

# AP MACRO ECONOMICS

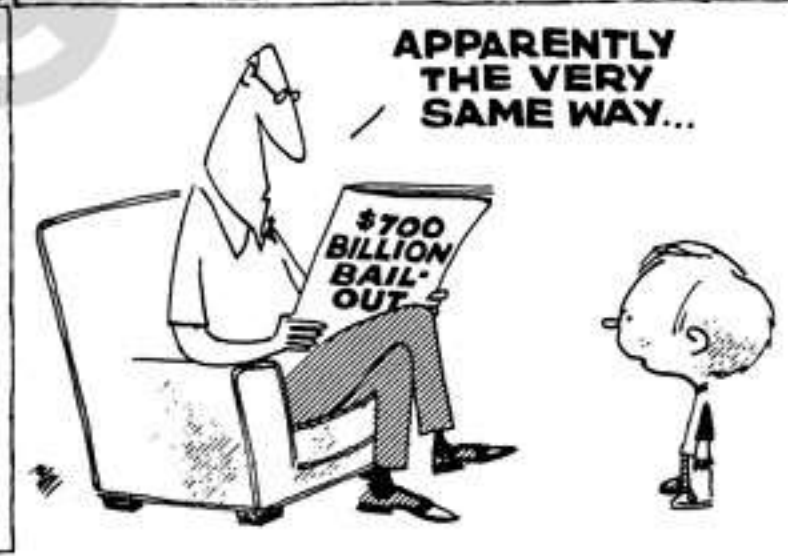
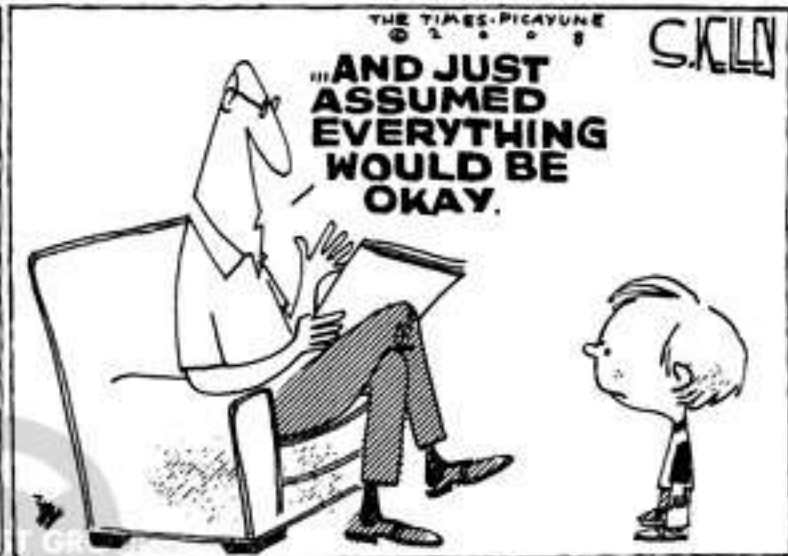
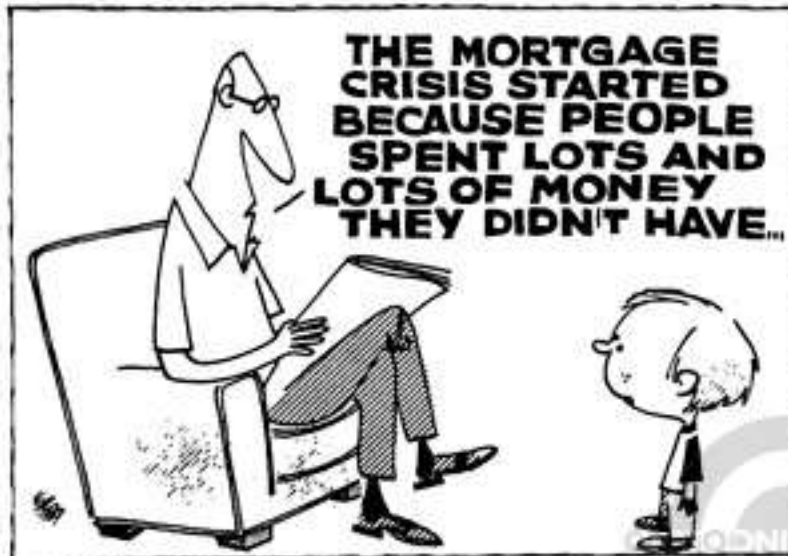
## UNIT 6 : MR. LIPMAN

INFLATION, UNEMPLOYMENT, AND  
STABILIZATION POLICIES

MODULES 30-36

# MODULE 30

LONG RUN IMPLICATIONS OF FISCAL  
POLICY: DEFICITS AND THE PUBLIC  
DEBT



# 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.**



# Module 30 focuses on Fiscal Policy.



- A **deficit** is the amount by which **annual** government spending exceeds tax revenues.



- The **public debt** is the total accumulation of all past yearly deficits and surpluses.
  - Some agencies of government hold some debt; thus one agency of government owes money to another.
  - The rest of the debt is owed to investors (foreign and domestic), and other countries

- In the past decade, foreign holdings have doubled to just around 50% of debt owned by the public, and over half of this is held by Asian countries.
- Why such a rapid expansion of foreign holdings since the 1990s?
  - The reason seems to be that these countries are buying debt to keep their currencies from rising relative to the dollar.



**TABLE 1**      **Distribution of National Debt, as of December 2009 (trillions)**

Held by Federal Reserve and government agencies	\$5.277	42.9%
Held by the public	7.034	57.1
Held by foreigners	3.497	49.7
Held domestically	3.537	50.3
Total national debt	12.311	100.0

- A **surplus** is the amount by which annual tax revenues exceed government expenditures.
  - In 2000, the budget surplus was \$236.4 billion. By 2003, tax cuts, a recession, and new commitments for national defense and homeland security had turned the budget surpluses of 1998-2001 into a deficit of roughly \$400 billion for fiscal year 2004.
  - In 2011, the budget deficit was over \$1.5 Trillion

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

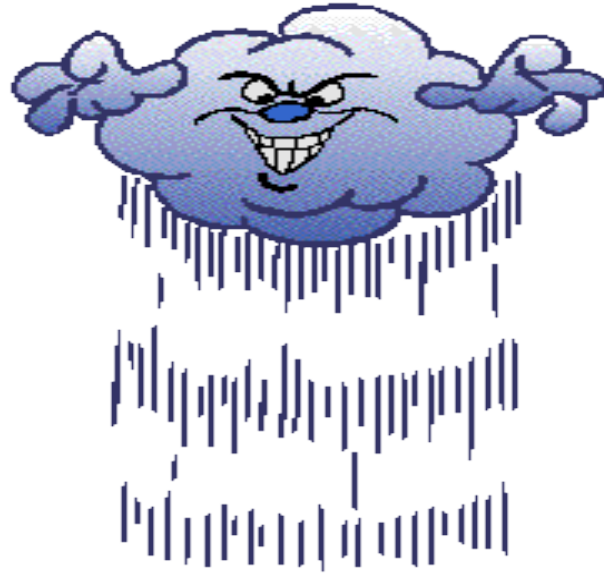
**Laws that reduce inflation, decrease GDP**

- **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**



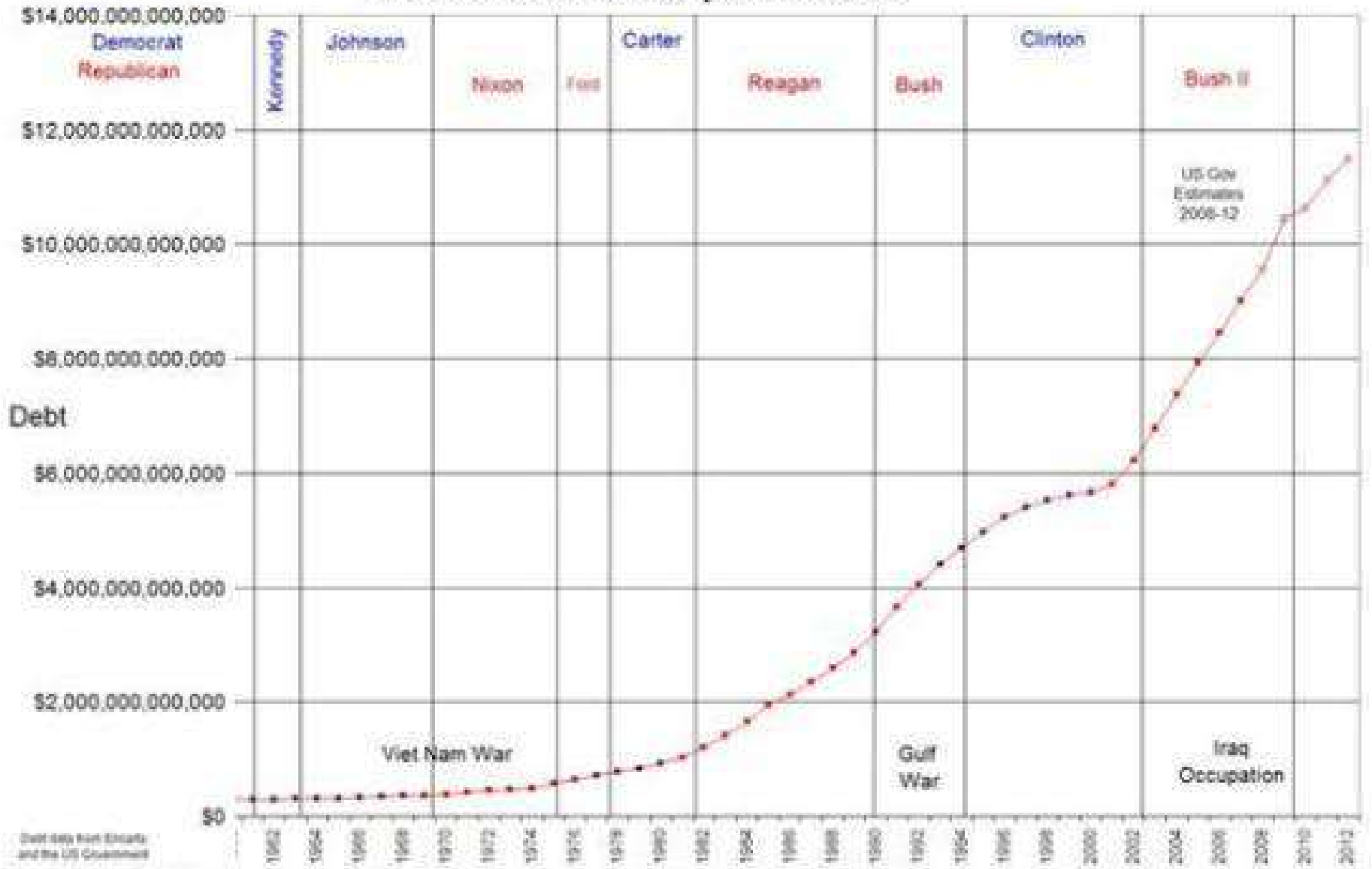
# Problems With Fiscal Policy

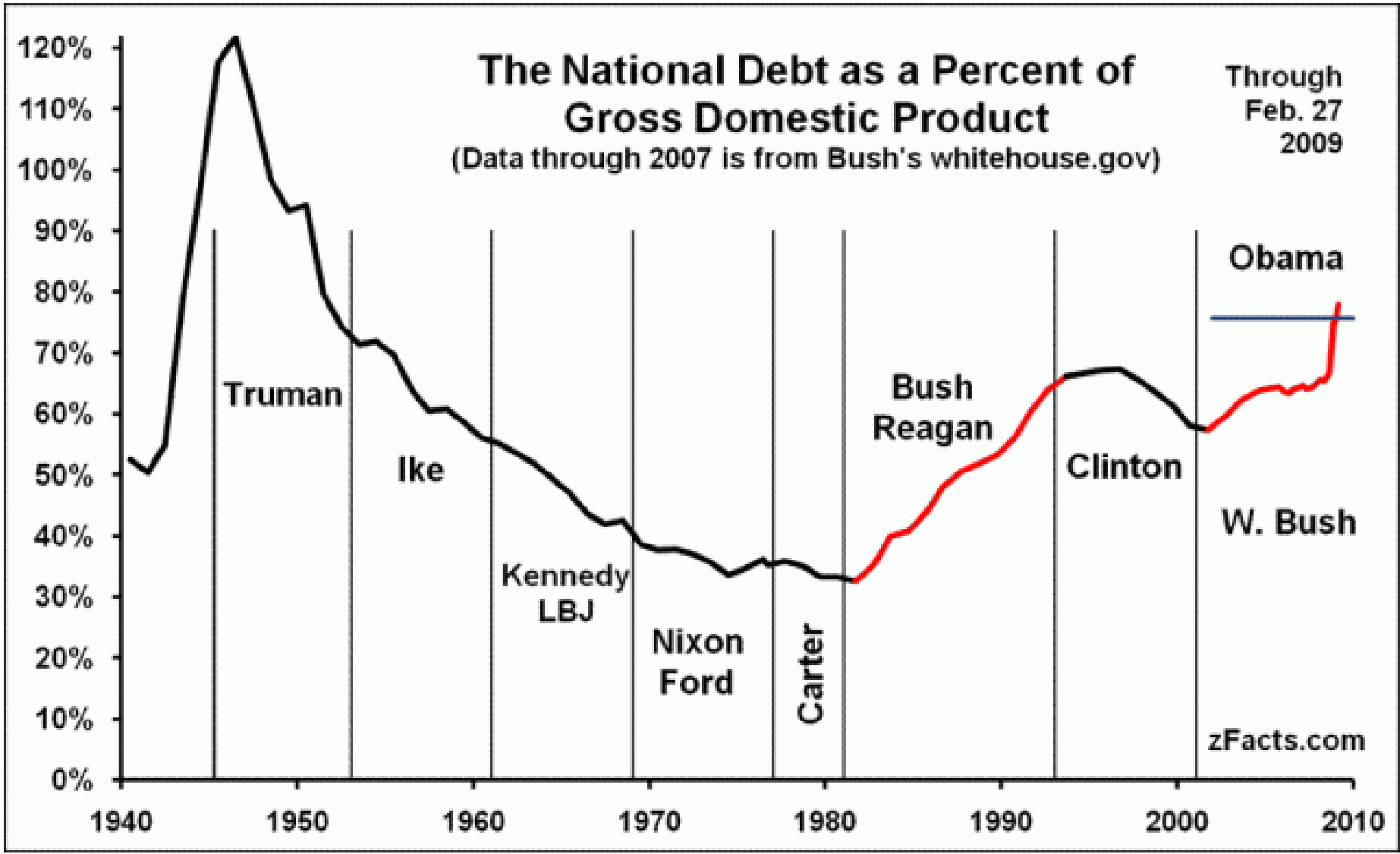
# Deficit Spending!!!!

