# What Happens When the Federal Reserve Raises Interest Rates?

## Authors

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## Standards and Benchmarks (see page 18)

## Lesson Description

In this lesson, students learn that the Federal Reserve uses interest rate policies to promote maximum employment and price stability. Students participate in a "chain" activity to demonstrate how a change in the target range for the federal funds rate transmits through the economy.

## Grade Level

9-12

## Concepts

Dual mandate
Federal funds rate
Federal Open Market Committee (FOMC)
Interest
Interest rate
Maximum employment
Monetary policy
Price stability
Prime rate

## Objectives

Students will be able to

- define federal funds rate, interest rate, monetary policy, and prime rate;
- describe the Fed's dual mandate;
- analyze what happens in the economy when the Federal Open Market Committee changes the target range for the federal funds rate.

## Compelling Question

How does a change in the target range for the federal funds rate transmit through the economy?

## Time Required

45-60 minutes

## Materials

- *In Plain English* Video (approx. 14 minutes long)
- Visual, one copy for the teacher to display
- Handouts 1 and 2, one copy of each for each student
- Handouts 1 and 2 Answer Keys, one copy of each for the teacher
- Handout 3 Extension Activity, one copy for each student
- Handout 3 Extension Activity Answer Key, one copy for the teacher
- 22 strips of construction paper; each strip should be 2" x 12"
- Black marker
- Stapler

## Preparation

Staple two strips of construction paper together. These will be used to create headbands for 11 student volunteers. Write one of the following numbers and titles on each of the headbands:

1. Target range for the federal funds rate
2. Federal funds rate
3. Prime rate
4. Business investment loan interest rates
5. Mortgage interest rates
6. Car loan interest rates
7. Home equity interest rates
8. Consumer borrowing and spending
9. Business borrowing and investment
10. Employment
11. Inflation

## Procedure

1. Explain that students will watch a video introducing them to the Federal Reserve, titled *In Plain English, Making Sense of the Federal Reserve*. After watching the video, point out the following information from the video:
   - The Federal Reserve (the Fed) is the central bank of the United States.
   - The U.S. Congress has given the Fed two objectives, which are referred to as the **dual mandate**—price stability and maximum employment.
   - **Price stability** refers to keeping a low and stable rate of inflation over time.
   - **Maximum employment** means the highest level of employment an economy can maintain at a stable rate of inflation.
   - The Fed uses monetary policy to achieve its dual mandate.
   - **Monetary policy** includes the actions the Fed takes to achieve its dual mandate.
   - When the Fed sees the economy is falling short of (or is above) maximum employment, it adjusts its monetary policy to move the economy toward maximum employment.
   - The Fed has stated it seeks to achieve inflation that averages 2% over time. When the Fed thinks inflation is too high (or low) for an extended period of time, it will adjust monetary policy.
   - The Fed committee responsible for monetary policy is the **Federal Open Market Committee (FOMC)**.
   - The FOMC conducts monetary policy by setting a target range for the federal funds rate.

2. Explain that banks hold funds (or cash) in their accounts at the Fed. When banks need funds to make payments or pay customers, they can borrow from banks with funds. Discuss the following:
   - **Interest** is the price borrowers pay for borrowing money and the amount lenders receive for lending money.
   - An **interest rate** is the percent of the loan amount that a lender charges the borrower for a loan.
   - When funds are transferred from one bank's account to another bank's account, this is called a federal funds transaction, and the agreed-upon interest rate is the federal funds rate.
   - So, the **federal funds rate** is the interest rate banks charge one another to borrow money overnight. It is the rate banks charge one another for loans.
   - The borrowing bank agrees to reverse the payment the next day, and the borrowed funds are returned with a bit more than was borrowed—the bit more is the interest payment.
   - The interest rate charged, the federal funds rate, is market determined. This means that borrowers and lenders determine it. The Fed does not set the federal funds rate.

- The **prime rate** is an interest rate determined by individual banks. It is often used as a reference rate (also called the base rate) for many types of loans, including loans to small businesses and credit card loans.

3. The FOMC does establish a target range for the federal funds rate; it is the range in which it wants the federal funds transactions to take place. When the FOMC moves the target range for the federal funds rate higher or lower, the FOMC knows it will affect the federal funds rate and other interest rates in the economy and then influence the spending and investing decisions consumers and producers make.

