Lesson 9 – Money and Inflation

Introduction

In this lesson students learn that anything that performs the functions of money can be money (even macaroni!). As they use their macaroni to bid on items during an auction, they learn that the value of money depends on the quantity of money relative to the quantity of goods and services they can buy with that money. Historical and contemporary examples as well as video clips help students understand the role that banks and the Federal Reserve play in expanding and contracting the money supply.

MINI ACTIVITY

Inflation Auction

Objectives

At the end of this lesson students will be able to:

- Identify the three functions of money.
- Explain how banks create money through fractional reserve banking.
- Give examples of how the Federal Reserve uses their tools to increase or decrease the money supply.
- Explain the cause of inflation.
- Provide examples of the costs of inflation

Materials

- A small bag/box of macaroni pasta or beans to use as "money"
- 2 each of 3 small items to sell in an auction (6 items total). *EX: 2 packs of gum, 2 candy bars and 2 cans of soda*

Economic Concepts

Discount Rate	Government Spending	Money
Federal Funds Rate	Inflation	Monetary Policy
Federal Reserve System	Interest Rate	Open Market Operations

Voluntary National Content Standards in Economics

https://www.fte.org/teachers/teacher-resources/voluntary-national-content-standards-in-economics/

STANDARD 11: ROLE OF MONEY: Money makes it easier to trade, borrow, save, invest, and compare the value of goods and services.

STANDARD 12: ROLE OF INTEREST RATES: Interest rates, adjusted for inflation, rise and fall to balance the amount saved with the amount borrowed, which affects the allocation of scarce resources between present and future uses.

STANDARD 19: UNEMPLOYMENT AND INFLATION: Unemployment imposes costs on individuals and nations. Unexpected inflation imposes costs on many people and benefits some others because it arbitrarily redistributes purchasing power. Inflation can reduce the rate of growth of national living standards because individuals and organizations use resources to protect themselves against the uncertainty of future prices.

STANDARD 20: MONETARY AND FISCAL POLICY: Federal government budgetary policy and the Federal Reserve System's monetary policy influence the overall levels of employment, output, and prices.

Presentation Guidelines and Suggestions

1. Review importance of voluntary trade. Remind students of institutions already discussed that facilitate trade and creation of wealth: markets, property rights.

2. Define Money and its functions.

    a. Money is anything generally accepted in exchange for goods and services.

    b. Money performs three functions in market economies

        i. Store of value

        ii. Standard of value

        iii. Medium of exchange

    - Show historical examples of other things that have been used as money over time (see slide).

    - *Show slide of Zimbabwean and U.S. dollars. Discuss which students would rather have to make the point that it's the goods and services people want rather than the money itself.*

3. Interest rates – define and relate to opportunity cost.

    a. The interest rate is the opportunity cost of holding money, because instead of holding money, people could hold interest-earning assets (such as Certificates of Deposit or bonds) instead.

4. Interest rates emerge from market for loanable funds. *(See slide.)*

   a. Interest rates are determined by the interaction of lenders who supply funds, and borrowers, who demand funds.

   b. Savers supply funds to be loaned and are paid interest for waiting to consume at a later date.

   c. Demanders of these funds are the borrowers, who pay interest in order to have the right to spend now instead of waiting for future income. This spending might be on consumption or on investment goods (such as plant and equipment).

   d. Interest rates vary with the type of market. Rates change within a market in response to changes in supply and demand for loanable funds.

5. The money supply is a measure of the total amount of money in an economy.

   a. Explain, briefly, how commercial banks create money. *(See slides.)*

   b. Explain how the Federal Reserve System operates to control the stock of money in the banking system. The Federal Reserve System is charged with, among other things, managing the money supply of the United States. It does this by managing the stock of currency in circulation and the amount of reserves in the banking system.

   c. Explain how "Open Market" operations implement Federal Reserve policy. *(See slides.)*

      i. The Federal Reserve uses open market operations (buying and selling of government bonds) to alter the amount of currency and bank reserves, generally signaling its intentions to do so through changes in its target value for the Federal Funds rate and changes in the Discount rate.

      ii. The Federal Funds rate is the rate of interest at which U.S. banks lend to one another their excess reserves held on deposit by Federal Reserve banks.

      iii. The Discount Rate is the rate at which member banks may borrow short term funds directly from a Federal Reserve Bank.

   d. Other policy vehicles available to the Fed include: Reserve requirement, paying interest on excess reserves, margin requirements on stock loans, regulations on banks, etc.

