

# **UNIT 5**

**AS and AD**

**and**

**International Trade**

# What is Macroeconomics?

Macroeconomics is the study of the large economy as a whole. It is the study of the big picture.

- Instead of analyzing one consumer, we analyze everyone.
- Instead of one business we study all businesses.

## Why study the whole economy?

- The field of macroeconomics was born during the Great Depression.
- Government didn't understand how to fix a depressed economy with 25% unemployment.
- Macro was created to:
  1. Measure the health of the whole economy.
  2. Guide government policies to fix problems.

# **Aggregate Demand and Supply and Fiscal Policy**

# What is Aggregate Demand?

Aggregate means “added all together.”

When we use aggregates  
we combine all prices and all quantities.

Aggregate Demand is all the goods and services  
(real GDP) that buyers are willing and able to  
purchase at different price levels.

**The Demand for everything by everyone in the US.**

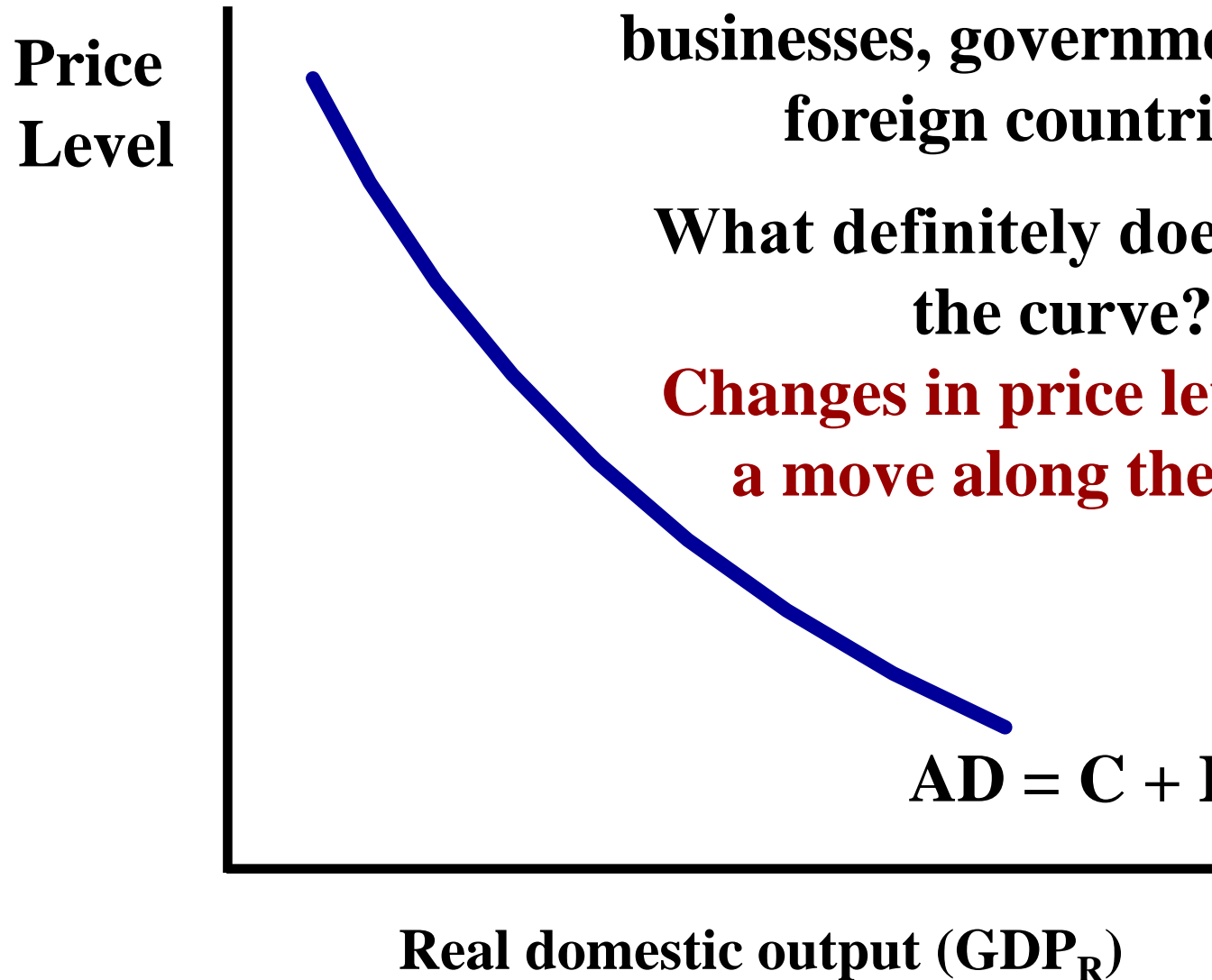
There is an inverse relationship between  
price level and Real GDP.

If the price level:

- **Increases (Inflation), then real GDP demanded falls.**
- **Decreases (deflation), the real GDP demanded increases.**

# Aggregate Demand Curve

AD is the demand by consumers, businesses, government, and foreign countries



What definitely doesn't shift the curve?

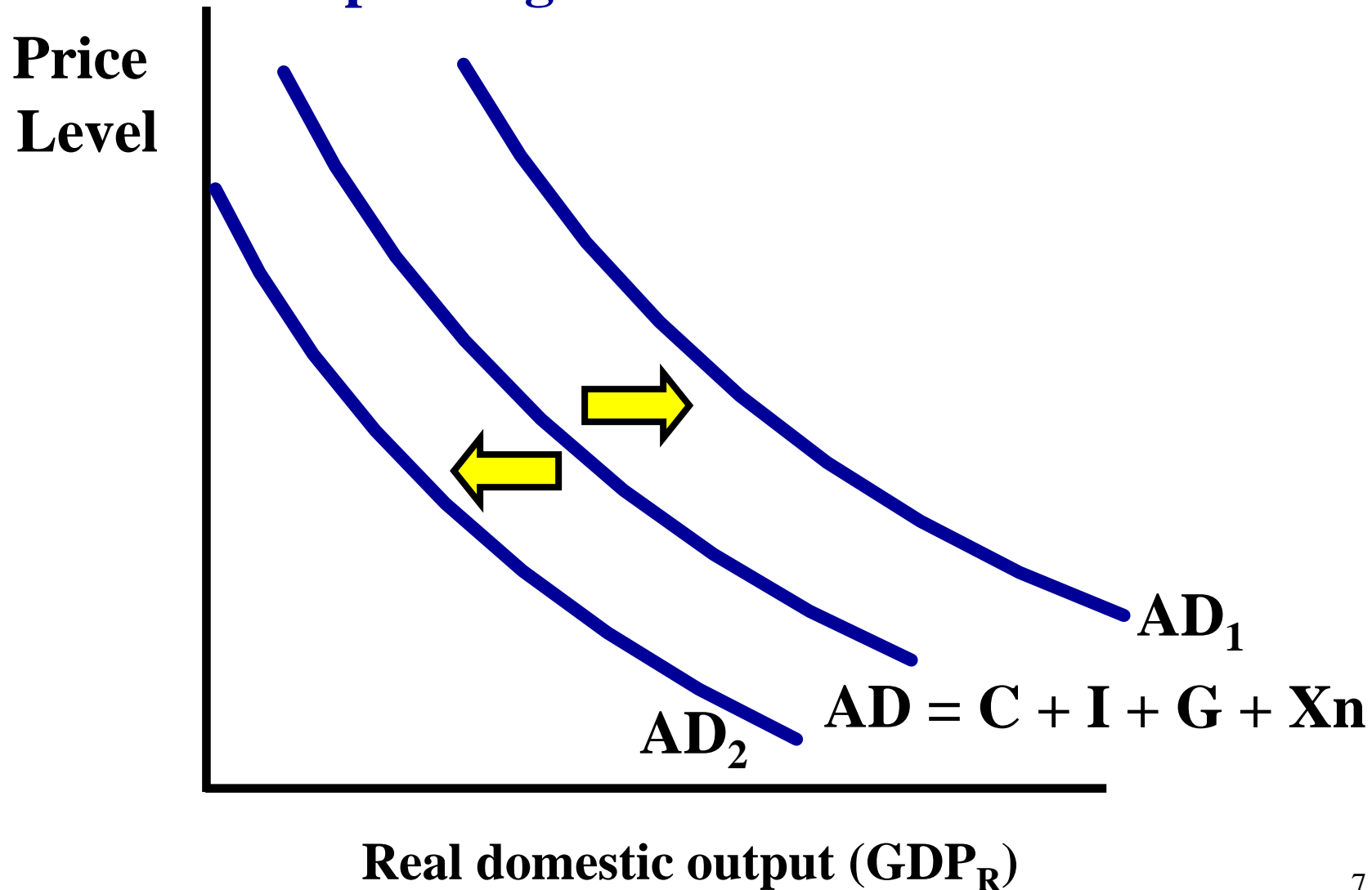
**Changes in price level cause a move along the curve**

# Shifters of Aggregate Demand

$$\mathbf{GDP = C + I + G + X_n}$$

# Shifts in Aggregate Demand

An increase in spending shift AD right, and decrease in spending shifts it left



# Shifters of Aggregate Demand

## 1. Change in Consumer Spending

**Consumer Wealth** (Boom in the stock market...)

**Consumer Expectations** (People fear a recession...)

**Household Indebtedness** (More consumer debt...)

**Taxes** (Decrease in income taxes...)

## 2. Change in Investment Spending

**Real Interest Rates** (Price of borrowing \$)

(If interest rates increase...)

(If interest rates decrease...)

**Future Business Expectations** (High expectations...)

**Productivity and Technology** (New robots...)

**Business Taxes** (Higher corporate taxes means...)



# Shifters of Aggregate Demand

## 3. Change in Government Spending

(War...)

(Nationalized Health Care...)

(Decrease in defense spending...)

## 4. Change in Net Exports (X-M)

**Exchange Rates**

(If the US dollar depreciates relative to the euro...)

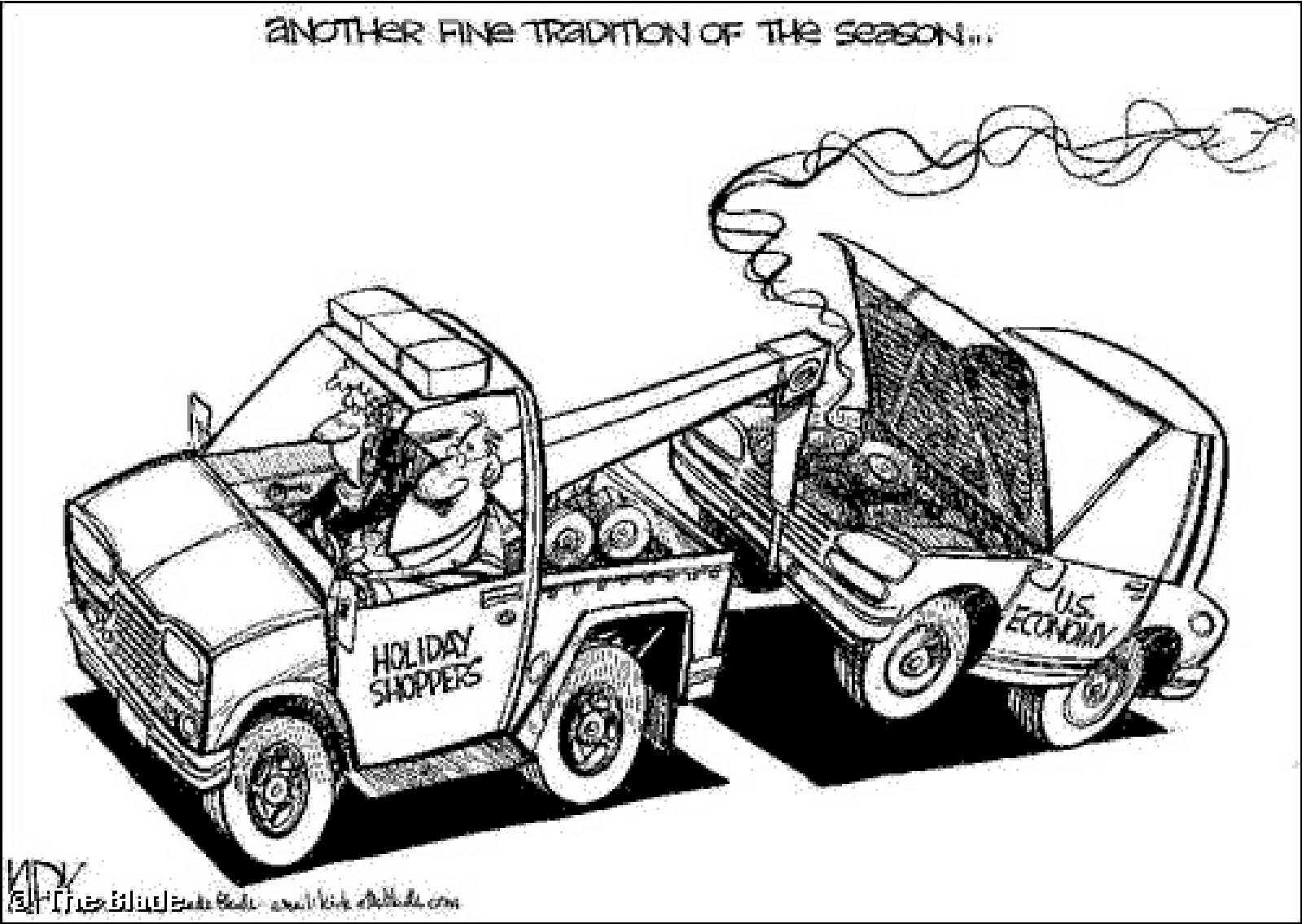
**National Income Compared to Abroad**

(If a major importer has a recession...)

“When the US sneezes, the world catches cold”

$$AD = GDP = C + I + G + X_n$$

# How does this cartoon relate to Aggregate Demand?



# What is Aggregate Supply?

Aggregate Supply is the amount of goods and services (real GDP) that firms will produce in an economy at different price levels.

The supply for everything by all firms.

Aggregate Supply differentiates between short run and long-run and has two different curves.

## Short-run Aggregate Supply

- Wages and Resource Prices will not increase as price levels increase.

## Long-run Aggregate Supply

- Wages and Resource Prices will increase as price levels increase.

# Short-Run Aggregate Supply

In the Short Run, wages and resource prices will NOT increase as price levels increase.

**Example:**

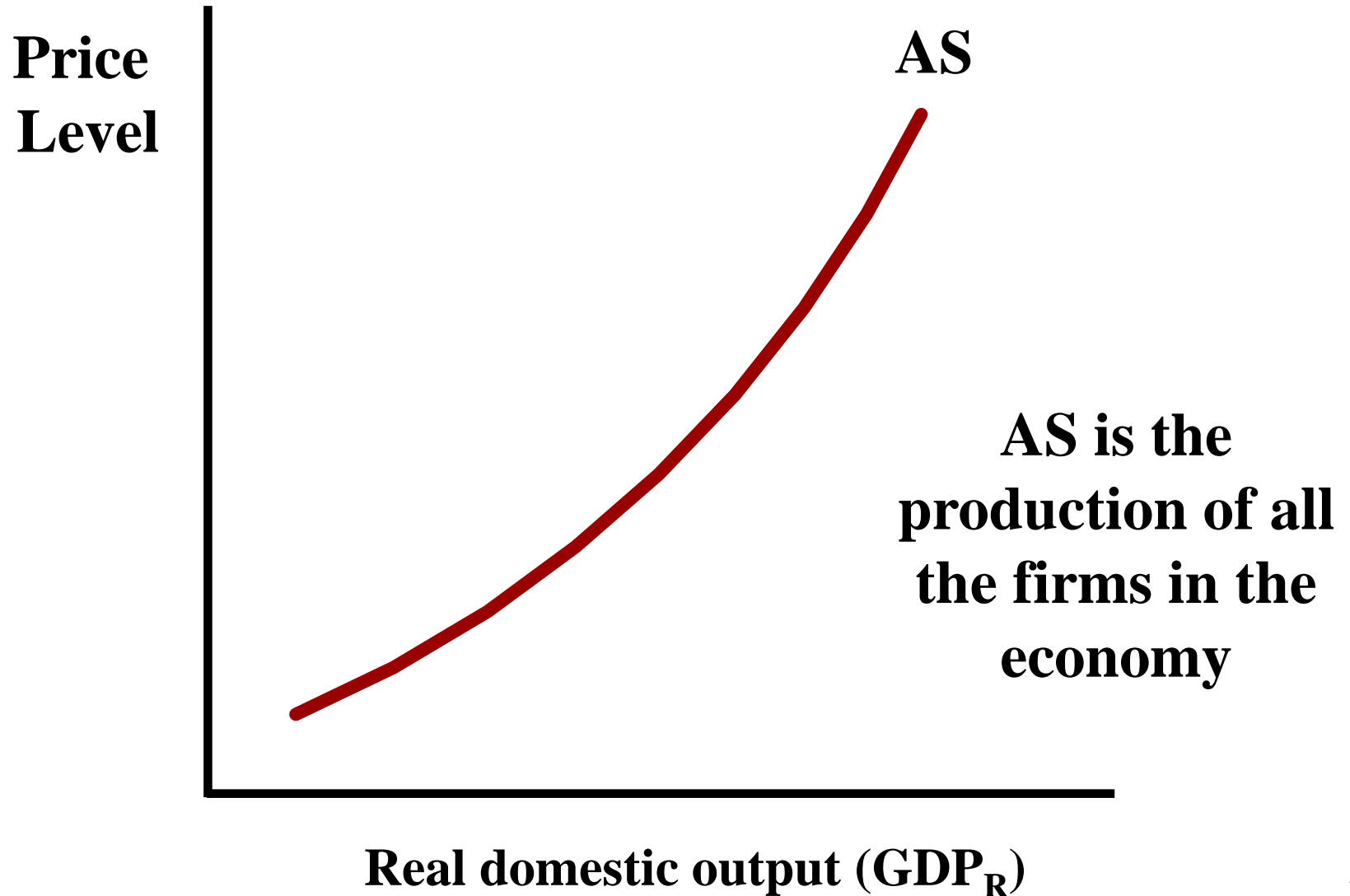
- If a firm currently makes 100 units that are sold for \$1 each. The only cost is \$80 of labor.  
How much is profit?
- Profit = \$100 - \$80 = \$20

