



# CENTRAL BANKING

## THE CARD GAME

### Title:

Central Banking: The Card Game

### Time Allotment:

2 Class Periods

### Recommended Grade:

High School

### Description:

In this activity students will learn about the role of central banks, including the Federal Reserve, in a world economy. The game highlights the challenges of balancing a stable price environment (inflation rate) and full employment (stylized as a Gross Domestic Product growth rate) amid a volatile economy.

### Learning Objectives:

1. Demonstrate how interest rates are the key mechanism that central banks currently use to impact price stability (inflation rate) and full employment (stylized as the Gross Domestic Product growth rate).
2. Analyze how market forces impact central bank actions.
3. Explain the role of the Federal Reserve in the US economy and discuss the Fed's national economic goals of price stability and maximum employment.

### Teacher Materials:

- 104 Playing Cards (2-6 players)
  - 50 Economy Cards
  - 12 Market Reaction Cards
  - 42 Country Cards (7 cards per nation)
- Economic Vocabulary Worksheet
- Economic Vocabulary Worksheet: Answer Key
- Nation Descriptions PowerPoint

### Student Materials:

- Economic Vocabulary Worksheet
- Paper and pencil

### Teacher Preparation:

**Part 1:** Load the four videos and prepare to share them with the class, along with the inflation quiz.

Print enough Economic Vocabulary worksheets for each student.

**Part 2:** Print enough cards for each student group to play the game, with each group consisting of 2–6 students.

### Instructional Procedure:

#### Part 1

1. Tell students that they are going to learn about the Federal Reserve in preparation for a game that will explore the role of central banks in the economy. Ask students if they have ever heard of the Federal Reserve. For those that say yes, ask them to share what they know with the class. Explain to students that the Federal Reserve is the **Central Bank** of the United States of America.
2. Watch the video: [The Fed Explains the Central Bank](#). During the video, have students take notes. Working in small groups, have students share what they learned from the video. Working in those same groups, review the following in the form of a trivia game:
  - a. In what year was the Federal Reserve Act signed into law? **1913**
  - b. Which president signed the Federal Reserve Act into law? **President Woodrow Wilson**
  - c. The Federal Reserve was created as a central bank with \_\_\_\_\_, but it also works \_\_\_\_\_ so that it can keep the economy healthy without pressure from short-term political interests. **Government Oversight** and **Independently**
  - d. The Federal Reserve oversees \_\_\_\_\_, which influences the economy by changing the supply and demand of money. **Monetary Policy**



## CENTRAL BANKING

### THE CARD GAME

- e. The Federal Reserve System is made up of which entities? ***The Board of Governors, based in Washington, DC, and 12 regional Federal Reserve Banks spread out across the country.***
  - f. Every six weeks or so, members of the Board of Governors and Reserve Banks meet to discuss and determine monetary policy. What is this meeting called? ***The Federal Open Market Committee*** (FOMC)
  - g. The Federal Reserve carries out its dual mandate given by Congress in 1977. What is this dual mandate? ***Stable Prices and Full or Maximum Employment.***
3. Explain to students that the dual mandate of Stable Prices and Maximum Employment are two goals that have inherent tension with each other. Generally, maximum employment comes from having a very strong economy that rapidly grows. However, a very strong economy is generally accompanied by an increase in many prices, which is in direct contradiction with the goal of price stability. Consequently, the Federal Reserve attempts to support maximum economic growth to the extent that it does not trigger excessive inflation. Explain to students that this concept is something they will revisit during the activity in Part 2.
  4. Watch the video: [The Fed Explains Monetary Policy](#). During the video, have students take notes. Working in small groups, have students share what they learned from the video. As a class, review the following concepts in step 5.
  5. To build a healthy economy, the FOMC needs good tools. If the Fed needs to adjust interest rates to affect inflation, it uses some of the following tools:
    - a. **Open Market Operations**—the buying and selling of government securities
    - b. **Federal Funds Rate**—the interest rate banks pay each other for borrowing money. Interest rate management is a primary tool that modern central banks employ to meet their economic goals. The federal funds rate may not initially seem like an important interest rate to target, but it is critical. The federal funds rate is one factor that can affect the GDP growth rate, inflation rate, the price of the home you live in, the value of the car you drive, the cost of food, and even the clothing you wear. This is because the federal funds rate impacts bank funding, which in turn drives deposit and loan interest rates across the country. Further, monetary policies influence currency valuation, affecting the prices of goods and services in an interconnected, global economy.
    - c. **Reserve Requirements**—the percentage of deposits that banks must keep in reserve
    - d. **Forward Guidance**—communications about monetary policy goals, tools, and progress to the public
  6. Watch the video: [The Fed Explains Inflation](#). During the video, have students take notes. As a class, review the notes, then as a class, take the Inflation 101 quiz. To learn more about inflation, students can browse the [Center for Inflation Research](#) and watch the three short videos under Inflation 101.
  7. Watch the video: [The Fed Explains Real versus Potential GDP](#). During the video, have students take notes. As a class, review the notes, then ask students how they would calculate their potential GDP. Choose a few students to share their responses.
  8. Working in pairs, have students complete the worksheet: Economic Vocabulary. When complete, review it as a class.