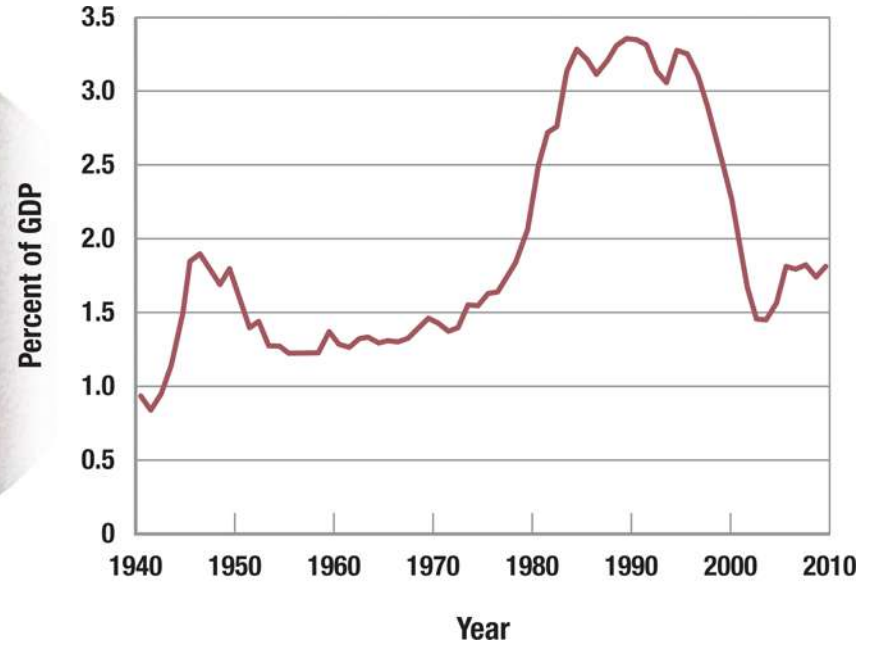
- A **Budget Deficit** is when the government's expenditures exceeds its revenue for a fiscal year. The fiscal year for the government runs from Oct. 1<sup>st</sup> to Sept. 30<sup>th</sup>.
- The **National Debt** is the accumulation of all the budget deficits over time.
- If the Government increases 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.

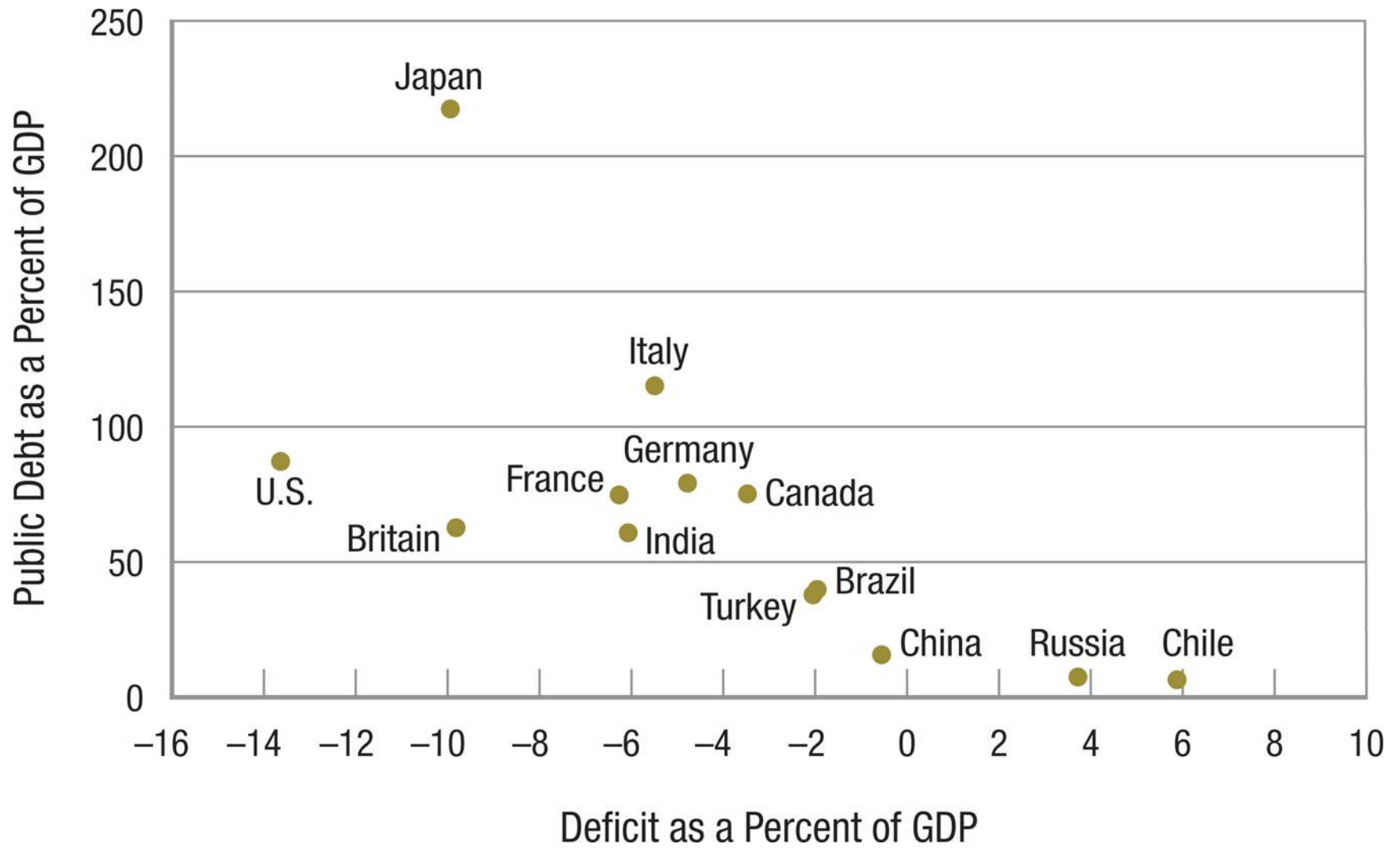
# United States National Debt And the Presidents Responsible for It











- Servicing the debt requires taxing the general public to pay interest to bondholders.
  - This means that money is taken from those across the income or wealth distribution and paid to bond holders, who tend to be from the upper class

If a nation defaults on its debt it will have a hard time convincing future investors to purchase its bonds.

# 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 public works programs when there is already an inflationary gap.**

### 3. Crowding-Out Effect

- **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)**
- **But consumers 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 falls. (AD decrease)**

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

## 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.**

# MODULE 31

## MONETARY POLICY AND THE INTERST RATE

# Interest-Rate Effect

- When price level increases, lenders need to charge higher interest rates to get a REAL return on their loans.
- Higher interest rates discourage consumer spending and business investment. **WHY?**
  - An increase in prices leads to an increase in the interest rate from so you are less likely to take out loans to improve your business.

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

**1. Changing 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 Ben Bernanke.**





- **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**  
**BUY** government securities.

**To decrease the Money supply, the FED should**  
**SELL** government securities.

**How are you going to remember?**

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

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

- When the Fed buys bonds, it adds to bank reserves. This is called **easy money, expansionary monetary policy, or quantitative easing**.
  - It is designed to increase excess reserves and the money supply, and ultimately reduce interest rates to stimulate the economy.

- The opposite of an expansionary policy is a **tight money, restrictive, or contractionary monetary policy**.
  - Tight money policies are designed to shrink income and employment, usually in the interest of fighting inflation. The Fed brings about tight monetary policy by selling bonds, thereby pulling reserves from the financial system.

- Monetary authorities around the world have tried an alternative to monetary rules by using the approach of **inflation targeting**.
- This sets targets for the inflation rate, usually around 2% per year. In January, 2012 the Fed adopted this position as well.
- If inflation exceeds the target, contractionary policy is employed; if inflation falls below the target, expansionary policy is used.

- Today, monetary authorities set a target interest rate and then use open market operations to adjust reserves and keep the federal funds rate near this level.
- The Fed's interest target is the level that will keep the economy near potential GDP and/or keep inflationary pressures in check.

- Professor John Taylor of Stanford University found that the Fed tended to follow a general rule that has become known as the **Taylor rule** for federal funds targeting:

federal funds target rate =

$1 + (1.5 \times \text{inflation rate}) + (0.5 \times \text{output gap})$

{Output gap is current GDP – Potential GDP}

Problem with the rule is that it has a “lag” and adjusts for past inflation but not future inflation

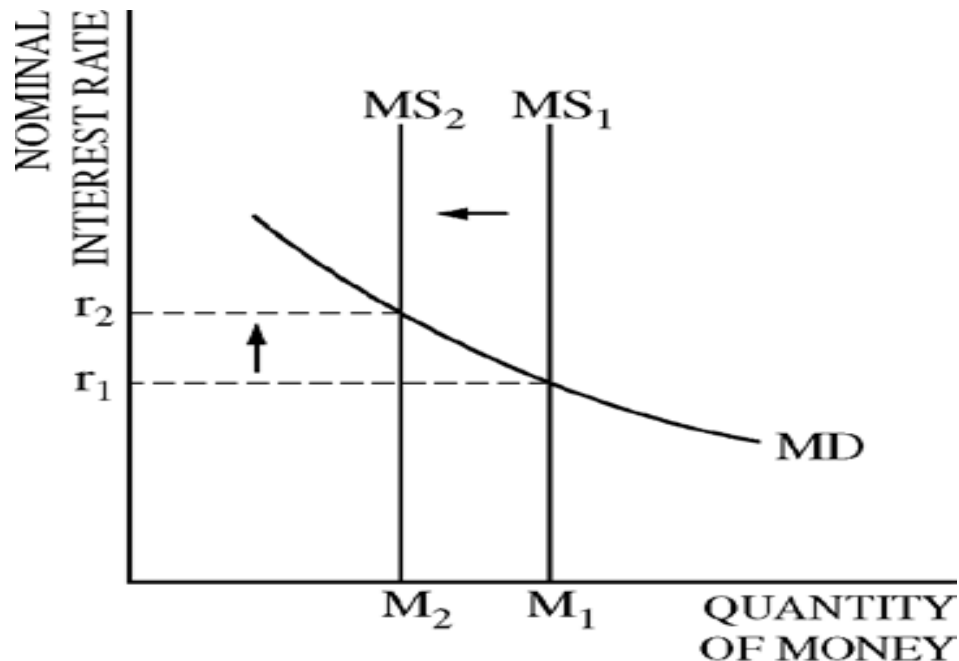
## FRQ 2010 Form B

- 2. The central bank of the country of Sewell sells bonds on the open market.
- (a) Assume that banks in Sewell have no excess reserves. What is the effect of the central bank's action on the amount of customer loans that banks in Sewell can make?
- (b) Using a correctly labeled graph of the money market, show the effect of the central bank's action on the nominal interest rate in Sewell.
- (c) What is the effect of the central bank's action on each of the following in Sewell?
  - (i) Price level
  - (ii) Real interest rate. Explain.
- (d) Given your answer in part (c)(ii), how is the international value of Sewell's currency, the ono, affected?
- Explain.