**What happens in the SHORT-RUN if price level doubles?**

- Now 100 units sell for \$2, TR=\$200.  
How much is profit?
- Profit = \$120

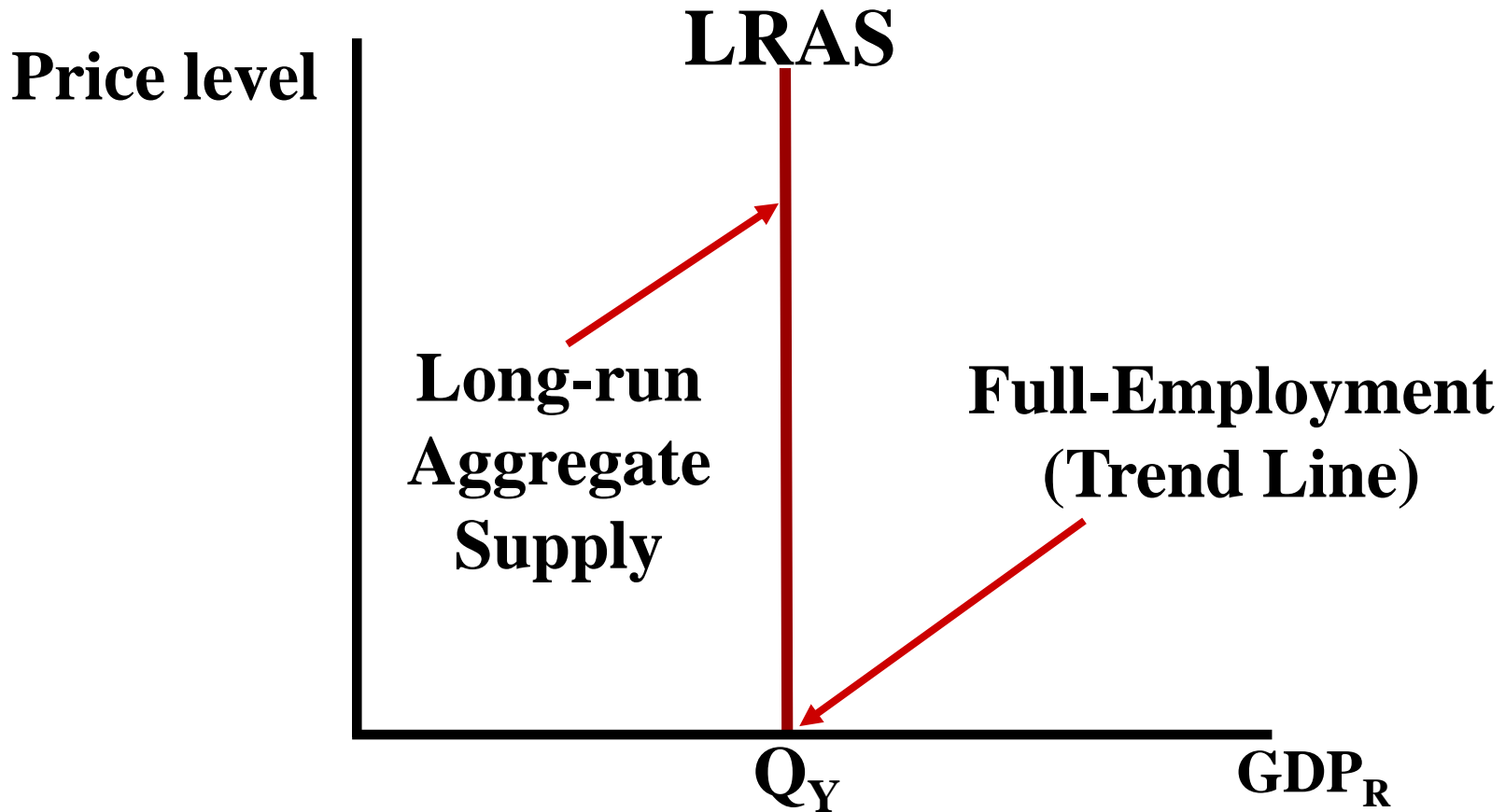
**With higher profits, the firm has the incentive to increase production.**

# Aggregate Supply Curve



# Long run Aggregate Supply

In Long Run, price level increases but GDP doesn't



We also assume that in the long run the economy will be producing at full employment.

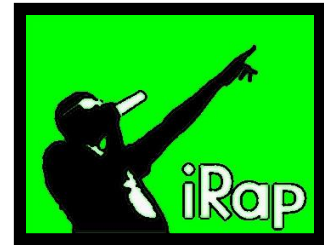
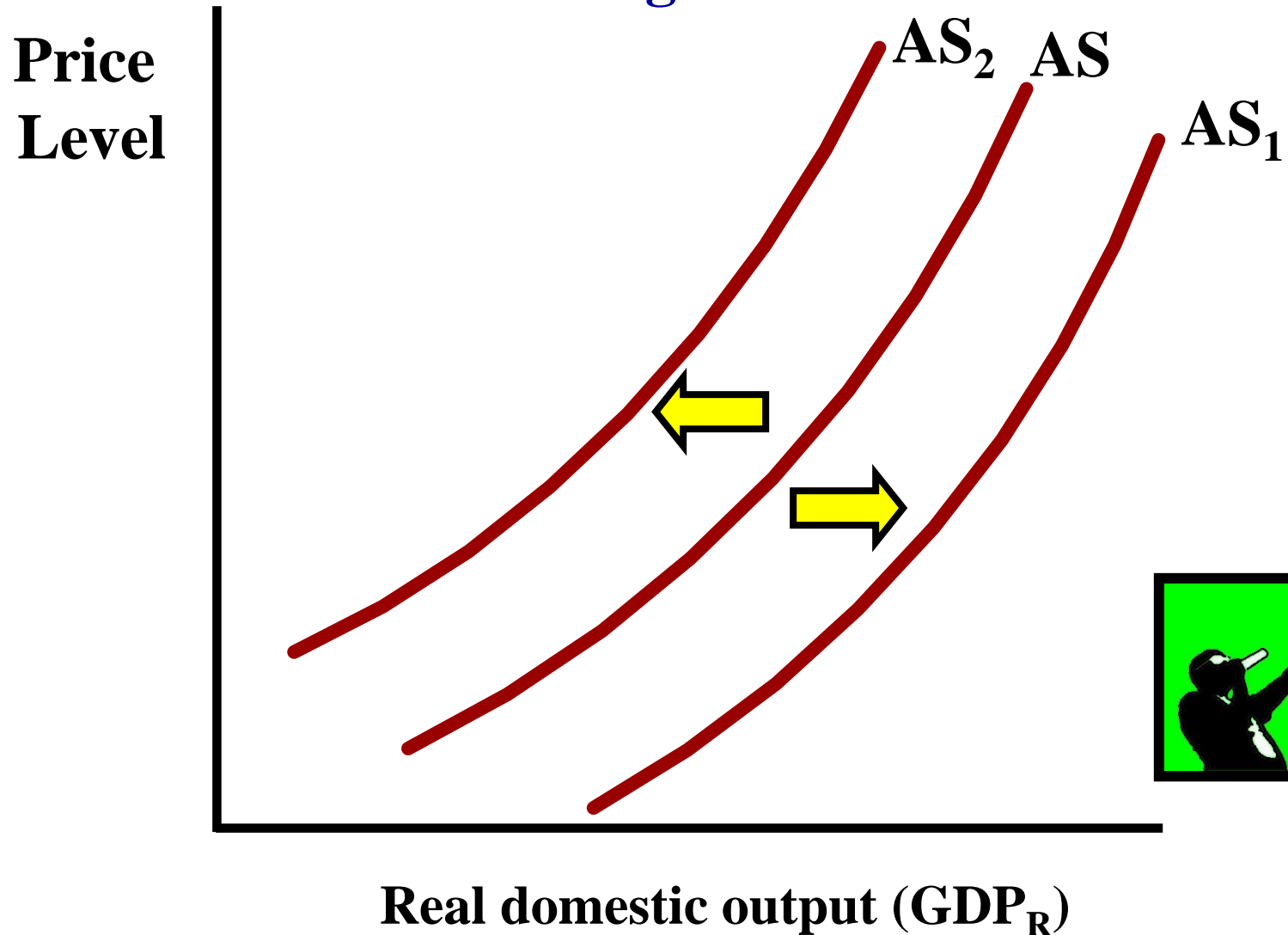
# Shifters Aggregate Supply

I. R. A. P.



# Shifts in Aggregate Supply

An increase or decrease in national production can shift the curve right or left





# Shifters of Aggregate Supply

## 1. Change in Inflationary Expectations

If an increase in AD leads people to expect higher prices in the future. This increases labor and resource costs and decreases AS.

(If people expect lower prices...)

## 2. Change in Resource Prices

Prices of Domestic and Imported Resources

(Increase in price of Canadian lumber...)

(Decrease in price of Chinese steel...)

**Supply Shocks**

(Negative Supply shock...)

(Positive Supply shock...)

# Shifters of Aggregate Supply

## 3. Change in Actions of the Government

(NOT Government Spending!!!!!!!)

### **Taxes on Producers**

(Lower corporate taxes...)

### **Subsidies for Domestic Producers**

(Lower subsidies for domestic farmers...)

### **Government Regulations**

(EPA inspections required [regulations] to operate a farm...)

## 4. Change in Productivity

### **Technology**

(Computer virus that destroys half of all computers...)

(The advent of a teleportation machine...)

# Practice

# Putting AD and AS together to get Equilibrium Price Level and Output



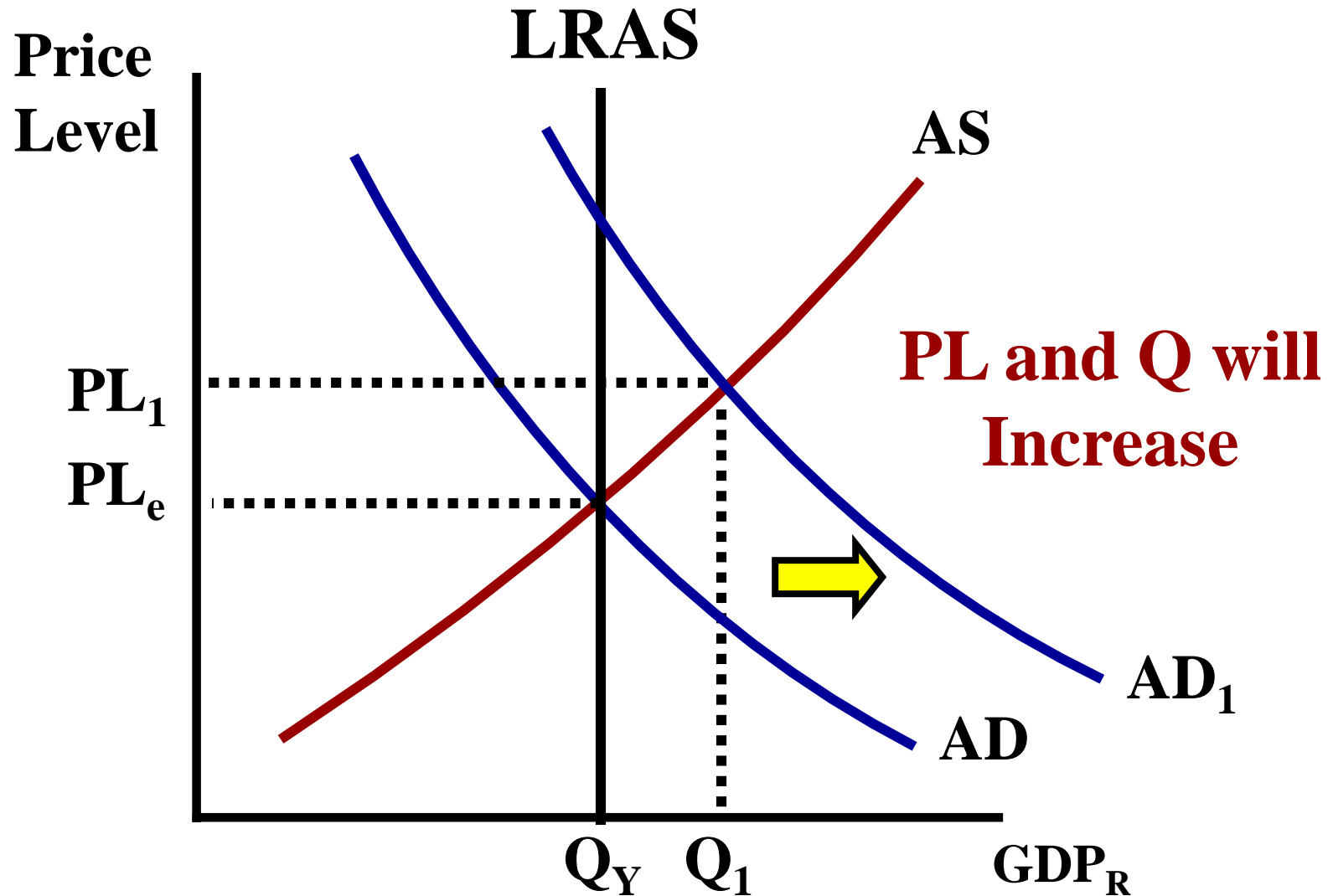
## Answer and identify shifter: C.I.G.X or i.R.A.P

A. Incr in AD    B. Decr in AD    C. Incr in AS    D. Decr in AS

- \_\_\_ 1. A **decrease in consumer spending**?
- \_\_\_ 2. The impact on net exports caused by **increases in the national incomes of our major trading partners**?
- \_\_\_ 3. A **large increase in the price of imported oil** which impact the resource cost of businesses?
- \_\_\_ 4. A **large increase in government** spending on our highway system?
- \_\_\_ 5. A **substantial increase in wages** that businesses pay their workers?
- \_\_\_ 6. The effect on investment if there are **negative business profit expectations**? ["We are heading into a recession."]
- \_\_\_ 7. A **decrease in interest rates even though there is no change in price level**?
- \_\_\_ 8. The **government picking up the tuition tab for all of the nation's private school students who have made a "90" or above in high school economics**?
- \_\_\_ 9. A **major increase in productivity**.
- \_\_\_ 10. The effects of a **25% stock market increase over a two month period**?