#### Part 2

1. Explain to students that today they are going to learn about the role of central banks in the economy by playing a card game. To begin, it may be useful to review the concept of a central bank, using the Federal Reserve as an example. Explain to students that throughout the card game, they will draw on many of the concepts discussed previously.
2. Review the rules of the game and walk the students through a practice round.



## CENTRAL BANKING THE CARD GAME

### Set-up for Each Student Group (4-6 Students)

- The 50 Economy cards should be shuffled and placed face down in a pile in the center of the game area.
- The 12 Market Reaction cards should be shuffled and placed face down in a separate pile in the center of the game area.
- Each player will select a nation/currency bloc to represent. The options are the European Union, the United States of America, the People's Republic of China, Japan, the Republic of India, and the United Kingdom of Great Britain and Northern Ireland. When choosing a nation/currency bloc, show students the Nation Descriptions PowerPoint and review each country with the class.
- Each player will take the 7 cards that are unique to their selected nation/currency bloc (3–GDP Growth, 3–Inflation Rate, 1–Economic Prosperity Points) and divide them into three separate piles (GDP Growth Rate, Inflation Rate, and Economic Prosperity Point). They will then place the three piles face up in front of them.
- The number at the top of each card is the current rate for GDP Growth and the Inflation Rate. The number at the top of the Economic Prosperity card is your point count. To begin the game, each player must set the current rate as: GDP Growth Rate at 4.00%, and Inflation Rate at 3.00%. Your Economic Prosperity Points will start at 0.

### Rules

- The youngest player will go first and then play continues to the left.
- The goal of the game is to achieve 3 Economic Prosperity Points for your nation. Alternatively, if a longer game is desired, use both sides of the Economic Prosperity Points card and alter the goal to achieve 7 Economic Prosperity Points. The first nation to reach the Economic Prosperity Points goal is the winner. However, more than one nation may win, provided each nation reaches this number of points on the same round as the first nation to achieve it. Put another way, after a player reaches the Economic Prosperity Points goal, the rest of the current round is played out, and more than one winner may result.
- To obtain Economic Prosperity Points, each player must manage to get both their GDP Growth Rate (GDP GR) and Inflation Rate (IR) within a golden numeric band (3.00-5.00% for GDP GR and 2.00-4.00% for IR) by the end of their turn. If both the GDP GR and IR are in this band at the end of their turn, 1 Economic Prosperity Point is gained. For reference, the golden numeric band for GDP GR and IR are marked in gold on the playing cards.
  - The golden numeric band is an artificial range created for the game. In the real world, a central bank often has a desirable target for the inflation rate. The inflation rate is impacted by the economic growth within a country or the GDP growth rate. For example, the Federal Reserve has a current target inflation rate of 2% over the long run.

### On Each Player's Turn There Are Four Phases

1. **Economy Card Phase:** Take one card from the top of the *Economy* pile and turn it over for everyone to see. Each *Economy* card potentially indicates a change to the GDP GR or the IR. The player who drew the card moves their nation's GDP GR and/or IR according to the card, and then the *Economy* card is placed in a discard pile. For example, a player turns over the *Economy* card, and it says Productivity Gains with GDP GR up 1.25% and IR unchanged. They would then adjust their GDP GR from the starting 4.00% to 5.25%. Because the IR is unchanged, their nation would remain at the starting rate of 3.00%.
  - Most *Economy* cards affect only the player who turned the card over. However, there are six cards that affect more than one player at a time. In the real world, a significant event can impact multiple countries. For example, the North American Free Trade Agreement, from 1994-2020, quadrupled trade between the US, Canada, and Mexico.
  - **Note:** If the *Economy* draw pile is all used up without a winner, turn the respective discarded card pile over, shuffle, and continue play with a newly shuffled pile.



