SNAPSHOT
Just two weeks after addressing the American public, President Ronald Reagan goes before Congress and outlines his multi-step plan to address the unique challenges of “Stagflation” and the actions and steps he hopes that body will take, in concert with direct actions of the Executive branch to bring resolution to the then-worse economic conditions since the Great Depression. One of the key pillars of his economic policy plan was to reduce taxes on individuals and businesses. He believed that individuals, left with more money, would choose to spend and invest, supporting businesses. He believed the businesses would invest the additional tax savings back into their businesses, which in turn would lead to growth, hiring, and more jobs. In this lesson, we’ve created a simulation to illustrate those principles in action.

TIME NEEDED
2 - (50) minute class periods OR
1 - (75) minute block class periods

KEY CONCEPTS
taxes, taxation, loanable funds, interest rates, government spending, savings, savings rate, business investment, incentives, returns to capital, supply-side, deregulation

STUDENTS WILL BE ABLE TO:
• Describe the corrective policies outlined by President Reagan
• Describe the impact of taxes, government borrowing and regulation on business investment, productivity, and economic growth
STANDARDS
12.1 Students understand common economic terms and concepts and economic reasoning.

CA H-SS Content Standards: 12.3.2 & 12.3.3
12.3 Students analyze the influence of the federal government on the American economy.
   2. Identify the factors that may cause the costs of government actions to outweigh the benefits.
   3. Describe the aims of government fiscal policies (taxation, borrowing, spending) and their influence on production, employment, and price levels.

CA H-SS Content Standards: 12.5.1 & 12.5.2
12.5 Students analyze the aggregate economic behavior of the U.S. economy.
   1. Distinguish between nominal and real data.
   2. Define, calculate, and explain the significance of an unemployment rate, the number of new jobs created monthly, an inflation or deflation rate, and a rate of economic growth.

RESOURCES
Activities & Exercises
- Activity 1.0 – Understanding the Laffer Curve
- Activity 2.0 – Productivity Simulation (30 minutes)
- Exercise 1.0 – Homework or In-Class Worksheet

VIDEOS
- Art Laffer and the Laffer Curve: https://www.youtube.com/watch?v=FCk2-QVqCck
- Rumsfeld, Cheney, and Art Laffer discuss the Laffer Curve: https://www.youtube.com/watch?v=4yBgTN5IT-Y
- Full version of President Reagan’s “Address on Federal Tax Reduction Legislation” (July 27, 1981): https://www.youtube.com/watch?v=tQbn9_WCx1A

ARTICLES/DOCUMENTS
- Transcript of “Address by the President to a Joint Session of Congress on a Program for Economic Recovery” (February 18, 1981) https://www.reaganlibrary.gov/research/speeches/21881a
- Link: History of Tax Rates for Individuals: https://files.taxfoundation.org/legacy/docs/fed_individual_rate_history_nominal.pdf
- Link to Laffer Curve Napkin at the Smithsonian https://americanhistory.si.edu/collections/search/object/nmah_1439217
ACTIVITY 1: UNDERSTANDING THE LAFFER CURVE

Description

In this activity students will participate in a simulation to illustrate and understand the principles behind the Laffer Curve. Art Laffer is a noted supply-side economist who argues that cutting tax rates can increase overall tax revenue. He argues that an increase in taxes can discourage both the incentive of the worker to work and the employer to invest, resulting in an overall decrease in tax revenue. In the Laffer Curve, there is an optimal tax rate that incentivizes both the hard work of the labor force and repeated investment of the employer. Art Laffer initially drew the idea for his curve on a napkin during a 1974 meeting with journalist Jude Wanniski, and politicians Dick Cheney and Don Rumsfeld. Wanniski took the napkin as a souvenir, and it is now on display at the Smithsonian National Museum of American History.
OBJECTIVES
Students will:
• See how reducing interest rates and targeted tax cuts result in increased business investment.
• See how increased investment increases output and labor productivity.

SIMULATION: TAXES AND PRODUCTIVITY ACTIVITY
Activity Description
In this activity students will participate in a simulation that demonstrates how incentives to increase investment result in greater output and greater labor productivity and improved national standard of living.