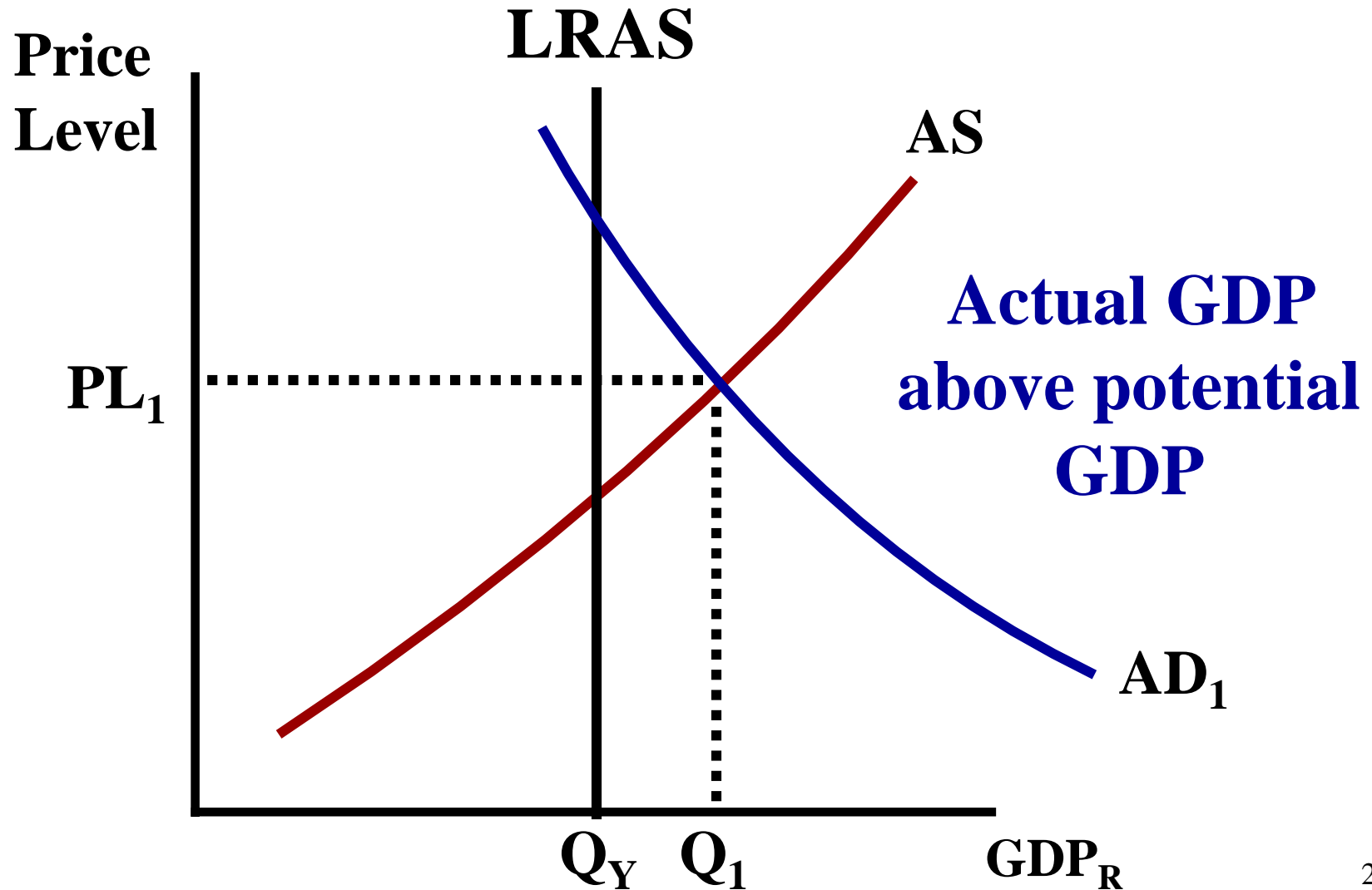
# **Inflationary and Recessionary Gaps**

**Example: Assume the government increases spending. What happens to PL and Output?**



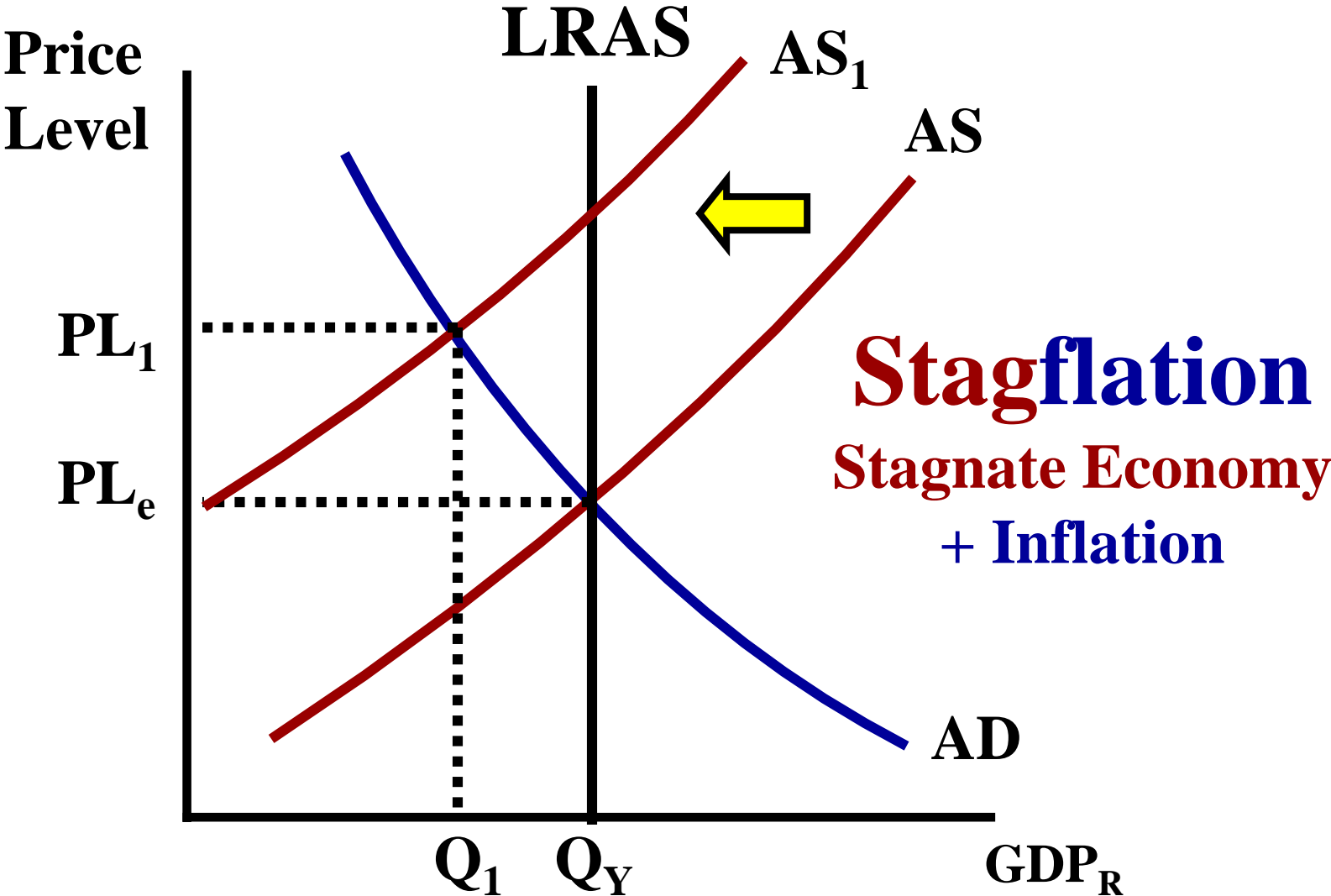
# Inflationary Gap

**Output is high and unemployment is less than NRU**



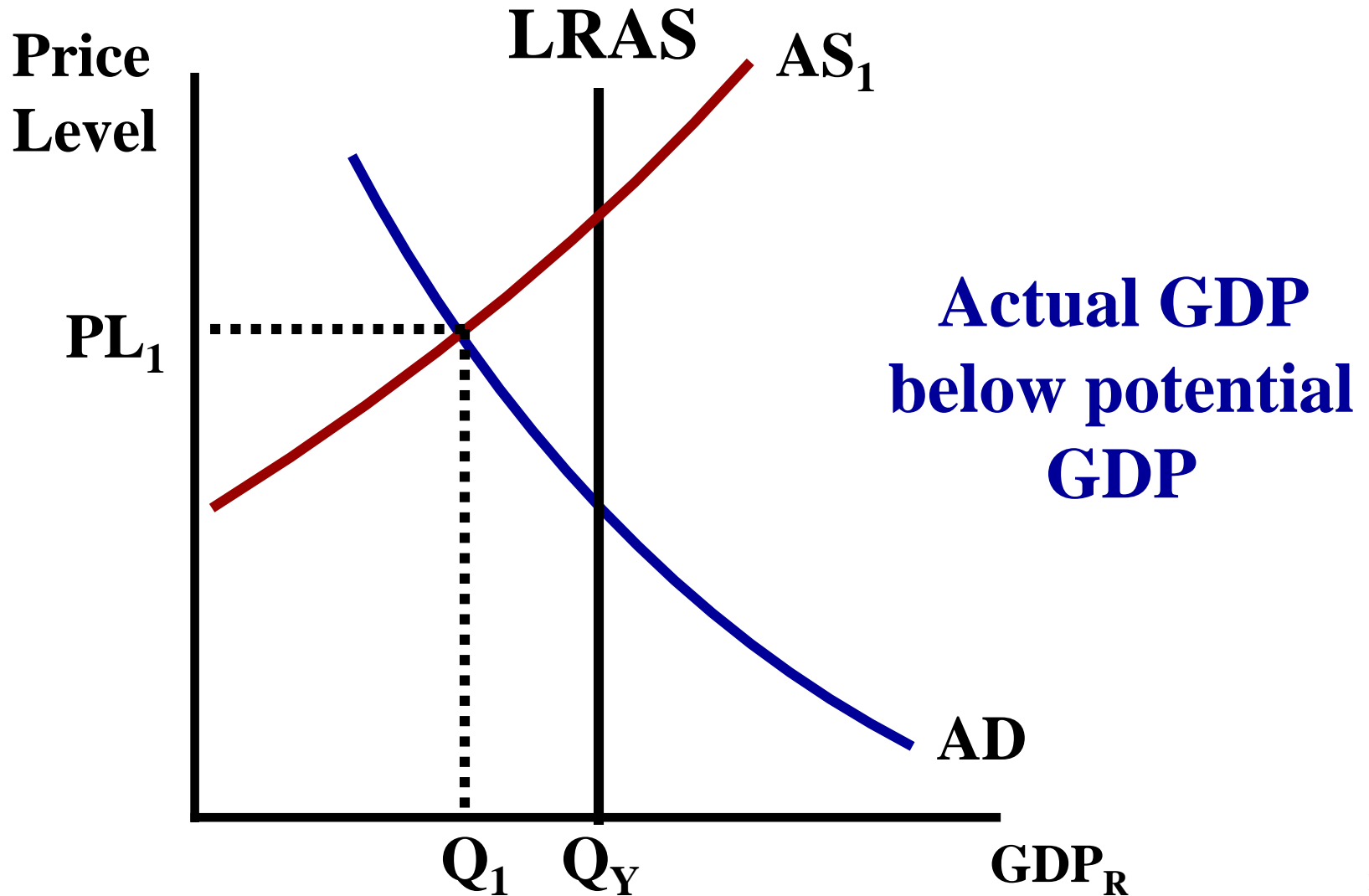


# Example: Assume the price of oil increases drastically. What happens to PL and Output?



# Recessionary Gap

**Output low and unemployment is more than NRU**



# **AD and AS Practice Worksheet**

# How does this cartoon relate to Aggregate Demand?



AS THE WAGE EARNER HERE, IT'S YOUR RESPONSIBILITY TO SHOW SOME CONSUMER CONFIDENCE AND START BUYING THINGS THAT WILL GET THE ECONOMY GOING AND CREATE PROFITS AND EMPLOYMENT.

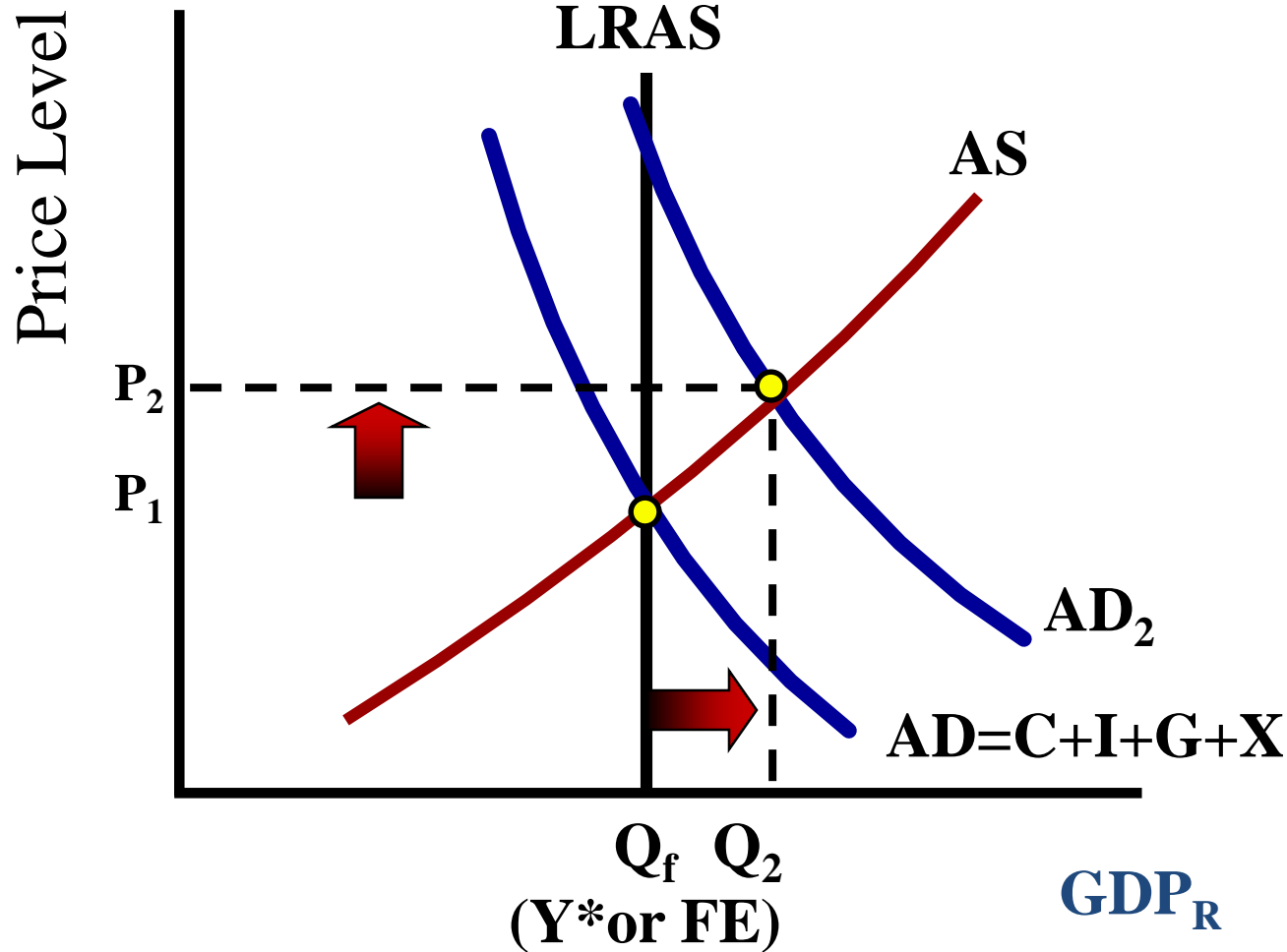


# Draw AD and AS at full employment

AS THE WAGE EARNER HERE, IT'S YOUR RESPONSIBILITY TO SHOW SOME CONSUMER CONFIDENCE AND START BUYING THINGS THAT WILL GET THE ECONOMY GOING AND CREATE PROFITS AND EMPLOYMENT.



HERE'S A LIST OF SOME BIG-TICKET ITEMS I'D LIKE FOR CHRISTMAS. I HOPE I CAN TRUST YOU TO DO WHAT'S RIGHT FOR OUR COUNTRY.

