



FEDERAL RESERVE BANK
OF PHILADELPHIA

Monetary Policy

By Barbara Emery

*A lesson to accompany the
“Money in Motion” Exhibit*

Introduction

A key goal of the Federal Reserve System is to provide stability to the economy and achieve maximum sustainable economic growth, price stability, and low unemployment. To accomplish these goals, the Fed uses monetary policy. The amount of money available for economic transactions ultimately affects national income, price levels, and employment. After reviewing economic indicators to determine whether the economy seems headed for recession or inflation, Fed policymakers have three tools at their disposal to affect the money supply and make the business cycle’s upturns and downturns less severe: carrying out open market operations, changing the reserve requirement, and changing the discount rate.

Grades

9-12

Concepts

Discount Rate

Economic Indicators

Federal Reserve

Federal Funds Rate

Interest Rates

Monetary Policy

Open Market Operations

Reserve Requirements

Content Standards

Voluntary National Content Standards in Economics—Content Standard 20

Delaware—Economics Standards: Standard 2

Pennsylvania—Academic Standards in Economics: 6.2.9 and 6.2.12

New Jersey—Social Studies Standards: Standard 6.5

Pre-Visit

Lesson Description

Working in groups, students develop an understanding of monetary policy. Students will learn about the indicators the Fed uses to determine what changes, if any, should be made to the course of monetary policy. The groups play a card game to review the vocabulary associated with the economic indicators.

Objectives

Students will be able to:

1. Define economic indicators and specify which economic conditions they reflect.
2. Explain the three functions of the Federal Reserve System.
3. Explain that the Federal Reserve can use monetary policy to affect overall economic conditions in the economy.

Time Required

60 minutes

Materials

Visual 1

Activity 1, one copy per student

Activity 2, cut apart, one set per team

Activity 3, one copy per student and one transparency

Activity 4, one copy per student

Activity 5, two copies per student

Procedure

1. Tell students that they are going to learn more about the Federal Reserve System and monetary policy. Explain that they will visit the “Money in Motion” exhibit at the Federal Reserve Bank of Philadelphia.
2. Display Visual 1. Explain each function:
 - **Regulate and supervise:** The Federal Reserve System has supervisory and regulatory authority over a wide range of financial institutions and activities. It works with other federal and state authorities to ensure safety and soundness of financial institutions, stability in financial markets, and fair and equitable treatment of consumers in their financial transactions.
 - **Operates the nation’s payments system:** The 12 Federal Reserve Banks provide banking services to depository institutions; they maintain reserve and clearing accounts to provide various payment services, including collecting checks,

electronically transferring funds, and storing, distributing, receiving, and processing currency and coin. For the federal government, the Reserve Banks maintain the Treasury Department's transaction account, pay Treasury checks, process electronic payments, and issue, transfer, and redeem U.S. government securities.

- **Establish and implement monetary policy:** Using the tools of monetary policy, the Federal Reserve can affect the volume of money and credit available in the economy and the price of credit—interest rates. In this way, the Federal Reserve can influence the general level of prices, employment, and output.

3. Discuss the following:

- a. Which function of the Federal Reserve can be used to affect overall economic conditions by changing the growth of the money supply and, in turn, interest rates? (*Monetary policy.*)
- b. Why is the growth of the money supply critical to the economy? (*The growth of the money supply ultimately determines inflation and can also alter the level of overall economic activity.*)
- c. What kind of information do you think the Fed uses to make changes to the money supply? (*Answers will vary. The Fed tracks trends in many areas of economic activity using economic indicators to see if there are signals pointing to recession or inflation, or whether the risks of recession and inflation are balanced.*)
- d. Why are interest rates important in determining the levels of business activity and economic growth in the economy? (*Higher interest rates mean that credit is more expensive. When credit is more expensive, businesses are less likely to invest in additional capital needed to expand output and consumers are less likely to purchase homes and large items that require them to borrow. When interest rates are low, credit is less expensive and businesses are more likely to invest in additional capital and expand output. Likewise, consumers are more likely to buy homes and other large items.*)

4. Divide students into teams of four. Extra students should be assigned to an already established group.

5. Distribute a copy of Activity 1 to each student. Give each team a set of indicator and description cards. Working in teams on a table or desks pushed together, students match the indicator card with its corresponding description card and record the information in the first two columns of Activity 1. Each student should fill in his or her own copy of Activity 1. Explain to the students that they will complete the third column of Activity 1 at the “Money in Motion” exhibit when they visit the Federal Reserve Bank of Philadelphia. There is an additional question on each description card. In addition to matching the indicators with their description, ask the students to answer each of the

additional questions and record the answer in the blank provided in each cell of column two in Activity 1.

6. Review the answers to each of the indicator/description matches by asking different groups for the description of each indicator. As each description is read, have the group read the question that appeared on the definition card. Ask another group for the answer to the question. Check the class for consensus on the description/indicator match and the answer to the extra question that appears on each of the description cards. Proceed in this fashion until all of the indicator/description matches are explained and all of the questions answered.

Answers:

- **Output**
This economic variable is a key indicator and serves as a gauge of the economy's ability to provide products and services to people. Over the long run, the standard of living rises when this indicator grows faster than the population. One of the goals of the Federal Reserve's monetary policy is to achieve maximum sustainable growth of this economic variable.
Question: What do we call two consecutive quarters of decline in this indicator? (*Recession.*)
- **Inflation**
This condition occurs when there is an increase in the average level of prices of the products and services we buy. Significant changes in the price level distort economic incentives because those changes alter the purchasing power of money. A 5 percent annual rate of increase in prices means that the income you earn this year will buy 5 percent less next year. One of the goals of the Federal Reserve's monetary policy is to achieve price stability—that is, no overall tendency for the prices of goods and services to generally rise or fall.
Question: What do we call a negative value for the growth rate of the average level of prices? (*Deflation.*)
- **Unemployment**
This indicator measures the number of people looking for jobs as a percentage of the total number of people who are either working or looking for work. One of the goals of the Federal Reserve's monetary policy is to keep this indicator low.
Question: If the number of people looking for work remains the same, but the total number of people who either hold jobs or are looking for work declines, what do you expect will happen to the level of this indicator? (*It will increase.*)
- **Consumer Spending**
This variable accounts for about two-thirds of total spending in the economy. So, monitoring its pace is a key ingredient in tracking the overall economy. Fortunately, this indicator usually grows at a fairly stable rate, helping to smooth fluctuations in the overall economy.

Question: What types of spending do you think are included in measuring this indicator? (*Answers will vary but will include various purchases made by households.*) What types of spending do you think are not included in measuring this indicator? (*Answers will vary, but will include various purchases made by businesses and government.*)

- **Housing Starts**

This indicator is an estimate of the number of new units that builders begin to construct each month. This variable is used to monitor movements in the economy because it is very sensitive to changes in interest rates and tends to be very cyclical. This variable is typically low during periods of slow economic growth or recessions and is high during periods of strong economic growth.

Question: What does it mean for this indicator to be cyclical? (*The variable increases during periods of economic growth and declines during recessions.*)

- **Federal Budget Surplus or Deficit**

This indicator measures the amount by which federal government spending exceeds or falls short of its revenue. When the federal government runs a deficit, it borrows (by selling Treasury bills, notes, and bonds) to pay its expenses. When it has a surplus, it repays previously issued debt. Changes in taxes or government spending enacted by Congress (referred to as fiscal policy) will alter the size of the surplus or deficit and can also affect the level of economic activity.

Question: What would result if the federal government spends more than it brings in from taxes? (*A federal budget deficit and an increase in the national debt.*)

- **Trade Balance**

This indicator is the difference between the amount of goods and services exported and the amount imported. A country has a surplus in this indicator when it exports more than it imports; it has a deficit in this indicator when it imports more than its exports. The indicator reflects a variety of factors, including the strength or weakness of the dollar against other currencies. When U.S. economic growth is more rapid than economic growth abroad, this indicator also tends to increase.

Question: If the United States is in recession, what effect do you expect weak economic activity will have on trade? (*Individuals and businesses will buy fewer imported goods.*)

- **Interest Rates**

These variables determine consumers' and businesses' costs of borrowing credit and therefore affect their spending. Question: If this indicator increases, what effect will this have on borrowing? (*Decrease the number of loans originated and the use of credit.*)

- **Stock Market**

Movements in this indicator are one of the leading indicators of economic activity and are also generally viewed as an indicator of business and consumer confidence in the economy. Changes in this indicator reflect investors' expectations about changes in economic conditions that will affect companies' future earnings. This indicator is also an important source of funds for many companies and therefore influences their ability to expand. In addition, this indicator is an important part of many people's wealth; therefore, persistent changes in it influence their willingness to spend (although changes in their incomes matter more).

