

GDP and Fiscal Policy Monopoly

Overview

In this lesson, students will gain an understanding of the economic measure of gross domestic product (GDP) and fiscal policy by playing the board game Monopoly with a revised set of rules. The lesson will culminate with the students exhibiting their understanding by creating and sharing haikus about GDP and fiscal policy.

Grade

10

NC Essential Standards for Civics & Economics

- CE.E.3.1- Summarize basic macroeconomic indicators and how they vary over the course of a business cycle
- CE.E.3.2- Explain how fiscal policy and the monetary policy influence overall levels of employment, interest rates, production, price level and economic growth

Essential Questions

- How are economic indicators used to measure trends in the economy?
- Which aspects of the business cycle are prime for investment and which signal a slow down?
- How do producers and consumers impact the rise and fall of the business cycle?

Materials

- 7-8 Monopoly boards
 - Many students have monopoly boards at home and will be willing to bring them to class. A few days before teaching this lesson, ask students to bring in boards if they have them. It is preferable to have extra boards in case some students forget to bring theirs or boards have missing pieces.
- GDP Monopoly directions, attached
- Fiscal Policy Monopoly directions, attached
- Research Current Economic Events in the News, attached
- Practice EOC Multiple Choice Questions and Answer Key, attached.

Duration

2 block periods

Procedure

Day 1

1. As a warm-up, have students answer the following questions. (The first six are common place and should be easy for the students to answer. The final one should be more difficult for students, especially if GDP and other economic measures have not been covered in class. Have the students really reflect on the last one.)
 - What measurement would you use when measuring a small amount of distance, say the length of your pencil?
 - What measurement would you use when measuring a large distance, say how far your house is from school?
 - What measurement would you use when measuring a small amount of liquid, say how much a Coca-cola can holds?
 - What measurement would you use when measuring a large amount of water, such as how much is in a pool?

- What measurement would you use when measuring a how tall an object is above sea level, such as a mountain?
 - What measurement would you use when measuring the size of the US economy?
 - If students do not know, follow up with: Why do we want to know the size of an economy? What are some ways the government and researchers might come up with a measurement for the size of an economy? What factors might be important? Would this measurement be exact or an estimate? Why do you think so?
2. If they were unable to answer the final question, inform the students that economists measure the size of a nation’s economy and compare between nations using Gross Domestic Product. Project and explain the definition of GDP and how it is calculated:
- **Gross Domestic Product:** measure of the size of the economy. It is the total value, in dollars, of all *final* goods and services produced in the country during a single year. Final goods are goods sold to their users.
 - GDP is expressed in terms of money. This enables us to compare the relative worth of goods and services, which is more meaningful than simply numbers of products.
 - When calculating GDP, economists look at four different categories of spending:
 - **Consumption-** private citizens purchasing goods, and services
 - **Investment-** All final purchases of machinery, equipment, and tools by businesses; all construction (including housing); changes in business inventory.
 - **Government-** purchase of goods and services by all levels of government
 - **Net Exports-** exports minus imports
 - **Exports-** goods/ services sold to people in other countries
 - **Imports-** goods/ services produced by individuals or businesses in other countries
3. Divide the class into groups of 4-5 students (based on how many Monopoly boards are available). Pass out copies of the attached GDP Monopoly directions handout. Before they begin playing, have the students select roles. The student chosen to be “President” should then review the game’s rules.
- Students will keep track of spending on the handout (remind students this is based on the new rules described on the handout). At the end of each year (15-20 minutes depending on time constraints), students will add up categories of spending and enter the value into the GDP column.
 - For the 2nd, 3rd, and 4th year, students can find % change of GDP using the following equation:

$\text{GDP \% change} = \frac{\text{New GDP} - \text{Old GDP}}{\text{Old GDP}}$

4. At the end of the fourth year, debrief the activity using the following questions:
- What happened to your GDP from year 1 to year 4? Why do you think this occurred?
 - When did the highest percentage change between two years occur? Why do you think it happened then?
 - How is the market in Monopoly similar to the US economy? How is it different?
 - How is this activity similar to the actual process of computing GDP? How is it different?
 - How do you think economists and the government collect the data needed to compute GDP?
 - The US economy is over \$10 trillion. Can the government be exactly precise like your group was, or would economists need to estimate figures? Explain.

Day 2

5. Have a student define GDP from the previous day. Then ask the class, what happens when GDP decreases from one year to the next. Lead students in a discussion of decreased production and higher unemployment. What should the government do when GDP falls and unemployment increases? (Students commonly answer that the economy must be corrected, and also generally mention taxes or spending.)