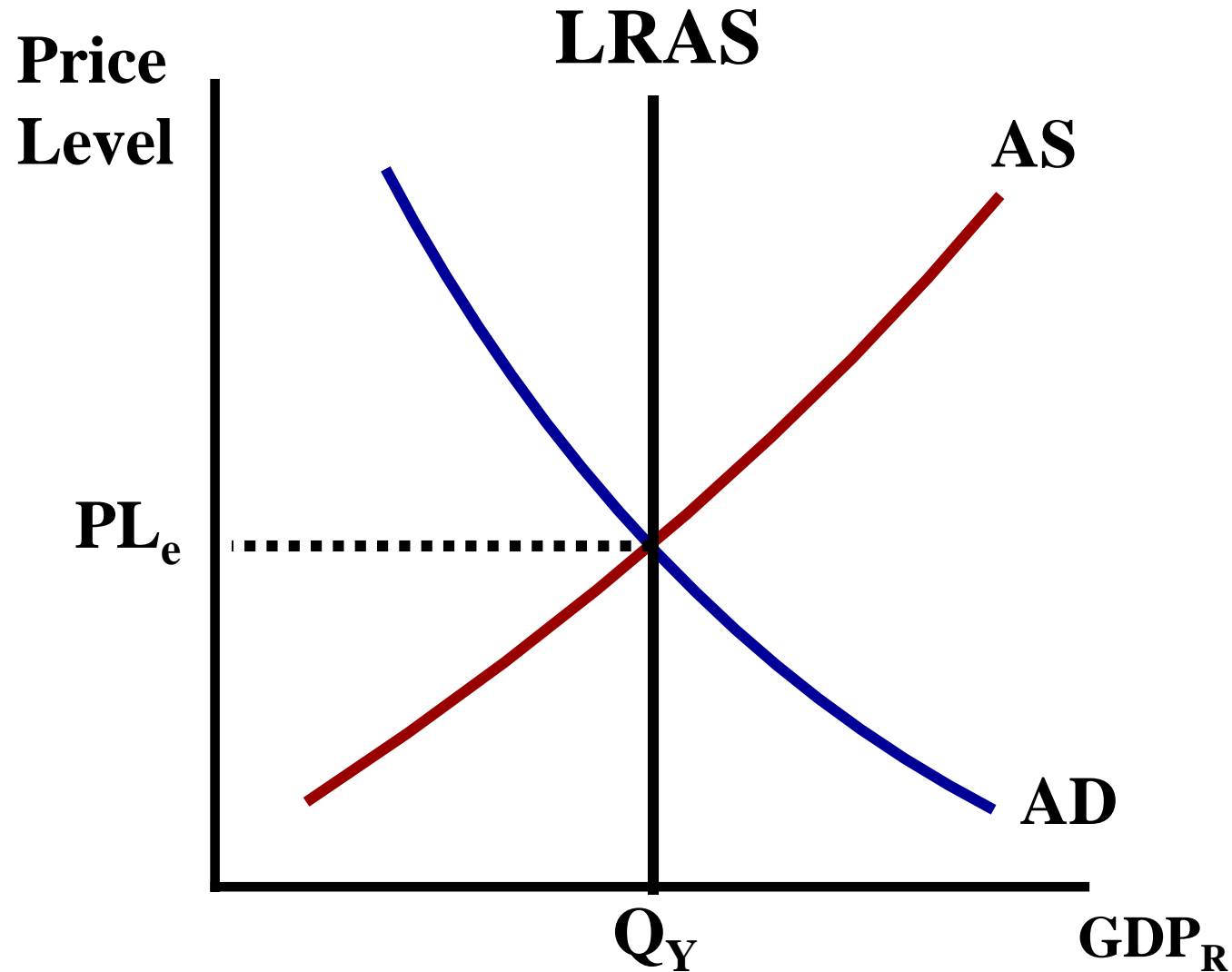


Output Increases

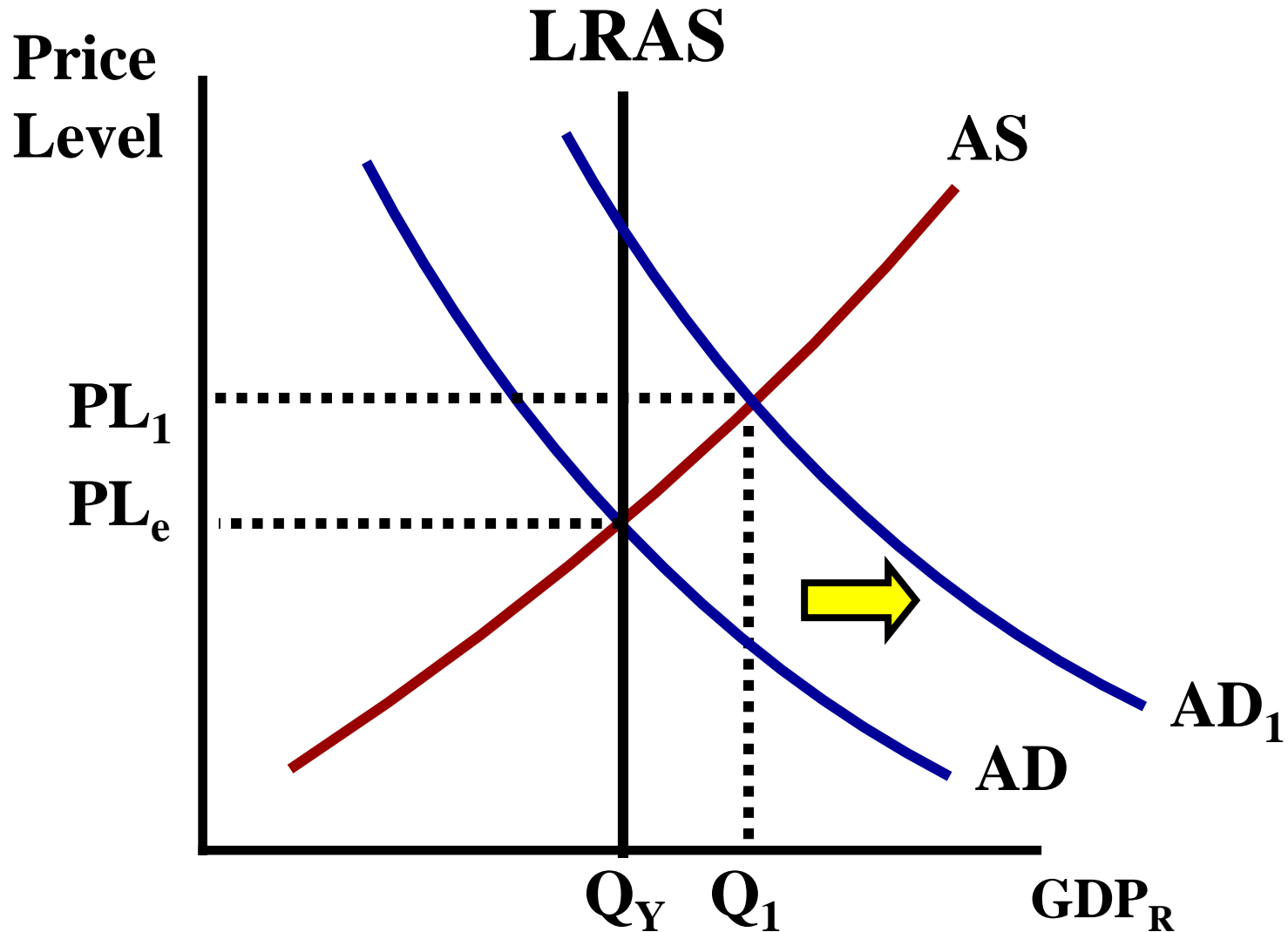
PL Increases

# **Short Run and Long Run**

# Shifts in AD or AS change the price level and output in the short run



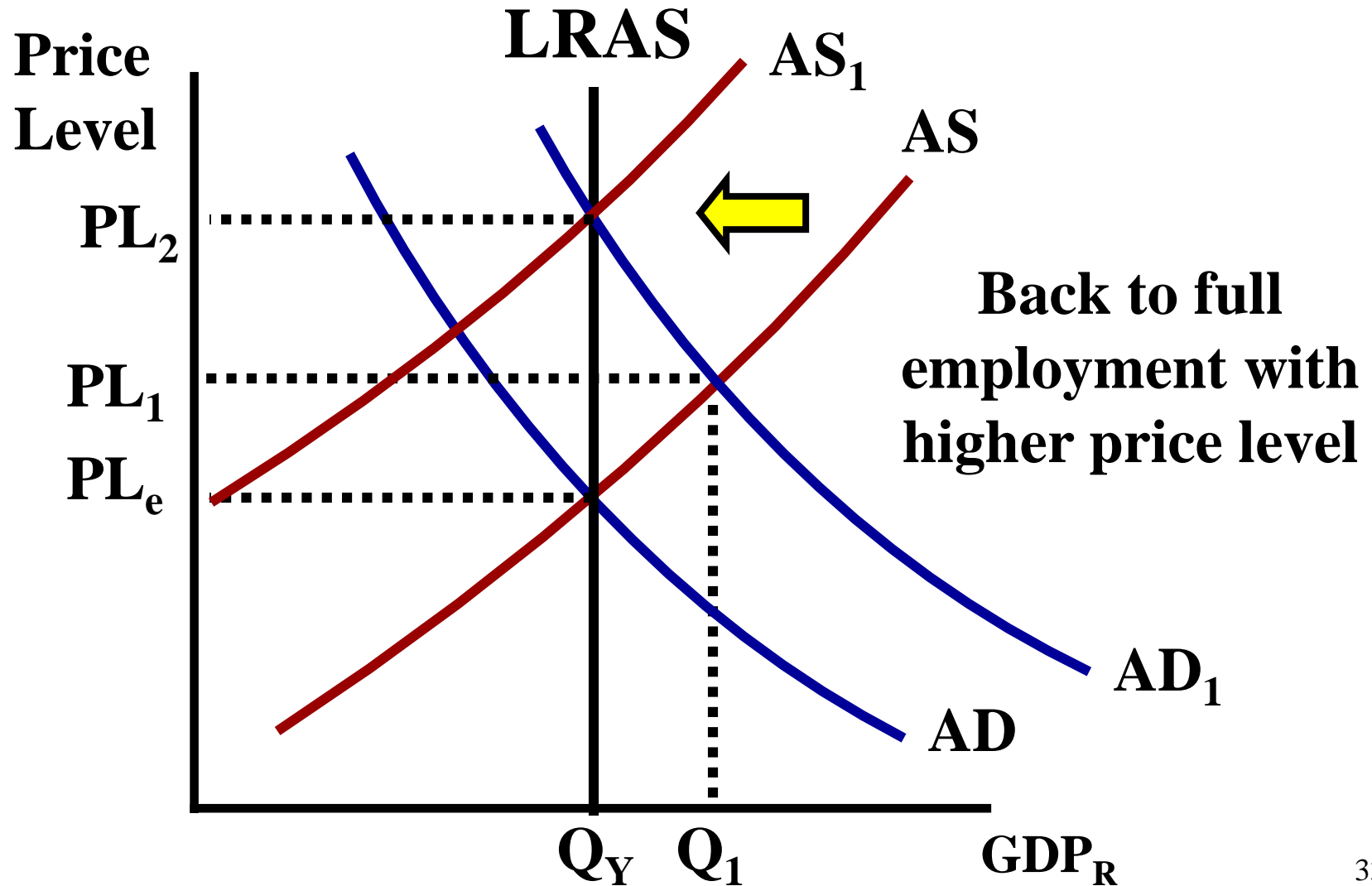
**Example: Assume consumers increase spending. What happens to PL and Output?**



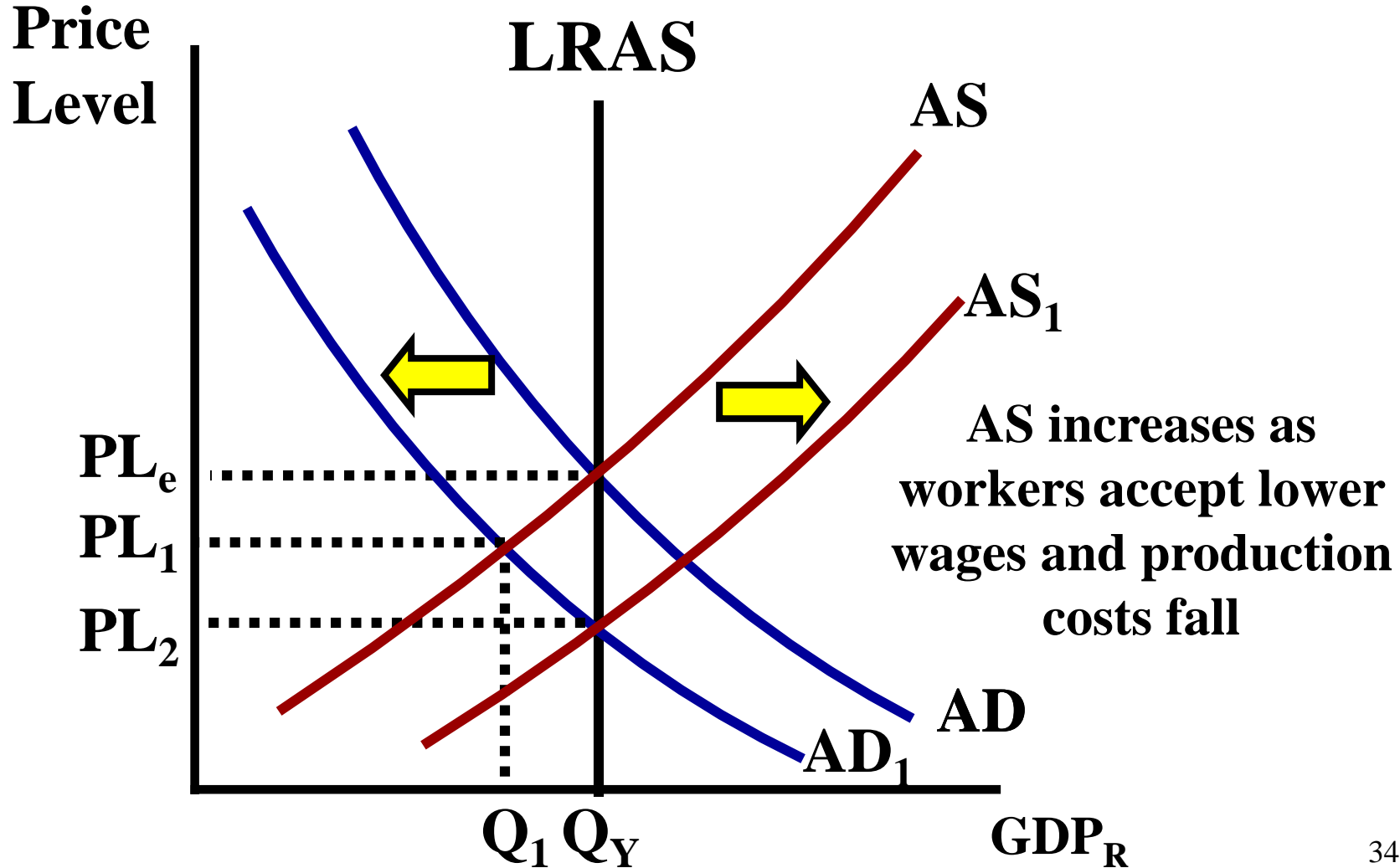


# Now, what will happen in the LONG RUN?

**Inflation means workers seek higher wages and production costs increase**

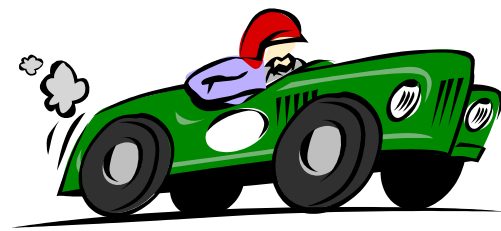


# Example: Consumer expectations fall and consumer spending plummets. What happens to PL and Output in the Short Run and Long Run?



# **Aggregate Demand and Supply and Fiscal Policy**

# The Car Analogy



The economy is like a car...

- You can drive 120mph but it is not sustainable. (**Extremely Low unemployment**)
- Driving 20mph is too slow. The car can easily go faster. (**High unemployment**)
- 70mph is sustainable. (**Full employment**)
- Some cars have the capacity to drive faster than others. (**industrial nations vs. 3<sup>rd</sup> world nations**)
- If the engine (**technology**) or the gas mileage (**productivity**) increase then the car can drive at even higher speeds. (**Increase LRAS**)

The government's job is to brake or speed up when needed as well as promote things that will improve the engine.  
(**Shift the PPC outward**)

# How does the Government Stabilizes the Economy?

**The Government has two different tool boxes it can use:**

**1. Fiscal Policy-**

**Actions by Congress to stabilize the economy.**

**OR**

**2. Monetary Policy-**

**Actions by the Federal Reserve Bank to stabilize the economy.**



# Fiscal Policy



# Two Types of Fiscal Policy

## Discretionary Fiscal Policy-

- Congress creates a new bill that is designed to change AD through government spending or taxation.
- Problem is time lags due to bureaucracy.
- Takes time for Congress to act.
- Ex: In a recession, Congress increase spending.

## Non-Discretionary Fiscal Policy

- AKA: Automatic Stabilizers
- Permanent spending or taxation laws enacted to work counter cyclically to stabilize the economy
- Ex: Welfare, Unemployment, Min. Wage, etc.
- When there is high unemployment, unemployment benefits to citizens increase consumer spending.

# **Discretionary Fiscal Policy**



## **Contractionary Fiscal Policy (The BRAKE)**

**Laws that reduce inflation, decrease GDP (Close a Inflationary Gap)**

- **Decrease Government Spending**
- **Tax Increases**
- **Combinations of the Two**

## **Expansionary Fiscal Policy (The GAS)**

**Laws that reduce unemployment and increase GDP (Close a Recessionary Gap)**

- **Increase Government Spending**
- **Decrease Taxes on consumers**
- **Combinations of the Two**

**How much should the Government Spend?**

# **Non-Discretionary Fiscal Policy**

# **Non-Discretionary Fiscal Policy**

**Legislation that act counter cyclically without explicit action by policy makers.**

*AKA: Automatic Stabilizers*

**The U.S. Progressive Income Tax System acts counter cyclically to stabilize the economy.**

- 1. When GDP is down, the tax burden on consumers is low, promoting consumption, increasing AD.**
- 2. When GDP is up, more tax burden on consumers, discouraging consumption, decreasing AD.**

**The more progressive the tax system, the greater the economy's built-in stability.**

# Problems With Fiscal Policy

- When there is a recessionary gap what two options does Congress have to fix it?
- What's wrong with combining both?

## Deficit Spending!!!!

- A **Budget Deficit** is when the government's expenditures exceeds its revenue.
- The **National Debt** is the accumulation of all the budget deficits over time.
- If the Government increases spending without increasing taxes they will increase the annual deficit and the national debt.

Most economists agree that budget deficits are a necessary evil because forcing a balanced budget would not allow Congress to stimulate the economy.

# Additional Problems with Fiscal Policy

## 1. Problems of Timing

- **Recognition Lag- Congress must react to economic indicators before it's too late**
- **Administrative Lag- Congress takes time to pass legislation**
- **Operational Lag- Spending/planning takes time to organize and execute ( changing taxing is quicker)**

## 2. Politically Motivated Policies

- **Politicians may use economically inappropriate policies to get reelected.**
- **Ex: A senator promises more welfare and public works programs when there is already an inflationary gap.**

# Additional Problems with Fiscal Policy

## 3. Crowding-Out Effect

- In basketball, what is “Boxing Out”?
- Government spending might cause unintended effects that weaken the impact of the policy.