Question: If this indicator declines, what would you conclude is happening to the economy? (*The economy is weakening.*)

7. Distribute one copy of Activity 3 to each group. Display your transparency of Activity 3. Using the same groups as for the previous activity, assign a number to each group. In each group, have the students "count off" the letters from A to D. Explain to the students that the class will be taking a field trip to the "Money in Motion" exhibit at the Federal Reserve Bank of Philadelphia and will be focusing on the sections related to monetary policy and economic indicators. Explain that they will be working in their groups to find information at a number of the exhibit's stations. Assign the following roles to each student in the group. Explain what each group member's role will be when she arrives at the exhibit. Each team has the following members:

- **Member A** will go to the "Looking into the Economic Future" station to determine how indicators are measured. This group member will complete the last column of Activity 1.
- **Member B** will go to the "Monitoring Monetary Policy" station and look at the Federal Reserve's policymakers, the objectives of monetary policy, and information on the tools of the Fed. This group member will complete Activity 4.
- **Member C** will go to the "Monitoring Monetary Policy" station and assess how events and monetary policy interacted during the 1970s. This group member will complete Activity 5 using data for the 1970s.
- **Member D** will go to the "Monitoring Monetary Policy" station and assess how events and monetary policy interacted during the 1980s. This group member will complete Activity 5 using data for the 1980s.

8. Tell the group to fill in the group number and group members' names on their copy of Activity 3. Distribute one copy of Activity 4 and two copies of Activity 5 to each student. Ask the students to put their name on each of the activities. Explain to the students that while each group has a member who is responsible for finding the information for each activity during the visit to the exhibit, each group member will need to share the information he finds with every other member of the group. By the next class, every

student will be responsible for having completed, based on the information from the group members, Activities 1 and 4 and Activity 5 for both the 1970s and the 1980s.

9. Collect all of the activities. Tell the students that you will return their copies of the activities on the bus.

Closure

1. What are the three functions of the Federal Reserve System? (*Regulate and supervise banks, operate the payments system, and establish and implement monetary policy.*)
2. Which of these functions can be used by the Fed to affect overall economic conditions? (*Monetary policy.*)
3. What is monetary policy? (*Changing the growth rate of the money supply in order to lead the economy toward price stability, maximum sustainable economic growth, and full employment.*)

Assessment

1. Using one set of the economic indicator cards, draw one card for each group. Ask all of the members of that group to write a paragraph explaining, in their own words, what the economic indicator is and why it is important to economic policymakers.
2. Ask students to produce a poster that illustrates the three major functions of the Federal Reserve System.

At the Exhibit

Lesson Description

Students complete three activities at the “Money in Motion” exhibit to learn more about economic indicators, the tools of monetary policy, and monetary policymakers.

Time Required

60 minutes

Materials

Activity 1, one per student as begun in the classroom

Activity 3, one per group as completed in the classroom

Activity 4, one per student as begun in the classroom

Activity 5, two per student as begun in the classroom

“Money in Motion” Navigational Guide, one per student and one per chaperone (available at the exhibit and online at www.philadelphiafed.org/money_in_motion/tour.html)

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“Money in Motion” Curriculum

Federal Reserve Bank of Philadelphia

Procedure

1. Distribute a copy of the “Money in Motion” Navigational Guide to each student and chaperone. Return the students’ copies of Activities 1, 4, and 5. Return each group’s copy of Activity 3. Ask each group’s Member A to go to the “Looking into the Economic Future” station and begin work, with the Member As from the other groups, on column 3 of Activity 1. Ask each group’s Member B to go to one of the three kiosks at the “Monitoring Monetary Policy” station and begin work, with the Member Bs from the other groups, on Activity 4. Ask each group’s Member C to go to another kiosk of the “Monitoring Monetary Policy” station and begin work, with the Member Cs from the other groups, completing Activity 5 with information from the 1970s. Ask each group’s Member D to go to the remaining kiosk of the “Monitoring Monetary Policy” station and begin work, with the Member Ds from the other groups, completing Activity 5 with information from the 1980s.
2. Explain to the students that once they have completed the activity they have been assigned, they should visit other exhibit stations to learn more about the operations of the Federal Reserve System. As group members complete their work, encourage them to begin to share the information on their activity with other students in their group.
3. Remind students they are to follow the rules below while in the exhibit. The Federal Reserve Bank of Philadelphia reserves the right to ask individuals who are not behaving properly to leave.
 - a. Do not run.
 - b. Do not bring food into the exhibit.
 - c. Do not take photographs or movies in the exhibit.
 - d. Use conversational voices.
 - e. Do not shove or push others.
 - f. Be respectful of the exhibit stations (for example, do not slam buttons, do not repeatedly push buttons at the various stations, and do not climb on the exhibit stations).
4. Allow time for the students to complete their activities. Before leaving the exhibit, emphasize to the students that they need to hold on to their copies of all of the activities and that, if they haven’t done so already, they need to make sure that all of their group members have all of the answers to all of the activities that everyone completed in the exhibit. Collect Activity 3 from the groups.

Post-Visit

Lesson Description

Students review their answers for the At-the-Exhibit activities. They work in groups to develop a direction for monetary policy based on a number of scenarios.

Objectives

Students will:

1. Identify the goals of monetary policy.
2. Identify the tools of monetary policy.
3. Identify possible economic effects that could result from a given monetary policy.
4. Analyze a real-world economic scenario and determine an appropriate monetary policy to match the economic conditions identified in the scenario.

Time Required

60 minutes

Materials

Activity 1, one per student as completed at the exhibit

Activity 4, one per student as completed at the exhibit

Activity 5, two per student as completed at the exhibit

Activity 6, one per student and one transparency

Activity 7, one scenario per group

Activity 8, one per student

Visual 2

Visual 3, preferably in color

Visual 4, preferably in color

Procedure

1. Ask the students to take out their copies of Activities 1, 4, and 5. For each indicator, have groups share their answers for the third column of Activity 1. Potential answers to the third column of Activity 1 include:

INDICATOR	MORE DETAILED INFORMATION
Output	<p>Total output of goods and services is a key indicator of economic activity and serves as a gauge of the economy's ability to provide products and services to people. Over the long run, people's standard of living rises when output grows faster than population. One of the goals of the Federal Reserve's monetary policy is to achieve maximum sustainable growth of output.</p> <p>The broadest measure of the economy's total output is real gross domestic product (real GDP). The word "real" means that it is adjusted to remove inflation so that it represents the total <i>quantity</i> of final goods and services</p>

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	<p>produced in the U.S. during a given period. (“Final goods,” unlike raw materials and intermediate inputs, are not incorporated into other products.) The Commerce Department’s Bureau of Economic Analysis calculates quarterly and annual real GDP data. Industrial production, calculated by the Federal Reserve, is a narrower index of total output of factories, mines, and utilities, but it is often used to track the economy’s output because, unlike real GDP, it is available monthly.</p> <p>Because orders to manufacturing firms precede the production of products, factory orders are also a useful leading indicator of industrial production. In particular, new orders for nondefense capital goods are a useful leading indicator of business investment spending. The Census Bureau reports monthly on factory orders, shipments, and inventories.</p>
Inflation	<p>Inflation or deflation can be measured using several price indexes, including the consumer price index (CPI) for retail prices, the personal consumption expenditures price index (PCE price index) that covers a broader measure of prices paid by consumers, and the producer price index (PPI) for wholesale prices. These three indexes are available monthly. The broadest measure of inflation or deflation is the rate of change in the GDP price index, which is available quarterly. The CPI and the PPI are published by the Bureau of Labor Statistics; the PCE and GDP price indexes come from the Bureau of Economic Analysis.</p>
Unemployment	<p>Data on unemployment and the size of the labor force (those working plus those seeking work) come from asking a sample of households how many people in a household are working, looking for work, or neither. Payroll employment data are obtained by asking employers how many people are on their payrolls. The Bureau of Labor Statistics publishes these data each month, along with a variety of other measures of labor market activity.</p> <p>The Bureau of Labor Statistics also publishes quarterly data on labor productivity. Labor productivity measures output per hour worked. As workers become better educated or improve their skills, use more modern equipment, and adopt new ways of doing things, their productivity rises. Over time, higher labor productivity translates into higher real wages (inflation-adjusted wages) and a higher standard of living.</p>
Consumer Spending	<p>In recent years, about 12 percent of consumer spending has gone to buy durable goods (autos, appliances, etc.), about 30 percent to buy nondurable goods (food, clothing, etc.), and 58 percent to buy services. Personal consumption expenditures, the broadest measure of consumer spending, are primarily household spending on goods and services and are available monthly (both adjusted and not adjusted for inflation) from the Commerce Department’s Bureau of Economic Analysis. Many analysts also track the behavior of consumer spending by monitoring monthly retail sales data (which are not adjusted for inflation and are available from the Census Bureau), as well as narrower categories of consumer spending such as monthly auto sales.</p>
Housing Starts	<p>Monthly numbers on housing starts from the Commerce Department’s Census Bureau provide a measure of households’ investment in new homes. Housing starts are quite sensitive to mortgage rates; typically they rise when mortgage rates fall and decline when mortgage rates rise. They also rise and fall with total employment. The Census Bureau also reports the number of housing permits issued each month; permits are another indicator of future construction activity. In addition, the Census Bureau publishes monthly data on new home sales, and the National Association of Realtors publishes data on sales of existing homes.</p>