## FRQ 2010 Form B- Ruberic

**7 points (1 + 2 + 3 + 1)**

- (a) 1 point: • One point is earned for stating that bank loans will decrease.





- (b) 2 points:
  - One point is earned for a correctly labeled graph of the money market.
  - One point is earned for showing a leftward shift of the MS curve and an increase in the nominal interest rate. (See graph on previous slide)
- (c) 3 points:
  - One point is earned for stating that the price level will fall.
  - One point is earned for stating that the real interest rate will rise.
  - One point is earned for the explanation that with an increase in the nominal interest rate and a decrease in the price level, the real interest rate increases.
- (d) 1 point:
  - One point is earned for stating that the ono will appreciate, because the increase in the demand for Sewell's financial assets causes an increase in the demand for the ono.

# MODULE 32

MONEY, OUTPUT, AND PRICES IN THE  
LONG RUN

- Savers supply loanable funds to banks and other **financial intermediaries**.
  - The reward for not spending today is the interest received on savings, enabling people to spend more in the future.
  - The supply of funds to the loanable funds market is directly related to interest rates because at higher rates of interest, savers are rewarded more and are willing to supply more funds.

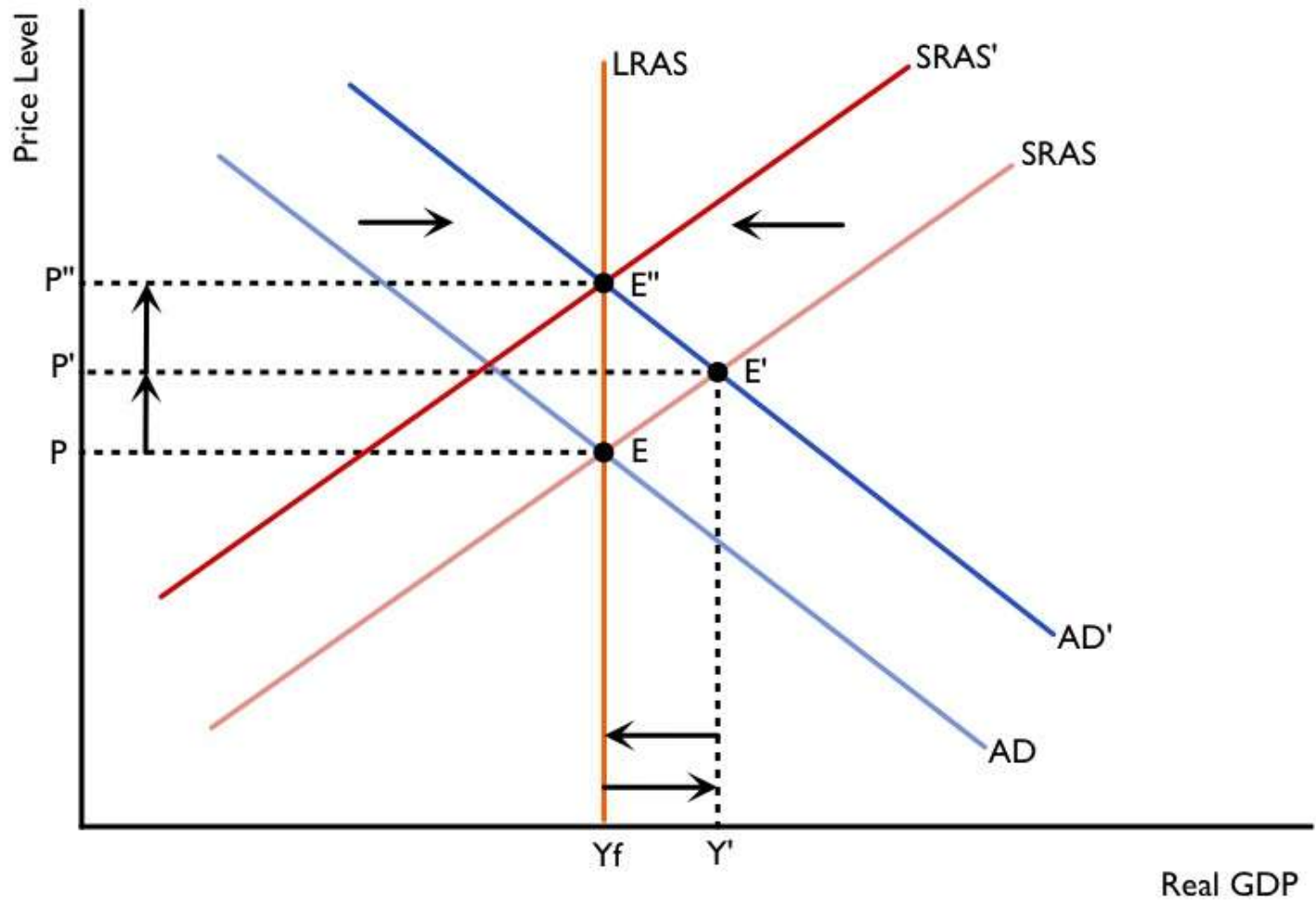
- The demand for loanable funds comes from people who want to purchase goods and services, such as taking out a home mortgage, or starting a business.



- Firms are borrowers, too. Firms may want to invest in new plants, facilities, or research.

# Short-Run and Long-Run Effects of an Increase in the Money Supply

Increases in the money supply initially lead to an increase in output, but in the long run increased nominal wages reduce SRAS and lead only to an increased price level.



The money market (where monetary policy has its effect on the money supply) determines interest rates only in the short run. **In the long run, interest rates are determined in the market for loanable funds.**

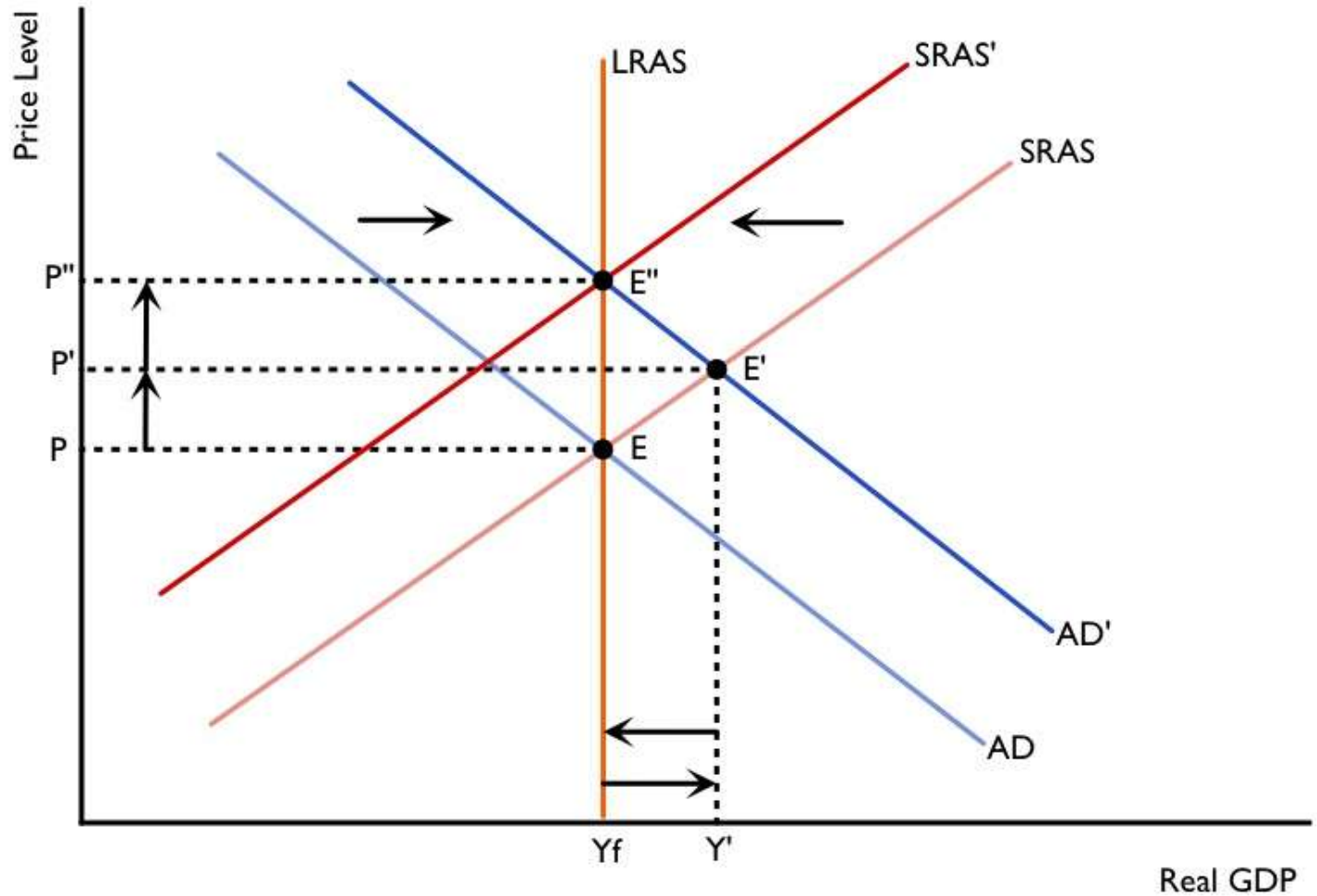
Suppose economy is currently in LR equilibrium. If the Fed were to conduct expansionary monetary policy, the interest rate would fall. A lower interest rate would shift AD to the right. In the short run, real GDP would increase, but so would the aggregate price level.

Eventually nominal wages would rise in labor markets, shifting SRAS to the left. Long-run equilibrium would be established back at potential GDP and a higher price level.

So in the long run, expansionary monetary policy wouldn't increase real GDP, it would only cause inflation.

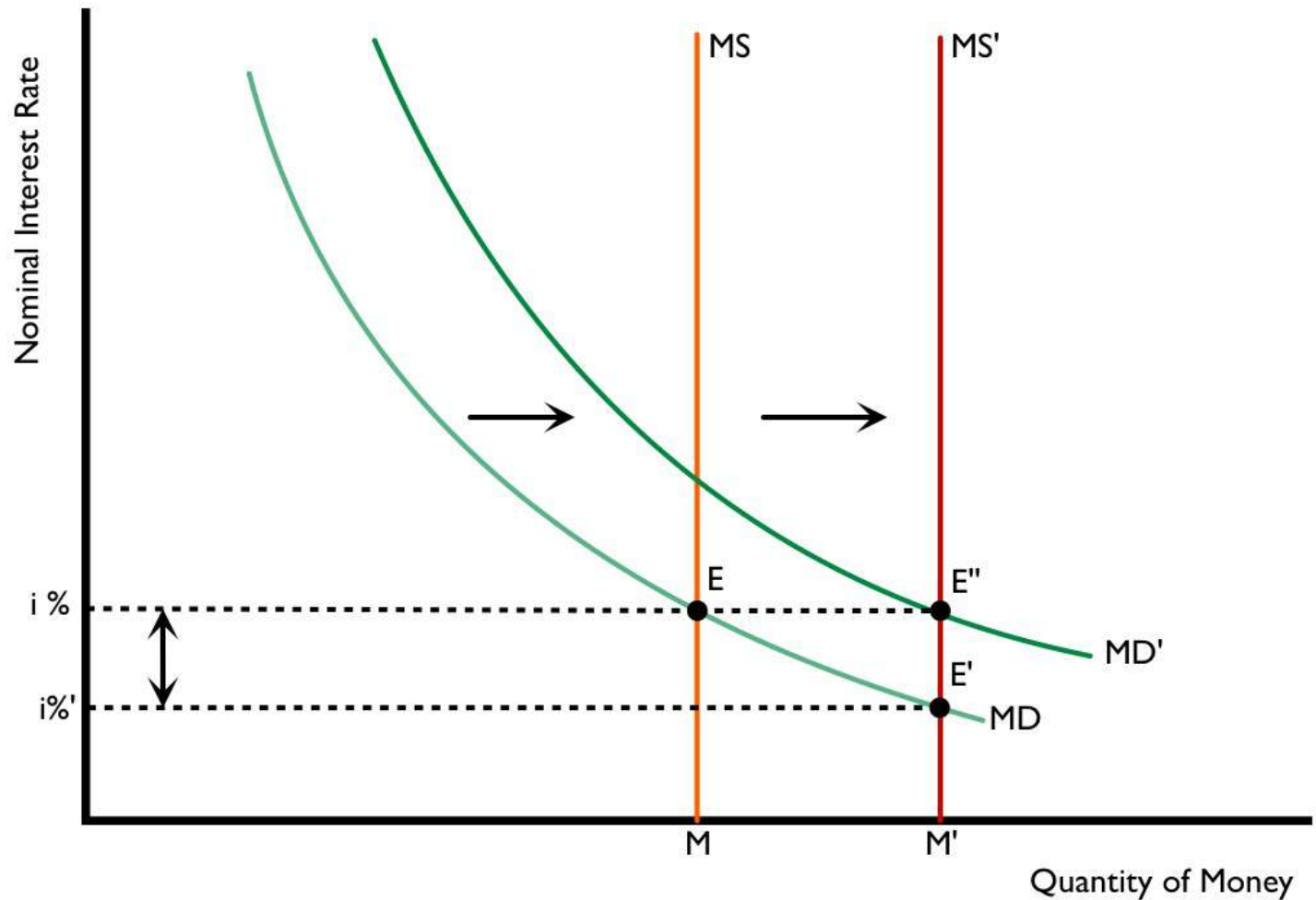
- **monetary neutrality:** changes in the money supply have no real effects on the economy. In the long run, the only effect of an increase in the money supply is to raise the aggregate price level by an equal percentage. Economists argue that money is neutral in the long run.