Example:

- We have a recessionary gap
- Government creates new public library. (AD increases)
- Now but consumer spend less on books (AD decreases)

Another Example:

- The government increases spending but must borrow the money (AD increases)
- This increases the price for money (the interest rate).
- Interest rates rise so Investment to fall. (AD decrease)

**The government “crowds out” consumers  
and/or investors**

# Additional Problems with Fiscal Policy

## 4. Net Export Effect

**International trade reduces the effectiveness of fiscal policies.**

**Example:**

- **We have a recessionary gap so the government spends to increase AD.**
- **The increase in AD causes an increase in price level and interest rates.**
- **U.S. goods are now more expensive and the US dollar appreciates...**
- **Foreign countries buy less. (Exports fall)**
- **Net Exports (Exports-Imports) falls, decreasing AD.**

# Money



I LOVE  
**GOOOOLD!!!**



# Why do we use money?

**What would happen if we didn't have money?**

**The Barter System: goods and services are traded directly. There is no money exchanged.**

**Problems:**

- 1. Before trade could occur, each trader had to have something the other wanted.**
- 2. Some goods cannot be split. If 1 goat is worth five chickens, how do you exchange if you only want 1 chicken?**

**Example: A heart surgeon might accept only certain goods but not others because he doesn't like broccoli. To get the surgery, a pineapple grower must find a broccoli farmer that likes pineapples.**

# What is Money?

Money is anything that is generally accepted in payment for goods and services

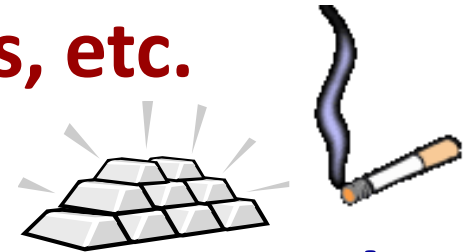
**Money is NOT the same as wealth or income**

Wealth is the total collection of assets that store value

Income is a flow of earnings per unit of time

**Commodity Money-** Something that performs the function of money and has alternative uses.

– **Examples: Gold, silver, cigarettes, etc.**



**Fiat Money-** Something that serves as money but has no other important uses.

– **Examples: Paper Money, Coins**



# 3 Functions of Money

## 1. A Medium of Exchange

- Money can easily be used to buy goods and services with no complications of barter system.

## 2. A Unit of Account

- Money measures the value of all goods and services. Money acts as a measurement of value.
- 1 goat = \$50 = 5 chickens OR 1 chicken = \$10

## 3. A Store of Value

- Money allows you to store purchasing power for the future.
- Money doesn't die or spoil.

# 3 Types of Money

**Liquidity**- ease with which an asset can be accessed and converted into cash (liquidized)

**M1 (High Liquidity)** - Coins, Currency, and Checkable deposits (personal and corporate checking accounts).

In general, this is the MONEY SUPPLY

**M2 (Medium Liquidity)** - M1 plus savings deposits (money market accounts), time deposits (CDs = certificates of deposit), and Mutual Funds below \$100K.

**M3 (Low Liquidity)** - M2 plus time deposits above \$100K.



# What backs the money supply?

There is no gold standard. Money is just an I.O.U. from the government “for all debts, public and private.”

## What makes money effective?

1. Generally Accepted - Buyers and sellers have confidence that it IS legal tender.
2. Scarce - Money must not be easily reproduced.
3. Portable and Dividable - Money must be easily transported and divided.

The **Purchasing Power** of money is the amount of goods and services any unit of money can buy.

Inflation (increases/decreases) purchasing power.  
Rapid inflation (increases/decreases) acceptability.

# **The FED and Monetary Policy**

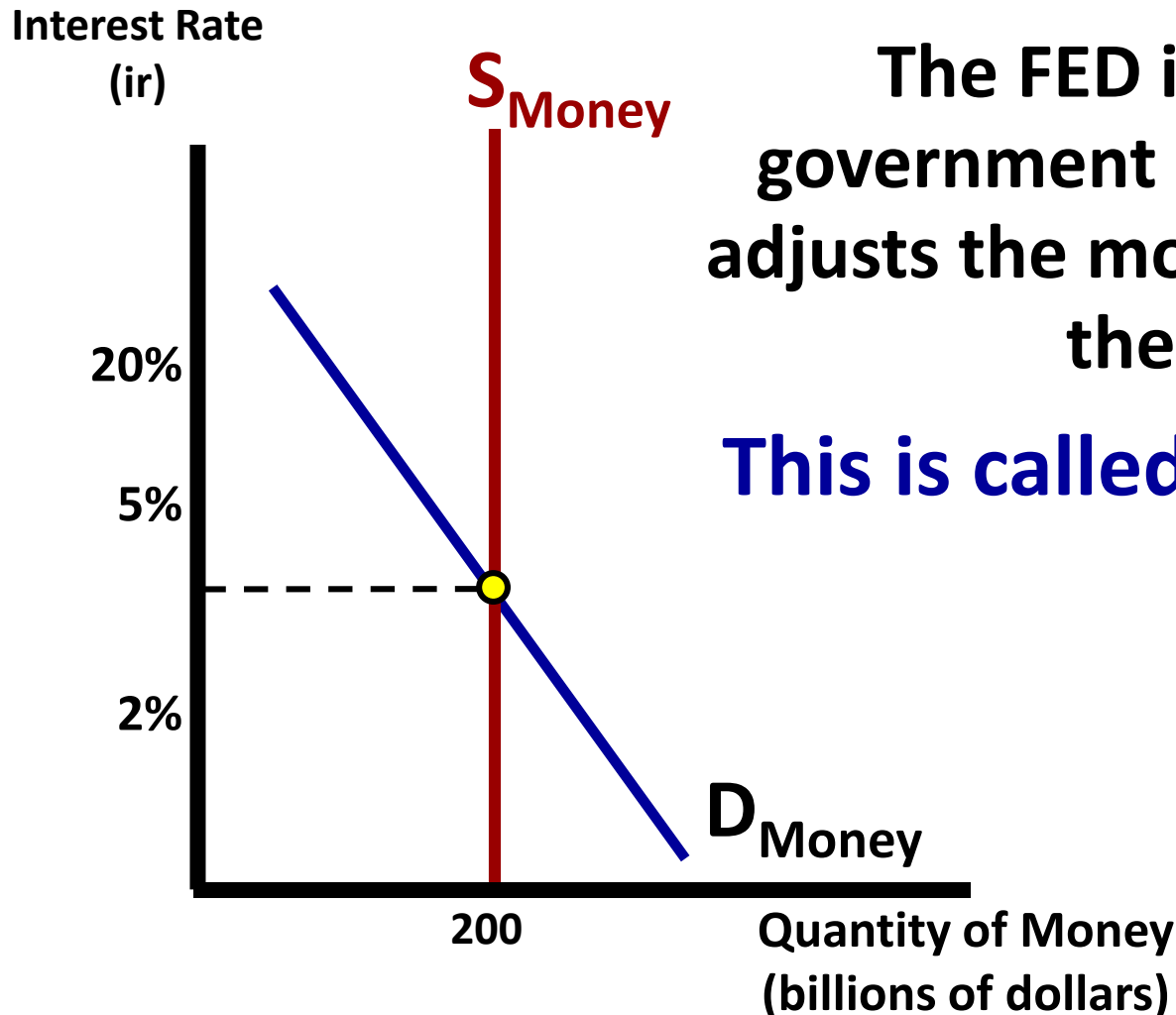
# The Money Market

## (Supply and Demand for Money)



# The Supply for Money

The U.S. Money Supply is set by the Board of Governors of the Federal Reserve System (FED)



The FED is a nonpartisan government office that sets and adjusts the money supply to adjust the economy

This is called Monetary Policy.

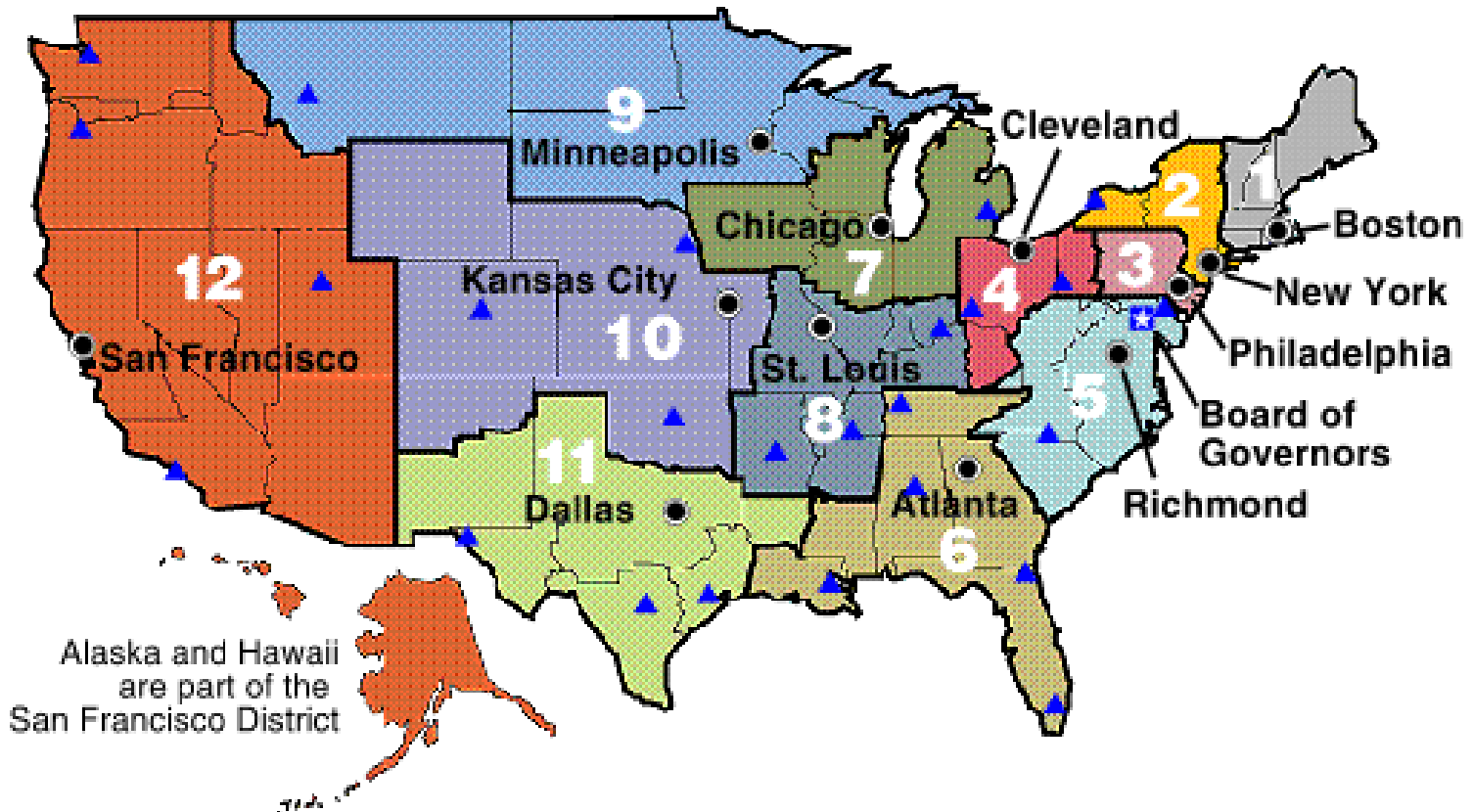




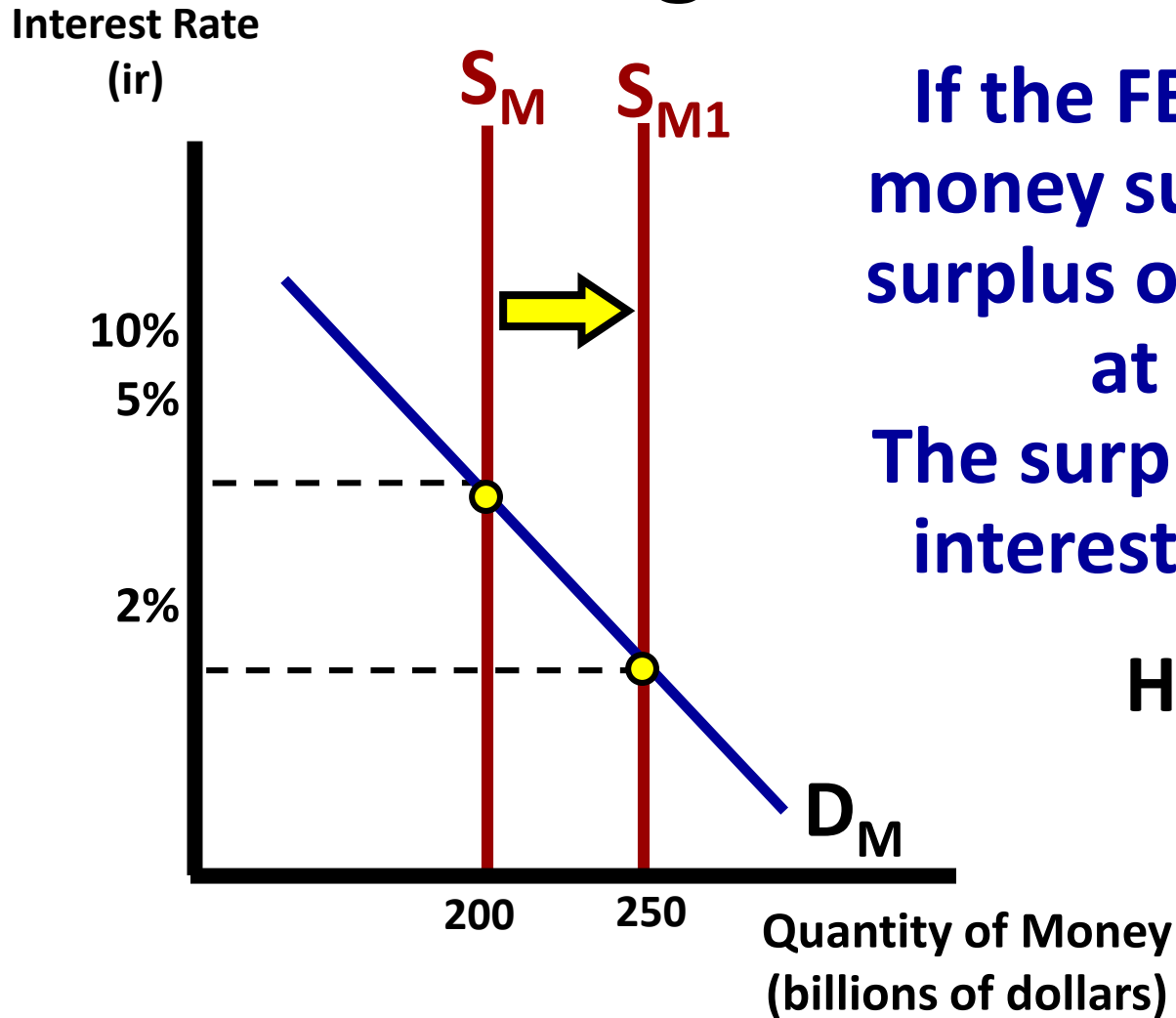
# Monetary Policy

When the FED adjusts the money supply to achieve the macroeconomic goals

What is all that stuff on my money?!?



# Increasing the Money Supply



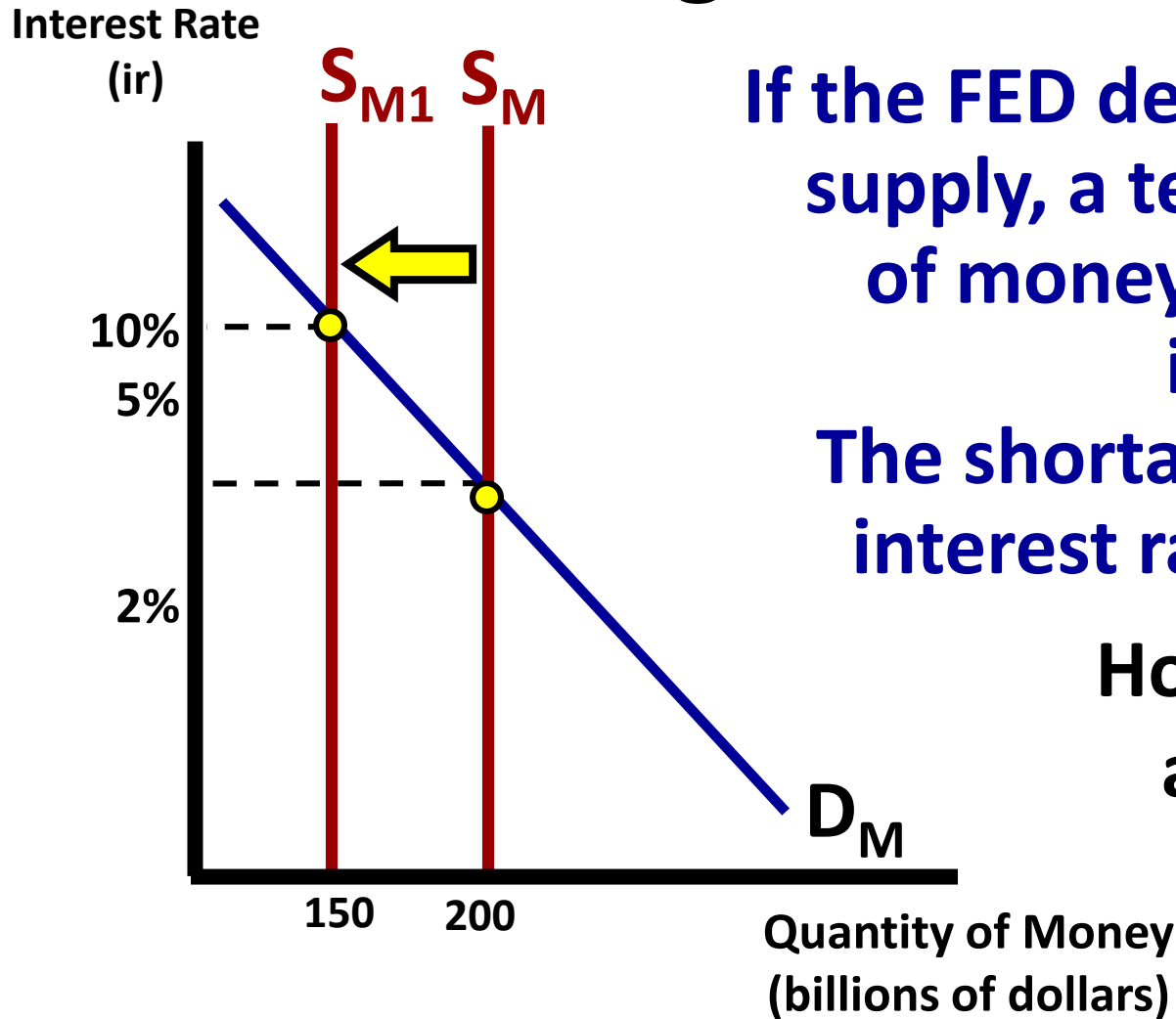
If the FED increases the money supply, a temporary surplus of money will occur at 5% interest.