Federal Budget Surplus or Deficit	Newly enacted tax cuts or increases in federal spending will increase the federal budget deficit (or reduce the budget surplus). But the federal deficit can change even when Congress does not change taxes or spending because the deficit also reflects fluctuations in economic activity. The deficit will increase if the economy slides into recession because a recession means lower employment and profits and thus lower federal income tax revenues. On the other hand, strong economic growth generates rising tax revenues and thus increases the budget surplus (or reduces the budget deficit). The Treasury Department publishes monthly data on spending, revenues, and the budget surplus or deficit.
Trade Balance	An increase in the value of the dollar on foreign exchange markets typically makes it cheaper for Americans to travel abroad and buy foreign-made goods and makes it more expensive for foreigners to travel to the U.S. or buy American-made goods. So a strengthening dollar typically causes U.S. imports to rise and U.S. exports to fall. In addition, more rapid economic growth in the U.S. than abroad typically means more rapid growth of U.S. imports than of U.S. exports. The Bureau of Economic Analysis and the Census Bureau publish information about U.S. international trade each month, including detailed data on imports and exports by country and by type of good.
Interest Rates	<p>Interest rates determine consumers' and businesses' costs of borrowing credit and therefore affect their spending. The Federal Reserve uses one interest rate, the federal funds rate (the interest rate on overnight loans between banks), as its primary instrument for implementing monetary policy. Other interest rates tend to rise and fall with the federal funds rate (although rarely by exactly the same amount). Thus, changes in the federal funds rate are closely monitored for signals about current monetary policy.</p> <p>Interest rates change as the supply and demand for credit changes. The Federal Reserve's monetary policy affects the amount of credit in the economy when it changes the supply of money available to the public. Money includes a variety of assets (such as currency and checking deposits) that the public uses to buy goods and services, while credit includes a variety of instruments (such as mortgages or commercial loans) that consumers and businesses use to borrow funds from lenders. Money and credit are used to monitor economic activity because their growth is related to the growth of income and spending as well as to the level of interest rates. The Federal Reserve publishes data on money and credit on a weekly and monthly basis.</p>
Stock Market	A sustained increase in stock prices can reflect investors' expectations that the economy will expand and lift corporate profits. A persistent change in stock prices can also affect businesses' willingness to invest in new plants and equipment because new stock issuance can serve as an important source of funds for business expansion. Many households now invest in the stock market through work-related retirement savings programs, so persistent changes in the value of the stock market affect their wealth and their willingness to spend on goods and services (although changes in their incomes matter more). For these reasons, persistent movements in stock prices are one of the leading indicators of economic activity. Frequently monitored measures of the stock market include the Dow Jones Industrial Average, the S&P 500 Index, and the NASDAQ Index. Stock market information is available in most daily newspapers.

2. Have groups share their answers for Activity 4. Answers to Activity 4:
 1. What are the three main goals of monetary policy? (*Maximum sustainable economic growth, full employment [low unemployment], and price stability.*)
 2. Give a brief description of each goal of monetary policy. (*Maximum sustainable economic growth means the economy is growing at a pace consistent with its maximum long-run ability to expand while maintaining price stability. Full employment is typically the maximum job growth and lowest unemployment rate that can be achieved without increasing inflation. Price stability means little or no inflation or deflation—no overall tendency for the prices of goods and services to generally rise or fall.*)
 3. What legislation mandated the goals of the Fed’s monetary policy? (*The Employment Act of 1946 defined the goals of the Fed’s monetary policy as “maximum employment, production, and purchasing power.” These goals were expanded by the Full Employment and Balanced Growth Act of 1978 [Humphrey-Hawkins Act], which set the Fed’s goals as “full employment and production” and “reasonable price stability.”*)
 4. Explain how the Federal Open Market Committee works. (*The Federal Open Market Committee [FOMC] is the Fed’s chief body for monetary policymaking. The FOMC’s decisions ultimately affect interest rates. The FOMC meets in Washington, usually eight times a year. The FOMC’s voting membership includes the seven members of the Board of Governors of the Federal Reserve System, the president of the Federal Reserve Bank of New York, and four of the other 11 Reserve Bank presidents, who serve in an annual rotation. Regardless of their voting status, all Reserve Bank presidents contribute to the FOMC’s discussions and deliberations.*)
 5. How does the Federal Reserve’s monetary policy affect the economy? (*By making credit conditions tighter or easier, monetary policy can help dampen inflationary and recessionary pressures that have historically led to economic booms and busts. Although monetary policy cannot prevent business cycles from occurring, it can help make them less severe.*)
 6. Why are bank reserves important to the economy? (*The Fed’s monetary policy tools can increase or decrease the amount of reserves available to banks and the price at which those reserves are traded among banks. In doing so, the Fed changes the supply of money, the availability of bank credit, and the interest rates charged to borrowers.*)
 7. What was the purpose of the Treasury-Fed Accord of 1951? (*The Treasury-Fed Accord recognized the Fed’s authority to conduct monetary policy independently of the Treasury.*)

8. Explain the difference between tight and easy monetary policy. (*Tight: To restrain inflation, the Fed can use its monetary policy tools to reduce the growth of money and credit, which tends to raise interest rates and slow the growth of the economy. This monetary policy is said to be tight or contractionary. Easy: To fight recessions, the Fed can use its monetary policy tools to increase the growth of money and credit, which tends to lower interest rates and spur growth of the economy. This monetary policy is said to be easy or expansionary.*)
 9. How do open market operations work? (*Open market operations involve buying or selling government securities for the Fed's portfolio. When the Fed's Trading Desk buys government securities, the selling bank receives funds from the Fed that it puts into its account at the Fed. This increases the bank's reserves and its ability to make more loans. As bank reserves increase, the overnight interest rate banks charge each other for borrowing reserves, called the federal funds rate, will fall. When the Fed sells government securities, the opposite occurs.*)
 10. How does the discount rate affect the money supply? (*The discount rate is the interest rate the Fed charges banks to borrow from the Fed. An increase in the rate signals tighter monetary policy and a decrease signals an easy policy.*)
 11. What are reserve requirements and how do they affect the money supply? (*The reserve requirement ratio is the percentage of deposits that banks must hold as reserves. An increase in reserve requirements will decrease growth of money and credit, while a reduction in reserve requirements will increase growth of money and credit.*)
 12. What is the business cycle? (*The business cycle refers to recurring periods of business expansion followed by recession, typically measured by the rise and fall of the economy's output of goods and services.*)
3. Have the groups share their answers to Activity 5 for the 1970s. Potential answers to Activity 5 for the 1970s include:

Describe what was occurring in the United States during the 1970s.

- A. In general: *It's a decade full of frustrations and surprises. The war in Vietnam comes to a bitter end. The threat of nuclear conflict recedes into an uneasy détente. And a leading anti-Communist, Richard Nixon, opens up trade with China. Policymakers are frustrated that inflation is not under control. President Nixon's wage and price controls fail. Nixon's Watergate cover-up forces him to resign. Gerald Ford, his successor—also determined to whip inflation—faces a dilemma posed by the Arab oil embargo. It drives up energy prices and inflation but also plunges the economy into the worst recession in 40 years. Americans wait in line at gas stations and later learn to worry about the safety of nuclear energy. More women join the workforce to build their own careers and more teenagers look for jobs. Turmoil in the Middle East has continuing effects on oil*

prices. The Iranian revolution leads to another jump in oil prices and a late '70s bout of double-digit inflation that monetary policy seems unable to control. The Fed's stated policy of keeping inflation low is losing credibility. The nation seems hostage to an inflationary spiral that policymakers become desperate to end.

- B. What was happening in the economy during the 1970s? *(The 1970s, like the 1960s, begin with a recession. Unemployment reaches 6 percent. Despite the recession, inflation remains above 4 percent. This leads President Nixon to impose wage and price controls in mid-1971. The controls slow inflation at first but later prove ineffective. OPEC quadruples oil prices in late 1973. This leads to double-digit inflation and to another recession. Real gross domestic product declines sharply, and unemployment rises to 9 percent. This combination of high unemployment and high inflation poses a new challenge for monetary policy. Monetary policy becomes expansionary after mid-1974. Rapid growth of money and credit lowers the federal funds rate and partly offsets the adverse effects of higher oil prices on the economy. Following the 1974-1975 recession, the economy expands. Unemployment falls but never gets below 5.5 percent. The Fed raises the federal funds rate in the late 1970s, but it doesn't increase interest rates fast enough to keep up with rising inflation. The Fed's anti-inflation policy is losing credibility with businesses and consumers. To break the inflationary cycle, Fed Chairman Paul Volcker shifts the focus of monetary policy in October 1979 from short-term interest rates to the quantity of bank reserves and the money stock. The Fed's efforts to slow money growth raise interest rates above 13 percent in late 1979 and even higher in early 1980.)*
- C. Specifically, what happened to the following economic indicators during the decade?
1. CPI *(Inflation is about 6 percent as the decade begins and falls only gradually during and after the recession in 1970. With inflation still above 4 percent by mid-1971, President Nixon imposes wage and price controls. These suppress inflation for a time but ultimately don't work. Inflation rebounds when controls are removed. Oil prices quadruple during the Arab oil embargo, and inflation hits 12 percent in 1974. Inflation falls during and after the 1974-75 recession but does not go below 5 percent before rising again. As the economy expands during the rest of the decade, OPEC raises oil prices several times. The Fed is slow to raise interest rates to stem inflationary pressures. Inflation rises to nearly 14 percent in 1979 when the revolution in Iran reduces oil supplies to the U.S.)* Display CPI Inflation graph on Visual 3.
 2. Real GDP *(The economy begins this decade in a mild recession that lasts 11 months. Real GDP does not fall, but neither does it rise. The economic expansion that follows is cut short when OPEC quadruples oil prices, which plunges the nation into the worst recession in 40 years. Real GDP declines sharply in 1974 and early 1975. Real GDP expanded during the*

remainder of the decade. But, overall, the decade is plagued by weak productivity growth that keeps economic growth slow compared with previous decades. Real GDP increases only 38 percent in the 1970s, after increasing 50 percent in both the 1950s and the 1960s.) Display Real GDP Level graph on Visual 3.