MATERIALS
• Slides 8.1–8.11
• One set of the following items for each team, 1 - 8 teams:
  • 50–60 pieces of 8.5-inch × 11-inch paper
  • One red and one black felt-tip marker
  • One pair of scissors
  • 300 or more red adhesive dots
  • 40–50 inexpensive paper plates, 6-inch or 7-inch diameter
• Activity 8.1, one copy per student and as a visual
• Instructions for quality control

LESSON PROCEDURE
1. Introduce the concept of productivity by showing Slides 8.1 and 8.2. Slide 8.1 defines productivity; Slide 8.2 discusses the positive relationship between productivity and a country’s standard of living.
2. Show Slide 8.3. Tell students they will participate in a pizza-making simulation about productivity.
3. Introduce the simulation by showing Slides 8.4 and 8.5. Select three or more students to serve as quality inspectors or helpers. Divide the balance of the class into teams of four. Announce to the class that these students will produce pizzas. Have one set of materials available for each team. Have each team select a recorder.
4. Demonstrate how to make a pizza (show Slide 8.4 again):
   • Trace the template (the 6- or 7-inch small paper plate) on a piece of 8.5-inch × 11-inch paper.
   • Cut out the circle. Tell the class that it is the pizza shell.
   • Using the red marker draw 10 pepperoni pieces about the same diameter as your adhesive dots on the circle.
5. To provide a workplace for each team, push four desks together to make a table.
6. Place a large supply of paper, one red marker, a pair of scissors, and the template (paper plate) on each table.

Round One: Individual Production and Taxation (5 minutes)
7. Announce that in Round 1, each worker on a team will produce pizzas working alone. Each will share his or her team’s materials and capital goods.
8. Tell students that you or your chosen "quality control" staff will inspect all finished pizzas. Pizzas that do not meet production standards will be rejected and thrown away.
9. Give the factory workers five minutes to produce pizzas. Check pizza quality and reject those that do not pass inspection. Discard rejects and partially completed pizzas.
10. Each student will calculate the total number of pizzas they created in 5 minutes. Students will be issued $100 Reagan Bucks for each pizza they completed in the 5 minutes. Students will use the Individual
Productivity Sheet to record their initial earnings, and then determine their tax bracket using the following chart. (Based on 1981 Individual Tax Rates for Single)

<table>
<thead>
<tr>
<th># of Students</th>
<th>Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 2 Students</td>
<td>70%</td>
</tr>
<tr>
<td>Students 3-5</td>
<td>63%</td>
</tr>
<tr>
<td>Students 6-8</td>
<td>44%</td>
</tr>
<tr>
<td>Students 8-10</td>
<td>30%</td>
</tr>
<tr>
<td>Rest of the class</td>
<td>14%</td>
</tr>
</tbody>
</table>

11. Let students know that rates of taxation had been relatively consistent, with the marginal tax rate topping out at 70%, since the mid-1960s, and these were the rates in place when President Reagan took office in 1981.

12. Discussion Question 1: What do you notice about taxation policy? Is this tax structure an incentive to produce more pizzas? Why or why not?

13. In President Reagan’s Address on the Economy, he said:

   “Marching in lockstep with the whole program of reductions in spending is the equally important program of reduced tax rates. Both are essential if we’re to have economic recovery. It’s time to create new jobs, to build and rebuild industry, and to give the American people room to do what they do best. And that can only be done with a tax program which provides incentive to increase productivity for both workers and industry. Our proposal is for a 10-percent across-the-board cut every year for 3 years in the tax rates for all individual income taxpayers, making a total cut in the tax-cut rates of 30 percent. This 3-year reduction will also apply to the tax on unearned income, leading toward an eventual elimination of the present differential between the tax on earned and unearned income.

14. Let them know that he worked to reduced taxation. He was influenced by the thinking of Art Laffer and the Laffer curve and believed that reducing tax rates could lead to increased revenue and economic growth. Let’s do another round and see what happens.

**Round Two: Tax Cut #1 (5 minutes)**

15. Announce that in Round 2, each worker on a team will continue to produce pizzas working alone. Each will share his or her team’s materials and capital goods.

16. Tell students that you or your chosen “quality control” staff will inspect all finished pizzas. Pizzas that do not meet production standards will be rejected and thrown away.

17. Give the factory workers five minutes to produce pizzas. Check pizza quality and reject those that do not pass inspection. Discard rejects and partially completed pizzas.

18. Each student will calculate the total number of pizzas they created in 5 minutes. Students will be issued $100 Reagan Bucks for each pizza they completed. Students will use the Individual Productivity Sheet to record their initial earnings, and then determine their tax bracket using the following chart. (Based on 1983 Individual Tax Rates for Single). They can see the change in the chart below.