# Money Neutrality





# Changes in the Money Supply and the Interest Rate in the Long Run



- In the short run, we have seen that an increase in the MS causes short-term interest rates to fall. But what happens in the long run?
- In the long run, **monetary neutrality** insures that the interest rate won't change after a change in the money supply.

## Sample Question

- An increase in the money supply causes \_\_\_\_\_ in output in the short run, and \_\_\_\_\_ in the long run:
  - a) a decrease; an increase
  - b) an increase; an increase
  - c) no change; an increase
  - d) no change; no change
  - e) an increase; no change

## Sample Question

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  - a) a decrease; an increase
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## Sample Question

- Contractionary monetary policy causes \_\_\_\_\_ in the price level in the short run and \_\_\_\_\_ in the price level in the long run:
  - A) no change; a decrease
  - B) a decrease; a decrease
  - C) a decrease; no change
  - D) no change; no change
  - E) a decrease; an increase

## Sample Question

- Contractionary monetary policy causes \_\_\_\_\_ in the price level in the short run and \_\_\_\_\_ in the price level in the long run:
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  - B) a decrease; a decrease**
  - C) a decrease; no change
  - D) no change; no change
  - E) a decrease; an increase

## Sample Question

- Suppose the economy is currently in long run equilibrium at full employment levels of real GDP. If the money supply increases, in the long run, we would expect \_\_\_\_\_ in the price level, and \_\_\_\_\_ in real GDP.
  - A) an increase; a decrease
  - B) an increase; an increase
  - C) a decrease; no change
  - D) no change; an increase
  - E) an increase; no change

## Sample Question

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  - B) an increase; an increase
  - C) a decrease; no change
  - D) no change; an increase
  - E) an increase; no change



## Sample Question

- If the money supply increases by 10%, in the long run:
  - A) Unemployment drops by 10%
  - B) the price level increases by 10%
  - C) real GDP increases by 10%
  - D) unemployment drops by 20%
  - E) the interest rate falls by 10%

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## Sample Question

- In the long run, an increase in the quantity of money:
  - A) increases real output
  - B) increases prices but not long-run output
  - C) increases real interest rates but not long-run output
  - D) has no impact on the economy
  - E) increases the unemployment rate but not long-run output

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  - C) increases real interest rates but not long-run output
  - D) has no impact on the economy
  - E) increases the unemployment rate but not long-run output

# Sample Question

- Money is neutral:
  - A) in the short run since it cannot alter the real aggregate output
  - B) in both the short run and long run since it cannot alter price levels
  - C) in the long run since it cannot alter the real aggregate output
  - D) in the short run since it cannot alter the price levels
  - E) in the long run since it cannot alter the real interest rate

## Sample Question

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  - D) in the short run since it cannot alter the price levels
  - E) in the long run since it cannot alter the real interest rate

## Sample Question

- During periods of low inflation, the short-run aggregate supply curve is:
  - A) Vertical
  - B) Horizontal
  - C) Upward sloping
  - D) Downward sloping
  - E) Backward bending

## Sample Question

- During periods of low inflation, the short-run aggregate supply curve is:
  - A) Vertical
  - B) Horizontal
  - C) Upward sloping
  - D) Downward sloping
  - E) Backward bending



## Sample Question

- During periods of high inflation, the short-run aggregate supply curve is:
  - A) Vertical
  - B) Horizontal
  - C) Upward Sloping
  - D) Downward Sloping
  - E) Back flipping off the high board

## Sample Question

- During periods of high inflation, the short-run aggregate supply curve is:
  - A) Vertical
  - B) Horizontal
  - C) Upward Sloping
  - D) Downward Sloping
  - E) Back flipping of the high board

# MODULE 33

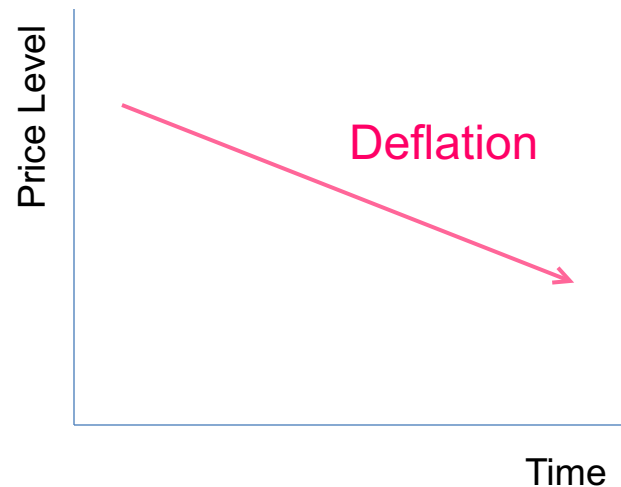
TYPES OF INFLATION, DISINFLATION  
AND DEFLATION

# Inflation

- The **price level** is the absolute level of a price index.
- Measures of the price level include:
  - Consumer Price Index (retail prices).
  - Producer Price Index (wholesale prices).
  - GDP Deflator (average price of all items in GDP).
- The rate of inflation is the annual rate of increase in the price level.

# Definition of Terms

- **Disinflation:** A reduction in the rate of inflation. Note that an economy going through disinflation may still be facing inflation, but it will be at a declining rate.
- **Deflation:** A decline in overall prices throughout the economy. This is the opposite of inflation.



- Your attitude toward inflation will depend in part on whether you live on a fixed income, whether you are a creditor or debtor, and whether you have properly anticipated inflation.
  - Creditors may be harmed by unanticipated inflation because both the principal on loans and interest payments are usually fixed.



- Debtors benefit from unanticipated inflation; the real value of their payments declines as their wages rise with inflation.
  - Many homeowners in the 1970s and 1980s saw the value of their real estate rise from inflation while their mortgage payments remained fixed. At the same time, average incomes rose partly due to inflation.
  - The result was that a smaller part of the typical family's income was needed to pay the mortgage, and thus the real value of mortgages had declined.

# The Inflation Tax

- Independent central banks issue fiat money
- Monetizing the debt
- Seignorage
- Inflation Tax



The Treasury and the Federal Reserve work together. Treasury issues debt to finance the government's purchases of goods and services, and the Fed monetizes the debt by creating money and buying the debt back from the public through open - market purchases of Treasury bills.

The Fed creates money out of thin air and uses it to buy government securities from the private sector.

The Treasury pays interest on debt owned by the Federal Reserve—but the Fed, by law, hands the interest payments it receives on government debt back to the Treasury, keeping only enough to fund its own operations.

An alternative way to look at this is to say that the right to print money is itself a source of revenue. Economists refer to the revenue generated by the government's right to print money as *seignorage*.

# DEMAND-PULL INFLATION

“Too many dollars chasing too few goods”

## DEMAND PULLS UP PRICES!!!

- Demand increases but supply stays the same. What is the result?
  - A Shortage driving prices up
  - An overheated economy with excessive spending but same amount of goods.

# COST-PUSH INFLATION

**Higher production costs increase prices**

**A negative supply shock increases the costs of production and forces producers to increase prices.**

**Examples:**

- Hurricane Katrina destroyed oil refineries and causes gas prices to go up. Companies that use gas increase their prices.



# Cost-Push Inflation



"THIS NEW TAX PLAN SOUNDS PRETTY GOOD... WE GET A 9% CUT AND BUSINESS PICKS UP THE BURDEN...."

# HYPER INFLATION



Country and Time-  
**Zimbabwe, 2008**

Annual Inflation Rate-  
**79,600,000,000%**

Time for Prices to Double-  
**24.7 hours**

# Historic Inflation Rates

**TABLE 14.1** Some Inflation Rates

Country	Period	Average Annual Inflation Rate
U.S.	1870s	-1.8%
Japan	1999-2005	-0.5
U.S.	2000-2007	2.7
U.S.	1970s	7.8
Italy	1970s	13.9
Turkey	1990s	76.1
Russia	1992-2000	121.3
Argentina	1985-1990	559.1
Germany	1923	855 million
Serbia	1993	116 trillion

## Sample Question

- According to the classical model of the price level, an increase in the money supply will create:
  - A) inflation with no long –run increase in real GDP
  - B) inflation and a long-run increase in real GDP
  - C) no inflation and a long-run increase in real GDP
  - D) deflation with no long-run increase in real GDP
  - E) disinflation with no long-run increase in real GDP

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# Sample Question

- The Fed monetizes the debt when it:
  - A) prints money and buys government debt from the public
  - B) sells bonds
  - C) decreases the money supply
  - D) targets interest rates
  - E) increases taxes and reduces government spending

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# Sample Question

- **Seignorage** is:
  - A) the government's cost of printing and coining \$
  - B) the revenue generated by the government's right to print \$
  - C) the money financial institutions make selling government bonds to the FED when the FED creates \$
  - D) the revenue the government generates in tax receipts
  - E) the revenue the government generates in interest on lending to the public

## Sample Question

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# Sample Question

- The inflation tax refers to
  - A) moving into higher income tax brackets
  - B) the reduction in the real value of money when inflation falls
  - C) the reduction in the real value of money when inflation rises
  - D) the tax placed on inflation by the government
  - E) the increase in income tax revenues from a growing economy

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## Sample Question

- When a central bank prints \$ to pay government debts, causing rising prices that erode the purchasing power of money held by the public, it is called:
  - A) a payroll tax
  - B) an excise tax
  - C) a currency tax
  - D) a budget tax
  - E) an inflation tax

## Sample Question

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  - D) a budget tax
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## Sample Question

- When the output gap is \_\_\_\_\_, reflecting an inflationary gap, the unemployment rate is \_\_\_\_\_ the natural rate of unemployment
  - A) positive; above
  - B) negative; below
  - C) positive; below
  - D) negative; above
  - E) negative; equal to

## Sample Question

- When the output gap is \_\_\_\_\_, reflecting an inflationary gap, the unemployment rate is \_\_\_\_\_ the natural rate of unemployment
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  - C) positive; below
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## Sample Question

- The difference between real GDP and potential GDP is known as the:
  - A) price gap
  - B) unemployment gap
  - C) trade gap
  - D) budget gap
  - E) output gap

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  - E) output gap

# MODULE 34

INFLATION AND UNEMPLOYEMENT

THE PHILLIPS CURVE

- Lower unemployment tends to lead to higher periods of inflation
- Higher inflation tends to lead to lower unemployment.