4. Explain that consumers borrow money to purchase goods and services. They buy houses, cars, and large appliances. They might remodel the deck on their home or take a vacation. Businesses/producers borrow money to invest in capital goods. They purchase tools, machinery, and equipment. They might build new facilities to expand operations.

5. Tell students they will demonstrate how changes in the target range for the federal funds rate transmit or move through the economy. Ask for 10 volunteers from the class. Give each volunteer a construction-paper headband for numbers 1-10. Tell them to fit it to their head, staple it at the right spot, and then place the headband on their head. Distribute a copy of *Handout 1: Chain of Events* to each student not participating in the activity.

6. Point out that each headband has a number on it. Ask volunteers to stand in front of the class in number order from lowest to highest. Ask each volunteer to state their number and who they are/what they represent for the activity (also on their headband). Tell students observing to enter the name of each represented group in the appropriately numbered box on their handout as volunteers introduce themselves. Point out that the first box is filled in for them with "Target range for the federal funds rate."

7. Instruct student volunteers to turn to create a line in which they all face the same forward direction. The volunteer representing the target range for the federal funds rate should be at the head of the line. Display *Visual: Student Line* and describe the directions for the line as follows:
   - The student at the head of the line should reach their right arm out behind them.
   - The second student in line should reach their right arm out in front of them to touch the hand of the first student and reach their left arm out behind them to touch the hand of the third student.
   - The third student in line should reach their left arm out in front of them to touch the hand of the second student and reach their right arm out behind them to touch the hand of the fourth student.
   - The fourth student in line should reach their right arm out in front of them to touch the hand of the third student and reach their left arm out behind them to touch the hand of the fifth student.

- The fifth student in line should reach their left arm out in front of them to touch the hand of the fourth student and reach their right arm out behind them to touch the hand of the sixth student.
- The sixth student in line should reach their right arm out in front of them to touch the hand of the fifth student and reach their left arm out behind them to touch the hand of the seventh student.
- The seventh student in line should reach their left arm out in front of them to touch the hand of the sixth student and reach their right arm out behind them to touch the hand of the eighth student.
- The eighth student in line should reach their right arm out in front of them to touch the hand of the seventh student and reach their left arm out behind them to touch the hand of the ninth student.
- The ninth student in line should reach their left arm out in front of them to touch the hand of the eighth student and reach their right arm out behind them to touch the hand of the tenth student.
- The tenth student in line should reach their right arm out in front of them to touch the hand of the ninth student.

8. Instruct students numbered 8, 9, and 10 to bend at the waist. The remaining students should remain standing upright. Stand near students 8-10. Remind the class that consumers borrow to buy goods and services and businesses borrow to invest in capital goods. Explain that the FOMC has noted the economy has slowed, consumer borrowing and spending (#8) have declined, and business borrowing and investment (#9) have declined. Unemployment is rising; that is, employment levels have declined (#10). Discuss the following:
    - What do you think the FOMC might do to the target range for the federal funds rate—raise it or lower it? (*Lower it*)

9. Tell students that in this situation, with a sluggish economy, the FOMC would lower the target range. Instruct student 1—who represents the target range for the federal funds rate—to bend at the waist and that, as they do, they should pull down the hand of the student behind them so that student 2 bends at the waist. As student 2 bends at the waist, tell them to pull down the hand of the student behind them, and so on, until each of the first seven students in line are bent at the waist. Point out that because the FOMC lowered the target range for the federal funds rate, other interest rates in the economy have decreased. Discuss the following:
    - Do you think businesses and consumers would borrow more or less at lower interest rates? (*More*)

10. Instruct student 7 to push up the hand of student 8 in line. As student 8 stands, tell them to push up the hand of student 9. When student 9 stands, discuss the following:

- What do you think would happen to employment as consumers buy more and businesses expand? (*Employment would increase.*)

11. Instruct student 9 to push up the hand of student 10. Discuss the following, instructing the students observing the demonstration to enter the correct arrows in each box on their handout:
    - What happened to the students representing interest rates when the FOMC lowered the target range for the federal funds rate? (*They lowered, represented by students 2-7 bending at the waist. Students should draw downward or decreasing arrows in boxes 1-7.*)
    - What happened to consumer spending and business investment at lower interest rates? (*They increased, represented by students 8 and 9 standing. Students should draw upward or increasing arrows in boxes 8 and 9.*)
    - What happened to employment as consumer spending and business investment increased? (*It increased, represented by student 10 standing. Students should draw an upward or increasing arrow in box 10.*)

12. Explain that when the FOMC moves the target range for the federal funds rate, the federal funds rate and other interest rates in the economy are affected, influencing the spending and investing decisions consumers and producers make. In this case, the FOMC lowered the target range for the federal funds rate, so other interest rates decreased; consumer borrowing and spending increased; business borrowing and investment increased; and employment increased.