<table>
<thead>
<tr>
<th># of Students</th>
<th>Round 1 Tax Rate</th>
<th>Round 2 Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 2 Students</td>
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<td>36%</td>
</tr>
<tr>
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<td>44%</td>
<td>28%</td>
</tr>
<tr>
<td>Students 8-10</td>
<td>30%</td>
<td>21%</td>
</tr>
<tr>
<td>Rest of the class</td>
<td>14%</td>
<td>11%</td>
</tr>
</tbody>
</table>

19. Discussion Question 2: How do you feel about the new level of taxes? Is this tax structure an incentive to produce more pizzas? Why or why not? What do you notice about the amount of money you earn after taxes? What sorts of impact might this have on you?

20. Let students know that President Reagan continued to work to cut the individual tax rates, and that we’ll see the impact of that in Round 3.
Round Three: Tax Cut 2 (5 minutes)
21. Announce that in Round 3, each worker on a team will continue to produce pizzas.
22. Tell students that you or your chosen “quality control” staff will inspect all finished pizzas. Pizzas that do not meet production standards will be rejected and thrown away.
23. Give the factory workers five minutes to produce pizzas. Check pizza quality and reject those that do not pass inspection. Discard rejects and partially completed pizzas.
24. Each student will calculate the total number of pizzas they created in 5 minutes. Students will be issued $100 Reagan Bucks for each pizza they completed. Students will use the Individual Productivity Sheet to record their initial earnings, and then determine their tax bracket using the following chart. (Based on 1988 Individual Tax Rates for Single). They can see the change in the chart below.

<table>
<thead>
<tr>
<th># of Students</th>
<th>Round 1 Tax Rate</th>
<th>Round 2 Tax Rate</th>
<th>Round 3 Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 2 Students</td>
<td>70%</td>
<td>50%</td>
<td>28%</td>
</tr>
<tr>
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<td>63%</td>
<td>36%</td>
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<tr>
<td>Students 8-10</td>
<td>30%</td>
<td>21%</td>
<td>15%</td>
</tr>
<tr>
<td>Rest of the class</td>
<td>14%</td>
<td>11%</td>
<td>15%</td>
</tr>
</tbody>
</table>

25. Discussion Question 3: What impact does the new tax rate have on your incentive to produce pizzas? What happens to your earnings? What is the difference between Round 1 and Round 3 for you personally?
26. Laffer argued that reducing the tax rate increased the incentive of the individual to produce more, and give themselves a chance to earn more. What impact have the tax decreases had in your incentive to produce more pizzas?
27. In the next series of simulations, we'll look at how labor specialization, reduced interest rates, and reduced taxes on business can incentivize business investment. President Reagan believed that incentivizing business investment would lead to businesses creating millions of new jobs.

Round One: Business (5 minutes)
28. Announce that in Round 1, each worker on a team will produce pizzas working alone. Each will share his or her team's materials and capital goods.
29. Tell students that you or your chosen “quality control” staff will inspect all finished pizzas. Pizzas that do not meet production standards will be rejected and thrown away.
30. Give the factory workers ten minutes to produce pizzas. Check pizza quality and reject those that do not pass inspection. Discard rejects and partially completed pizzas.
31. Distribute a copy of Activity 8.1 to each team and display it on the board. Have each team record pizza factory data in Rows 1-4 under Round 1 and compute the values in the appropriate cells in Rows 5-6.
32. Enter the sums of each team’s results into Rows 1-3 and compute the values in the appropriate cells in Rows 5-6 on the board.
33. Show the question on Slide 8.6 and ask your class if there is another way workers could organize the production process to increase output? Help your students see that they could increase production dividing the labor and specializing. Show the rest of Slide 8.6.

Round Two (5 minutes)
34. Conduct Round 2. Allow students to introduce specialization and division of labor. Point out that, as specialists, students will each do a part of the production process. Give students time to discuss breaking down the production of the pizza into a series of steps. Students may ask for more pens, scissors, or templates, but for the time being, limit teams to one pair of scissors, one red marker, and one template.
35. Repeat the procedures in *Round One* using specialization and division of labor and record the data in Activity 8.1 under Round 2. Compile their results and compute and enter the data in the appropriate places under Round 2 on the board.