3. *Unemployment (Unemployment in the 1970s rises from 3.5 percent to 6 percent as the economy falls into recession. It then declines gradually as the economy expands during the next three years, going below 5 percent in 1973. When the Arab oil embargo throws the economy into recession in 1974, unemployment rises rapidly to 9 percent. Some industries restructure their operations to adjust to higher energy prices and reduce their workforces. In addition, more women and teenagers enter the workforce during the decade. As a result, unemployment declines only gradually during the recession of the late 1970s. It falls to about 5.5 percent in early 1979 but is on the rise as the decade ends.) Display Unemployment Rate graph on Visual 3.*
4. *Federal Funds Rate (During the recession of 1970, the Federal Reserve eases monetary policy, and the federal funds rate falls from about 9 percent to near 4 percent. The Fed tightens monetary policy as inflation rebounds following the end of wage and price controls and a jump in oil prices in 1973-74. The federal funds rate rises from about 5 percent at the end of 1972 to over 12 percent in mid-1974. The Fed eases monetary policy midway through the recession in 1974, and the federal funds rate falls below 5 percent in early 1976. The Fed is slow to raise the level of short-term interest rates to match or exceed the increases in inflation during the rest of the decade. As a result, the Fed's monetary policy remains expansionary, and the Fed's stated anti-inflation policy loses credibility. To stem the rise in inflation, the Fed abandons its usual focus on interest rates in October 1979 and instead focuses on controlling the growth of bank reserves and money. The Fed's efforts to slow money growth raise interest rates above 13 percent in late 1979 and even higher in early 1980.) Display Interest Rates graph on Visual 3.*

D. What policies did the Federal Reserve implement during the decade? (See answers embedded in the responses to question B.)

E. What were the results of the Federal Reserve's policies? (See answers embedded in the responses to question B.)

4. Have the groups share their answers to Activity 5 for the 1980s. Potential answers to Activity 5 for the 1980s include:

Describe what was occurring in the United States during the 1980s.

- A. In general: *As the decade begins, the battle against spiraling inflation is won but at the cost of back-to-back recessions. The Federal Reserve's anti-inflation policy, which raises interest rates into double digits, is not popular but it brings inflation under control, which proves to be a major accomplishment of economic policy. The decade also sees a revolution in other policies, led by a new president, Ronald Reagan, with definite ideas about how to limit the role of government and expand our military power. Taxes are cut, but public spending still rises. As a result, the federal deficit soars. By 1983, business gets back on track for the start of one of the longest expansions in U.S. history. It is the age of deregulation and the end of familiar monopolies. Mainframe computers had already become essential in the office. Now the personal computer arrives, creating a massive new industry and new opportunities. Huge swings in the value of the dollar on world markets pose problems for our exporters and importers. American manufacturing is challenged by foreign competition and learns new ways to compete. And corporations and their shareholders are challenged by a stock market crash in 1987 that reminds them of 1929. After 40 years of Cold War tension, communism collapses. The decade ends with the triumph of free markets.)*
- B. What was happening in the economy during the 1980s? *(Fighting inflation is a top priority as the 1980s begin. President Carter imposes controls on consumers' use of credit, and Americans respond by sharply cutting their spending. This sends the economy into recession. The unemployment rate rises above 7 percent in 1980, and the Fed lowers interest rates by mid-year. But inflation remains in double digits, and by early 1981 the Federal Reserve's efforts to slow money growth push interest rates above 19 percent. The economy enters a much deeper recession, with unemployment rising to almost 11 percent in late 1982. The back-to-back recessions finally bring inflation below 5 percent in 1983, and interest rates fall into single digits. When inflation picks up again in late 1983, the Fed quickly raises interest rates, underscoring its determination to keep inflation low. During the battle against inflation early in the decade, real gross domestic product records no growth. After 1982, however, the economy expands for the remainder of the decade. This is helped in part by the government's expansionary fiscal policy that cuts taxes substantially and swells federal budget deficits. Unemployment comes down, eventually leveling off near 5 percent as the 1980s end.)*
- C. Specifically, what happened to the following economic indicators during the decade?
1. CPI *(Inflation is in double digits and still rising as the decade begins. Having lost credibility with businesses and consumers that it will control inflation, the Fed wages a costly battle against inflation. The Federal Reserve's efforts to slow money growth raise interest rates above 18 percent and eventually bring inflation down but at the cost of back-to-back recessions in 1980 and 1981-82. Consumer price inflation falls below 3 percent in 1983, then returns to about 4 percent in 1984. In response the*

Federal Reserve promptly tightens monetary policy, underscoring its determination to keep inflation under control. Inflation falls below 2 percent in 1986 when oil prices drop sharply on world markets but returns to about 4 percent in 1987. In the next two years, inflation edges higher and reaches about 5 percent in 1989.) Display CPI Inflation graph on Visual 4.

2. *Real GDP (Real GDP declines during the recession in 1980 and has little time to recover before falling again during a second recession that begins in mid-1981. These back-to-back recessions at the beginning of the decade result in no growth of real GDP between early 1980 and the end of 1982. After 1982, the economy begins a long period of growth, aided by expansionary federal fiscal policy that cuts taxes substantially. Real GDP grows steadily for the rest of the decade, making this economic expansion the second longest in U.S. history up to that time.)* Display Real GDP Level graph on Visual 4.
3. *Unemployment (The short recession at the beginning of the decade pushes up the unemployment rate in 1980 from about 6 percent to over 7 percent. The ensuing economic recovery is too brief to reduce unemployment very much. The more severe recession that follows in mid-1981 raises the unemployment rate to almost 11 percent. After these back-to-back recessions, the economy expands steadily for the remainder of the decade. The unemployment rate falls sharply in 1983, then declines more gradually to about 5 percent in early 1989. It remains slightly above 5 percent for the rest of that year.)* Display Unemployment Rate graph on Visual 4.
4. *Federal Funds Rate (Interest rate swings are volatile in the early 1980s, reflecting the Fed's focus on money growth as well as its lack of credibility in fighting inflation. When the economy slows and unemployment rises in early 1980, the Fed lowers interest rates below 10 percent, after rates peak above 17 percent in early 1980. But inflation doesn't slow, and the Fed soon moves to again curb money growth, which pushes interest rates above 19 percent. Interest rates come down as inflation falls, but when inflation picks up in late 1983, the Fed again raises the federal funds rate above 10 percent. Interest rates come down in 1984 and 1985 as inflation stabilizes and fall further in 1986 when declining oil prices push inflation below 2 percent. The Fed begins to raise interest rates in 1987 when inflation rises but lowers them after the October 1987 stock market crash. When the economy grows strongly in 1988 and inflation threatens, the Fed raises interest rates to nearly 10 percent. As the decade ends, the economy slows and the fed funds rate is lowered to about 8 percent.)* Display Interest Rates graph on Visual 4.

- D. What policies did the Federal Reserve implement during the decade? (*See answers embedded in the responses to question B.*)
- E. What were the results of the Federal Reserve’s policies? (*See answers embedded in the responses to question B.*)
5. Display Visual 2. Review open market operations with the students. Discuss how the Fed affects the federal funds rate by buying and selling Treasury securities through open market operations. Explain that changes in the federal funds rate are likely to affect other short-term interest rates. Finally, emphasize that changes in short-term interest rates may affect inflation, employment levels, and economic growth. Emphasize to the students that the Fed’s monetary policy stance can be tight, loose, or neutral. With a tight monetary policy, the Fed will be selling Treasury securities. With a loose monetary policy, the Fed will be buying Treasury securities. With a neutral monetary policy, the Fed will make no changes.
6. Remind the students that the Federal Open Market Committee (FOMC) must consider many economic indicators and respond to a variety of economic conditions. At each meeting, the committee must decide whether to ease monetary policy, tighten monetary policy, or maintain the current course of monetary policy by leaving the target for the federal funds rate unchanged.
7. Distribute one copy of Activity 6 to each student and display your transparency of the activity. Explain that each group is going to receive an economic scenario to analyze. Each group will be asked to recommend an appropriate monetary policy based on its scenario. Review the sample scenario in Activity 6 and the recommended course of action as outlined in the answers to the questions. Explain to the students that this scenario illustrates the period of stagflation from the 1970s to the early 1980s.
8. Distribute one scenario from Activity 7 to each group. Allow time for the groups to discuss their scenario and formulate answers to the four questions on the activity. Stress to the students that they should decide whether the Fed should ease, tighten, or make no change to the current monetary policy stance.
9. After the groups have formulated answers to the four questions on the activity, ask each group to read its scenario and report on its answers to the questions. Answers to Activity 7 are likely to vary depending on how different groups of students look at each scenario. Suggested answers to Activity 7:

Scenario #1

QUESTIONS	SUGGESTED ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	We choose to maintain the federal funds rate target at its current level. Until stronger inflation or economic growth trends develop, or both, policy should remain steady. Stimulating the economy at this time could cause it to overheat and increase the potential for future inflation. In contrast, tightening could cause the economy to slow down too much if it is weaker than the indicators presently suggest.
What are the risks associated with overstimulating the economy?	Lowering the federal funds rate will likely cause other short-term interest rates to fall and will help stimulate investment and the economy in the short run. This effect would be helpful if the economy were slowing but would be harmful if it caused inflationary pressures to build.
What are the risks associated with overtightening monetary policy?	Raising the federal funds rate will slow investment in the economy in the short run. Raising the federal funds rate would be appropriate if the economy showed signs of overheating and inflationary pressures were building. However, if the economy were already slowing, a higher federal funds rate would tend to weaken it.
What other information not provided in the scenario might have changed your recommendation? Provide an example.	Additional information on monetary policy over the past couple of years could provide important clues on the future behavior of the economy. Current economic forecasts might help policymakers anticipate movements in the economy under different economic scenarios. The composite index of leading economic indicators, published by the Conference Board, may provide clues to the economy's behavior over the next several months.