13. Tell students they will try another demonstration. In this case, the Fed is concerned that the economy is expanding too rapidly and that inflation is rising beyond the Fed's preferred rate of inflation (2% over time). Instruct students numbered 8, 9, and 10 to stand on their toes and wave their arms in the air. Explain that this represents increased consumer borrowing and spending and business borrowing and investment and that this results in increased employment and inflation.

14. Ask for another student volunteer. Give the student the construction-paper headband for number 11. Tell them to fit it to their head, staple it at the right spot, and then place the headband on their head to represent inflation. Instruct students 8, 9, and 10 to reconnect with the students in front of and behind them. Instruct student 10 to connect with student 11—inflation. To recap, students 1-7 should be bent at the waist. Students 8-11 should be standing. Discuss the following:
    - What do you think the FOMC would do with rising inflation? (*Increase the target range for the federal funds rate*)

15. Tell students that the FOMC would raise the target range for the federal funds rate in this situation with inflation increasing. Instruct student 1—who represents the target range for the federal funds rate—to stand up straight and that, as they do, they should push up the hand of the student behind them so that student 2 stands up. As student 2 stands up, tell them to push up the hand of the student behind them, and so on, until each of the first seven students in line are standing.

Point out that because the FOMC raised the target range for the federal funds rate, the other interest rates in the economy increased. Discuss the following:

- Do you think consumers and businesses would borrow more or less at higher interest rates than they did at lower interest rates? (*Less*)

16. Instruct student 7 to pull down the hand of student 8 in line. As student 8 bends, tell them to pull down the hand of student 9. When student 9 bends, discuss the following:
    - What do you think would happen to employment as consumers and businesses borrow and spend less? (*Employment would decrease.*)

17. Instruct student 9 to pull down the hand of student 10. Explain that when spending and borrowing decrease, inflation will decrease. Instruct student 10 to pull down the hand of student 11. Then tell all students to return to their seats. Discuss the following, instructing students who observed the demonstration to draw the correct arrows in each box on their handout:
    - What happened to the students representing interest rates when the FOMC raised the target range for the federal funds rate? (*They rose, represented by students 2-7 standing up. Students should draw upward or increasing arrows in boxes 1-7.*)
    - What happened to consumer spending and business investment at higher interest rates? (*They decreased, represented by students 8 and 9 bending at the waist. Have students draw downward or decreasing arrows in boxes 8 and 9.*)
    - What happened to employment as consumer spending and business investment decreased? (*It decreased, represented by student 10 bending at the waist. Have students draw a downward or decreasing arrow in box 10.*)
    - What happened to inflation when spending and borrowing decreased? (*It also decreased, represented by student 11 bending at the waist. Have students draw a downward or decreasing arrow in box 11.*)

18. Explain that when the FOMC moves the target range for the federal funds rate, the federal funds rate and other interest rates in the economy are affected, influencing the spending and investing decisions consumers and businesses make, which then influence employment and inflation. In this case, the FOMC raised the target range for the federal funds rate, so other interest rates increased; consumer borrowing and spending decreased; business borrowing and investment decreased; employment decreased (unemployment increased); and, with less spending and borrowing, inflation decreased.

## Closure

19. Review the key content from this lesson by discussing the following:
    - What is the Federal Reserve? (*The U.S. central bank*)