36. If a majority of the teams do not realize an increase in the number of pizzas produced between Rounds 1 and 2, repeat Round 2 ask your students to suggest reasons why productivity did not increase. Possible reasons: specialists require practice in their specific tasks (investment in human capital), the assembly line needs to be reorganized, or the specialists fail to cooperate.

**Round Three (5 minutes)**

37. Tell your students that the U.S. Government has reduced the budget deficit and that as a result interest rates have fallen. Ask them how falling interest rates affect investment spending. Help your class see that falling interest rates result in an increase in business investment spending.

38. Tell your students that falling interest rates have induced pizza producers to invest in a machine that precuts pizzas. Point out that because of this machine they will no longer use scissors.

39. Give students a supply of precut pizzas (paper plates) and allow them time to reorganize the assembly line.

40. Repeat the procedures in Round One using the new technology and record the data in Activity 8.1 under Round 3. Compile their results and compute and enter the data in the appropriate places under Round 3 on the board.

**Round Four (5 minutes)**

41. Tell your students that the U.S. Government has reduced taxes on businesses investment. Help your class see that reduced taxes on business investment will induce them to invest in new technology.

42. Tell your students the tax cuts have induced pizza producers to invest in a machine that precuts pepperoni. Point out that because of this machine they will no longer use the red marking pens. Distribute the red dots to each pizza producing team.

43. Repeat the procedures in Round One using the new machine and record the data in Activity 8.1 under Round 4. Compile their results and compute and enter the data in the appropriate places under Round 4 on the board.

**CLOSURE**

44. Explain to your students that economists define labor productivity as the amount of goods and services that a group of workers produce per unit of time. Labor productivity is computed by dividing the amount of output produced by the number of labor inputs used. Have your students compute their team’s labor productivity for each round. (Optional: reward the teams that had the highest productivity each round.)

45. Have your students compute the class’ labor productivity and post the results on the board. Ask them what happened to productivity between Round 2, and Round 3 and Round 4 and why did this occur? Help your students see that their labor productivity rose as they invested in new technology.

46. Ask your students the following questions:
   a. What effect will increased productivity in the pizza factory have on wages? Help them see that because they add more to the firm’s revenue while lowering per-unit production costs, more productive workers will receive higher wages and have greater job security.
   b. What happens when labor productivity increases in the overall economy and what they think will happen to their standard of living as labor productivity increases? Help them see that as total goods and services available for people to consume increases in productivity translate into higher average wages, more consumption, and a higher material standard of living.
   c. What else could the pizza factory do to increase productivity? Help them see that investing in human capital by providing practice time or training for specialists or investing in additional machines to increase labor productivity.
   d. What should a company consider before investing in capital, such as the pizza-cutter machine? Help your students see that it should weigh the cost of the pizza cutter, the cost of training workers to use
it, and the risk involved in borrowing money to pay for the pizza cutter against the expected benefits of higher productivity. Show Slide 8.10 to review factors that can increase productivity.

e. What types of tax cuts could induce investment? Help your students see that accelerating depreciation to increase the rate of return on investment, cuts in business taxes to increase the amount of funds businesses have available to invest; and cuts in income taxes to increase the amount of savings which lowers interest rates.

f. What investment inducing policies did President Reagan propose in his Congressional Address? How would those policies induce increases in investment? Help your students see that reducing the budget deficit and tax cuts induce business to increase investment. Lower interest rates reduce the cost of investment thereby inducing firms to increase investment in capital equipment.
## INDIVIDUAL PRODUCTIVITY SHEET

<table>
<thead>
<tr>
<th>Pizza Productivity</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Round 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of pizzas produced</td>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. Number of pizzas accepted</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. TOTAL EARNED</td>
<td>$400</td>
<td>500</td>
<td>600</td>
</tr>
<tr>
<td>4. Tax Rate</td>
<td>70%</td>
<td>70%</td>
<td>50%</td>
</tr>
<tr>
<td>5. EARNED AFTER TAXES</td>
<td>$400 - ($400 x 0.7) = $120</td>
<td>$150</td>
<td>$300</td>
</tr>
</tbody>
</table>

CLEAN COPY

## INDIVIDUAL PRODUCTIVITY SHEET

<table>
<thead>
<tr>
<th>Pizza Productivity</th>
<th>Round 1</th>
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<tr>
<td>1. Number of pizzas produced</td>
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<td></td>
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</table>

#### Figure 1: Tax Rates during the Reagan Administration. Source: taxfoundation.org. Link: https://files.taxfoundation.org/legacy/docs/fed_individual_rate_history_nominal.pdf