## CENTRAL BANKING

### THE CARD GAME

2. **Interest Rate Adjustment Phase:** Central banks do not control GDP GR and IR directly; instead, they alter interest rates in hopes that it will have a positive influence on GDP GR and IR. After adjusting the GDP GR and/or IR for the effects of the *Economy* card, the player must decide during this phase how they want to influence GDP GR and IR using interest rates, hopefully ending the turn within the golden numeric band and earning an Economic Prosperity Point. For game purposes, the Interest Rate Adjustment phase always affects the GDP GR and the IR **exactly the same**. The player can attempt to adjust their GDP GR and IR up or down a maximum of 1.00% a round, and each change must be in increments of 0.25% (0.25%, 0.5%, 0.75%, or 1.00%). To make an interest rate change to attempt to influence GDP GR and IR, the player must do the following:

- If attempting to move GDP GR and IR higher, then interest rates should move downward. The player should say, "My nation is lowering interest rates to attempt to raise the GDP GR and the IR by [amount of change]." However, the player does not actually move GDP GR or IR at this time.
- If attempting to move GDP GR and IR lower instead, then interest rates should move upward. The player should say, "My nation is raising interest rates to attempt to lower the GDP GR and the IR by [amount of change]." However, the player does not actually move GDP GR or IR at this time.
- For example, if the player's GDP GR is at 5.25% and the IR is at 3.00% after the Economy Card Phase, the GDP GR must be lowered to fall within the golden numeric band and earn the player an Economic Prosperity Point. Since GDP GR and IR move in the same direction and the same amount, the player has multiple options. The player could choose to do nothing (which would not be wise as there would be no chance of scoring a point) or to attempt to lower GDP GR and IR by 0.25%, 0.50%, 0.75%, or a full 1.00%. Since the IR is currently within the golden numeric band and the GDP GR needs to be lowered only a slight amount, the player chooses to attempt to lower both GDP GR and IR by 0.50%. To do this, the player's central bank must raise interest rates. The player tells the other players, "My nation is raising interest rates to attempt to lower the GDP GR and IR by 0.50%." The player then moves to the Market Reaction Phase to see how their interest rate movement impacted their nation's economy.
- For a different example, a player tries to increase the GDP GR and IR by 0.25% to hopefully reach the golden numeric band and score an Economic Prosperity Point. On the Interest Rate Adjustment Phase, the player need only announce to the other players, "My nation is lowering interest rates to raise the GDP GR and IR by 0.25%." The player then moves to the Market Reaction Phase to see how this interest rate adjustment impacted their nation.
  - **Note:** The inverse relationship between interest rates and IR/GDP GR is a core concept of this game.

3. **Market Reaction Phase:** If a player made an interest rate adjustment in the *Interest Rate Adjustment Phase*, then the *Market Reaction Phase* is the next game action. However, if the player didn't make an interest rate adjustment during that phase, the *Market Reaction Phase* is skipped, and the player goes immediately to the *Scoring Phase*.

The *Market Reaction Phase* is where the central bank learns whether its adjustment to interest rates had the desired impact to the GDP GR and IR. The player takes the top card from the Market Reaction pile and turns the card over for all to see:

- A "Receptive Reaction" card means that both GDP GR and IR move exactly as the player declared in the Interest Rate Adjustment Phase. The player now makes the adjustment to GDP GR and IR, discards the *Market Reaction* card, and then moves to the Scoring Phase.
- An "Irrational Exuberance" card means that GDP GR and IR moves **twice** as much as the player declared in the Interest Rate Adjustment Phase. The player now makes the adjustment to GDP GR and IR at twice what was declared in the Interest Rate Adjustment Phase, and the player discards the *Market Reaction* card. The player then moves to the Scoring Phase.



## CENTRAL BANKING THE CARD GAME

- A “Cold Shoulder!” card means that both the GDP GR and IR do not move at all, despite the player’s actions. The player discards the *Market Reaction* card and then moves to the Scoring Phase.
  - **Note:** If the Market Reaction draw pile is all used up without a winner, turn the respective discarded card pile over, shuffle, and continue play with a newly shuffled pile.
  - **Note:** GDP GR cannot fall below 1% or rise above 6.75% in the game. Similarly, IR cannot fall below 0% or rise above 5.75% in the game.
4. **Scoring Phase:** If both GDP GR and IR are in the golden numeric band (GDP GR from 3.00%–5.00% and IR from 2.00%–4.00%) after the above phases are complete, the player earns one new Economic Prosperity Point. The player’s Economic Prosperity Point card is then adjusted to reflect the additional point, and the player’s turn ends. If both GDP GR and IR at the end of the turn are **not** in the golden numeric band, no Economic Prosperity Point is received, and the player’s turn ends.
  5. Play then moves to the next player in the game, who begins with the *Economy Card Phase*. After all players have gone through the entirety of the phases, and the round is complete. A new round immediately begins thereafter. Play continues until the Economic Prosperity Points goal is reached. Once the Economic Prosperity Point Goal is reached by a player, every player then gets to play out the round before the game ends.