- What is the Fed's dual mandate from Congress? (*Stable prices and maximum employment*)
- What does price stability mean? (*Keeping a low and stable rate of inflation over time*)
- What does maximum employment mean? (*The highest level of employment an economy can have at a stable rate of inflation*)
- What is monetary policy? (*The actions the Fed takes to achieve its dual mandate*)
- Who conducts monetary policy? (*Federal Reserve; Federal Open Market Committee/FOMC*)
- What is the federal funds rate? (*The interest rate banks charge each other when they borrow from one another*)
- What is the target range for the federal funds rate? (*A range of possible rates in which the Fed would like the federal funds rate to be*)
- What happens in the economy if the Fed decreases the target range for the federal funds rate? (*The federal funds rate decreases; other interest rates decrease; consumers and businesses borrow and buy more; and employment increases [unemployment decreases].*)
- What happens in the economy if the Fed increases the target range for the federal funds rate? (*The federal funds rate increases; other interest rates in the economy increase; consumers and businesses borrow and buy less; and employment decreases [unemployment increases].)*
- How does a change in the target range for the federal funds rate transmit through the economy? (*A change in the target range for the federal funds rate changes the federal funds rate, which affects consumer borrowing and spending and business borrowing and investment. Changes in consumer borrowing and spending and business borrowing and investment affect employment and inflation.*)

## Assessment

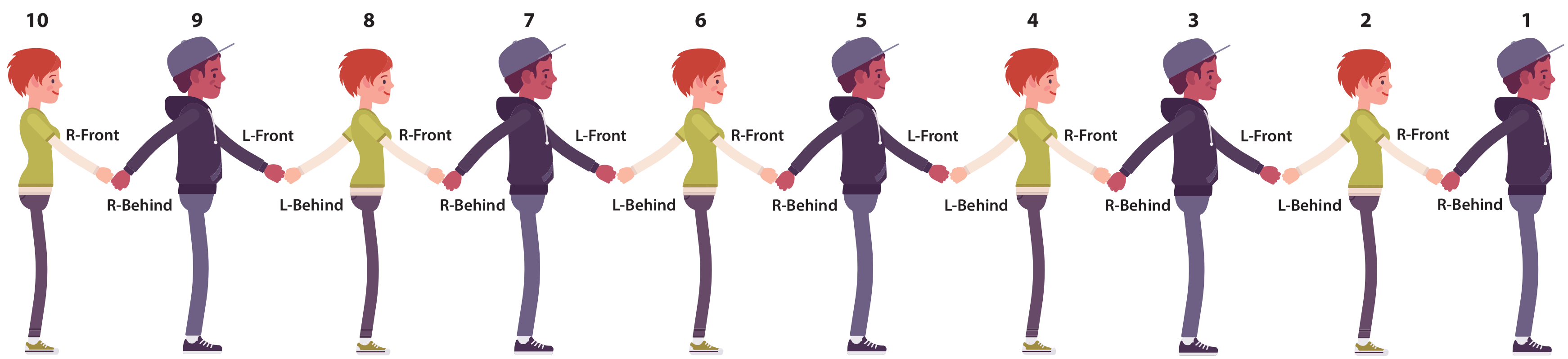
20. Distribute a copy of *Handout 2: Assessment* and allow time for students to work. Use *Handout 2: Assessment—Answer Key* to check their work.

## Extension Activity for AP Macroeconomics or College-Level Economics Course

NOTE: To complete this activity, it is recommended that students have a sound knowledge of the interest-sensitive determinants of aggregate demand and how the aggregate demand/aggregate supply (AD/AS) model is used to indicate recession or inflation.

21. Distribute a copy of *Handout 3: Extension Activity for AP Macroeconomics or College-Level Economics Course* to each student. Allow students a few minutes to answer the questions. Review the answers with the students using the *Handout 3: Extension Activity for AP Macroeconomics or College-Level Economics Course—Answer Key*.

## Visual: Student Line




**R-Front: Right hand in front**

**L-Front: Left hand in front**

**R-Behind: Right hand behind**

**L-Behind: Left hand behind**

## Handout 1: Chain of Events

**Directions for demonstration 1:** As students state their number and which group they represent, write the group name in the correctly numbered box below. Circle whether the FOMC would increase or decrease the target range for the federal funds rate and indicate with an arrow to complete box 1.

**DEMONSTRATION 1:** The economy slows. The FOMC would **increase / decrease** the target range for the federal funds rate.

| 1. Target range for the federal funds rate | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

After watching the demonstration, indicate with an arrow whether there's an increase ↑ or a decrease ↓ for the group represented in each box—2 through 10.

**Directions for demonstration 2:** Enter the same information in boxes 2 through 10 as entered in demonstration 1. Add "Inflation" to box 11. Circle whether the FOMC would increase or decrease the target range for the federal funds rate and indicate with an arrow to complete box 1.