Scenario #2

QUESTIONS	SUGGESTED ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	We choose to maintain the federal funds rate target at its current level. Rapid productivity growth appears to be allowing the economy to expand faster than in prior years without building significant inflationary pressure. Until strong trends develop in either inflation or economic growth, or both, policy should remain steady.
What are the risks associated with overstimulating the economy?	Lowering the federal funds rate will likely cause other short-term interest rates to fall and will help stimulate investment and the economy in the short run. With the economy already at or above full employment, lowering rates would be inappropriate if that caused the economy to overheat and inflationary pressures to build.
What are the risks associated with overtightening monetary policy?	Raising the federal funds rate will slow investment in the economy in the short run. While the economy already is at or above full employment, there is little evidence of rising inflation. Strong productivity growth appears to be allowing the economy to expand at a faster pace than normal without building significant upward pressure on wages and prices. Slowing the economy does not appear to be necessary at this time.
What other information not provided in the scenario might have changed your recommendation? Provide an example.	<p>Additional information on monetary policy over the past couple of years could provide important clues on the future behavior of the economy.</p> <p>Information on trends in investment spending and productivity may provide clues to future productivity growth rates.</p> <p>Information on the direction of fiscal policy, whether it is stimulating the economy with a budget deficit or slowing it with a budget surplus, might also be useful for policymakers.</p>

Scenario #3

QUESTIONS	SUGGESTED ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	We choose to lower the federal funds rate target. Lower short-term interest rates should help to offset the weakness in domestic investment and the weak export sales caused by slower economic growth abroad. Stock markets often respond positively to lower interest rates.
How might your policy recommendation affect short-term lending rates (interest rates on securities maturing in one year or less)?	Lowering the federal funds rate will likely lower the cost of borrowing in other short-term financial markets.
What effect is your policy likely to have on the level of employment over the next six months to a year?	A lower federal funds rate (easier monetary policy) will tend to boost economic growth as measured by gross domestic product (GDP) and employment growth in the short run.
What other information not provided in the scenario might have changed your recommendation? Provide an example.	Information on the expected severity and duration of the investment slowdown and export slump would help U.S. policymakers make a decision on interest rates that is

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	<p>consistent with economic growth and modest inflation.</p> <p>Statistics on sales, new orders, and inventories of semiconductors, personal computers, and communications devices would be helpful in analyzing the downturn in technology sectors.</p> <p>Likewise, additional information on the weaknesses in the economies of our major export markets would help policymakers estimate the expected size of the downturn in U.S. exports.</p>
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Scenario #4

QUESTIONS	SUGGESTED ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	We choose to lower the federal funds rate target. Lower interest rates will work to offset the weaknesses in the domestic economy. Lower domestic interest rates may also help to counteract uncertainty in world financial markets. A more significant crisis would likely require a larger policy response.
How might your policy recommendation affect short-term lending rates (interest rates on securities maturing in one year or less)?	Lowering the federal funds rate will likely lower the cost of borrowing in other short-term financial markets.
What effect is your policy likely to have on the level of employment over the next six months to a year?	A lower federal funds rate (looser monetary policy) will tend to boost economic growth as measured by gross domestic product (GDP) and employment growth in the short run.
What other information not provided in the scenario might have changed your recommendation? Provide an example.	<p>Information on the expected severity and duration of the currency crisis would help analysts evaluate the potential impact on the U.S. economy.</p> <p>It would be important to know whether our trading partners are suffering from financial problems.</p> <p>Information on the expected severity and duration of the financial shock abroad also would help U.S. policymakers formulate a decision on interest rates that is consistent with economic growth and modest inflation.</p> <p>Information on international financial rescue efforts, for example, those led by the International Monetary Fund (IMF), would provide a sense of the magnitude of the problem.</p>

Closure

1. What are the goals of monetary policy? (*Maximum sustainable economic growth, full employment, price stability.*)
2. What are the tools of monetary policy? (*Open market operations, reserve requirements, discount rate.*)
3. What are the possible effects of tighter monetary policy? (*Tighter monetary policy will likely cause short-term interest rates to rise. As a result, consumers and businesses may borrow less money and spend less. Inflationary pressures may ease and employment and economic growth may decrease in the short term.*)
4. What are the possible effects of easier monetary policy? (*Easier monetary policy will likely cause short-term interest rates to fall. As a result, consumers and businesses may borrow more money and spend more. Inflationary pressures may build and employment and economic growth may increase in the short term.*)
5. If inflation is at 1 percent and economic growth is negative, what might be an appropriate monetary policy to match these economic conditions? (*Ease monetary policy by lowering the target for the federal funds rate.*)

Assessment

Ask the students to complete Activity 8. Answers to Activity 8:

1. c
2. b
3. a
4. d

Visual 1

Functions of the Federal Reserve System

Functions of the Federal Reserve System

- A. Regulate and supervise banks
- B. Operate the nation's payments system
- C. Establish and implement monetary policy

Visual 2

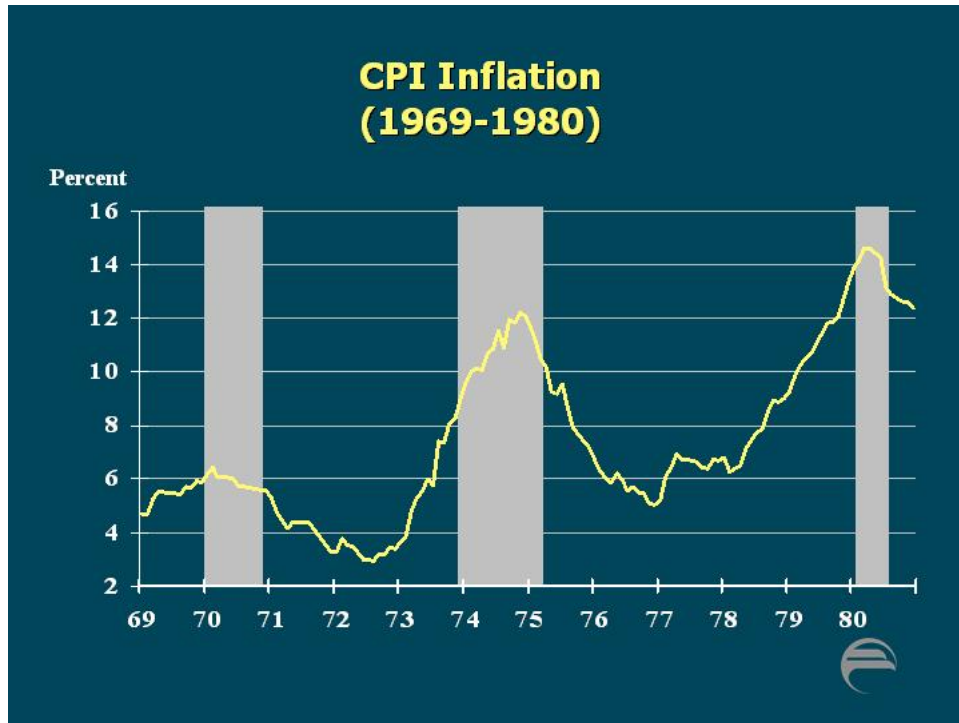
Open Market Operations

The Fed will take one of three possible monetary policy actions: tighten, ease, or make no change. Neutral monetary policy will result in the Fed making no changes. The Fed’s actions and their expected results for tight and loose monetary policy are shown below:

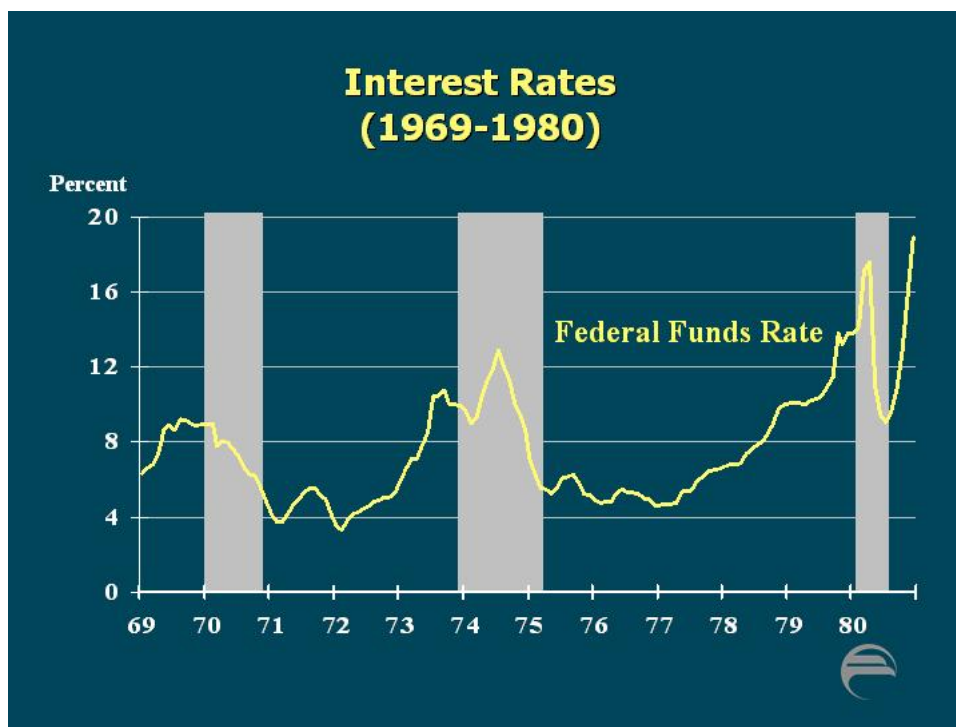
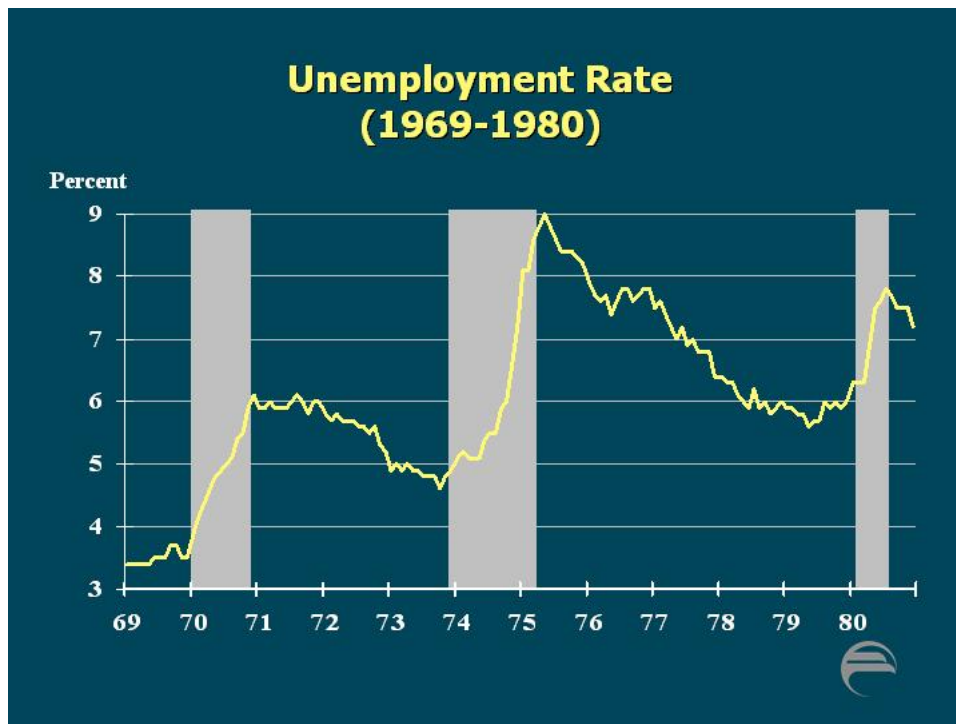
Tight Monetary Policy	Loose Monetary Policy
The Fed sells Treasury securities, taking money out of the economy.	The Fed buys Treasury securities, adding money to the economy.
↓ This creates upward pressure on the federal funds rate.	↓ This creates downward pressure on the federal funds rate.
↓ Short-term interest rates may go up because banks have less money to lend.	↓ Short-term interest rates may go down because banks have more money to lend.
↓ Consumers and businesses may borrow less money.	↓ Consumers and businesses may borrow more money.
↓ Consumers’ and businesses’ spending may decrease.	↓ Consumers’ and businesses’ spending may increase.
↓ Inflationary pressures may ease. Employment and economic growth may decrease in the short term.	↓ Inflationary pressures may build. Employment and economic growth may increase in the short term.

Visual 3

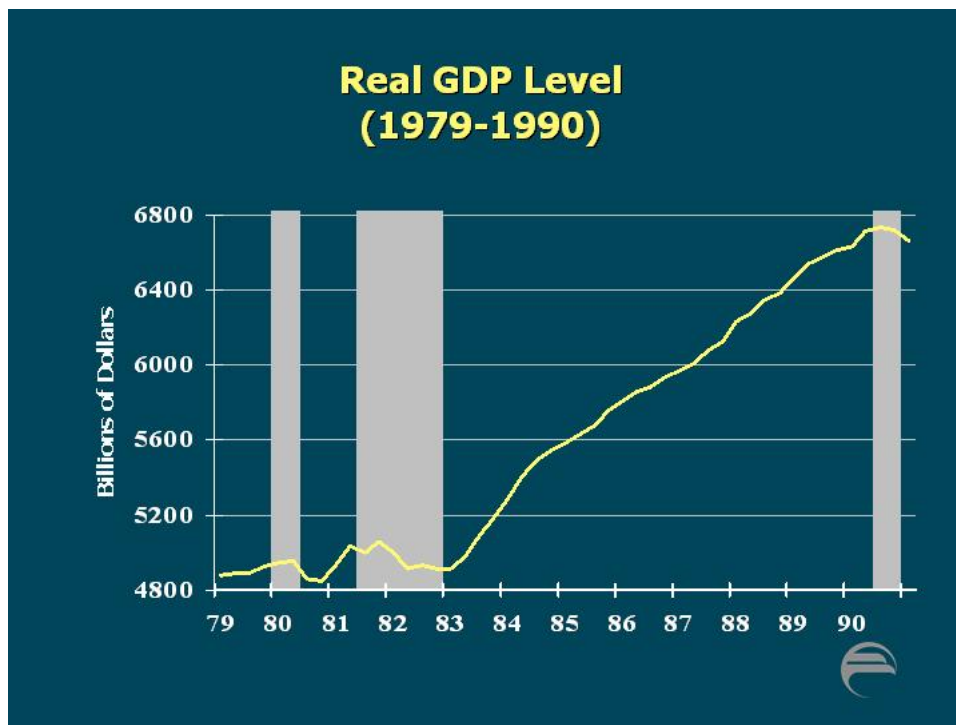
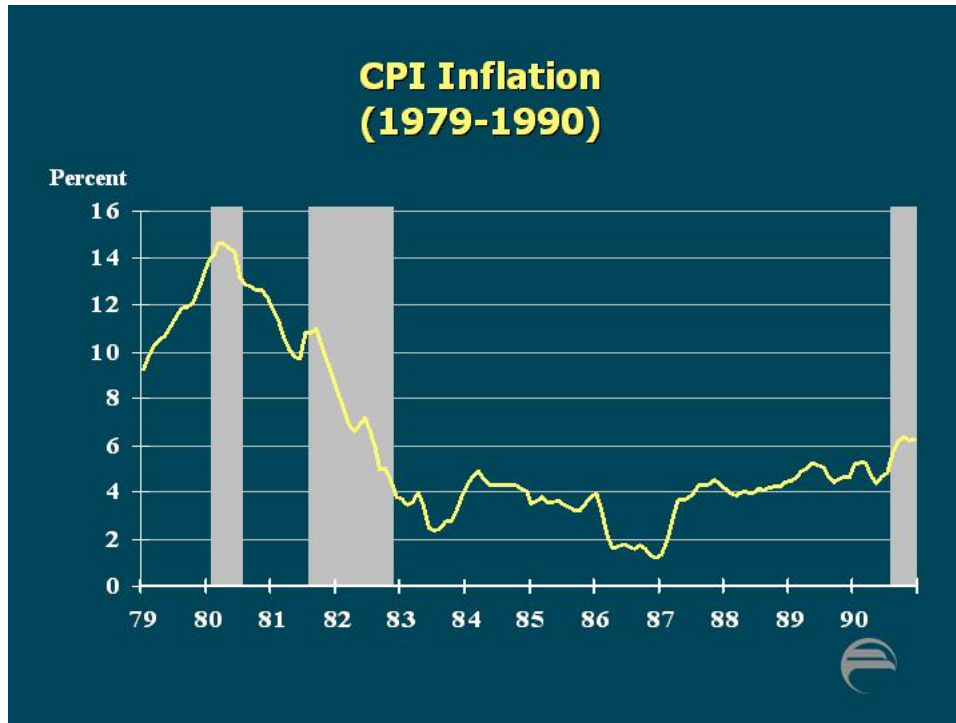
Charts for the 1970s