### Key Vocabulary:

- **Artificial Intelligence:** Advanced computer systems that mimic human intelligence in visual acuity, processing ability, speech recognition, or other activity historically performed only by humankind.
- **Central Bank:** An institution that oversees and regulates the banking system and quantity of money in the economy.
- **“Cold Shoulder”:** A phrase for an action with an unresponsive reaction.
- **Consumer Confidence:** A measure of how consumers feel about the economy, considered an indicator of consumers’ future spending and saving decisions.
- **Consumer Product Substitute:** A substitute good that is similar enough to consumers’ originally desired good that the consumer will purchase the substitute item rather than the original good.
- **Cybersecurity:** The framework, including tools, of protecting against the criminal or otherwise unauthorized use of electronic data.
- **Economic Expansion:** Growth in GDP over a time period, generally at least one quarter of a year.
- **Economic Recession:** Decrease in GDP over a time period, generally at least one quarter of a year.
- **Economic Surveys:** Queries of consumers and businesses for the purpose of identifying the current macrolevel economic state and future trends.
- **Financial Contagion:** An economic crisis that spreads from one region to another; this can occur on an international or domestic level.
- **Fiscal Policy:** Spending and taxing policies of the federal government to influence the economy.
- **Gross Domestic Product (GDP):** The total market value, expressed in dollars, of all final goods and services produced in an economy in a given year.
- **Inflation:** A general, sustained upward movement of prices for goods and services in an economy.



## CENTRAL BANKING

### THE CARD GAME

- **“Irrational Exuberance”**: A phrase made popular by then-Federal Reserve Chairman Alan Greenspan to express concern over internet stock valuations; this phrase is now extended to market activities that seem out-of-balance with market fundamentals or intended regulatory consequences.
- **Monetary Policy**: Central bank actions to achieve such goals as maximum employment and stable prices.
- **Oil Cartel**: More than one oil-exporting nation working together to impact the price of oil through artificial production limits.
- **Political Turmoil**: Incongruity or uncertainty from governmental messages or actions that negatively impact economic growth.
- **Productive Capacity**: The maximum output an economy can produce with the current level of available resources.
- **Raw Materials**: Undeveloped matter used in the eventual production of finished goods; common examples of raw materials are corn, lumber, coal, minerals, natural gas, oil, and unrefined metals.
- **Stagflation**: The condition of relatively high inflation and relatively high unemployment occurring simultaneously.
- **Trade Agreement**: A formal framework among nations to collectively pursue increased trade.
- **Trade Barrier – Government Imposed**: Any action that a government takes to make trade more difficult (tariffs, quotas, embargo, and standards).
- **Wealth Effect**: The effect on consumer spending resulting from a change in the purchasing power of the consumers’ assets that is caused by inflation.

#### Attachments:

- Central Banking: The Card Game
- Economic Vocabulary Worksheet
- Economic Vocabulary Worksheet: Answer Key
- Nation Descriptions PowerPoint

#### Resources:

- [The Fed Explains Video Series](#)
- [Everyday Economics – The Federal Reserve](#)
- [Inflation Calculator](#)
- [Center for Inflation Research](#)
- [Page One Economics – The Fed’s New Monetary Policy Tools](#)

#### Extension:

Take a field trip (in-person or virtual) of a Federal Reserve Bank or invite a Federal Reserve Bank employee to speak with your class. Have students simulate an FOMC meeting (lesson plan in the resources section). Explore the Cleveland Fed’s Center for Inflation Research and explore the interactives (link in resource section).

#### Differentiation:

For the review trivia, use Kahoot.com or another online application. Create vocabulary cards with index cards or with the online application quizlet. Create a notes document that students can use when watching the videos to guide their notetaking or create a guide that includes notes for each of the videos. Ask a student or students to summarize the videos for the class. Have students take the Inflation 101 [quiz](#) with a partner. Play the game as a class or instead of having students be individual players, have them work in teams.