The surplus will cause the interest rate to fall to 2%

How does this affect AD?

Increase money supply → Decreases interest rate → Increases investment → Increases AD

# Decreasing the Money Supply



If the FED decreases the money supply, a temporary shortage of money will occur at 5% interest.

The shortage will cause the interest rate to rise to 10%

How does this affect AD?

Decrease money supply → Increase interest rate → Decrease investment → Decrease AD

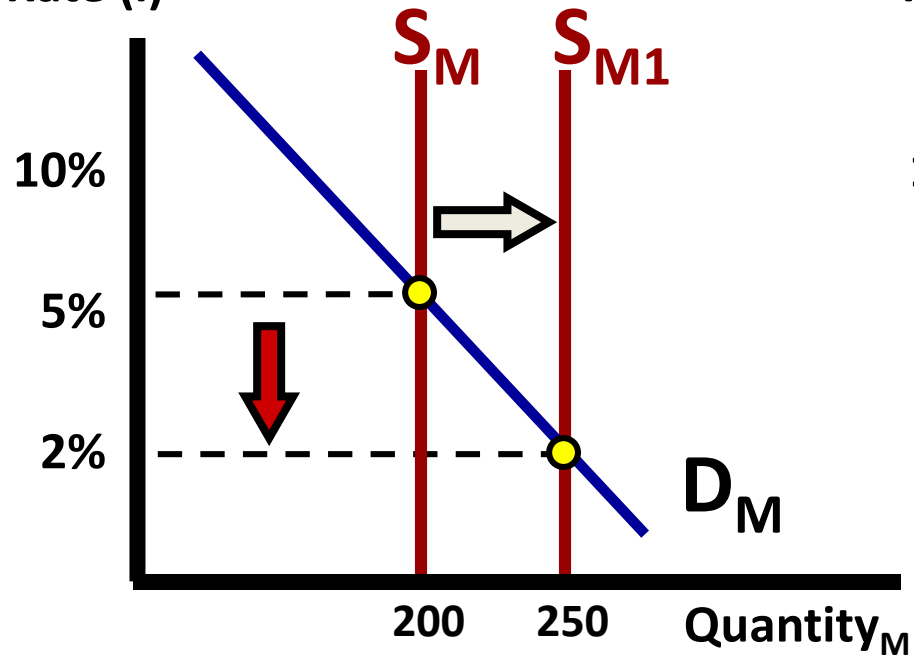
# Showing the Effects of Monetary Policy Graphically

## Three Related Graphs:

- Money Market
- Investment Demand
- AD/AS

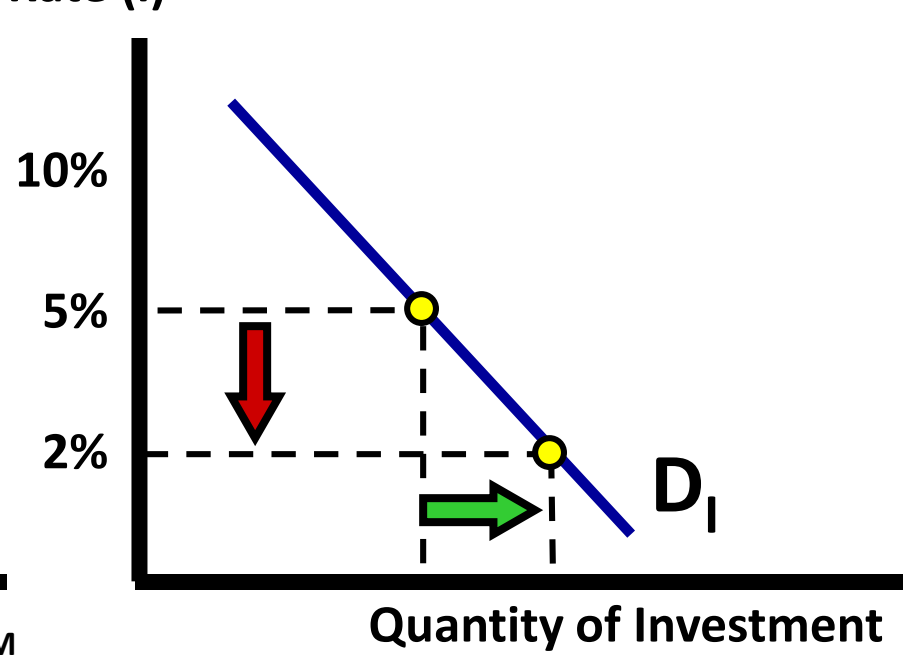
Interest Rate (i)

### S&D of Money



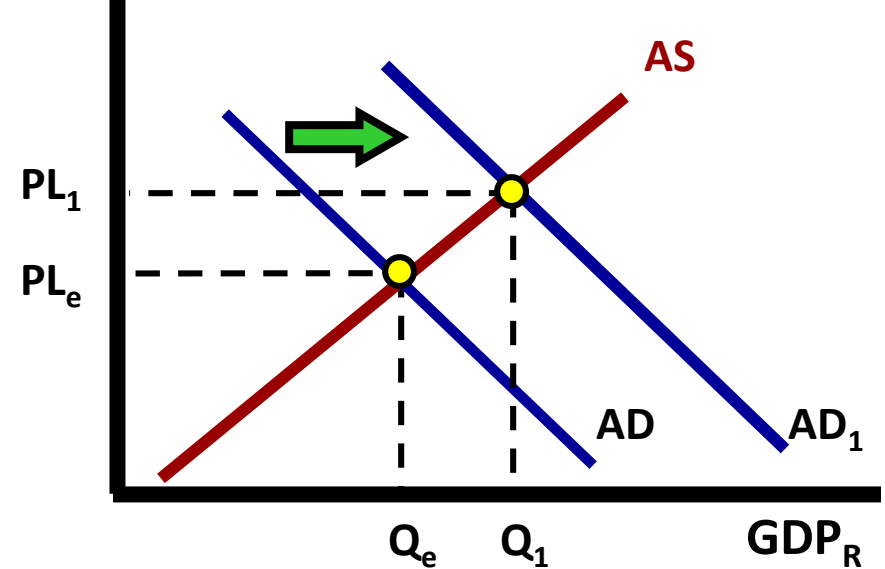
Interest Rate (i)

### Investment Demand



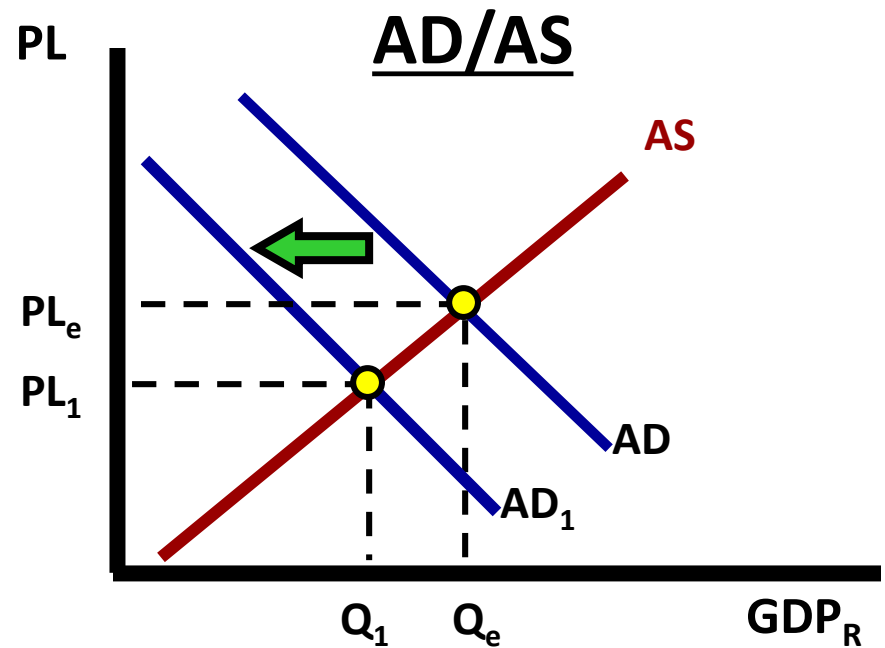
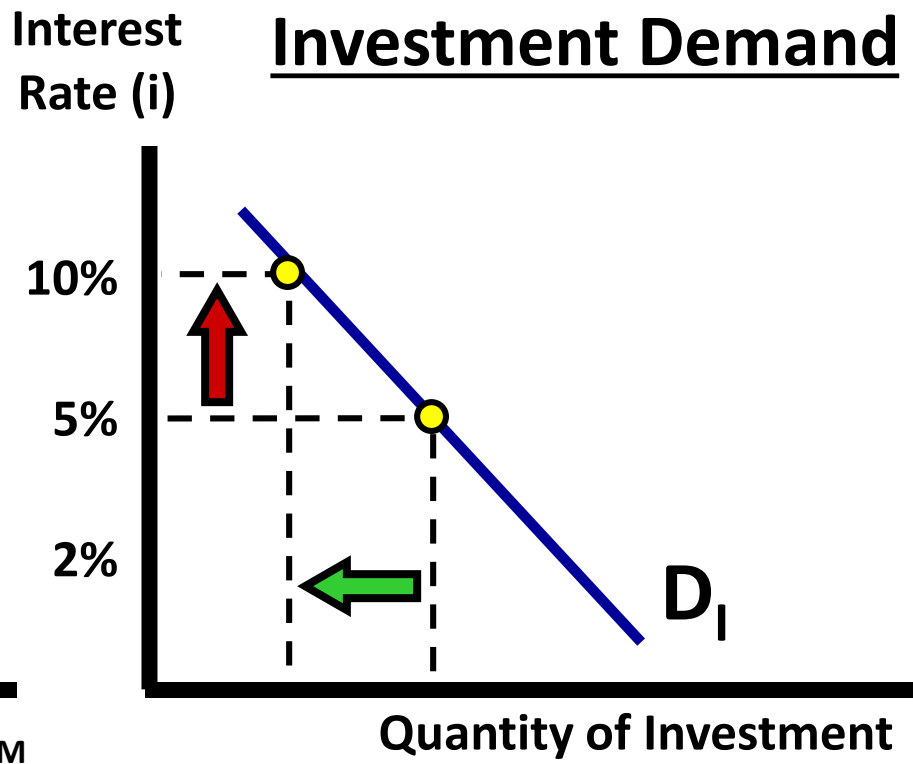
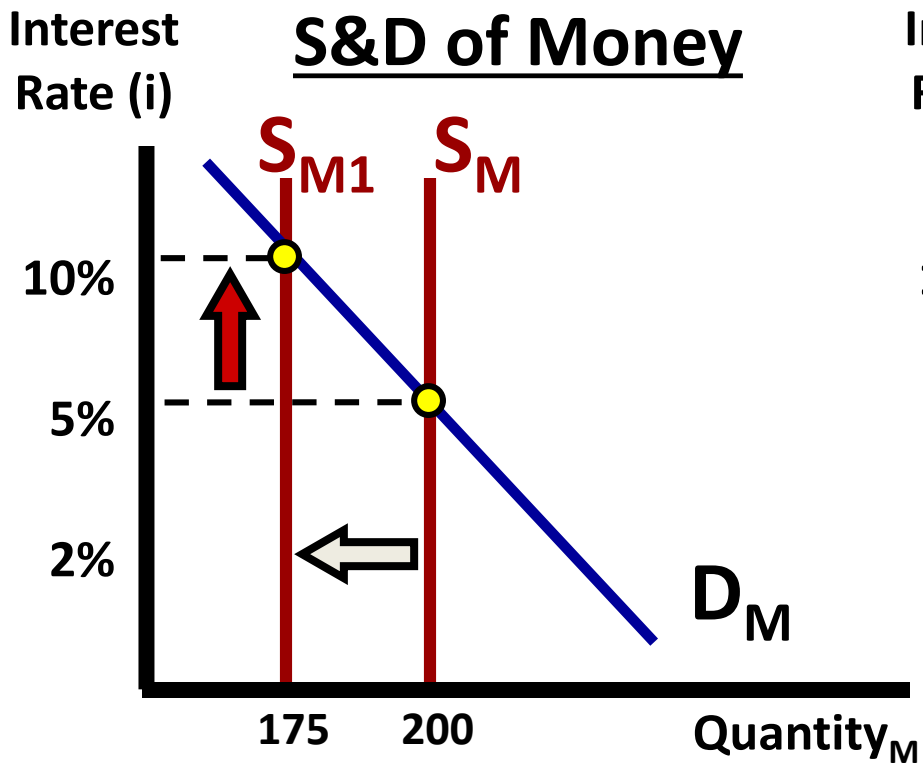
PL

### AD/AS



**The FED increases the money supply to stimulate the economy...**

1. Interest Rates Decreases
2. Investment Increases
3. AD, GDP and PL Increases

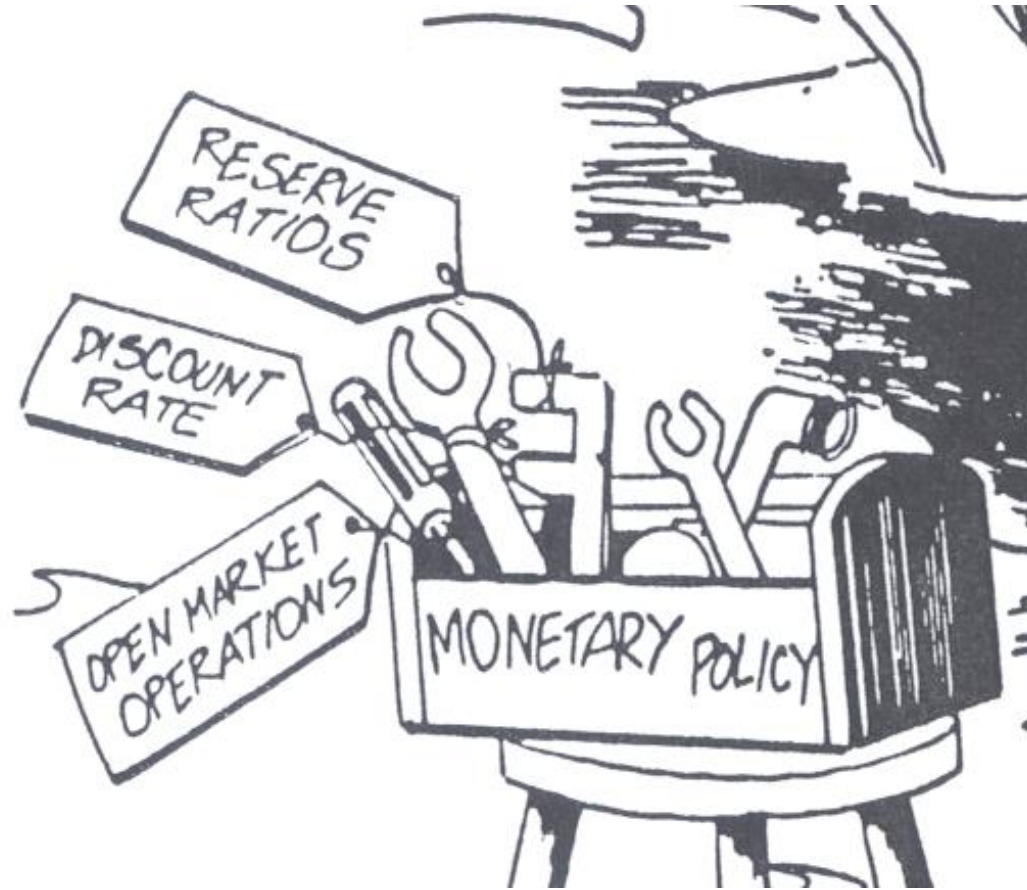


**The FED decreases the money supply to slow down the economy...**

- 1. Interest Rates increase**
- 2. Investment decreases**
- 3. AD, GDP and PL decrease**

# How the FED Stabilizes the Economy

## These are the three Shifters of Money Supply



# 3 Shifters of Money Supply

The FED adjusting the money supply by changing any one of the following:

1. Setting **Reserve Requirements (Ratios)**

2. Lending Money to Banks & Thrifts

- **Discount Rate**

3. Open Market Operations

- **Buying and selling Bonds**

The FED is now chaired by Janet Yellen.