6. Inform the student that Congress and the president enact **fiscal policy** in an effort to try to reduce high unemployment that occurs when GDP falls or to combat inflation when GDP rises quickly. Fiscal policy was proposed during the Great Depression by an English economist named **John Maynard Keynes**. There are two general fiscal policy options depending on how the economy is doing:
 - **Expansionary**- Congress and the President would enact a fiscal stimulus policy when the GDP falls and the unemployment rate increases
 - 1. **Cut taxes**- gives people more money to spend and thus increase purchases, hopefully prompting businesses to hire more workers and increase production.
 - 2. **Increase government spending**- buy more goods and services, increasing employment/ incomes and hopefully convincing businesses to hire more workers and boost production.
 - **Contractionary**- Congress and the President would enact a fiscal constraint policy when GDP is rising very quickly leading to high inflation.
 - 1. **Raise taxes**- gives people less money to spend and thus decreases purchases, hopefully prompting businesses to reduce prices.
 - 2. **Decrease government spending**- buy less goods and services, decreasing employment/ incomes and hopefully convincing businesses to decrease prices.

7. Again, divide the class into groups of 4-5 students based on how many Monopoly boards are available. The instructor can choose whether to have the students work in the same groups as last time or in different groups. Pass out copies of the Fiscal Policy Monopoly directions handout. Before they begin playing, again have the student's select different roles than they held the previous day. The student chosen to be President should then review the actual rules to monopoly and the revised rules before the game begins.

8. The most important change in this activity is that the instructor will be responsible for telling the students when to enact expansionary or contractionary fiscal policy. Circulate around the room during the first year and get an idea of the average GDP. For the 2nd and 3rd years call out expansionary fiscal policy and for the 4th and 5th years call out contractionary fiscal policy.

9. At the end of the fourth year, debrief the activity using the following questions:
 - What happened to your GDP from year 1 to year 3? Compared to yesterday, do you think the expansionary fiscal policy affected the change in GDP? Explain.
 - What happened to your GDP from year 3 to year 5? Compared to yesterday, do you think the contractionary fiscal policy affected the change in GDP? Explain.
 - When did the highest percentage change between two years occur? Why do you think it happened then?
 - How is this activity similar to the actual process of enacting fiscal policy? How is it different?
 - Before Keynes, economists and governments believed the economy would eventually go back to normal if enough time passed. Do you think the government should be involved in trying to stabilize the economy? What if that means spending more money than it currently collects, increasing the deficit and national debt?

10. As a culminating activity, instruct students to write a GDP or Fiscal Policy Haiku individually or in groups. Inform students that a Haiku is Japanese lyric verse form having three unrhymed lines of five, seven, and five syllables, traditionally invoking an aspect of nature or the seasons. The haikus must follow the proper structure and relate to gross domestic product and/or fiscal policy. Provide the following haiku as an example:

*We learned from Keynes that
Cut taxes increase spending
Stabilize country*

Students will share their Haikus in a class poetry reading. Play jazz music in between readings and encourage students to snap for their peers rather than clap after they present.

Additional Activity

- Instruct students to find newspaper articles related to GDP and fiscal policy. Students will complete a typed reflection for each article they find. (Assignment sheet and rubric attached.) Have students share current events as a class or in small groups after research and reflection. Students should use the links below for research:
 - <http://www.nytimes.com>
 - <http://www.washingtonpost.com/>
 - <http://www.economist.com/>
 - <http://www.usatoday.com/>
 - <http://krugman.blogs.nytimes.com/>
 - <http://gregmankiw.blogspot.com/>

Differentiation

Students with special needs

- Ensure that students are placed in mixed ability groups.
- Allow students to work in groups for the Haiku activity.

AIG

- Have students research the fiscal stimulus package passed in the Spring of 2008. Have the students interview adult family members and friends about how the tax refund check altered their spending habits. Review economic data released by www.bls.gov and www.bea.gov for the months after the stimulus package to analyze the effects of the fiscal policy on GDP.

GDP Monopoly



Citizens of your country

1. _____ - President: Review rules for Monopoly and ensures rules are followed
2. _____ - Banker: Handles money
3. _____ - Real Estate Agent: Keeps up with property
4. _____ - Economist: Records spending and computes GDP

Assignment:

- Play Monopoly while keeping track of items that would be counted toward GDP.
- Each 20 minutes of the game is a year (you must keep track of your spending each year!)
- There will be 4 years in the game.
- Find a GDP total for each year and the percent change in GDP from one year to the next.

