LESSON 11: ECONOMIC INDICATORS

Focus Question: How can we tell the present and future state of the economy?

Objectives
Students will be able to:
• Discuss the value of leading, coincident, and lagging indicators in determining the existing and future state of the economy.
• Describe examples of leading, coincident, and lagging indicators.
• Evaluate the reliability of certain leading, coincident, and lagging indicators.
• Draw conclusions about the current economic situation after analyzing a sampling of indicators.
• Gather the kind of data used to put together the CPI, a major lagging indicator.

Standards
NES: 12, 15, 18, 19, 20
ELA: 1, 3

Time Frame/Notes to Teacher
One day, double period

Materials
Textbook chapter on: "Measuring the Economy's Performance."

Teaching Strategies
I. It's the Economy:
Review homework given prior to this lesson, (Worksheet 11A, "It's the Economy"). As part of the introductory discussion to this lesson, have students explain their answers to the following:
— What were the answers you received to questions 1-6?
— What conclusions can we draw from the results of the survey you administered?
— What issues do the responses you received from this survey raise for discussion?

II. Economic Indicators:
• Divide the class into three groups. Distribute a different one of the following worksheets to each group:
• Worksheet 11B, "Leading Indicators"; 11C, "Coincident Indicators"; and 11D, "Lagging Indicators."
• Have students complete the exercises on the worksheets. Then have them explain their answers to the following.

    A. Leading Indicators:
    For the group that studied leading indicators:
    — What did you learn about leading indicators from the ones that you studied?
    — Why are the indicators you studied considered leading indicators?
    — Based on the current readings of the leading indicators you studied, in which direction is the economy going in the near future?

    B. Coincident Indicators:
    For the group that studied coincident indicators:
    — What did you learn about coincident indicators from the ones that you studied?
    — Why are the indicators you studied considered coincident indicators?
    — Based on the current readings of the coincident indicators you studied, how well is the economy doing at the present time?

C. Lagging Indicators

For the group that studied lagging indicators:
— What did you learn about lagging indicators from the ones that you studied?
— Why are the indicators you studied considered lagging indicators?
— Why do we study indicators that really show us where the economy has been in the recent past?

III. Whole-Class Discussion

As part of the whole-class discussion, have students explain their answers to the following:
— How reliable are these indicators as a whole?
— Give some reasons why sometimes the economy does not behave the way the indicators say it should.

Summary/Assessment

Review Worksheet 11E, "Constructing a Market Basket," which was distributed in Lesson 1 and due for Lesson 9. Have students complete the exercise on the worksheet as a follow-up homework assignment. After the assignment is completed, have students explain their answers to the following:
• What was the total amount of your market basket in your base "year"?
• By how much did your price index change from week one to week four?
• How can you explain the change?
• To what extent is the method you used a reliable method of calculating whether or not and by how much prices have changed? What are some of the shortcomings of using this method to determine the overall level of prices?

Homework

• Read materials in preparation for Lesson 12.
• Assign questions for homework.
• Complete Worksheet 11A before next lesson.

Worksheet 11A

It's the Economy

Exercise. *Ask five adults to answer all of these questions:*

1. How well would you say the U.S. economy is doing at the present time?

   a) great
   b) good
   c) fair
   d) poor

2. Give two examples that you can point to that would support the answer you gave in Question 1.

   _____

   _____

3. How important are each of the following in determining how well the economy is doing?

   The direction in which the stock market is going.
      a) very important
      b) somewhat important
      c) of little importance
      d) not important

   The number of people unemployed.
      a) very important
      b) somewhat important
      c) of little importance
      d) not important

   The amount of goods and services produced in a given period of time.
      a) very important
      b) somewhat important
      c) of little importance
      d) not important

4. Of the three factors mentioned in Question 3 above, which is most important in determining how well the economy is doing?

      a) the Stock Market averages
      b) the number of people unemployed
      c) the amount of goods and services produced in a given period of time

Worksheet 11B

Leading Indicators

Leading indicators measure aspects of the economy that tend to go up before expansions and down before recessions.

Exercise. Read the worksheet below and access the listed links online. Then answer the following questions in your notebook:

- What do the two indicators on this page measure?
- Why are these indicators considered important in judging the health of the economy?
- Do the most recent measures of these indicators tell us that the economy is healthy or unhealthy? Explain.

S&P 500 STOCK INDEX

Definition: One of several indices designed to measure changes in price of a broad array of stocks.

Source: Compiled by Standard & Poor's. Available in most major newspapers and several online market information sources.

Frequency: Daily through newspapers; instantaneous through online information sources.

Reason: The stock market is one measure of the current value of the nation's stock of capital and is often viewed as a barometer of business and consumer confidence regarding the future. A high and/or rising stock market may signal robust growth of business investment and consumer spending in the near future, while a low and/or falling stock market may signal sluggish spending. For this reason, the S&P 500 is one component of the Index of Leading Indicators.

View Chart: http://www.newyorkfed.org/rmaghome/dirchrts/pi_5.pdf

M 2

Definition: One measure of the nation's supply of money, defined as M1 (currency in circulation, demand deposits, travelers' checks, and other checkable deposits) plus non-institutional money market funds and small time and savings deposits.

Source: Board of Governors of the Federal Reserve System

Frequency: Weekly and monthly.

Availability: H.6 report. Weekly data released each Thursday afternoon after 4:30 p.m. Monthly data released in either the second or third week of the month.

Reason: While the strength of the relationship has weakened over time, many people believe there is a link
between growth of the supply of money and growth of nominal GDP.

View Chart: http://www.newyorkfed.org/rmaghome/dirchrts/pi_1.pdf

Worksheet 11C

Coincident Indicators

Coincident indicators measure how well the economy is doing at the present time. Economists use these indicators to help determine us to determine the phase of the business cycle we are in.

