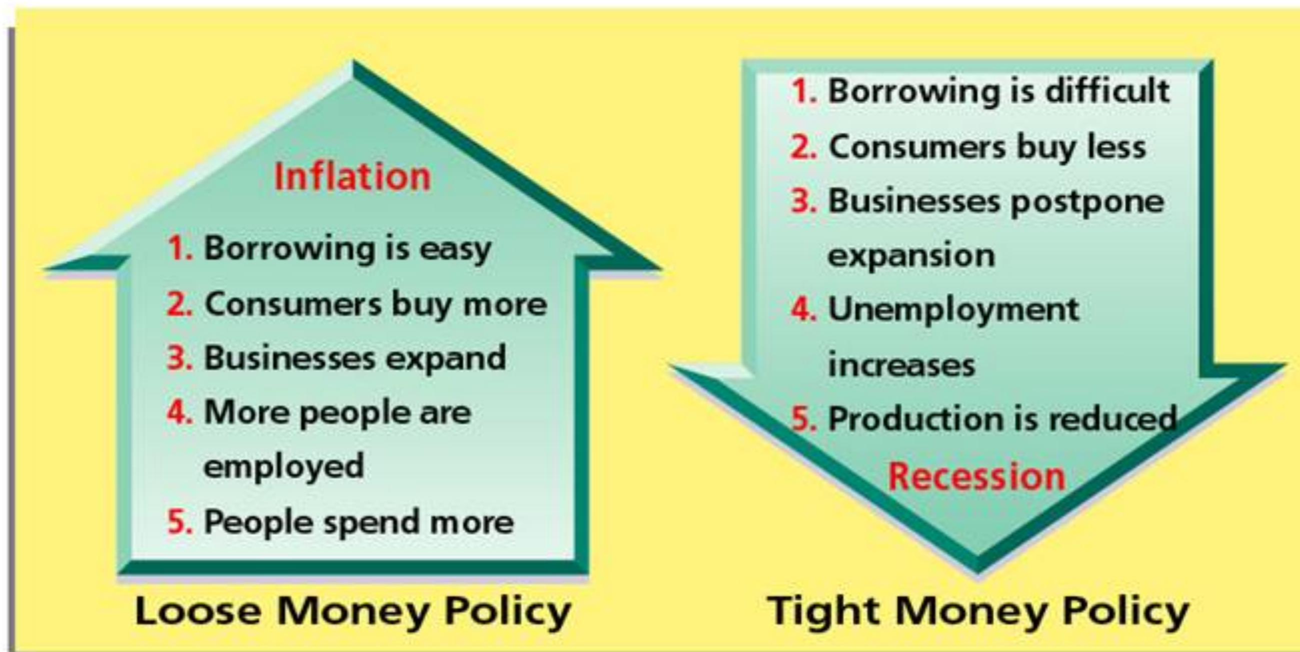
The Functions of the Federal Reserve System

- Has many functions, including check clearing, supervising member banks, holding reserves, and supplying paper currency.
- **Its most important function is to regulate the money supply.**
- The Fed sets standards for consumer protection, mainly truth-in-lending legislation.

Loose and Tight Money Policies

- Monetary policy involves changing the growth are of the money supply in order to change the cost and availability of credit.
- Loose money means credit is plentiful and inexpensive; used to encourage economic growth.
- Tight money means credit is in short supply and expensive; used to control inflation.
- The goal of monetary policy is to strike a balance between tight and loose money.

Balancing Monetary Policy



Fractional Reserve Banking

- Banks are required to **keep a percentage of their total deposits** in cash reserves in their vaults or with the Federal Reserve bank.
- This enables the bank to provide funds for customers who might suddenly want to **withdraw** large amounts of cash from their accounts.
- Currently most financial institutions are **required to reserve 10 percent** of their checkable deposits.

Money Expansion

- ***Money banks lend and receive is usually spent or deposited in another bank who can also use the deposits to create new money.***
- This process is known as the multiple expansion of money. (Multipier)

Round	Deposited by	Amount of Deposit	Required Reserves (20%)	Excess Reserves (80%)	Loaned	Paid to
1	the Fed (Bank A)	$1,000	$200	$800	Mr. Jones	Computer World
2	Computer World (Bank B)	$800	$160	$640	Ms. Wang	Mr. Diaz
3	Mr. Diaz (Bank C)	$640	$128	$512	Mrs. Fontana	Mrs. Powers
4	Mrs. Powers (Bank D)	$512	$102.40	$409.60	Mr. Gibbs	Mr. Santana
5	Mr. Santana (Bank E)	$409.60	$81.92	$327.68		
6	All Others					
Eventual Totals		$5,000	$1,000			

Monetary Policy:
Changing Reserve Requirements

- The lower the percentage of deposits in reserve, the more money available to loan out.
- If RR↓ = loose money
- Raising the reserve decreases the amount of money in the economy and slows it down.
- If RR↑ = tight money

Changing the Discount Rate

- The **discount rate** is the interest rate the Fed charges its member banks when they borrow money to meet the reserve.
- The **prime rate** is the interest rate banks charge to their best customers.
- A higher discount rate means that members banks charge their customers higher interest, reducing the money supply. (tight money)
- Discount Rate↓ = loose money

Open-Market Operations

- The buying and selling of government securities is called **open-market operations.**
- When the Fed buys securities, it makes a deposit into the reserve account of that bank, giving that bank more money to lend out = (loose money)
- If the Fed sells securities, money is taken out of circulation = tight money.