In addition to all of the usual rules, the following are added for computation of GDP:

1. Buying property and falling on other people’s property is considered consumption spending.
2. All construction (houses, apartment buildings) would go under investment spending as well as purchasing the railways and utilities.
3. Each time someone lands on “GO” the government will pay them \$200 dollars as a service for cleaning up the property.
4. Each time someone is “Just Visiting” in jail, it increases Exports by \$10 (i.e. The first time someone lands on Just Visiting, we consider that \$10 in exports...and then that person gets \$10 from the bank. The second time anyone lands on Just Visiting we consider that \$20 in exports... and that person gets \$20 from the bank). This will start over each year.
5. Similarly, when someone lands on “Free Parking,” it increase Imports by \$10 (i.e. the first time someone lands on Free Parking they pay \$10 for imports to the bank. The second time, anyone who lands there pays \$20 to the bank...and so on). This will start over each year.

Year	Consumption Spending (C) Buying property and landing on property	Investment Spending (I) All construction (houses, apartment buildings), railways, and utilities.	Government Spending (G) Landing on GO	Net Exports (NX) Just Visiting (+) Free Parking (-)	GDP (C+I+G+NX)
Year 1					

Year 2					
Year 3					
Year 4					

Fill in the blanks below:

Total GDP for year 1 \$ _____

Total GDP for year 2 \$ _____

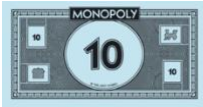
GDP percent change from year 1 to year 2 _____%

Total GDP for year 3 \$ _____

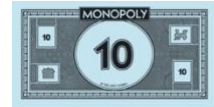
GDP percent change from year 2 to year 3 _____%

Total GDP for year 4 \$ _____

GDP percent change from year 3 to year 4 _____%



Fiscal Policy Monopoly



Citizens of your country

1. _____ - Mayor: Review rules for Monopoly and ensures rules are followed.
2. _____ - Banker: Handles money
3. _____ - Real Estate Agent: Keeps up with property
4. _____ - Economist: Records spending and computes GDP

Assignment:

- Play Monopoly while keeping track of items that would be counted toward GDP.
- Each 20 minutes of the game is a year (you must keep track of your spending each year!)
- There will be 5 years in the game.
- Find a GDP total for each year.
- **NEW:** The government will be changing discretionary fiscal policy to adapt to changes in the economy. Read #6 below for more information.

In addition to all of the real rules, the following are added:

1. Buying property and falling on other people's property is considered consumption spending.
2. All construction (houses, apartment buildings) would go under investment spending as well as purchasing the railways.
3. Each time someone lands on "GO" the government will pay them \$200 extra dollars as a service for cleaning up the property.
4. Each time someone is "Just Visiting" in jail, it increases Exports by \$10 (i.e. The first time someone lands on Just Visiting, we consider that \$10 in exports...and then that person gets \$10. The second time anyone lands on Just Visiting we consider that \$20 in exports... and that person gets \$20). This will start over each year.
5. Similarly, when someone lands on "Free Parking," it increase Imports by \$10 (i.e. the first time someone lands on Free Parking they pay \$10 for imports. The second time, anyone who lands there pays \$20...and so on). This will start over each year.
6. After Year 1 and each subsequent year, Congress (teacher) will instruct you to either implement **contractionary fiscal policy**- increase income taxes to 15% or 250 dollars and decrease government spending (passing GO) to \$150 OR **expansionary fiscal policy**- decrease income taxes to 5% or 100 dollars and increase government spending (passing GO) to \$250.

Year	Consumption (C) Buying property and landing on property	Investment (I) All construction (houses, apartment buildings), railways, and utilities.	Government Spending (G) Landing on GO	Net Exports (NX) Just Visiting (+) Free Parking (-)	GDP (C+I+G+NX)

Year 1					
Year 2					
Year 3					
Year 4					
Year 5					

Fill in the blanks below:

Total GDP for year 1 \$ _____

Fiscal Policy for year 2: _____ (expansionary/ contractionary)

Total GDP for year 2 \$ _____

GDP percent change from year 1 to year 2 _____%

Fiscal Policy for year 3: _____ (expansionary/ contractionary)

Total GDP for year 3 \$ _____

GDP percent change from year 2 to year 3 _____%

Fiscal Policy for year 4: _____ (expansionary/ contractionary)
 Total GDP for year 4 \$ _____
 GDP percent change from year 3 to year 4 _____%

Fiscal Policy for year 5: _____ (expansionary/ contractionary)
 Total GDP for year 5 \$ _____
 GDP percent change from year 4 to year 5 _____%

Researching Current Economic Events in the News

Assignment: Locate three (3) newspaper articles that cover topics related to the GDP of the United States and current fiscal policy. You will also complete a short write up for each article.