**DEMONSTRATION 2:** The economy expands too rapidly. The FOMC would **increase / decrease** the target range for the federal funds rate.

| 1. Target range for the federal funds rate | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

After watching the demonstration, indicate with an arrow whether there's an increase ↑ or a decrease ↓ for the group represented in each box—2 through 11.

# Handout 1: Chain of Events—Answer Key

**Directions for demonstration 1:** As students state their number and which group they represent, write the group name in the correctly numbered box below. Circle whether the FOMC would increase or decrease the target range for the federal funds rate and indicate with an arrow to complete box 1.

**DEMONSTRATION 1:** The economy slows. The FOMC would **increase** / **decrease** the target range for the federal funds rate.

| 1. Target range for the federal funds rate | 2. Federal funds rate | 3. Prime rate | 4. Business investment loan interest rates | 5. Mortgage interest rates | 6. Car loan interest rates | 7. Home equity interest rates | 8. Consumer borrowing and spending | 9. Business borrowing and investment | 10. Employment |
|---|---|---|---|---|---|---|---|---|---|
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↑ | ↑ | ↑ |

After watching the demonstration, indicate with an arrow whether there's an increase ↑ or a decrease ↓ for the group represented in each box—2 through 10.

**Directions for demonstration 2:** Enter the same information in boxes 2 through 10 as entered in demonstration 1. Add "Inflation" to box 11. Circle whether the FOMC would increase or decrease the target range for the federal funds rate and indicate with an arrow to complete box 1.

**DEMONSTRATION 2:** The economy expands too rapidly. The FOMC would **increase** / **decrease** the target range for the federal funds rate.

| 1. Target range for the federal funds rate | 2. Federal funds rate | 3. Prime rate | 4. Business investment loan interest rates | 5. Mortgage interest rates | 6. Car loan interest rates | 7. Home equity interest rates | 8. Consumer borrowing and spending | 9. Business borrowing and investment | 10. Employment | 11. Inflation |
|---|---|---|---|---|---|---|---|---|---|---|
| ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↓ | ↓ | ↓ | ↓ |

After watching the demonstration, indicate with an arrow whether there's an increase ↑ or a decrease ↓ for the group represented in each box—2 through 11.

## Handout 2: Assessment

**Directions:** Answer the questions below.

1. What is the Federal Reserve?

2. What is the Fed's dual mandate from Congress?

3. How does the Fed meet its mandate?

4. What is monetary policy?

5. What is the target range for the federal funds rate?

6. What is the federal funds rate?

7. When the Fed changes the target range for the federal funds rate, how does the change transmit through the economy?

**Directions:** Read the headline below and complete the table using arrows to indicate an increase or a decrease.

8. "Consumer Inflation in May Reaches 9.7%—Highest Level in Three Decades"

   Would the FOMC raise or lower the target range for the federal funds rate? What would happen in boxes 2 through 11 as a result?

| **1. Target range for the federal funds rate** | **2. Federal funds rate** | **3. Prime rate** | **4. Business investment loan interest rates** | **5. Mortgage interest rates** | **6. Car loan interest rates** | **7. Home equity interest rates** | **8. Consumer borrowing and spending** | **9. Business borrowing and investment** | **10. Employment** | **11. Inflation** |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

# Handout 2: Assessment—Answer Key

**Directions:** Answer the questions below.

1. What is the Federal Reserve? (*The U.S. Central Bank*)

2. What is the Fed's dual mandate from Congress? (*Stable prices and maximum employment*)

3. How does the Fed meet its mandate? (*The Fed uses monetary policy to achieve its dual mandate.*)

4. What is monetary policy? (*The actions the Fed takes to achieve its dual mandate*)

5. What is the target range for the federal funds rate? (*A range of possible rates in which the Fed would like the federal funds rate to be*)

6. What is the federal funds rate? (*The interest rate banks charge each other when they borrow from one another*)

7. When the Fed changes the target range for the federal funds rate, how does the change transmit through the economy? (*A change in the target range for the federal funds rate changes the federal funds rate, which affects consumer borrowing and spending and business borrowing and investment. Changes in consumer borrowing and spending and business borrowing and investment affect employment and inflation.*)

**Directions:** Read the headline below and complete the table using arrows to indicate an increase or a decrease.

8. "Consumer Inflation in May Reaches 9.7%—Highest Level in Three Decades"

   Would the FOMC raise or lower the target range for the federal funds rate? What would happen in boxes 2 through 11 as a result?