Government Growth

- The number of government workers and functions has *<u>increased</u>* dramatically.
- **<u>Public-works</u>** projects are public facilities that are built and paid for with tax dollars.

Why Has Government Grown?

- During the depression, more government services were needed.
- Financing World War II caused more government growth.
- Total government purchases represent 18 percent of GDP, and all government spending is more than one-third of GDP.
- Government spending includes services to the people paid for by their taxes.

Providing Public Goods

- **Public goods** are special goods or services provided by the government.
- National defense is one of the few public goods only provided by the national government.

Redistributing Income

- **Social insurance programs** are specifically geared to help retired people, disabled workers, and unemployed workers, and their families (Social Security and workers' compensation).
- **Public assistance programs** (welfare) help people based on their needs regardless of whether a person paid taxes into the program.

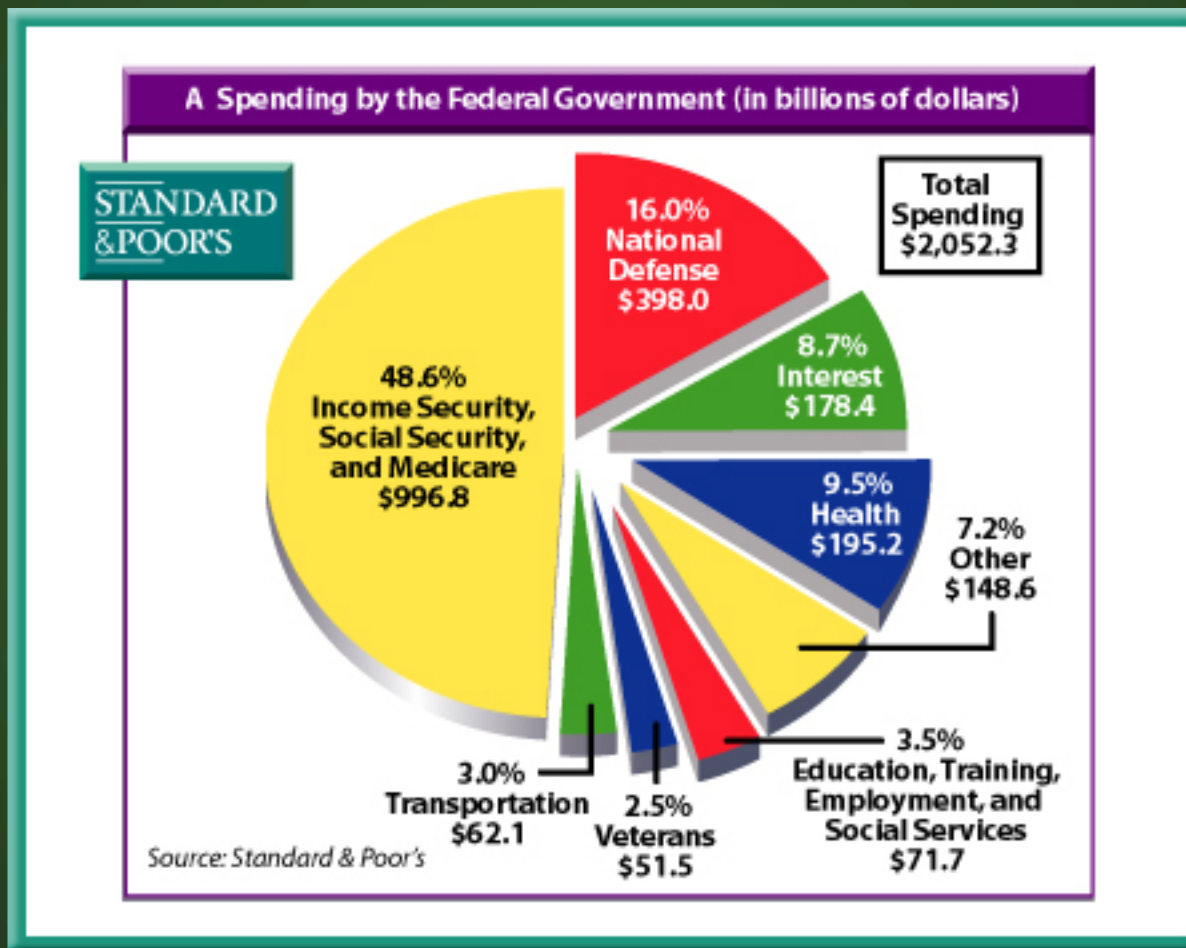
Critics of Government Involvement

- Critics feel public goods should be provided by private organizations.
- If people pay less tax, they can use that money to choose which goods they want.
- Redistribution programs discourage personal progress, incentives, and self-development.
- Government regulations raise the prices of goods and services; seek market solutions instead.