THESE RULES ARE USUALLY REPRESENTED BY A GRAPH KNOWN AS **THE PHILLIPS CURVE**

**Inflation rate**

0

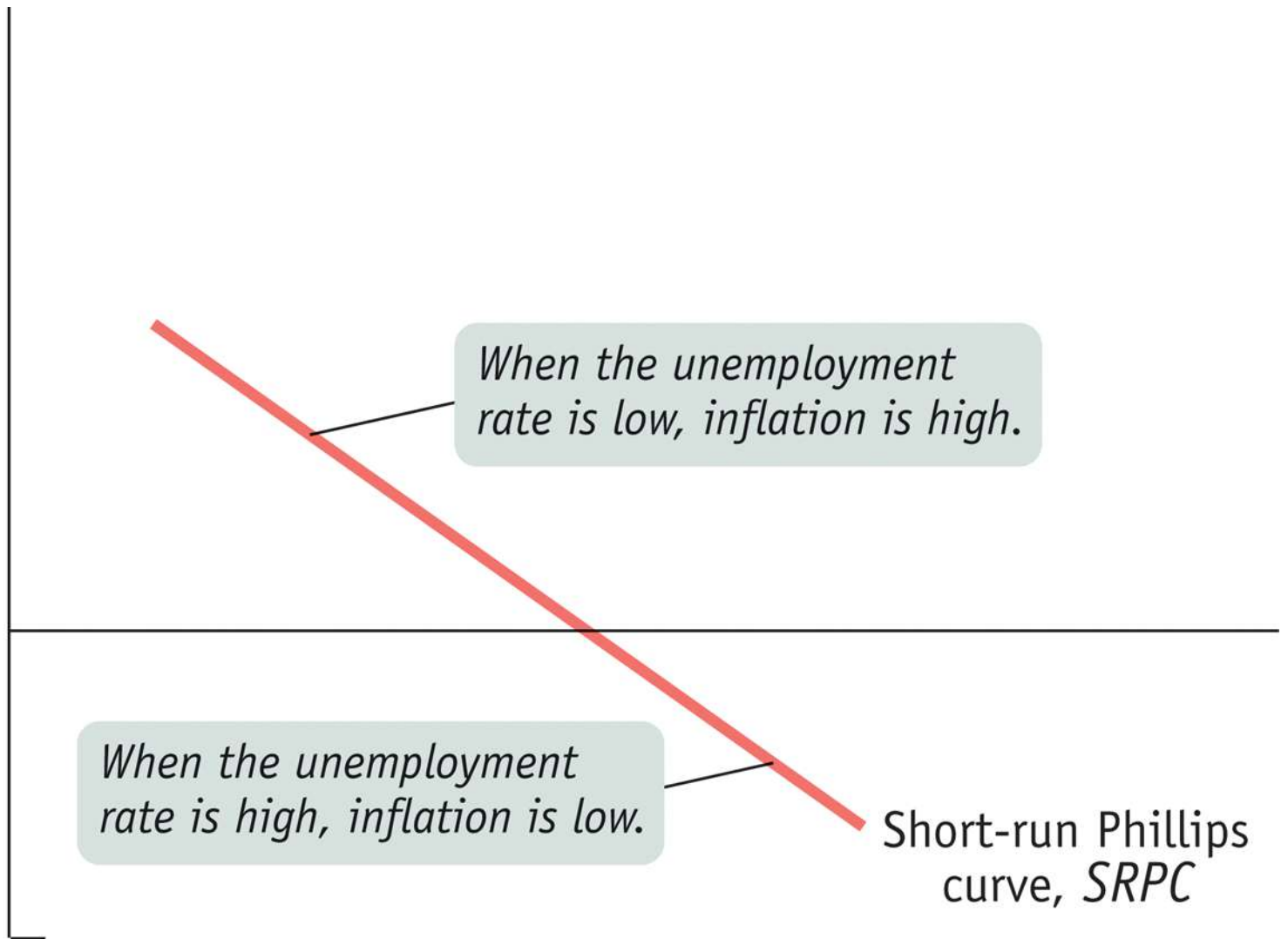
*When the unemployment rate is low, inflation is high.*

*When the unemployment rate is high, inflation is low.*

Short-run Phillips curve, *SRPC*

**Unemployment rate**

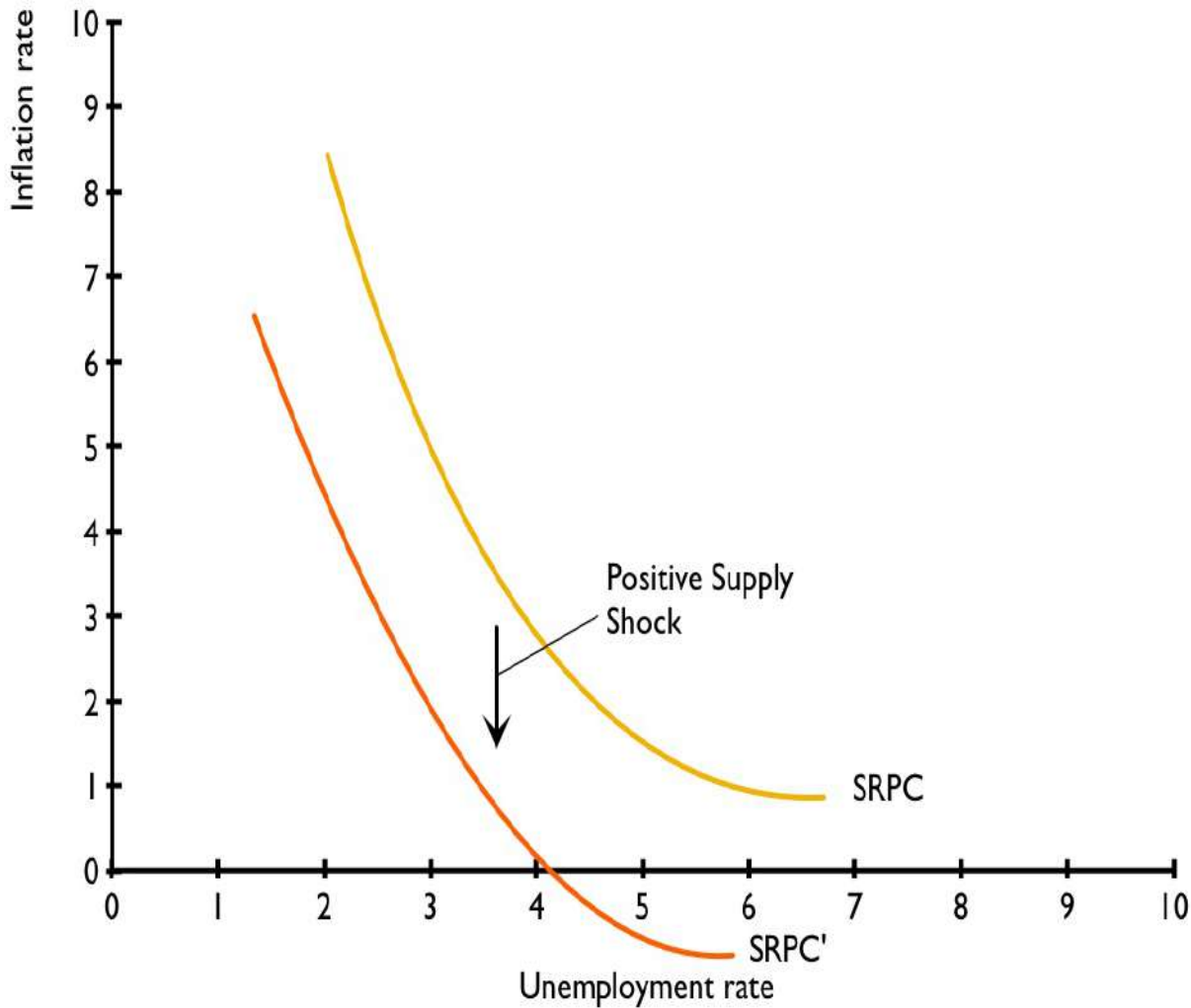
**The Short-Run Phillips Curve**



When SRAS increases along with AD, both the unemployment and inflation rates fall. This is seen as a downward shift of the SRPC.

When SRAS decreases along the AD, both the unemployment and inflation rates rise. This is seen as an upward shift of the SRPC.

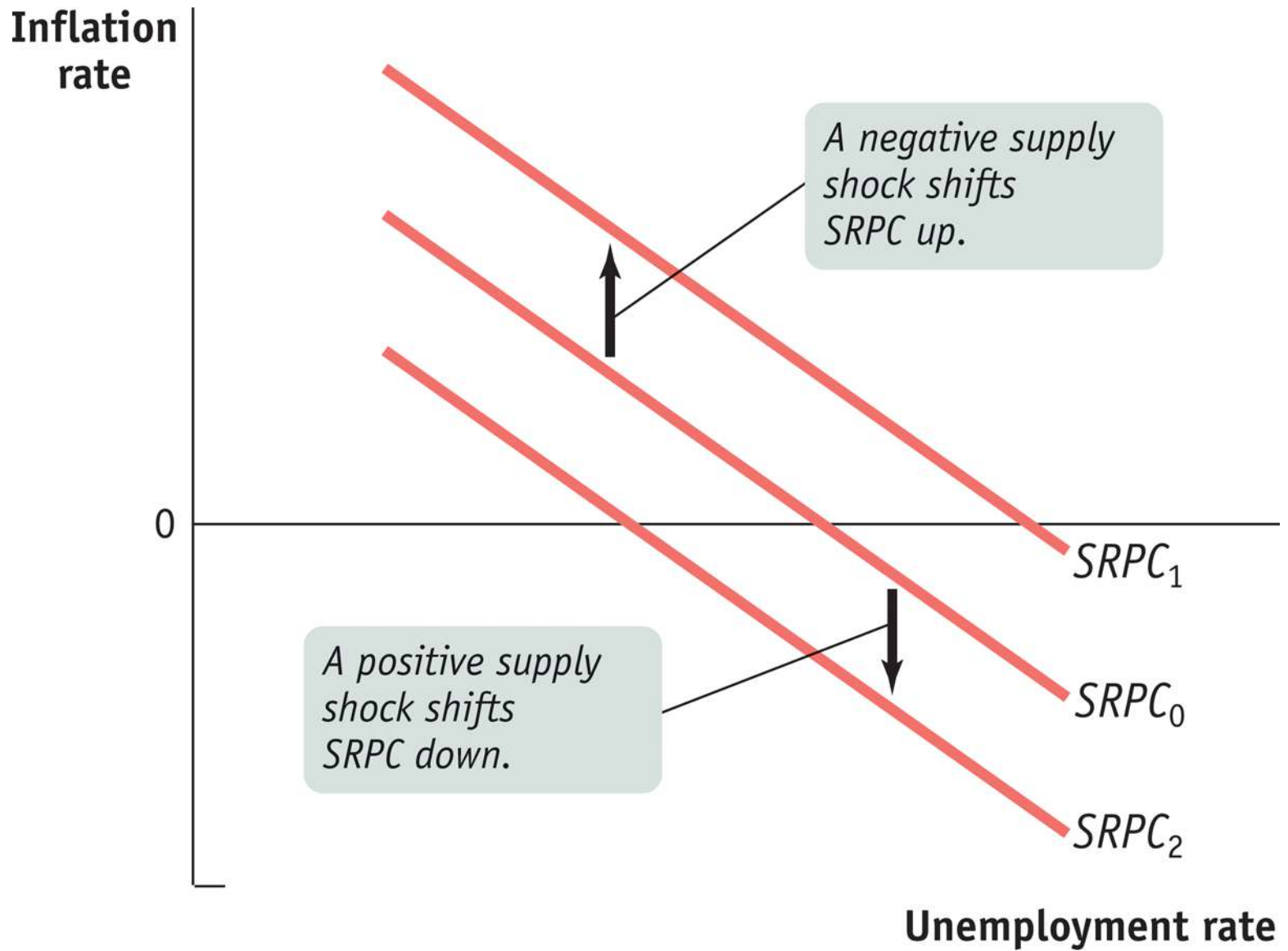




- Short-Run Phillips Curve

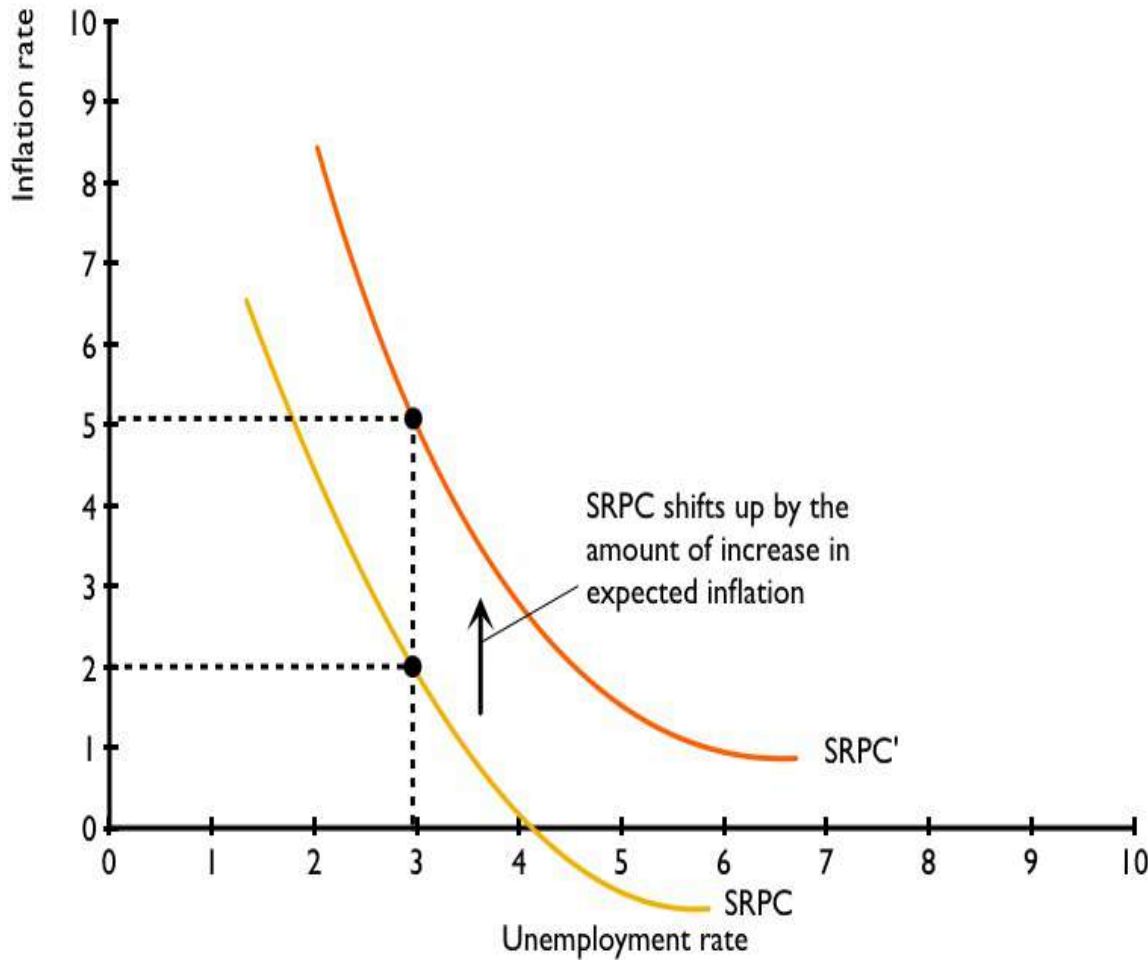
- Positive Supply Shock brings both lower inflation and lower unemployment