I'm  
YELLEN!!!



# #1. The Reserve Requirement

**If you have a bank account, where is your money?**

**Only a small percent of your money is in the safe. The rest of your money has been loaned out.**

**This is called “Fractional Reserve Banking”**

**The FED sets the amount that banks must hold**

**The reserve requirement (reserve ratio) is the percent of deposits that banks must hold in reserve (the percent they CANNOT loan out)**

- **When the FED increases the money supply it increases the amount of money held in bank deposits.**
- **As banks keeps some of the money in reserve and loans out their excess reserves**
- **The loan eventually becomes deposits for another bank that will loan out their excess reserves.**

# The Money Multiplier

**Example: Assume the reserve ratio in the US is 10%**

**You deposit \$1000 in the bank**

**The bank must hold \$100 (required reserves)**

**The bank lends \$900 out to Bob (excess reserves)**

**Bob deposits the \$900 in his bank**

**Bob's bank must hold \$90. It loans out \$810 to Jill**

**Jill deposits \$810 in her bank**

**SO FAR, the initial deposit of \$1000 caused the CREATION of another \$1710 (Bob's \$900 + Jill's \$810)**

$$\text{Money Multiplier} = \frac{1}{\text{Reserve Requirement (ratio)}}$$

**Example:**

- If the reserve ratio is .20 and the money supply increases 2 Billion dollars. How will the money supply increase (multiply)?**

# Using Reserve Requirement

**1. If there is a recession, what should the FED do to the reserve requirement? (Explain the steps.)**

## **Decrease the Reserve Ratio**

1. Banks hold less money and have more excess reserves
2. Banks create more money by loaning out excess
3. Money supply increases, interest rates fall, AD goes up

**2. If there is inflation, what should the FED do to the reserve requirement? (Explain the steps.)**

## **Increase the Reserve Ratio**

1. Banks hold more money and have less excess reserves
2. Banks create less money
3. Money supply decreases, interest rates up, AD down

## #2. The Discount Rate

**The Discount Rate is the interest rate that the FED charges commercial banks.**

**Example:**

- **If Banks of America needs \$10 million, they borrow it from the U.S. Treasury (which the FED controls) but they must pay it bank with 3% interest.**

**To increase the Money supply, the FED should \_\_\_\_\_ the Discount Rate (Easy Money Policy).**

**To decrease the Money supply, the FED should \_\_\_\_\_ the Discount Rate (Tight Money Policy).**

# #3. Open Market Operations

- Open Market Operations is when the FED buys or sells government bonds (securities).
- This is the most important and widely used monetary policy

To increase the Money supply, the FED should \_\_\_\_\_ government securities.

To decrease the Money supply, the FED should \_\_\_\_\_ government securities.

**How are you going to remember?**

**Buy-BIG- Buying bonds increases money supply**

**Sell-SMALL- Selling bonds decreases money supply**

# **International Trade**

**Why do people trade?**

# Why do people trade?

1. Assume people didn't trade. What things would you have to go without?

**Everything you don't produce yourself!**

**(Clothes, car, cell phone, bananas, health care, etc)**

**The Point: Everyone specializes in the production of goods and services and trades it to others**

2. What would life be like if cities couldn't trade with cities or states couldn't trade with states?

**Limiting trade would reduce people's choices and make people worse off.**

**The Point: More access to trade means more choices and a higher standard of living.**

# **Absolute and Comparative Advantage**



# Per Unit Opportunity Cost Review

$$\text{Per Unit Opportunity Cost} = \frac{\text{Opportunity Cost}}{\text{Units Gained}}$$

Assume it costs you \$50 to produce 5 t-shirts. What is your PER UNIT cost for each shirt?

**\$10 per shirt**

**Now, take money out of the equation. Instead of producing 5 shirts you could have made 10 hats.**

1. What is your PER UNIT OPPORTUNITY COST for each shirt in terms of hats given up?

**1 shirt costs 2 hats**

2. What is your PER UNIT OPPORTUNITY COST for each hat in terms of shirts given up?

**1 hat costs a half of a shirt**

# Per Unit Opportunity Cost Review

Ronald McDonald can produce 20 pizzas or 200 burgers

Papa John can produce 100 pizzas or 200 burgers

1. What is Ronald's opportunity cost for one pizza in terms of burgers given up? 1 pizza cost 10 burgers
2. What is Ronald's opportunity cost for one burger in terms of pizza given up? 1 burger costs 1/10 pizza
3. What is Papa John's opportunity cost for one pizza in terms of burgers given up? 1 pizza costs 2 burgers
4. What is Papa John's opportunity cost for one burger in terms of pizza given up? 1 burger costs 1/2 pizza

Ronald has a COMPARATIVE ADVANTAGE in the production of burgers

Papa John has a COMPARATIVE ADVANTAGE in the production of pizza

# Absolute and Comparative Advantage

## Absolute Advantage

- The producer that can produce the most output OR requires the least amount of inputs (resources)
- Ex: Papa John has an absolute advantage in pizzas because he can produce 100 and Ronald can only make 20.

## Comparative Advantage

- The producer with the lowest opportunity cost.
- Ex: Ronald has a comparative advantage in burgers because he has a lowest PER UNIT opportunity cost.

**Countries should trade if they have a relatively lower opportunity cost.**

**They should specialize in the good that is “cheaper” for them to produce.**

# **Benefits of Specialize and Trade**

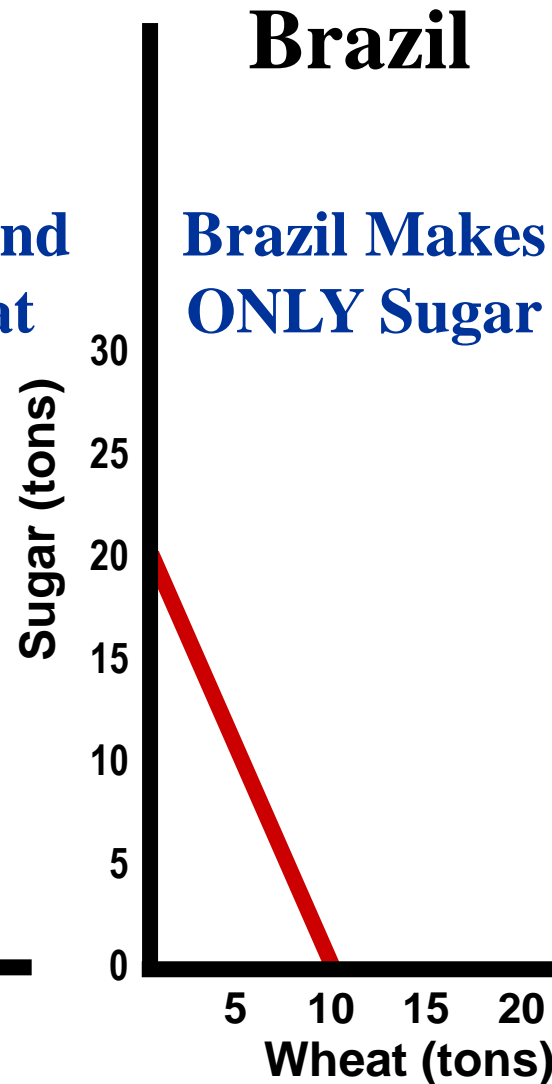
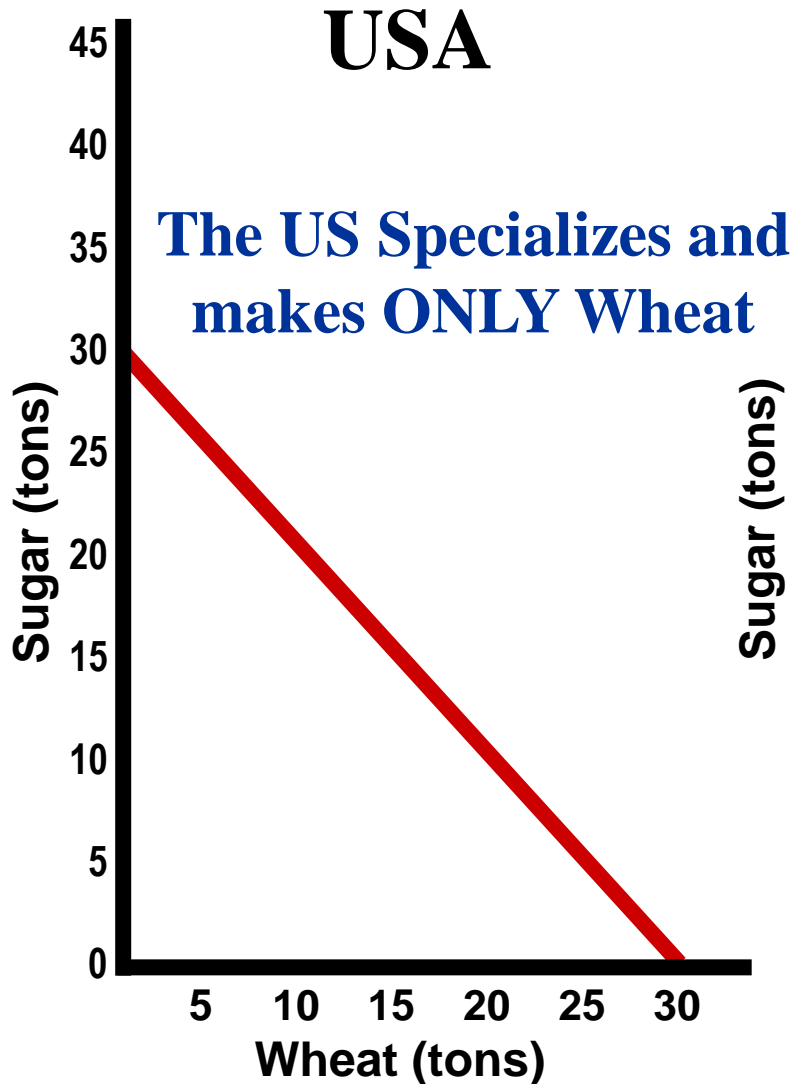


# International Trade



## Trade: 1 Wheat for 1.5 Sugar

S	W
0	30
1.5	29
3	28
4.5	27
6	26
7.5	25
9	24
10.5	23
12	22
13.5	21
15	20
16.5	19
18	18
19.5	17



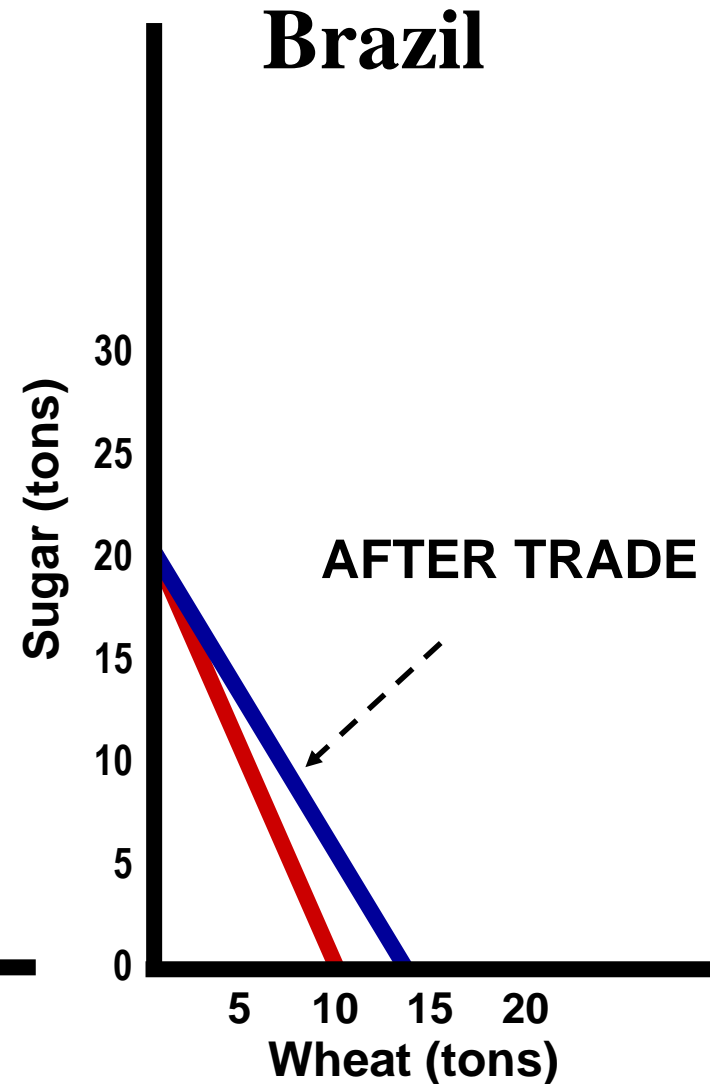
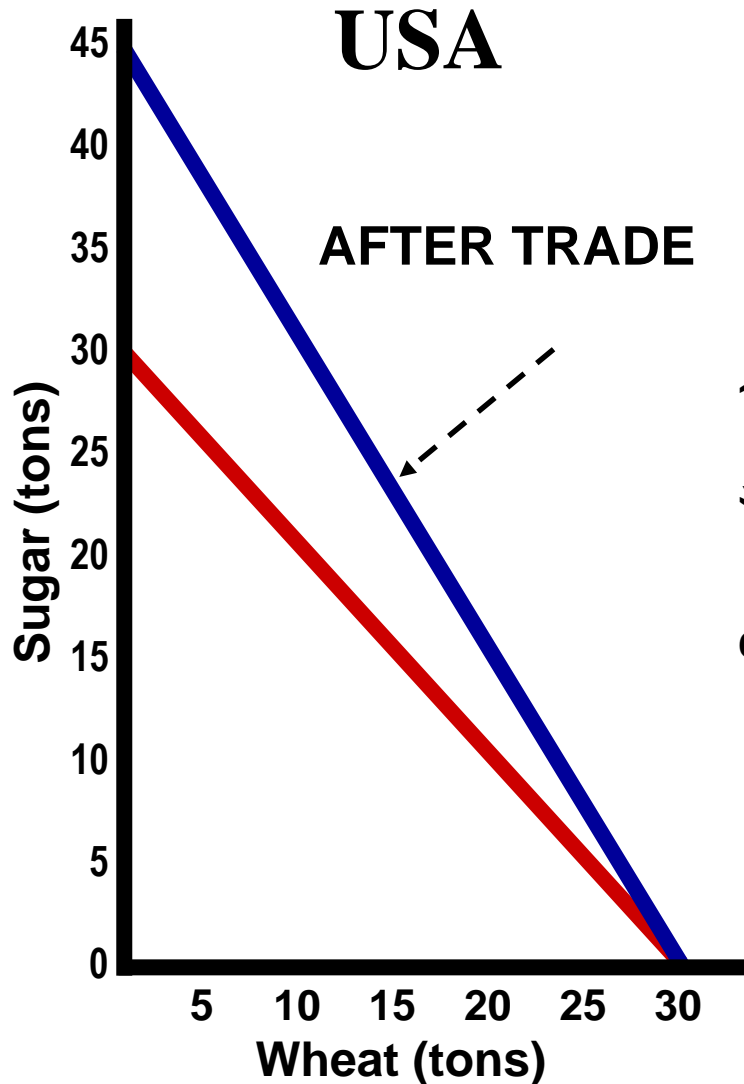
S	W
20	0
18.5	1
17	2
15.5	3
14	4
12.5	5
11	6
9.5	7
8	8
6.5	9
5	10
3.5	11



# International Trade



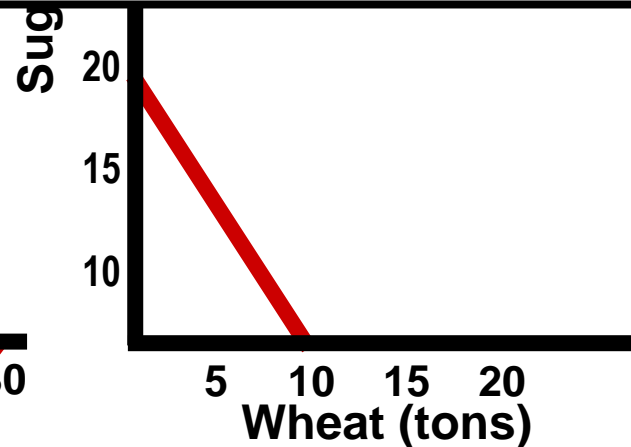
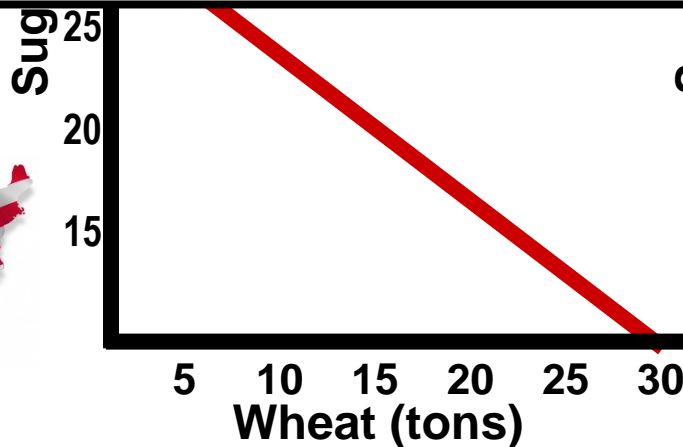
## TRADE SHIFTS THE PPC!