Writing

Along with a print copy of newspaper article, write a brief reflection on the article including the following sections:

1. **Definition of terms:** Define all terms that relate to the study of economics
Example: Inflation is a rise in the general price level. CPI is a measure of inflation using....
2. **Summary of the article:** Discuss what was reported in the article, when the article refers to, and where the data/ information came from.
Example: This article states that the Bureau of Labor Statistics measured that inflation rose last month by 2% in April of 2008.
3. **Economics significance of topic-** Why is this printed in a major newspaper? Why did we discuss it in class? Think. Think really hard.
Example: Inflation can decrease the value of a currency which can hurt low income families, individuals on fixed incomes, and lending institutions. Also as inflation rises, individuals and business alter their economic decision making in the following way...

Your write-up should meet the following guidelines:

- Typed
- At least one source outside of the book (the newspaper article)
- Complete sentences
- Correct grammar and spelling

Points	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized. 8)
Quality of Information	Information clearly relates to the main topic. Reflection meets all requirements. It includes several supporting details and/or examples.	Information clearly relates to the main topic. Reflection meets most requirements. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. Reflection meet some requirements. No details and/or examples are given.	Information has little or nothing to do with the main topic. Reflections does not meet requirements.
Mechanics	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors	A few grammatical, spelling, or punctuation errors.	Many grammatical, spelling, or punctuation errors.

Sources	Sources are accurately documented in MLA format. At least one source per article.	Sources are documented, but not in MLA format. At least one source per article.	Sources are present, but no format whatsoever.	Sources are not present.
Follows Guides	Follows all assignment guidelines.	Follows most assignment guidelines.	Following some assignment guidelines.	Does not follow guidelines.

Practice EOC Multiple Choice Questions

- Which *best* describes Gross Domestic Product (GDP)?
 - monetary value of all final goods and services produced within a nation in a particular year.
 - national income minus all non-income charges against output.
 - monetary value of all economic resources used in producing a year's output.
 - monetary value of all goods and services, final and intermediate, produced in a specific year.
- Which is a shortcoming of using Gross Domestic Product (GDP) as a measure of the economy?
 - GDP only include final goods
 - GDP does not include work done at home such as house renovations
 - GDP is commuted in dollars
 - GDP always includes inflation
- What is the *best* description of the phrase "final goods and services" when referring to the measure of Gross Domestic Product (GDP)?
 - goods and services that are unsold and therefore added to inventories.
 - goods and services whose value has been adjusted for changes in the price level.
 - goods and services purchased by ultimate users, as opposed to resale or further processing.
 - the excess of U.S. exports over U.S. imports.
- Christie O'Brien grows tomatoes for home consumption. Which would best describe how this activity would be measured in relation to GDP?
 - excluded from GDP in order to avoid double counting.
 - excluded from GDP because an intermediate good is involved.
 - productive but is excluded from GDP because no market transaction occurs.
 - included in GDP because it reflects production.
- Which would most likely occur during a period of recession?
 - cost-push inflation occurs
 - unemployment rate falls
 - production increase
 - real gross domestic output falls
- If the economy is in a recession and prices are relatively stable, then the discretionary fiscal policy or policies that would most likely be recommended to correct this macroeconomic problem would be:
 - increased government spending or increased taxation, or a combination of the two actions.
 - increased government spending or decreased taxation, or a combination of the two actions.
 - increased government spending or increased taxation, but not a combination of the two actions.
 - decreased government spending or decreased taxation, or a combination of the two actions.
- Which are contractionary fiscal policies?
 - increased taxation and increased government spending
 - increased taxation and decreased government spending
 - decreased taxation and no change in government spending
 - no change in taxation and increased government spending
- Why would the most likely reason be for the government to enact \contractionary fiscal policy?
 - recession
 - depression
 - inflation
 - deflation

9. What consumer behavior is the federal government trying to encourage when it implements expansionary fiscal policy?

- A reduced spending on non-durable goods
- B increased spending on all goods and services
- C decreased spending on durable goods
- D increased spending on services but not goods

Practice EOC Multiple Choice Questions – ANSWER KEY

- Which best describes Gross Domestic Product (GDP)?
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