Exercise. Read the worksheet below and access the listed links online. Then answer the following questions in your notebook:

- What do the two indicators on this page measure?
- Why are these indicators considered important in judging the health of the economy?
- Do the most recent measures of these indicators tell us that the economy is healthy or unhealthy? Explain.

NONFARM PAYROLL EMPLOYMENT

Definition: An estimate of the number of payroll jobs at all nonfarm business establishments and government agencies. Information is also provided on the average number of hours worked per week and average hourly and weekly earnings.

Source: U.S. Department of Labor; Bureau of Labor Statistics

Frequency: Monthly

Availability: Usually the first Friday of the month for the immediately preceding month; occasionally released on the second Friday.

Reason: Growth of employment and hours worked provide important information about the current and likely future pace of overall economic growth. Trends in average hourly earnings provide information about supply and demand conditions in labor markets, which may provide signals about the overall level of resource utilization in the economy.

View chart: http://www.newyorkfed.org/rmaghome/dirchrts/pi_8.pdf

INDUSTRIAL PRODUCTION / CAPACITY UTILIZATION

Definition: An index designed to measure changes in the level of output in the industrial sector of the economy. The index is grouped by both products (consumer goods, business equipment, intermediate goods, and materials) and industry (manufacturing, mining, and utilities).

Source: Board of Governors of the Federal Reserve System

Frequency: Monthly

Availability: Preliminary estimate released around the middle of the month for the immediately preceding month.

Reason: While the industrial sector of the economy represents only about 20 percent of GDP, because changes in GDP are heavily concentrated in the industrial sector changes in this index provide useful information on the current growth of GDP. The level of capacity utilization in the industrial sector provides information on the overall level of resource utilization in the economy, which may in turn provide information on the likely future course of inflation.

View chart: http://www.newyorkfed.org/rmaghome/dirchrts/pi_3.pdf

Worksheet 11D

Lagging Indicators

These measures of the economy are among the last to turn upward in a business expansion and the last to turn downward during a recession.

Exercise: Read the worksheet below and access the listed links online. Then answer the following questions in your notebook:

- What do the two indicators on this page measure?
- Why are these indicators considered important in judging the health of the economy?
- Do the most recent measures of these indicators tell us that the economy is healthy or unhealthy? Explain

INVENTORY-TO-SALES RATIO

Definition: The inventory to sales ratio looks at business investment in inventory in relation to monthly sales. The inventory to sales ratio is calculated by dividing inventory balances at the end of any month by total sales for the same month.

Source: U.S. Department of Commerce; Bureau of the Census

Frequency: Monthly

Availability: About six weeks from the end of a month; for example, data for June are reported in mid-August.

Reason: The inventory-to-sales ratio can serve as a quick and easy way to look at recent changes in inventory levels, since it uses monthly sales and inventory information. This ratio will help predict early cash flow problems related to a business's inventory. When the ratio begins to get lower after a recession it is generally good news for the economy because it means that items are being sold almost as soon as they are on the shelves. In an economic down turn items stay on the shelf (in inventory), rather than being sold, for a relatively longer period of time. Very often the economy turns up before the inventory to sales ratio starts going down and the economy turns down before the ratio begins to go up. Thus, it is called a lagging indicator.

View chart: http://www.marketvector.com/leading-indicator/inventory-to-sales.htm

CONSUMER PRICE INDEX (CPI)

Definition: An index designed to measure the change in price of a fixed market basket of goods and services. The market basket of goods and services is representative of the purchases of a typical urban consumer. The index is intended to measure pure price change only; attempts are made to remove changes in price resulting from changes in quality.

Source: U.S. Department of Labor; Bureau of Labor Statistics

Frequency: Monthly

Availability: Generally available the second week of the month immediately following the month for which data is being released; always released after the Producer Price Index.

Reason: The rate of change of the CPI is one of the key measures of inflation for the U.S. economy. Acceleration or deceleration of inflation may signal that a change in monetary policy may be appropriate.

View chart: http://www.newyorkfed.org/rmaghome/dirchrts/pi_7.pdf

Worksheet 11E

Constructing a Market Basket

Exercise. *In this exercise you will learn about how one of the most important indicators, the Consumer Price Index is compiled. For this exercise you will need the following tools:*

• *notebook*

• *pencil*

• *calculator*

Follow the procedures below:

• Survey 10 students to see what kinds of food their families eat the most.

• Based on the survey, identify the five categories of food (e.g., bread, meat, pasta, etc.) that are purchased most often.

• Go to a local supermarket. Identify three specific brands of the same size within each of the five food categories (e.g., one pound of X's, one pound of Y's, and one pound of Z's butter).

• Price each specific item on a per week basis for one month. You must price the same products in the same supermarket on the same day each week.

• After the first week add up the total amount in prices of the 15 items in your market basket. Use this number to serve as your base "year."

• After visiting the supermarket at the end of weeks two, three, and four, total the amount of your market basket again, and compare the totals to that of your base "year."

• Construct a price index by following these instructions:

— List your market basket content. (Include brand names and quantities.)

— Give week one, your base "year," a value of 100.

— Calculate index numbers for weeks 2, 3, and 4 by dividing the total amount for the 15 items for each week by the total of the 15 items for the first week.

• To calculate the percentage change for weeks 2, 3, and 4, subtract 100 from the index number for each week. For example, if the total amount of the 15 items for the first week totaled $75 and the total for the second week was $90, then the index number for the second week was $90/$75 = 1.2 x 100 = 120. The percentage change in prices from week one to week two is 120 (index number for the second week) – 100 (index number from the first week) = 20%.