- A Negative Supply Shock will bring higher inflation and higher unemployment



The Short-Run Phillips Curve and Supply Shocks

- **Expected Inflation** will directly affect the present inflation rate

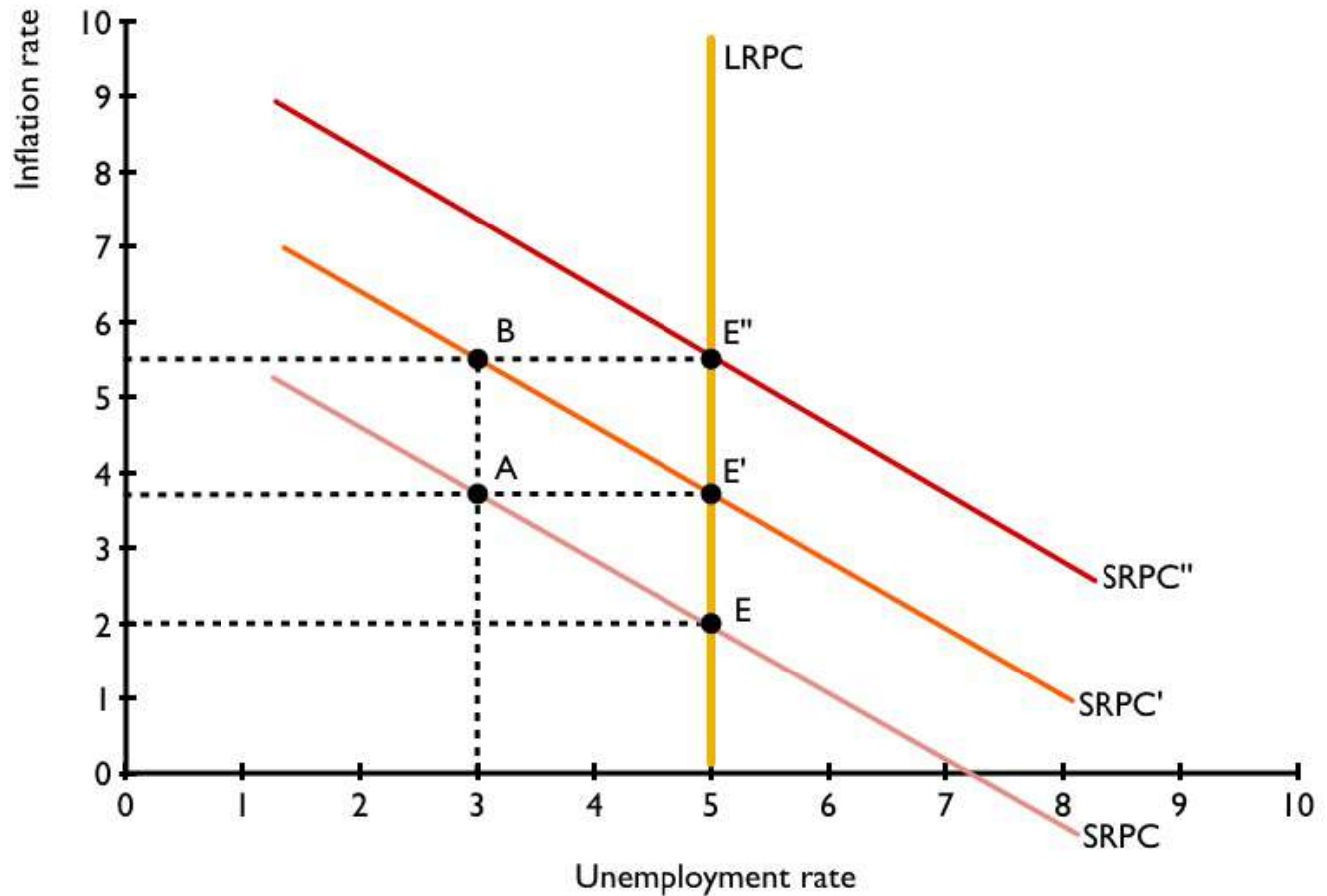


- What determines expected inflation?

- The expected rate of inflation is the rate that employers and workers expect in the near future.

- An increase in expected inflation shifts the short – run Phillips Curve upward

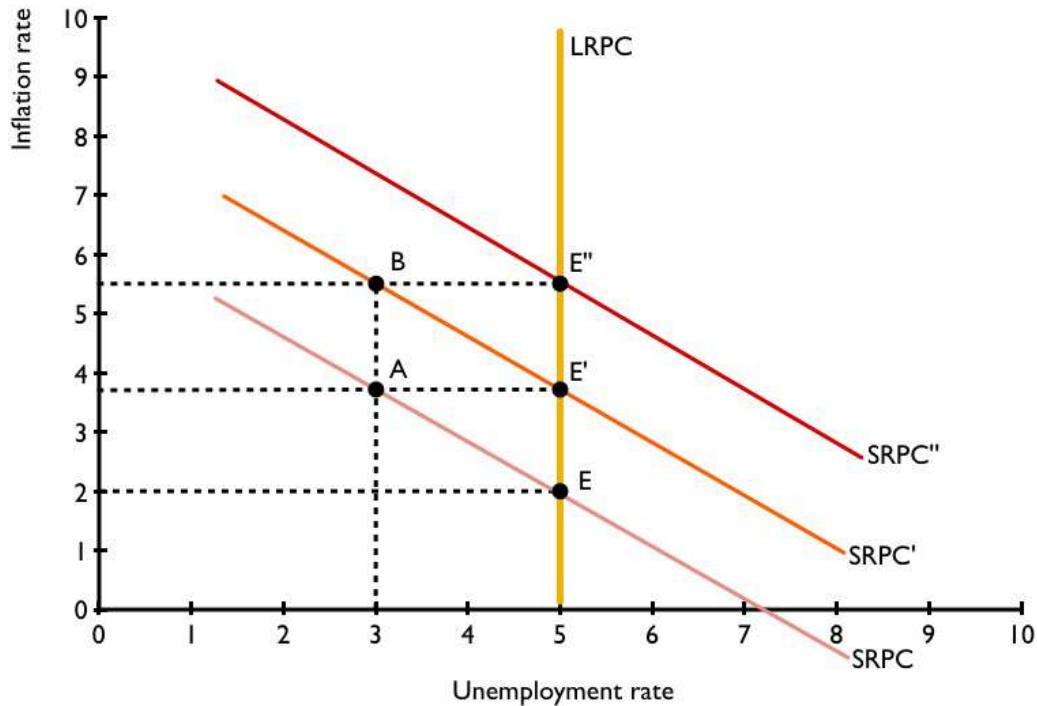
# LONG RUN PHILLIPS CURVE



The short run and long run effects of expansionary policies

- Most macroeconomists believe that there is no long-run trade-off between lower unemployment rates and higher inflation rates. That is, it is not possible to achieve lower unemployment in the long run by accepting higher inflation.