The Budget-Making Process

- The Federal Budget is prepared about 18 months before the fiscal year.
- The President and the Office of Management and Budget (OMB) work together to outline a budget plan.
- The President approves a budget and then submits it to Congress.
- Congress then examines and discusses the budget, and should pass it before the coming fiscal year.
- Often the budget is not passed until after the fiscal year has already begun.

Federal Government Spending



Deficit Spending and the National Debt

- Budget **deficits** are created when the government spends more than its revenues.
- In order to make up the difference in funds, the government borrows the money, known as deficit funding.
- The **national debt** is the total amount of money the federal government owes.
- A budget **surplus** occurs when the government spends less than its revenues.

Principles of Taxation

- **Benefits-received principle** states that people who use a service should support it with taxes in proportion to the benefit they receive.
- **Ability-to-pay principle** states that people support programs based on their incomes, not their usage of the programs.

Forms of Taxation

- **Proportional** taxes are based on a proportion or percentage of a person's income.
- **Progressive** taxes are taxes where a person pays a higher percentage of income in taxes as that income rises.
- **Regressive** taxes are taxes where a person pays a lower percentage of income in taxes as that income rises.

Measuring Unemployment

- The <u>unemployment rate</u> is the percentage of the civilian labor force that is without jobs but that is actively looking for work.
- High unemployment is a sign that the economy is not doing well.
- <u>Types of unemployment:</u>
  - structural (people have jobs skills no longer demanded)
  - seasonal/frictional (people are between jobs)
  - cyclical (low AD puts people out of work. BAD- sign of recession).
- Full employment is when the unemployment rate is below 5 percent.

Unemployment Rates throughout U.S. History

Inflation

- Acceptable levels of inflation are about 3 percent a year or lower.
- Unpredictable inflation has a destabilizing effect on the economy.
- Inflation can cause people's standard of living to fall, especially people on fixed incomes, such as retired people.

Inflation (cont.)

- **Demand-pull** theory of inflation states that prices rise because of high business and consumer demand.
- **Cost-push** theory of inflation states that prices rise because of excessive labor costs and business profits.
- **Stagflation** occurs when high inflation and unemployment occur at the same time.

Fiscal Policy

- Definition: federal government's use of taxation and spending policies to affect overall business activity.
- **John Maynard Keynes** believed that the forces of aggregate supply and demand operated too slowly in a serious recession and that government should step in to stimulate aggregate demand.

Fiscal Policy

- Expansionary Fiscal Policy = Tax cuts and/or increased spending.
  - Theory is that tax cuts lead to increasing investment and jobs which leads to increased AD. Used to solve a recession.

- Contractionary Fiscal Policy = Increased taxes and/or decreased government spending.
  - Theory is that the government can slow the economy down and reduce inflation if necessary. Used to prevent the economy from “over-heating” or expanding too fast.

- If people pay lower taxes, they will have more money to spend, save, and invest in a growing economy.
- These are called supply-side effects of fiscal policy.

International Trade

- No nation has the capacity to produce enough of everything it would take to satisfy all the wants and needs of it's citizens.
- Why? The Economizing problem = *SCARCITY!*
- Therefore each nation must specialize in what it is best at and trade for the goods or resources it lacks.
- *Specialization and trade* allows nations to get closer to fulfilling the wants and needs of it's citizens.

The Economic Basis for Trade

- Is it bad to rely on other nations for goods or resources?
  - No! Not if they can provide or produce those goods or resources at a lower cost!

- Remember: Comparative Advantage – the ability to produce goods or services at a lower opportunity cost (every nation has comparative advantage in something!)

- The Case for Free Trade
  - 1. the world economy can achieve more efficient allocation of resources, higher standard of living
  - 2. promotes competition (efficiency)
  - 3. promotes positive relationships

Trade Barriers

- **Revenue Tariff** – tax on imported goods in order to provide income for the gov (typically applied to products the US does not produce)
- **Protective Tariff** – tax on imports meant to protect US producers from foreign competition
- **Import Quota** – sets a limit on the quantity of a good that can be imported
- **Nontariff Barrier (NTB)** – gov restriction that prevents or reduces imports EX – licensing, regulations

Financing International Trade

- <u>**U.S. Export Transactions**</u> – create foreign demand for US $
- <u>**U.S. Import Transactions**</u> – create domestic demand for foreign currency
- <u>**Depreciation**</u> – more units of one currency are needed to buy another
  - $1=1Euro…$2 = 1 Euro
- <u>**Appreciation**</u> – less units of one currency are needed to buy another
  - 10 pesos = $1…7pesos = $1

Flexible Exchange Rates

- Determinants of Exchange Rates
  - **<u>3 general rules:</u>**
  - **1. If Demand for currency ↑ = appreciation, If Demand↓ = depreciation**
  - **2. If Supply of currency↑ = depreciation, If Supply ↓ = appreciation**
  - **3. If a nation's currency appreciates, another nation's will depreciate relative to it.**

Flexible Exchange Rates

- *The Market for Foreign Currency (Pounds)*