	Wheat	Sugar
<b>USA</b>	<b>30</b> (1W costs 1S)	<b>30</b> (1S costs 1W)
<b>Brazil</b>	<b>10</b> (1W costs 2S)	<b>20</b> (1S costs 1/2W)

**Which country has a comparative advantage in wheat?**

- 1. Which country should EXPORT Sugar?**
- 2. Which country should EXPORT Wheat?**
- 3. Which country should IMPORT Wheat?**



# Determining Comparative Advantage (Output Method)

The following chart illustrates the number of CDs and pounds of beef that can be produced in one hour.

	<u>CDs</u>	<u>Beef</u>
Japan	4	2
Canada	4	6

## Output Questions:

OOO=

Output: Other goes Over

1. Which nation has an *absolute advantage* in producing CDs?
2. Which nation has an *absolute advantage* in producing beef?
3. Which has a *comparative advantage* in producing CDs?
4. Which has a *comparative advantage* in producing beef?
5. Should Japan specialize in CDs or beef?
6. Should Canada specialize in CDs or beef?



# Determining Comparative Advantage (Input Method)

The following chart illustrates the number of hours it takes to produce one loaf of bread and one bushel of corn.

	<u>Bread</u>	<u>Corn</u>
United States	4	2
France	4	6

1. Which nation has an *absolute advantage* in producing bread?
2. Which nation has an *absolute advantage* in producing corn?
3. Which has a *comparative advantage* in producing bread?
4. Which has a *comparative advantage* in producing corn?

**Input Questions:**

**IOU=**

**Input: Other goes Under**



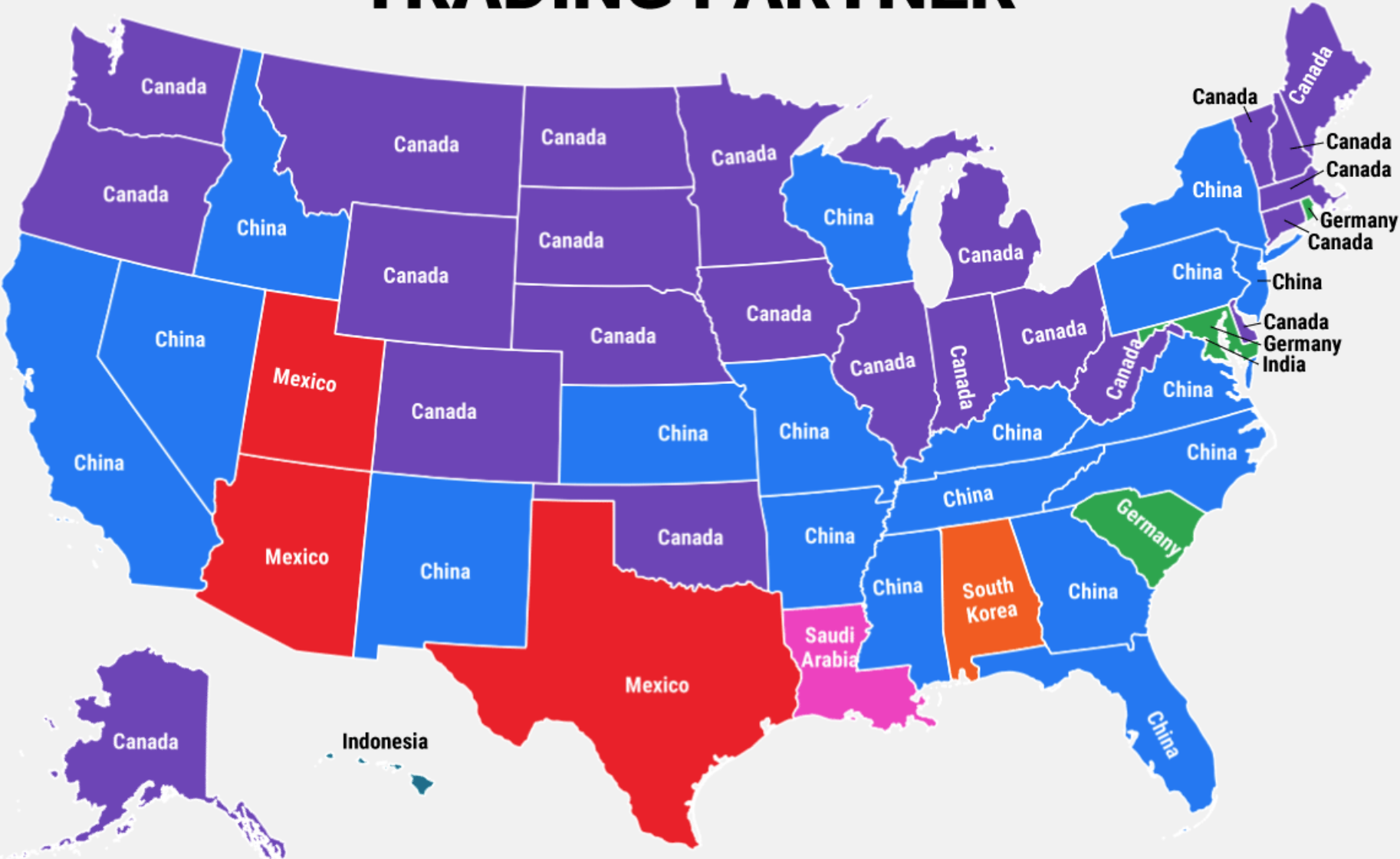
# International Trade



SOURCE: US Census Bureau

BUSINESS INSIDER

# EACH STATE'S BIGGEST IMPORT TRADING PARTNER



SOURCE: US Census Bureau

## **Closed vs. Open Economies**

**A closed economy focuses only on the domestic price and the open economy trades for the lower world price.**

## **Closed vs. Open Economies**

**A closed economy focuses only on the domestic price and the open economy trades for the lower world price.**

# Balance of Trade

**Net Exports ( $X_N$ ) = Exports – Imports**

**Trade Surplus = Exporting more than is imported**

**Trade Deficit (aka. trade gap) = Exporting less than is imported**

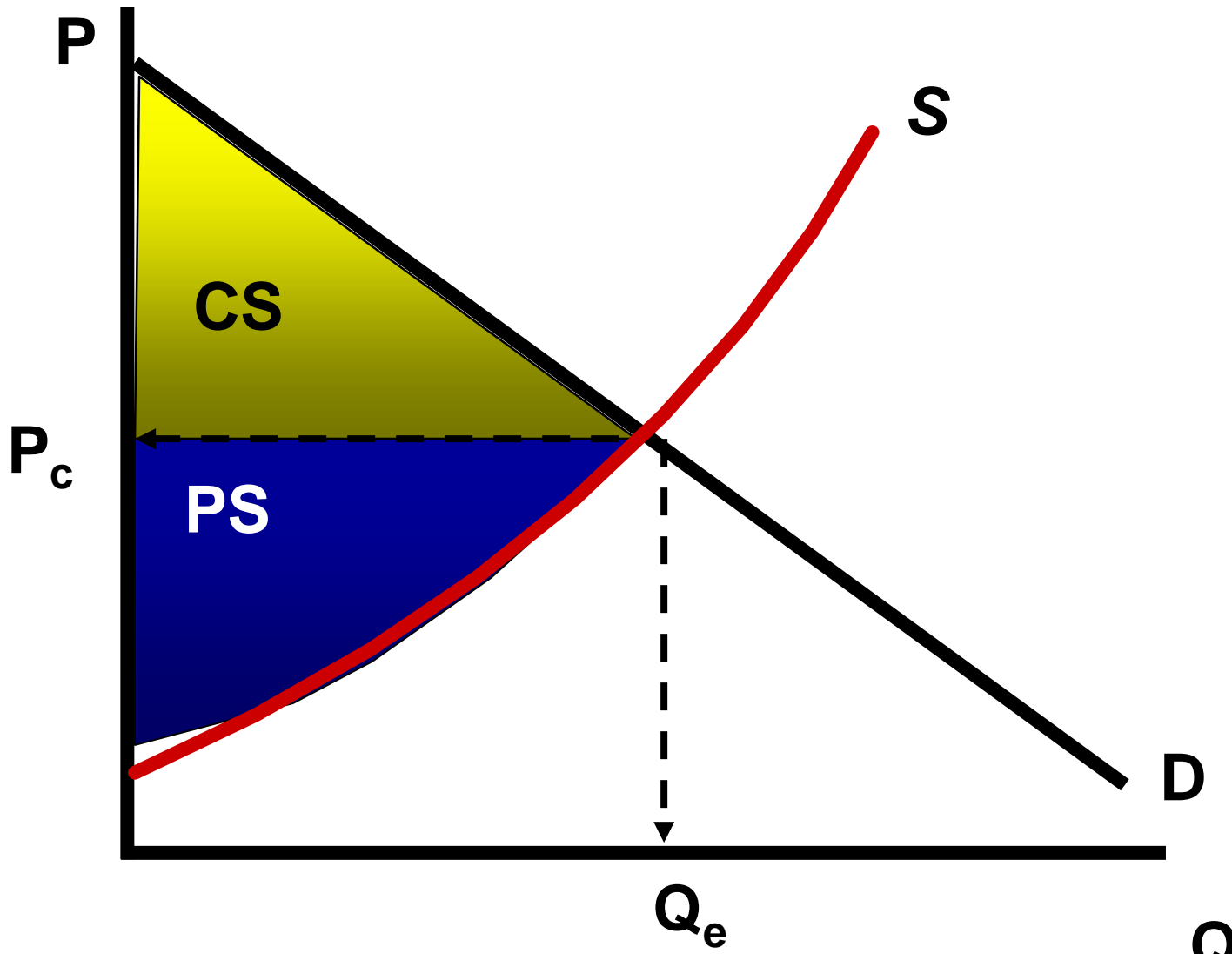
Principal U.S. Exports and Imports of Goods, 2002  
(in Billions of Dollars)

Exports	Amount	Imports	Amount
Chemicals	\$49.8	Automobiles	\$114.1
Semiconductors	42.3	Petroleum	103.6
Consumer durables	40.1	Computers	75.3
Computers	38.6	Household appliances	66.4
Generating equipment	27.6	Clothing	64.3
Aircraft	26.7	Chemicals	33.1
Telecommunications	22.2	Consumer electronics	32.8
Automobiles	20.5	Semiconductors	26.0
Grains	14.4	Telecommunications	23.2
Nonferrous metals	12.2	Iron and steel	17.7

Source: Consolidated from Department of Commerce data.

**Who wins and loses with  
trade?**

# Supply and Demand Review

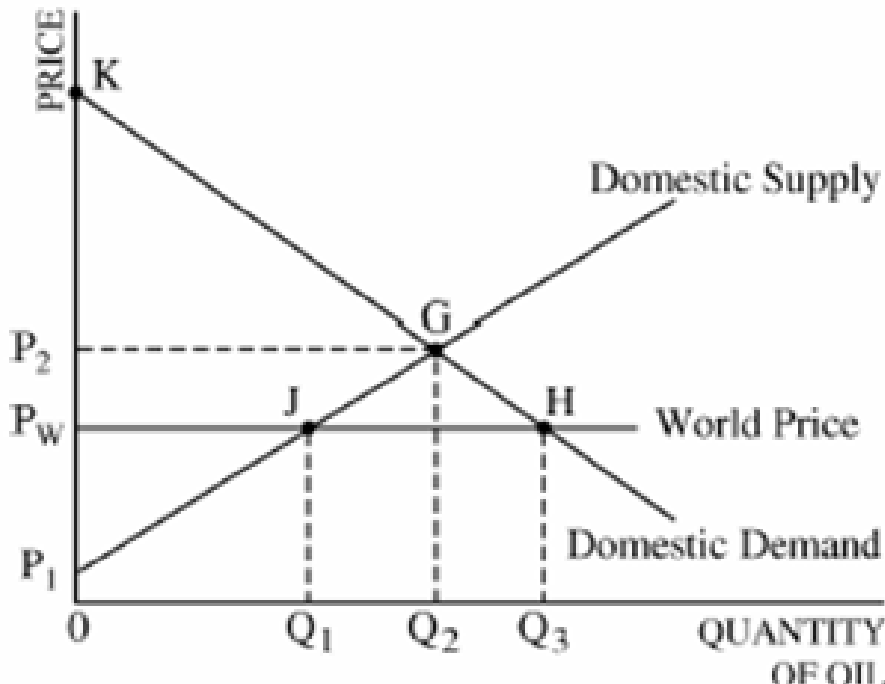




The graph above shows the demand for oil by United States residents, the supply of oil by United States producers, and the world price of oil. Use the labeling of the graph to answer the following questions.

- (a) Identify the following before international trade occurs.
  - (i) Price of oil in the United States market
  - (ii) Quantity of oil produced in the United States
- (b) Now assume that the United States begins to import oil at the world market price of  $P_w$ . Identify the quantity imported by the United States.
- (c) Identify the consumer surplus in the United States market for each of the following cases.
  - (i) Before international trade
  - (ii) After international trade
- (d) Identify the producer surplus in the United States market for each of the following cases.
  - (i) Before international trade
  - (ii) After international trade
- (e) Identify the net gain in total surplus from trade.

1. Who benefits from trade?
2. Who loses?
3. Is total benefit bigger or smaller with trade?





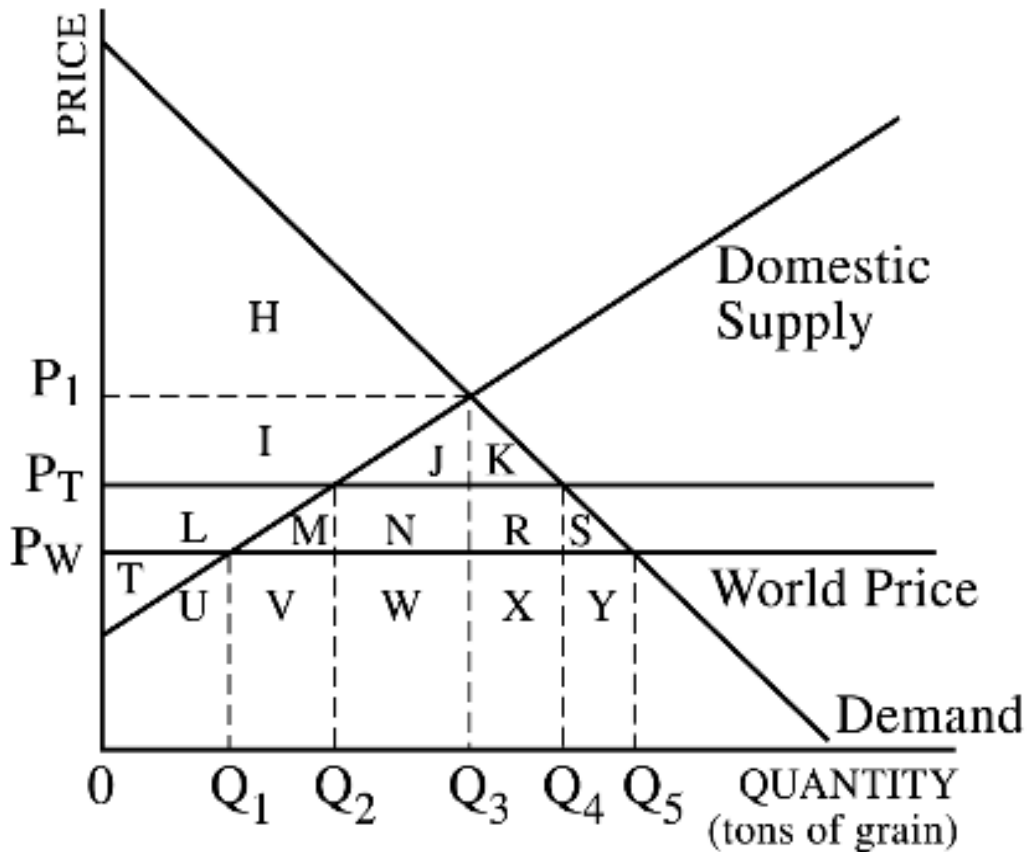
# Import Quotas

**A quota is a limit on number of imports.  
The government sets the maximum amount that  
can come in the country.**

**Purpose:**

- **To protect domestic producers from a cheaper world price.**
- **To prevent domestic unemployment**

# International Trade and Quotas



This graph shows the domestic supply and demand for grain.

The letters represent areas.

Identify the following:

1. CS with no trade
2. PS with no trade
3. CS if we trade at world price ( $P_W$ )
4. PS if we trade at world price ( $P_W$ )
5. Amount we import at world price ( $P_W$ )
6. If the government sets a quota on imports of  $Q_4 - Q_2$ , what happens to CS and PS?
7. What does this tell us about free trade?