<table>
<thead>
<tr>
<th></th>
<th>Nominal</th>
<th>Married Filing Jointly</th>
<th>Married Filing Separately</th>
<th>Single</th>
<th>Head of Household</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1981</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marginal Tax Rate</td>
<td>$0</td>
<td>$1,700</td>
<td>$8,000</td>
<td>$9,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Tax Brackets</td>
<td>$3,400</td>
<td>$5,500</td>
<td>$7,600</td>
<td>$11,900</td>
<td>$16,000</td>
</tr>
<tr>
<td><strong>1983</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marginal Tax Rate</td>
<td>$0</td>
<td>$1,700</td>
<td>$8,000</td>
<td>$9,000</td>
<td>$10,000</td>
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<td>$5,500</td>
<td>$7,600</td>
<td>$11,900</td>
<td>$16,000</td>
</tr>
<tr>
<td><strong>1988</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marginal Tax Rate</td>
<td>$0</td>
<td>$1,700</td>
<td>$8,000</td>
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<td>$10,000</td>
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<td>$16,000</td>
</tr>
</tbody>
</table>

Note: Last law to change rates was the Economic Recovery Tax Act of 1981.

Note: Last law to change rates was the Tax Equity and Fiscal Responsibility Act of 1982.

(a) A 33% "rate bubble" applied between $71,900 and $143,250 for married filing jointly, between $35,950 and $113,300 for married filing separately, between $43,150 and $88,990 for singles, and between $61,650 and $123,700 for heads of households, the purpose being to recapture the revenue that upper-income taxpayers had saved by applying the 15% rate.

Note: Last law to change rates was the Tax Reform Act of 1986.
<table>
<thead>
<tr>
<th>Pizza Productivity</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Round 3</th>
<th>Round 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Production method</td>
<td>Sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Number of pizzas produced</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Number of pizzas accepted</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Number of workers</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Total time worked: 5 minutes × number of workers (Line 4)</td>
<td>20 min.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Output per minute worked: number of pizzas (Line 3) ÷ total time worked (Line 11)</td>
<td>4/20 = 0.20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## CLASSROOM PRODUCTIVITY SHEET

<table>
<thead>
<tr>
<th>Pizza Productivity</th>
<th>Round 1</th>
<th>Round 2</th>
<th>Round 3</th>
<th>Round 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production method</td>
<td>Sample</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Number of pizzas produced</td>
<td>5 teams X 6 per team</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Number of pizzas accepted</td>
<td>5 teams X 4 per team</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Number of workers</td>
<td>5 teams X 4 per team</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Total time worked: 5 minutes × number of workers (Line 4)</td>
<td>20 min.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Output per minute worked: number of pizzas (Line 3) ÷ total time worked (Line 11)</td>
<td>4/20 = 0.20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ADDRESS BY THE PRESIDENT TO A JOINT SESSION OF CONGRESS ON A PROGRAM FOR ECONOMIC
RECOVERY
February 18, 1981

Read or listen to “Address by the President to a Joint Session of Congress on a Program for Economic
Recovery” and answer the following questions after reading and/or watching the videos and by doing an
internet search.

President Reagan refers to double digit inflation. (Line 20) What was the level of inflation when he addressed
Congress? When in the past has the USA experienced double digit inflation? Is it common or rare? (A good
source is https://www.thebalance.com/u-s-inflation-rate-history-by-year-and-forecast-3306093)

Level of inflation in 1981: ________________________ Years of double-digit inflation: ______________

U.S. double digit inflation, common or rare: ________________________

List a few nations that have recently experienced double-digit inflation. (A good source is
https://nomadcapitalist.com/2017/08/04/countries-highest-inflation-in-the-world/)

__________________________________

President Reagan refers to high interest rates. What are the interest rates that he refers to? (Line 23)

Interest rates referred to in the address: ________________________

Over the past 30 years when have interest rates been higher than 10 percent? What is the current rate of
mortgage interest? (A good source is https://fred.stlouisfed.org/series/MORTGAGE30US)

Years with 10 percent interest rates: ________________________

Current mortgage interest rate: ________________________

President Reagan refers to real incomes falling and personal taxes rising between 1975 and 1981. (Line 39)
What he’s talking about is how inflation increases nominal income but not real income and how inflation
pushes people into higher tax brackets.