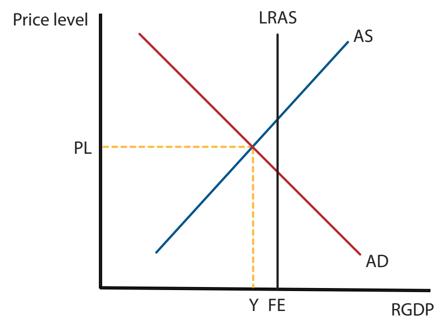
| 1. Target range for the federal funds rate | 2. Federal funds rate | 3. Prime rate | 4. Business investment loan interest rates | 5. Mortgage interest rates | 6. Car loan interest rates | 7. Home equity interest rates | 8. Consumer borrowing and spending | 9. Business borrowing and investment | 10. Employment | 11. Inflation |
|---|---|---|---|---|---|---|---|---|---|---|
| ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ | ↓ | ↓ | ↓ | ↓ |

## Handout 3: Extension Activity for AP Macroeconomics or College-Level Economics Course
(page 1 of 2)

**Directions:** Answer the following questions.

### Part A

Figure 1




1. Refer to Figure 1. Suppose the economy is at the intersection of Y1 and PL1. What economic condition is the economy experiencing?

2. Would the FOMC raise or lower the target range for the federal funds rate?

3. What effect will the change in the target range for the federal funds rate have on the following? Circle the arrow that indicates the correct change.

| | | |
|---|---|---|
| Federal funds rate | ↑ | ↓ |
| Prime rate | ↑ | ↓ |
| Business investment loan interest rates | ↑ | ↓ |
| Mortgage, car loan, and home equity (i.e., consumer loan) interest rates | ↑ | ↓ |
| Consumer borrowing and spending | ↑ | ↓ |
| Business borrowing and investment | ↑ | ↓ |
| Employment | ↑ | ↓ |
| Inflation | ↑ | ↓ |

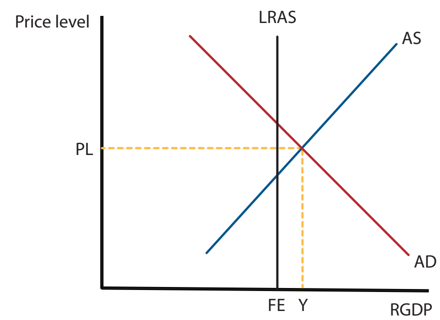
4. Using Figure 1, indicate the short-run effect that changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment have on aggregate demand.

5. Identify and explain what happens to price level and output, in the short run, due to changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment.

## Handout 3: Extension Activity for AP Macroeconomics or College-Level Economics Course
(page 2 of 2)

### Part B

**Figure 2**




6. Refer to Figure 2. Suppose the economy is at the intersection of Y1 and PL1. What economic condition is the economy experiencing?

7. Would the FOMC raise or lower the target range for the federal funds rate?

8. What effect will the change in the target range for the federal funds rate have on the following? Circle the arrow that indicates the correct change.

| | | |
|---|---|---|
| Federal funds rate | ↑ | ↓ |
| Prime rate | ↑ | ↓ |
| Business investment loan interest rates | ↑ | ↓ |
| Mortgage, car loan, and home equity (i.e., consumer loan) interest rates | ↑ | ↓ |
| Consumer borrowing and spending | ↑ | ↓ |
| Business borrowing and investment | ↑ | ↓ |
| Employment | ↑ | ↓ |
| Inflation | ↑ | ↓ |

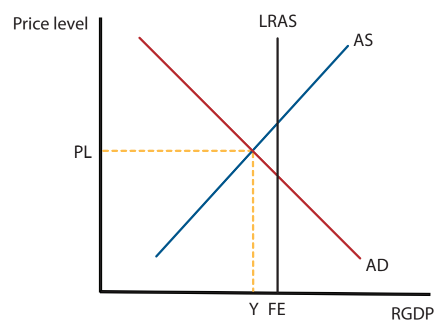
9. Using Figure 2, indicate the short-run effect that changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment have on aggregate demand.

10. Identify and explain what happens to price level and output, in the short run, due to changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment.

## Handout 3: Extension Activity for AP Macroeconomics or College-Level Economics Course—Answer Key (page 1 of 2)

### Part A

**Figure 1**




1. Refer to Figure 1. Suppose the economy is at the intersection of Y1 and PL1. What economic condition is the economy experiencing?