Optional Video

- In Plain English: https://youtu.be/L0hQfaxYU8k Overview of Federal Reserve System. 13 min. Consider just showing relevant segment(s)

Conduct an inflation auction.

a. Distribute 1, 2 or 3 pieces of macaroni to each student to use as currency during the auction. They won't all have equal amounts but everyone should get at least one piece of macaroni.

b. Auction off 3 items (Ex: gum, soda, candy bar) recording the price each item sales for on the board.

c. Give everyone more macaroni before beginning round 2 (a small handful, 6-10 pieces each). There's no need to count, just make sure everyone get's more and that you hand out more than you did in round 1.

d. Auction of 3 identical items again in round 2 (Ex: gum, soda, candy bar), recording the prices on the board.

e. Debrief:

    i. Why did the prices go up?

    ii. Who bid the prices up?

    iii. Why were you willing to pay more?

    iv. Explain that what they just witnessed is called inflation.

    v. Proceed with the lesson and refer back to their experience in the activity as appropriate.

6. Define inflation as a general increase in the price level of goods and services.

    a. Distinguish inflation from changes in relative prices.
    b. The most commonly used measure of inflation is the Consumer Price Index, (or CPI). The GDP Deflator is another important measure of inflation. Changes in these price indices indicate changes in the purchasing power of the U.S. dollar.
    c. Unanticipated inflation alters the normal signals buyers and sellers receive from prices, changing their behavior in markets.
        i. Inflation encourages more debt and faster spending as buyers and sellers try to avoid rising prices.
        ii. Inflation creates uncertainty and makes future planning more difficult.
    d. Unanticipated inflation erodes the purchasing power of nominal assets, including money, bonds, and savings accounts. Individuals with fixed incomes also lose.

- PNC Christmas index (Interactive Website) Calculating the price of the "12 Days of Christmas" for 35 years: http://www.pncchristmaspriceindex.com/
- Inflation Calculator: http://data.bls.gov/cgi-bin/cpicalc.pl

e. Hyperinflation (very rapid inflation) causes markets of all types to break down, for two reasons.
   i. The extremely high cost of using money during hyperinflations forces people to resort to barter, which is an inefficient means of transacting.
   ii. A high average rate of inflation is always accompanied by much uncertainty about the future inflation rate, which makes many contracts more risky. Greater levels of risk increase the value of the "option to wait," which delays many consumption and investment decisions, and thereby slows economic growth.

Optional Resources:

- Venezuela's Inflation to hit 1,000,000% https://youtu.be/SCz1x5-tgig
- Examples of hyperinflation from Zimbabwe. *See slides and charts.* Article: http://www.nytimes.com/2006/05/02/world/africa/02zimbabwe.html?_r=1&oref=slogin

7. Inflation is a monetary phenomenon, and almost always occurs because increases in the stock of money exceed growth in output of goods and services.
   a. Rapid increases in the money supply can be the result of poor management by the central bank or by a decision to print money to support government spending.
      i. A frequent problem in developing nations is that governments without stable or consistent tax collections often resort to printing money to finance government spending.
   b. Inflation increases pressure on government to impose price controls which tends to make conditions worse instead of better.

Conclusion

- Money is an innovation that significantly improved the operation of markets.
- Banks facilitate the operation of markets by expanding the quantity of money in circulation.
- Inflation is a consequence of the money supply growing faster than production.
- The Fed manages price and interest rate levels by changing the money supply.
- Inflation creates disruptions and losses in the overall economy as buyers and sellers act to avoid its effects.