Do a web search to find highest marginal rate in 1981. ________________________


Interpret what the highest marginal tax rate means: If I earned an additional dollar in 1981, then at the
highest marginal tax rate, I would pay ____ cents in taxes and get to keep ____ cents.

Would that highest marginal tax rate discourage you from working an additional hour? Why or why not?

__________________________________

__________________________________

__________________________________
(Optional) When President Reagan refers to real incomes falling and personal taxes rising between 1975 and 1981, he's suggesting that because inflation increases nominal income households are pushed into higher tax brackets.

Explain to your students how taxes are computed in a progressive marginal tax system with tax brackets and/or show them (or have the view on their own) one of the following videos:

https://www.youtube.com/watch?v=bHGKwQGYIEY

https://www.youtube.com/watch?v=VJhsjUPDulw

Use the following data to illustrate what President Reagan is talking about:

<table>
<thead>
<tr>
<th>Tax Bracket (dollars)</th>
<th>Marginal Tax Rate (percent)</th>
<th>Income = $60,000</th>
<th>Income = $72,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 0 to 20,000</td>
<td>0</td>
<td>20000</td>
<td>20000</td>
</tr>
<tr>
<td>20,001 to 40,000</td>
<td>30</td>
<td>20000</td>
<td>6000</td>
</tr>
<tr>
<td>40,001 to 60,000</td>
<td>40</td>
<td>20000</td>
<td>8000</td>
</tr>
<tr>
<td>60,001 and above</td>
<td>50</td>
<td>0</td>
<td>12000</td>
</tr>
<tr>
<td>Total Tax Liability</td>
<td>--</td>
<td>14000</td>
<td>20000</td>
</tr>
</tbody>
</table>

In Year One, your nominal income is $60,000, compute your total tax liability.

Compute nominal income net of taxes (nominal income minus total tax liability)

Inflation is 20 percent between Year One and Year Two so that your nominal income rises to $72,000.

Compute your total tax liability

Compute nominal income net of taxes (nominal income minus total tax liability)

Assume that the price index in Year One is 100 and in Year Two is 120, compute real income net of taxes in each year.

Year One: $46,000

\[
\left(\frac{\text{Year One net nominal income}}{100}\right) \times 100
\]

Year Two: $43,333

\[
\left(\frac{\text{Year Two net nominal income}}{120}\right) \times 100
\]

Help your class conclude that although nominal income net of taxes increased between Year One and Year Two, real income net of taxes didn't increase so that households are worse off in Year Two because of the way inflation affected the marginal tax rate they paid.
President Reagan lists four points in his address. (Line 85). What are they?

- ____________________________
- ____________________________
- ____________________________
- ____________________________

What groups that benefit from federal government spending does President Reagan protect? (Line 115)

- ____________________________
- ____________________________
- ____________________________
- ____________________________

EXTENSION: PRESIDENT REAGAN'S ECONOMIC POLICIES AND THE COLD WAR

By how much did President Reagan propose to increase military spending. What reasons did he give for this increase in military spending? (Line 322)

- ____________________________
- ____________________________
- ____________________________
- ____________________________

(Optional) Do a web search to find what the Central Intelligence Agency (CIA) Factbook said about the size of the Soviet economy in the 1980s as compared to the U.S. economy. (A good source is https://en.wikipedia.org/wiki/Economy_of_the_Soviet_Union which cites http://docshare01.docshare.tips/files/239/2399030.pdf)

According to the U.S. General Accounting Office 1991 report, the CIA estimates of Soviet gross national product (GNP) have been increasingly criticized in recent years. According to that report: “Soviet GNP was anywhere from 14 to 33 percent of U.S. GNP—rather than the 51 percent as estimated by the CIA.” Draw three production possibility curves on the graph below that reflect Soviet GNP 14, 33 and 51 percent of the U.S. GNP. (See for example https://www.gao.gov/assets/160/151178.pdf see also https://www.latimes.com/archives/la-xpm-1990-04-24-mn-339-story.html)
If initially, both the Soviet Union and the U.S. were initially expending the same amount of resources on the military, illustrate an equal increase in military spending from point D to point C along the U.S. productive possibilities frontier and along each of the three Soviet curves. Based on what you've drawn, which nation incurs a higher opportunity cost associated with the increase in military spending, the Soviet Union or the U.S.?

Based upon what you've drawn, which nation could more easily increase military spending? Is there a point at which the Soviet economy couldn't match U.S. increases in military spending?
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