   *The economy is experiencing a recession.*

2. Would the FOMC raise or lower the target range for the federal funds rate?

   *The FOMC would lower (decrease) the target range for the federal funds rate.*

3. What effect will the change in the target range for the federal funds rate have on the following? Circle the arrow that indicates the correct change.

| | | |
|---|---|---|
| Federal funds rate | ↑ | ↓ |
| Prime rate | ↑ | ↓ |
| Business investment loan interest rates | ↑ | ↓ |
| Mortgage, car loan, and home equity (i.e., consumer loan) interest rates | ↑ | ↓ |
| Consumer borrowing and spending | ↑ | ↓ |
| Business borrowing and investment | ↑ | ↓ |
| Employment | ↑ | ↓ |
| Inflation | ↑ | ↓ |

4. Using Figure 1, indicate the short-run effect that changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment have on aggregate demand.

   *The aggregate demand curve will shift to the right.*

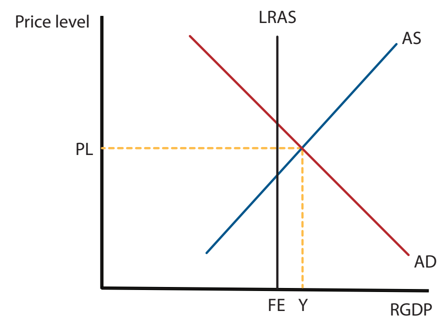
5. Identify and explain what happens to price level and output, in the short run, due to changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment.

   *Decreased interest rates result in decreased borrowing costs for both consumers and businesses. Lower borrowing costs will lead to increased consumer spending and increased business investment (through more purchases of capital goods). This shifts the AD curve to the right, increasing both price level and output.*

## Handout 3: Extension Activity for AP Macroeconomics or College-Level Economics Course—Answer Key (page 2 of 2)

### Part B

**Figure 2**




6. Refer to Figure 2. Suppose the economy is at the intersection of Y1 and PL1. What economic condition is the economy experiencing?

   *The economy is experiencing inflation.*

7. Would the FOMC raise or lower the target range for the federal funds rate?

   *The FOMC would raise (increase) the target range for the federal funds rate.*

8. What effect will the change in the target range for the federal funds rate have on the following? Circle the arrow that indicates the correct change.

| | | |
|---|---|---|
| Federal funds rate | ↑ | ↓ |
| Prime rate | ↑ | ↓ |
| Business investment loan interest rates | ↑ | ↓ |
| Mortgage, car loan, and home equity (i.e., consumer loan) interest rates | ↑ | ↓ |
| Consumer borrowing and spending | ↑ | ↓ |
| Business borrowing and investment | ↑ | ↓ |
| Employment | ↑ | ↓ |
| Inflation | ↑ | ↓ |

9. Using Figure 2, indicate the short-run effect that changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment have on aggregate demand.

   *The aggregate demand curve will shift to the left.*

10. Identify and explain what happens to price level and output, in the short run, due to changes in the federal funds rate, consumer borrowing and spending, and business borrowing and investment.

    *Increased interest rates result in increased borrowing costs for both consumers and businesses. Higher borrowing costs will lead to decreased consumer spending and decreased business investment (through fewer purchases of capital goods). This shifts the AD curve to the left, decreasing both price level and output.*

## Standards and Benchmarks

**Voluntary National Content Standards in Economics**

**Standard 4: Incentives**

- **Benchmarks: Grade 12**

    1. Acting as consumers, producers, workers, savers, investors, and citizens, people respond to incentives in order to allocate their scarce resources in ways that provide them the highest possible net benefits.

**Standard 20: Fiscal and Monetary Policy**

- **Benchmarks: Grade 12**

    7. Monetary policies are decisions by the Federal Reserve System that lead to changes in the supply of money, short-term interest rates, and the availability of credit. Changes in the growth rate of the money supply can influence overall levels of spending, employment, and prices in the economy by inducing changes in the levels of personal and business investment spending.

    9. The Federal Reserve targets the level of the federal funds rate, a short-term rate that banks charge one another for the use of excess funds. This target is largely reached by buying and selling existing government securities.

    10. The Federal Reserve tends to increase interest rate targets when it feels the economy is growing too rapidly and/or the inflation rate is accelerating. It tends to lower rate targets when it wants to stimulate the short-term growth of the economy.