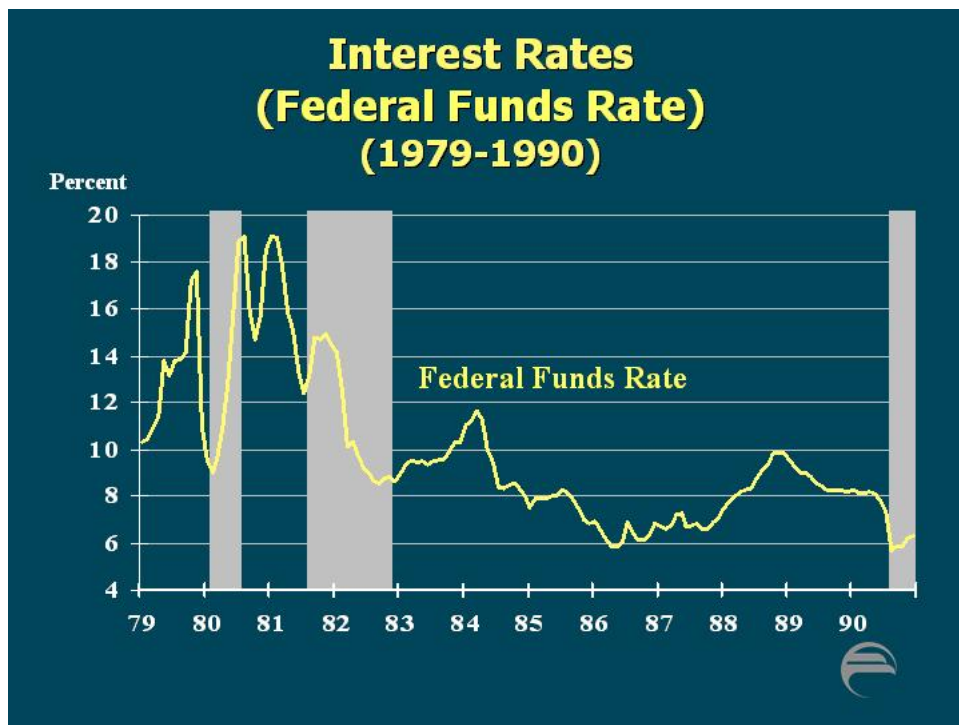
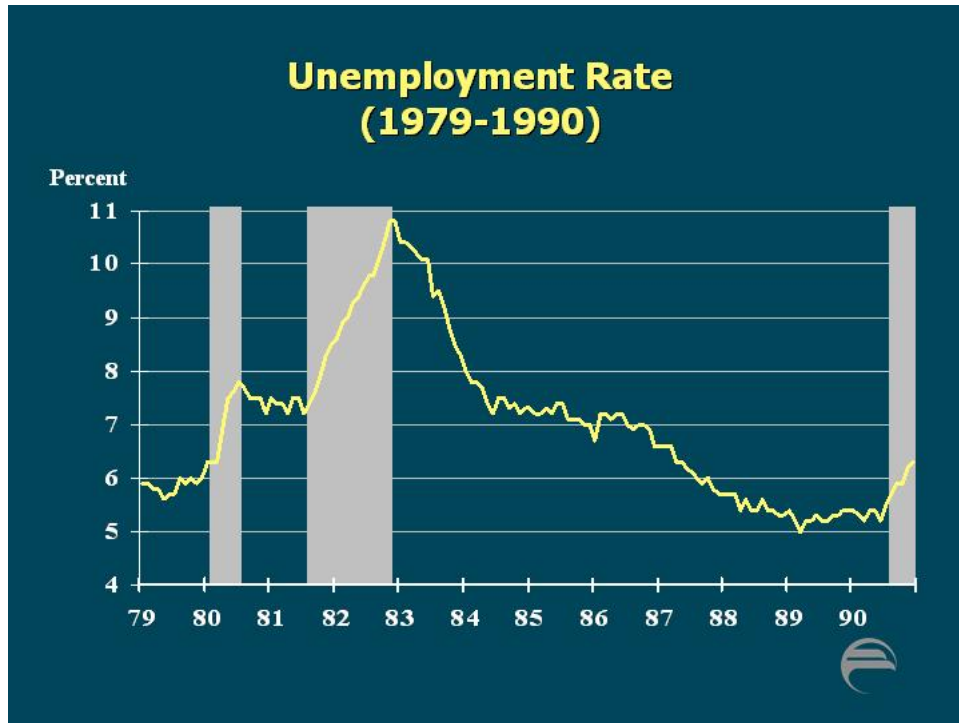
Visual 3 (continued)
Charts for the 1970s



Visual 4 Charts for the 1980s



Visual 4 (continued)
Charts for the 1980s



Activity 1

Clues for Policymakers

You are a researcher for the Federal Reserve Bank of Philadelphia. It is your job to find out how economic activity is measured. Complete columns one and two in class. You will take this sheet with you on your field trip to the “Money in Motion” exhibit at the Federal Reserve. While at the exhibit, you will gather the information for column three: More Detailed Information. **The information you need to complete the last column can be found by clicking on each indicator and reading the box, plus the “More Detailed Information” in the “Looking into the Economic Future” station at the exhibit.**

INDICATOR	DESCRIPTION	MORE DETAILED INFORMATION
<p><i>Answer to the question on the card:</i></p>		
<p><i>Answer to the question on the card:</i></p>		
<p><i>Answer to the question on the card:</i></p>		

Activity 1 (continued)
Clues for Policymakers

INDICATOR	DESCRIPTION	MORE DETAILED INFORMATION
<i>Answer to the question on the card:</i>		
<i>Answer to the question on the card:</i>		
<i>Answer to the question on the card:</i>		

Activity 1 (continued)
Clues for Policymakers

INDICATOR	DESCRIPTION	MORE DETAILED INFORMATION
<i>Answer to the question on the card:</i>		
<i>Answer to the question on the card:</i>		
<i>Answer to the question on the card:</i>		

Activity 2

Indicator and Description Cards

<p style="text-align: center;">Output</p> <p>Question: What do we call two consecutive quarters of decline in this indicator?</p>	<p style="text-align: center;">Inflation</p> <p>Question: What do we call a negative value for this indicator?</p>	<p style="text-align: center;">Unemployment</p> <p>Question: If the number of people looking for work remains the same, but the total number of people who either hold jobs or are looking for work declines, what do you expect will happen to the level of this indicator?</p>
<p style="text-align: center;">Consumer Spending</p> <p>Question: What types of spending do you think are included in measuring this indicator?</p>	<p style="text-align: center;">Housing Starts</p> <p>Question: What does it mean for this indicator to be cyclical?</p>	<p style="text-align: center;">Federal Budget Surplus or Deficit</p> <p>Question: What would result if, in a given year, government spends more than it brings in from taxes?</p>
<p style="text-align: center;">Interest Rates</p> <p>Question: If interest rates increase, what effect will this have on borrowing?</p>	<p style="text-align: center;">Stock Market</p> <p>Question: If the stock market declines persistently, what would you conclude is happening to the economy?</p>	<p style="text-align: center;">Trade Balance</p> <p>Question: If the United States is in recession, what effect do you expect weak economic activity to have on trade?</p>

Activity 2 (continued)

Indicator and Description Cards

<p>This economic variable is a key indicator and serves as a gauge of the economy’s ability to provide products and services to people. Over the long run, the standard of living rises when this indicator grows faster than the population. One of the goals of the Federal Reserve’s monetary policy is to achieve maximum sustainable growth of this economic variable.</p>	<p>This indicator measures the number of people looking for jobs as a percentage of the total number of people who are either working or looking for work. One of the goals of the Federal Reserve’s monetary policy is to keep this indicator low.</p>
<p>This indicator measures the amount by which federal government spending exceeds or falls short of its revenue. When the federal government runs a deficit, it borrows (by selling Treasury bills, notes, and bonds) to pay its expenses. When it has a surplus, it repays previously issued debt. Changes in taxes or government spending enacted by Congress (referred to as fiscal policy) will alter the size of the surplus or deficit and can also affect the level of economic activity.</p>	<p>This condition occurs when there is an increase in the average level of prices of the products and services we buy. Significant changes in the price level distort economic incentives because those changes alter the purchasing power of money. A 5 percent annual rate of increase in prices means that the income you earn this year will buy 5 percent less next year. One of the goals of the Federal Reserve’s monetary policy is to achieve price stability—that is, no overall tendency for the prices of goods and services to generally rise or fall.</p>
<p>This variable accounts for about two-thirds of total spending in the economy. So, monitoring its pace is a key ingredient in tracking the overall economy. Fortunately, this indicator usually grows at a fairly stable rate, helping to smooth fluctuations in the overall economy.</p>	<p>This indicator is an estimate of the number of new units that builders begin to construct each month. This variable is used to monitor movements in the economy because it is very sensitive to changes in interest rates and tends to be very cyclical. This variable is typically low during periods of slow economic growth or recessions and is high during periods of strong economic growth.</p>

Activity 2 (continued)

Indicator and Description Cards

<p>Movements in this indicator are one of the leading indicators of economic activity and are also generally viewed as an indicator of business and consumer confidence in the economy. Changes in this indicator reflect investors' expectations about changes in economic conditions that will affect companies' future earnings. This indicator is also an important source of funds for many companies and therefore influences their ability to expand. In addition, this indicator is an important part of many people's wealth; therefore, persistent changes in it influence their willingness to spend (although changes in their income matter more).</p>	<p>This indicator is the difference between the amount of goods and services exported and the amount imported. A country has a surplus in this indicator when it exports more than it imports; it has a deficit in this indicator when it imports more than its exports. The indicator reflects a variety of factors, including the strength or weakness of the dollar against other currencies. When U.S. economic growth is more rapid than economic growth abroad, this indicator also tends to increase.</p>
<p>These variables determine consumers' and businesses' costs of borrowing credit and therefore affect their spending.</p>	

Activity 3

Team Roles for “Money in Motion” Visit

Fill in the following form with your team number and each team member’s name.