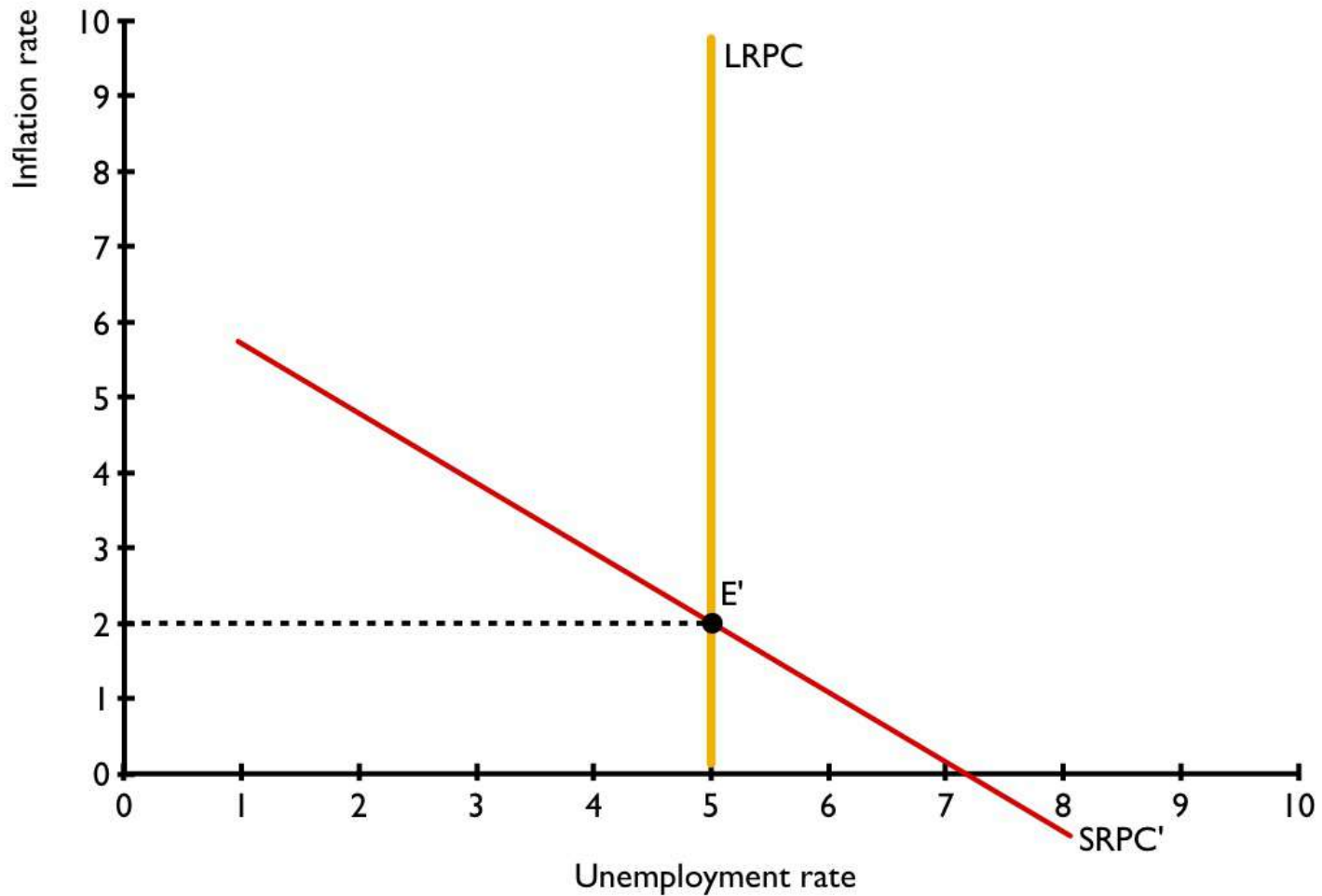
# LONG RUN PHILLIPS CURVE



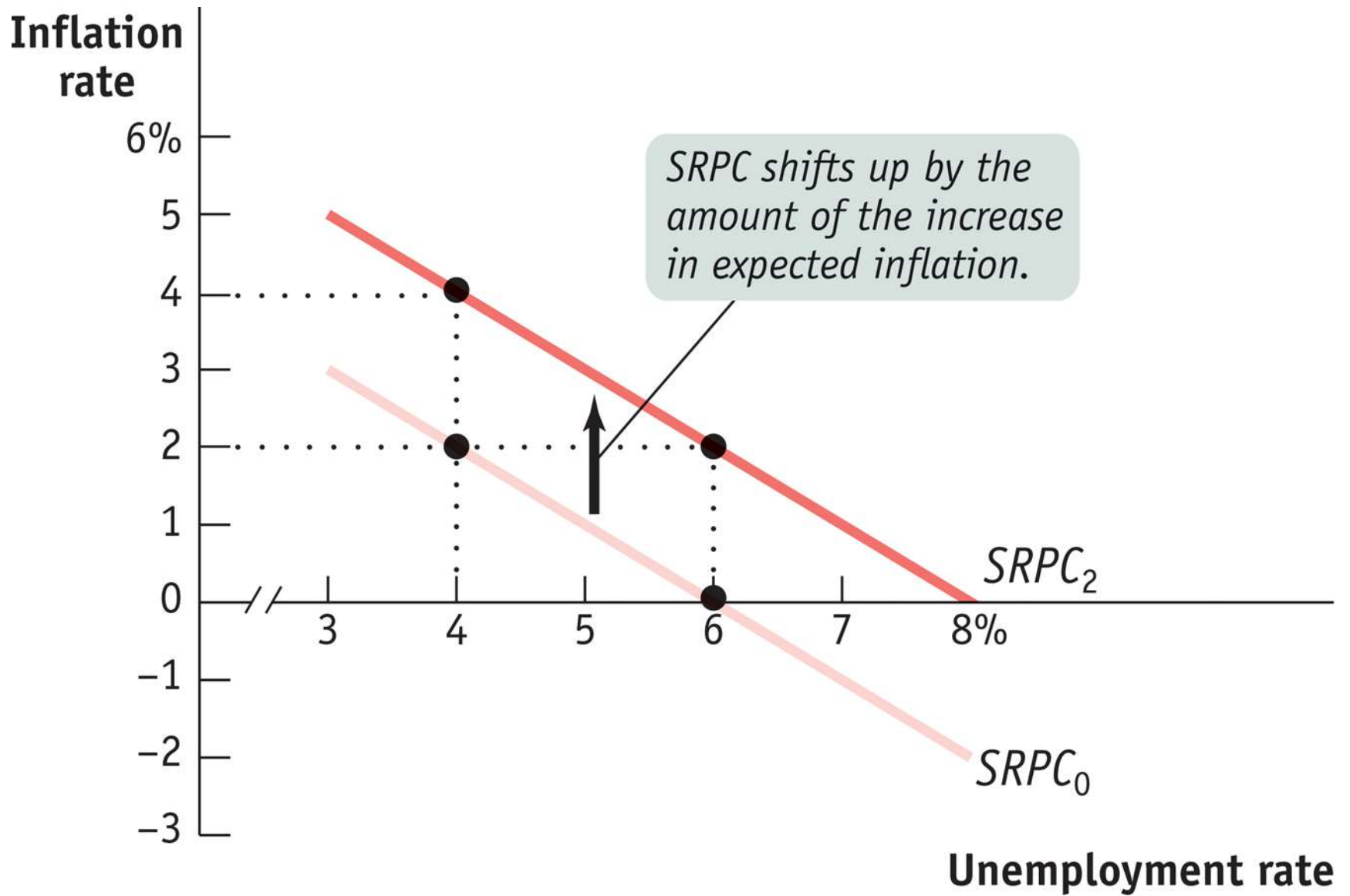
- NAIRU
- LRPC
- Natural Rate Hypothesis
- Natural Rate = NAIRU

- The unemployment rate at which inflation does not change over time—5% in the previous graph, is known as the non-accelerating inflation rate of unemployment, or NAIRU for short.
- Keeping the unemployment rate below the NAIRU leads to ever-accelerating inflation and cannot be maintained and therefore there is no longrun tradeoff between unemployment and inflation.

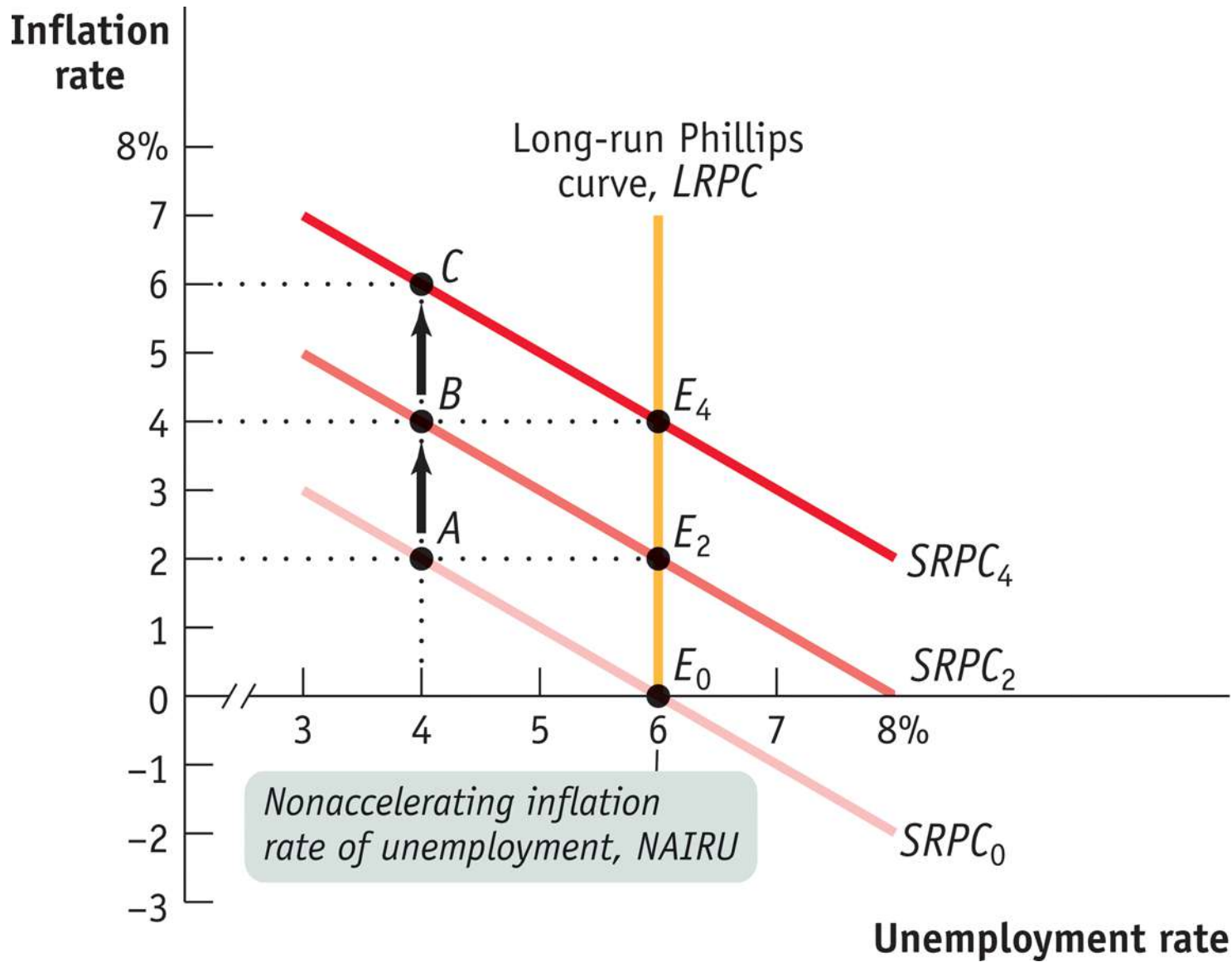
# DISINFLATION WILL EVENTUALLY BRING HIGH UNEMPLOYMENT







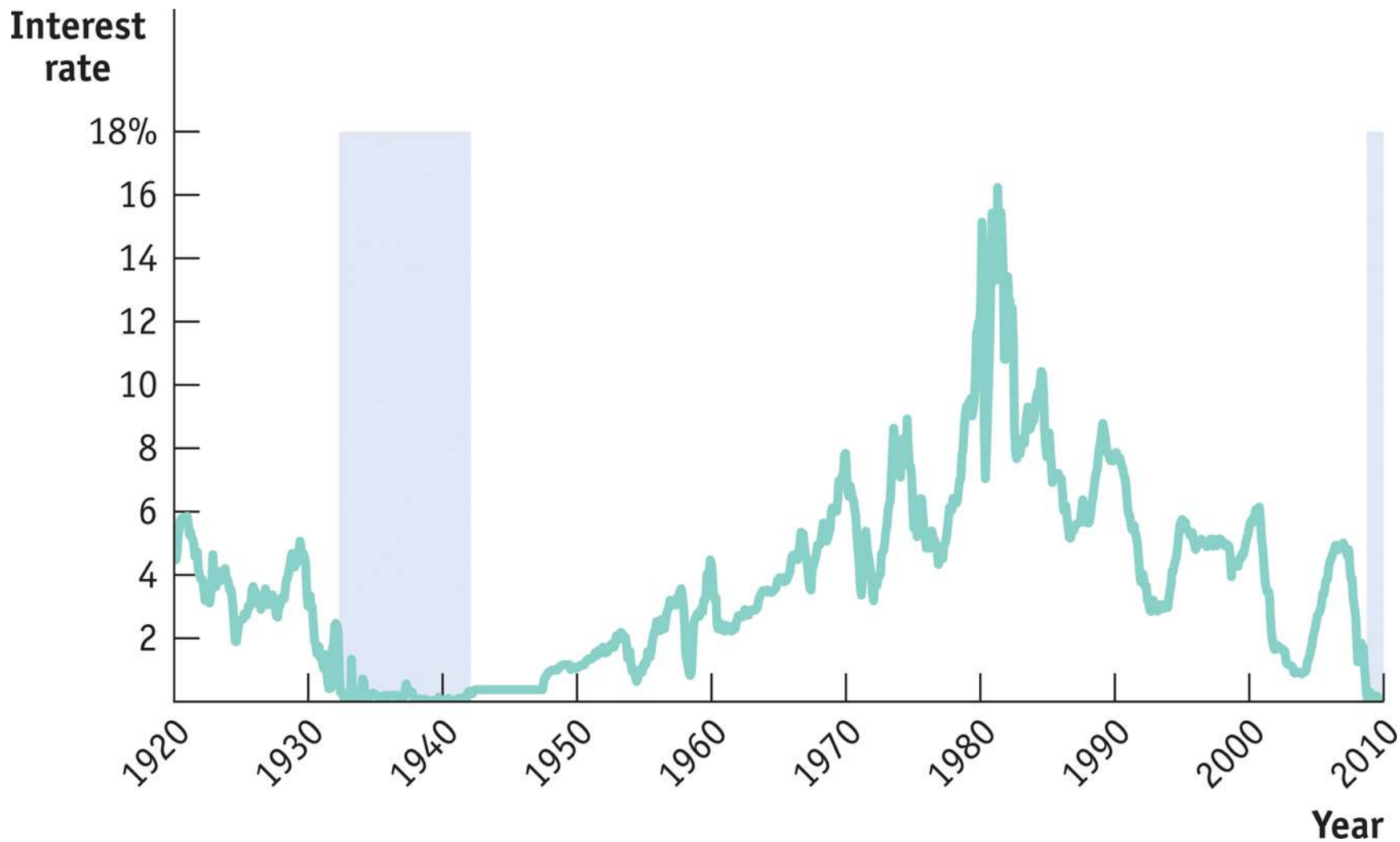
Expected Inflation and the Short-Run Phillips Curve



# KEY TERMS

- Core CPI: CPI excluding food and energy prices
- Zero Bound: Nominal Interest Rates cannot go below zero

**Liquidity Trap:** When interest rates come close to zero then monetary policy will become ineffective since lenders will decrease desire to loan and savers will decrease desire to save in banks.



The Zero Bound in U.S. History

# Sample Question

- A Phillips Curve implies a negative relationship between:
  - A) consumption and saving
  - B) inflation and prices
  - C) inflation and unemployment
  - D) consumption and inflation
  - E) aggregate price level and real GDP

## Sample Question

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  - A) consumption and saving
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  - C) inflation and unemployment**
  - D) consumption and inflation
  - E) aggregate price level and real GDP

# Sample Question

- Each point on a Phillips Curve is a different combination of:
  - A) price and quantity
  - B) the inflation rate and the unemployment rate
  - C) the interest rate and investment
  - D) savings and disposable income
  - E) aggregate price level and the sea monster

## Sample Question

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# Sample Question

- Suppose there is a supply shock due to a fall in commodity prices, the short-run Phillips Curve will:
  - A) shift down
  - B) show an upward movement along the same curve
  - C) not be affected at all
  - D) shift up
  - E) show a downward movement along the same curve

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  - C) not be affected at all
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## Sample Question

- Suppose you are told that the short run Phillips Curve has shifted upward. Which of the following must have happened?
  - A) The AD curve has shifted to the right
  - B) The AD curve has shifted to the left
  - C) The SRAS curve has shifted to the right
  - D) The SRAS curve has shifted to the left
  - E) The LRAS curve has shifted to the right

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# Sample Question

- Suppose you are told that the short-run Phillips Curve has shifted downward. Which of the following must have happened?
  - A) The SRAS curve has shifted to the left
  - B) The SRAS curve has shifted to the right
  - C) The AD curve has shifted to the left
  - D) The AD curve has shifted to the right
  - E) The LRAS curve has shifted to the right

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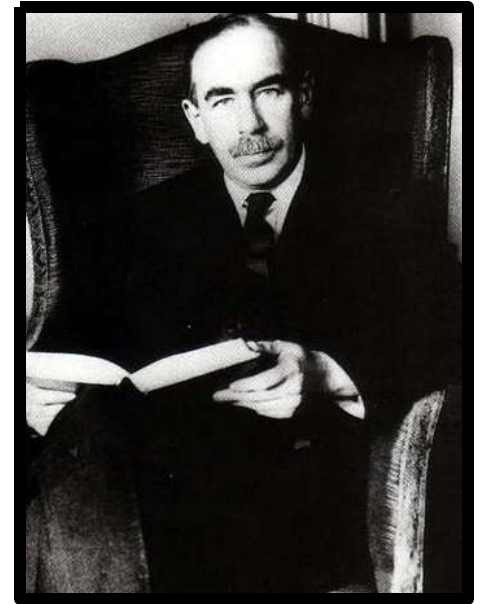
# MODULES 35 & 36

HISTORY AND ALTERNATIVE VIEWS  
OF MACROECONOMICS



Adam Smith  
1723-1790

**Classical**  
**vs.**  
**Keynesian**



John Maynard Keynes  
1883-1946



# THE CLASS IN ECONOMICS WILL PLEASE COME TO ORDER

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# Prior to the Great Depression

- The prevailing thought of economists before the 1930s was that a *laissez faire* approach to the economy was the best approach for government.
    - Competitive markets for labor, products, and financial assets would lead to flexible wages, prices, and interest rates that would keep the economy humming along near full employment, with only a minor recession here and there.
- {the invisible hand theory}

- Before the Depression, government spending was roughly 10% of national output.
- Today, that figure has tripled to 30%.
- Thus representing the
- growing size of government



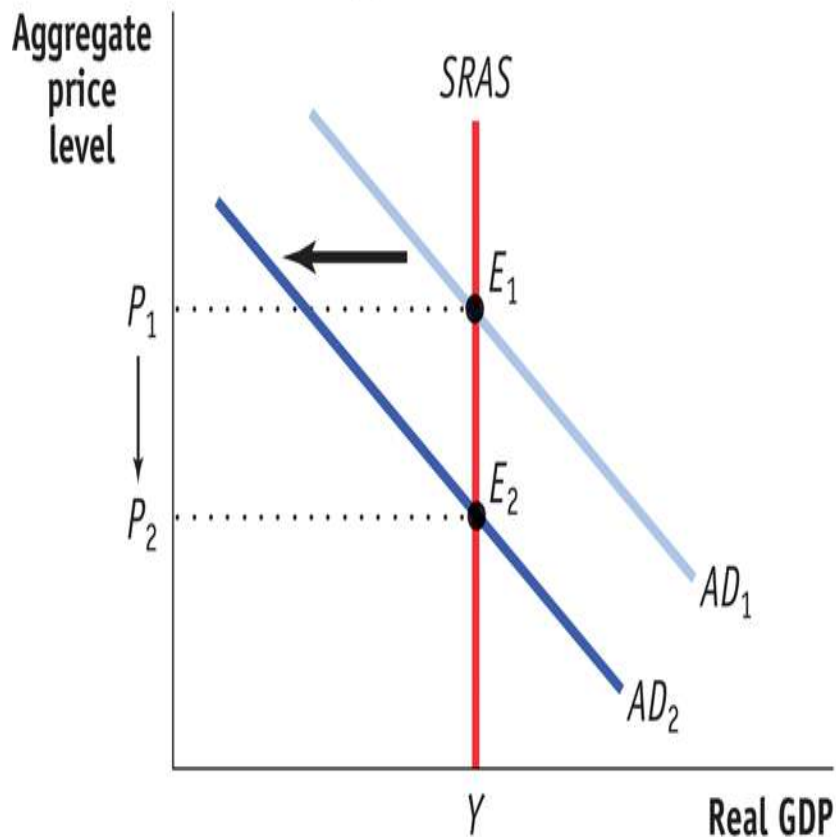
- Most of the changes in post-Depression economic thinking can be traced back to one book, *The General Theory of Employment, Interest and Money* by John Maynard Keynes, published in 1936.
  - In this book, Keynes focused his attention on the economy as a whole and on aggregate spending.
  - He emphasized income, and not interest rates, were the key to growing economy

# John Maynard Keynes

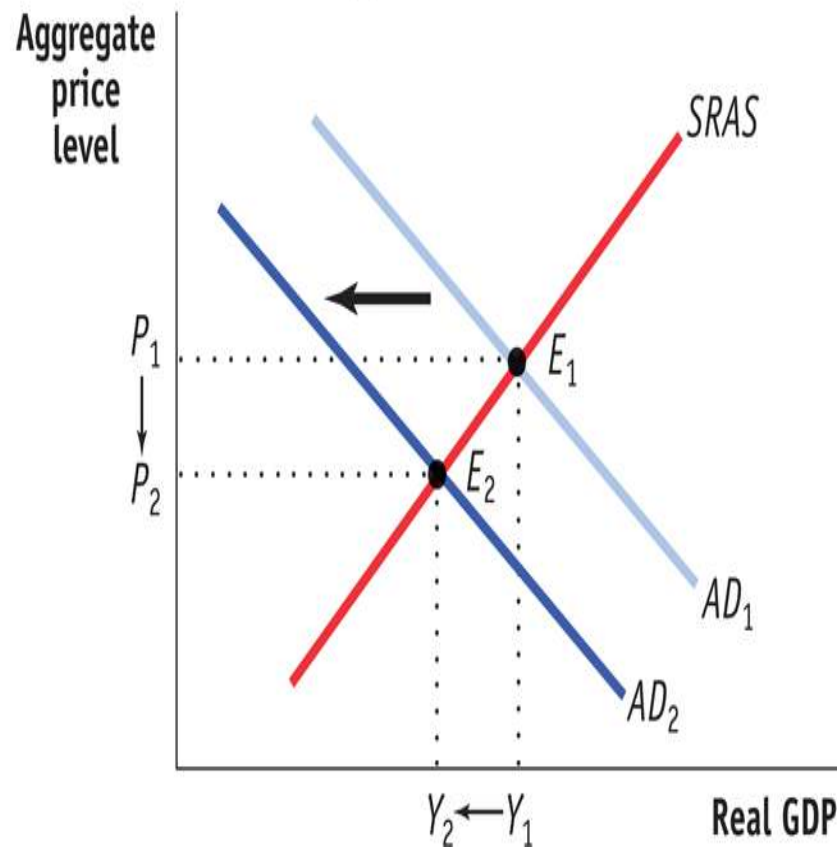


- Keynes observed that as disposable income increases, consumption will increase, though not as fast as income. This approach to analyzing savings differs sharply from the Classical approach, which assumed the interest rate to be the principal determinant of saving.
- Remember that the **marginal propensity to consume** is the change in consumption associated with a given change in income. The **marginal propensity to save** is the change in saving associated with a given change in income.

(a) The Classical View



(b) The Keynesian View



## Classical Versus Keynesian Macroeconomics

# Milton Friedman

- Brought about a change in thinking by stressing that Monetary Policy and Monetary Supply needed to play a key role in managing the nations economy.
- This helped to increase importance of FED and decrease importance of fiscal policy



# Milton Friedman

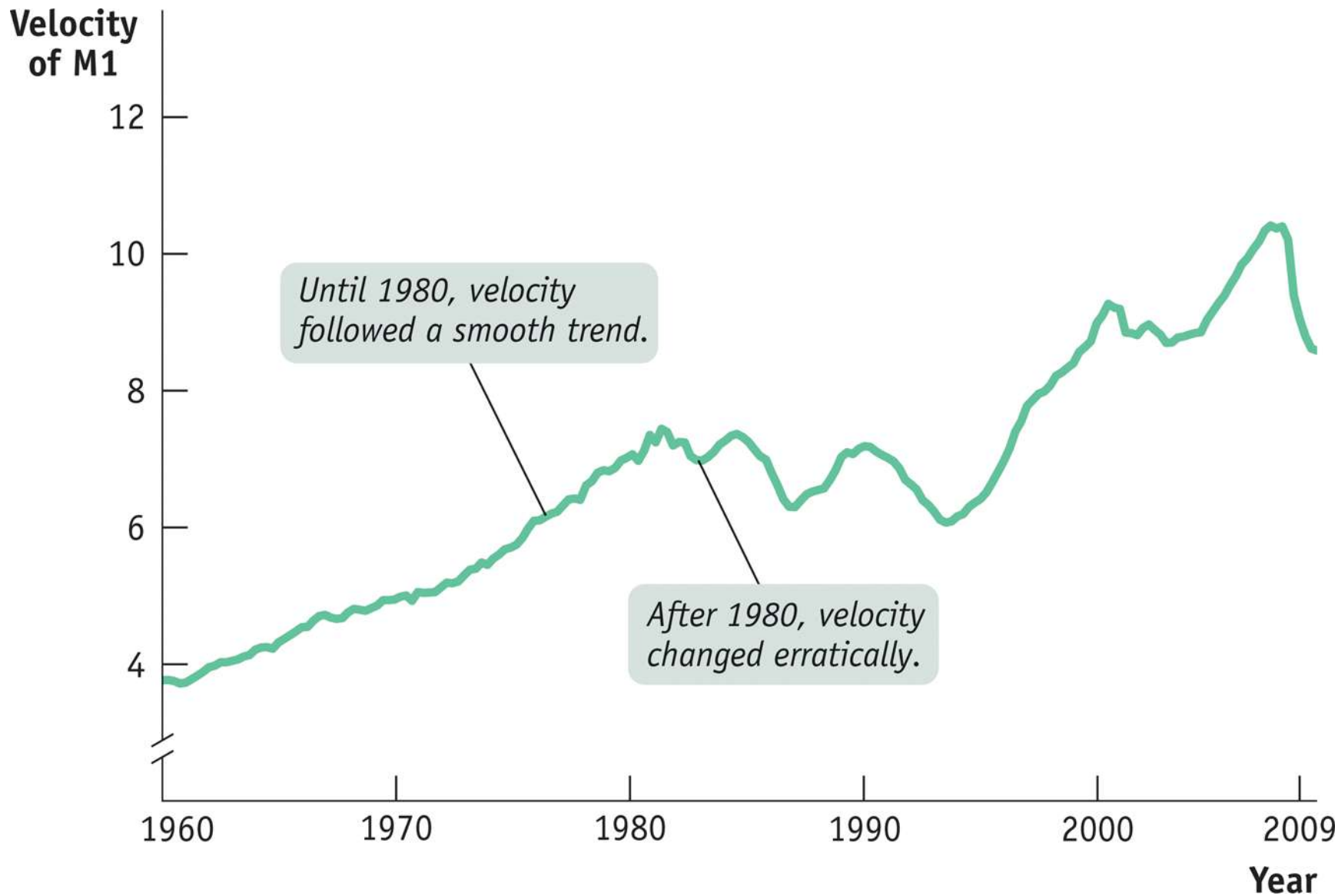


# Velocity of Money

- This is the ratio of nominal GDP to the Money Supply. Essentially it is the number of times the average dollar bill is spent in a year.

$$M \times V = P \times Y$$

- M= Money Supply      P = Aggregate Price Level
- V = Velocity          Y = Real GDP



The Velocity of Money

# THE MODERN CONSENSUS

table 36.1

## Five Key Questions About Macroeconomic Policy

	Classical macroeconomics	Keynesian macroeconomics	Monetarism	Modern consensus
Is expansionary monetary policy helpful in fighting recessions?	No	Not very	Yes	Yes, except in special circumstances
Is expansionary fiscal policy effective in fighting recessions?	No	Yes	No	Yes
Can monetary and/or fiscal policy reduce unemployment in the long run?	No	Yes	No	No
Should fiscal policy be used in a discretionary way?	No	Yes	No	No, except in special circumstances
Should monetary policy be used in a discretionary way?	No	Yes	No	Still in dispute

## Sample Question

- The school of economics that dominated thinking prior to the Great Depression was the:
  - A) business cycle theorists
  - B) classical school
  - C) post-Keynesian school
  - D) Marxists
  - E) monetarists

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## Sample Question

- Which of the following is a characteristic of the classical school of economics?
  - A) it emphasizes the short run
  - B) it emphasizes the flexibility of wages and prices
  - c) potential output is a problem since the economy cannot achieve it on its own
  - d) it advocates the use of discretionary fiscal policy

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# Sample Question

- The beginning of a recession is determined by the:
  - A) National Bureau of Economic Research
  - B) Treasury Department
  - C) Federal Reserve
  - D) Mr. Lipman
  - E) Council of Economic Advisors

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  - D) Mr. Lipman
  - E) Council of Economic Advisors

## Sample Question

- According to Keynesian Theory:
  - A) the long-run and short-run aggregate supply curves are identical
  - B) a decrease in aggregate demand leads to decreases in output and prices
  - C) a decrease in aggregate demand will decrease prices, but not output
  - D) the short run is relatively unimportant
  - E) an economic recession will self-correct without policy intervention

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## Sample Question

- Because in the Keynesian model, prices and nominal wages are \_\_\_\_\_, the short-run aggregate supply curve is upward sloping and, as a result, an increase in the money supply leads to \_\_\_\_\_ in the aggregate price level.
  - A) sticky; a less than proportional decrease
  - B) flexible; an equal proportional decrease
  - C) sticky; a less than proportional increase
  - D) flexible; an equal proportional increase
  - E) sticky; an equal proportional increase

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## Sample Question

- Keynesian economics emphasizes \_\_\_\_\_ shifts in aggregate \_\_\_\_\_.
- A) long-run; demand
- B) long-run; supply
- C) short-run; demand
- D) short-run; supply
- E) long-run; supply and demand

## Sample Question

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