Team Number: _____

Member A (_____) will go to the “Looking into the Economic Future” station to determine how indicators are measured. This group member will complete the third column of Activity 1.

Member B (_____) will go to the “Monitoring Monetary Policy” station and look at the Federal Reserve’s policymakers, the goals of monetary policy, and information on the tools of the Fed. This group member will complete Activity 4.

Member C (_____) will go to the “Monitoring Monetary Policy” station and assess how events and monetary policy interacted during the 1970s. This group member will complete Activity 5 using data for the 1970s.

Member D (_____) will go to the “Monitoring Monetary Policy” station and assess how events and monetary policy interacted during the 1980s. This group member will complete Activity 5 using data for the 1980s.

Each team member should share the information she finds at the exhibit with the other members of the team. Each student is expected to have a completed copy of Activities 1 and 4 and a completed copy of Activity 5 for the 1970s and for the 1980s.

Activity 4

Policy, Policymakers, and Policymaking Tools

You will be the expert on the goals and tools of monetary policy and monetary policymakers. Along with experts from other teams, you are to answer the following questions using information you can find at the “Monitoring Monetary Policy” station. Everyone at your station will be looking for these answers. After you find the answers to these questions, share them with the other students on your team.

1. What are the three main goals of monetary policy?
2. Give a brief description of each goal of monetary policy.
3. What legislation mandated the goals of the Fed’s monetary policy?
4. Explain how the Federal Open Market Committee works.
5. How does the Federal Reserve’s monetary policy affect the economy?

Activity 4 (continued)

Policy, Policymakers, and Policymaking Tools

6. Why are bank reserves important to the economy?

7. What was the purpose of the Treasury-Fed Accord of 1951?

8. Explain the difference between tight and easy monetary policy.

9. How do open market operations work?

10. How does the discount rate affect the money supply?

11. What are reserve requirements, and how do they affect the money supply?

12. What is the business cycle?

Activity 5

Historian's Clue Sheet

Name: _____ Team Number: _____ Member Letter: _____

Decade you are researching? 1970s 1980s (*circle one*)

Describe what was occurring in the United States during the decade you have been assigned:

A. In general:

B. What was happening in the economy during the decade you have been assigned?

Activity 5 (continued)

Historian's Clue Sheet

C. Specifically, what happened to the following economic indicators during the decade?

1. CPI

2. Real GDP

3. Unemployment

4. Federal funds rate

D. What policies did the Federal Reserve implement during the decade?

E. What were the results of the Federal Reserve's policies?

Activity 6

Sample Scenario

Read and discuss the following monetary policy scenario within your group. Provide short answers to the list of questions, and be ready to summarize your answers for the rest of the class.

SCENARIO: Economic growth over the past year, measured by real gross domestic product (GDP) for the United States, has been negative. The number of jobs has declined, and the already high unemployment rate has been rising. Inflation pressures remain persistent. Most inflation, wage, and salary indicators suggest that inflation has not subsided over the past year despite the decline in economic growth. Nominal interest rates are very high, reflecting high inflationary expectations. Your group is concerned that continued inflationary pressures are undermining the economy’s already weak performance.

QUESTIONS	SUGGESTED ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	We choose to raise the federal funds rate target. Over time, this policy should reduce inflation and inflationary expectations, but it will likely do so at the cost of an even slower economy. Higher interest rates will tend to cause the economy to slow and potential output to be lost.
How will your policy likely affect both the economy and the inflation rate?	A policy to slow the economy may lower economic growth in the short run (in the next year, for example). This same policy should also help to slow inflationary pressures in the longer run (during the next several years) and help reduce inflationary expectations.
What effect is your policy likely to have on the level of employment over the next six months to a year?	A higher federal funds rate (tighter monetary policy) will tend to slow the already weak economy and cause additional job losses in the next year.
What other information not provided in the scenario might have changed your recommendation? Provide an example.	<p>Information on the trends in other key inflation indicators (the core consumer price index [CPI excluding food and energy]; the producer price index [PPI]; and the gross domestic product [GDP] deflator would be useful for policymakers.)</p> <p>Additional information on inflation expectations and any changes expected should help policymakers.</p> <p>Information on recent trends in the unemployment rate would help policymakers monitor how much the economy is slowing as they pursue an anti-inflation policy.</p>

Activity 7

Scenarios

Read and discuss the following monetary policy scenario within your group. Provide short answers to the list of questions, and be ready to summarize your answers for the rest of the class.

SCENARIO #1: Recently released economic indicators provide evidence on inflation and economic growth. The core consumer price index (CPI) remains stable, although the overall CPI has risen somewhat. The core CPI excludes the volatile food and energy components that have been causing the overall CPI index to rise. Job growth remains positive, an indication that the expansion is continuing. The unemployment rate remains low.

QUESTIONS	ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	
What are the risks associated with overstimulating the economy?	
What are the risks associated with overtightening monetary policy?	
What other information not provided in the scenario might have changed your recommendation? Provide an example.	

Activity 7 (continued)

Scenarios

Read and discuss the following monetary policy scenario within your group. Provide short answers to the list of questions, and be ready to summarize your answers for the rest of the class.

SCENARIO #2: The unemployment rate has fallen to its lowest level in decades, and the core consumer price index (CPI)—excluding volatile food and energy items—remains stable. Investment, especially in technology, remains strong, and productivity continues to rise at a rapid pace by historical standards. Meanwhile, real gross domestic product (GDP)—GDP adjusted for inflation—continues to expand rapidly.

QUESTIONS	ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	
What are the risks associated with overstimulating the economy?	
What are the risks associated with overtightening monetary policy?	
What other information not provided in the scenario might have changed your recommendation? Provide an example.	

Activity 7 (continued)

Scenarios

Read and discuss the following monetary policy scenario within your group. Provide short answers to the list of questions, and be ready to summarize your answers for the rest of the class.

SCENARIO #3: Investment in capital equipment, including computers, networks, and equipment used to manufacture consumer goods, continues to decline. Lower corporate profits and an uncertain business outlook have contributed to a sharp decline in the stock market and are expected to reduce spending on high-tech equipment this year and next. In addition, slower economic growth for our major trading partners is expected to limit demand for U.S. exports over the next year.

QUESTIONS	ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	
How might your policy recommendation affect short-term lending rates (interest rates on securities maturing in one year or less)?	
What effect is your policy likely to have on the level of employment over the next six months to a year?	
What other information not provided in the scenario might have changed your recommendation? Provide an example.	

Activity 7 (continued)

Scenarios

Read and discuss the following monetary policy scenario within your group. Provide short answers to the list of questions, and be ready to summarize your answers for the rest of the class.

SCENARIO #4: Increased turbulence in foreign financial markets, highlighted by significant exchange rate devaluations, a widespread currency crisis, and potential defaults on international debts held by foreign nations have caused foreign stock markets to collapse and weakened foreign economies. As a result, financial market conditions are tighter in the United States. Simultaneously, the U.S. economy has also been showing signs of growing more slowly.

QUESTIONS	ANSWERS
Does your group recommend raising or lowering the federal funds rate target or maintaining it at its current level?	
How might your policy recommendation affect short-term lending rates (interest rates on securities maturing in one year or less)?	
What effect is your policy likely to have on the level of employment over the next six months to a year?	
What other information not provided in the scenario might have changed your recommendation? Provide an example.	

Activity 8

Assessment

Circle the best answer for each of the following questions.

1. Which of the following is *not* a function of the Federal Reserve System?
 - a. Establish and implement monetary policy
 - b. Operate the nation's payments system
 - c. Print paper currency and mint coins
 - d. Regulate and supervise banks

2. Which of the following policy actions is consistent with expansionary monetary policy?
 - (1) The Trading Desk at the Federal Reserve Bank of New York carries out a \$5 billion open market purchase.
 - (2) The Federal Reserve lowers reserve requirements.
 - (3) The Board of Governors accepts a request from the Boards of Directors of the Reserve Banks to increase the discount rate.
 - a. (1) + (3)
 - b. (1) + (2)
 - c. (1) + (2) + (3)
 - d. (2) + (3)

3. Which of the following is not a goal of the Fed's monetary policy?
 - a. A balanced federal budget
 - b. Maximum sustainable economic growth
 - c. Full employment
 - d. Price stability

4. If real GDP is growing at 6 percent and the inflation rate is at 10 percent, which of the following policies might be appropriate?
 - (1) The Federal Open Market Committee decides to lower the federal funds rate target.
 - (2) The Federal Open Market Committee decides to make no change in the federal funds rate target.
 - (3) The Federal Open Market Committee decides to increase the federal funds rate target.
 - a. (1)
 - b. (1) + (2)
 - c. (2) + (3)
 - d. (3)