Session 8:

Macroeconomic Indicators: GDP, CPI, and the **Unemployment Rate**

Session Description

Students will learn that macroeconomics is concerned primarily with data used to analyze the country's economic health. The session shows how data are used and what some specific data measure. Students will use basic math skills to analyze data.

Standards and Benchmarks (see page 8.12)

Talking Points

Macroeconomic Indicators: GDP, CPI, and the Unemployment Rate

1. Economic growth is measured by the percentage change in real gross domestic product (GDP).

2. A percentage change is calculated by dividing the change in the value of a variable by its initial or starting value.

3. GDP is the total market value of all final goods and services produced within the borders of a country in a given year.

4. GDP is typically measured by adding together the spending of four sectors: household (C, consumption expenditures), business (I, gross investment expenditures, including new home construction), government (G, federal/state/local government expenditures), and foreign (Net exports [NX] = Exports minus imports).

5. GDP does not include financial transactions, transfers, secondhand sales, non-market goods and services, or the production of illegal goods.

6. Nominal GDP = GDP not adjusted for inflation.

7. Real GDP = nominal GDP adjusted for inflation.

8. Real GDP per capita = Real GDP divided by the population of the country.

9. A price index is based on the cost of a particular basket of goods and services in a base year.

10. The consumer price index (CPI) is based on a basket of goods and services purchased by typical consumers. The current standard reference base is 1982-84 = 100.

11. Inflation is measured by the percentage change in some price index (usually the CPI).

12. The rate of unemployment is defined as the percentage of the civilian labor force that is actively seeking a job but is unable to find one (i.e., unemployed).

13. The civilian labor force of the United States is defined as non-institutionalized individuals 16 years old or older who are working or actively seeking employment.

14. A person is considered unemployed if he or she is a member of the labor force but earned no wage or salary income from a job and is actively seeing work.

Macroeconomic Goals

1. Societies have broad social goals. Included among these are the following:
    - Economic growth
    - Economic stability
    - Economic equity
    - Economic efficiency

2. Economic growth refers to a sustained rise over time in a nation's production of goods and services. Economic growth is measured by changes in the level of GDP.

3. Economic stability is a two-part goal that includes both price stability and employment stability, which are measured by employment and unemployment statistics and with price indices such as the CPI.

4. Economic equity refers to a more-equal distribution of goods and services to citizens.

5. Economic freedom refers to the ability of people in the society to decide the following: How to earn income, how to save and spend income, whether and when to change jobs, and whether to open a business or to close an existing business.

6. Economic efficiency refers to not wasting scarce resources—that is, people produce the goods and services that people want the most and economize the use of resources in the production of goods and services.

7. Updated data for GDP, CPI, and the unemployment rate can be found at https://fredaccount.stlouisfed.org/public/dashboard/47481.

Economic Growth and Stability

1. Economic growth is a sustained increase in a country's output of goods and services.

2. GDP measures a country's output of goods and services.
   - Nominal GDP is the market value of all final goods and services produced in a country in a year.
   - Real GDP is the market value of all final goods and services produced within a country over a given period of time valued in a base year. That is, Real GDP = Nominal GDP adjusted for inflation.
     - Market value is the current price of a good or service.
     - Final goods and services are those that are for consumers. For example, tires that people buy to replace the tires on their cars are final goods, and they are counted as part of GDP. When Ford buys tires to place on new cars, the tires are not final goods, the car is. So, the tires are not counted separately as part of GDP. The car is counted as part of GDP.
     - "Produced in a given country" means only goods and services produced within that country's borders. For example, cars produced by Toyota in a plant in Kentucky are counted as part of US GDP. However, cars produced by Ford in Slovakia are not counted as part of US GDP.

3. The components of GDP are consumer spending (C), investment spending (I), government spending (G), and net exports (NX; exports minus imports).

Inflation

1. The goal of economic stability has two parts: stable prices and stable employment.

2. Stable prices refer to a low and stable rate of inflation.

3. Inflation is a sustained increase in the average price level. In general, if the price level rises and incomes do not rise as quickly, the purchasing power of our money decreases.

4. Deflation is a sustained decrease in the average price level.

5. The most common/reported measure of inflation is the CPI. CPI is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.

6. The CPI represents changes in prices of all goods and services purchased for consumption by urban households. User fees such as water and sewer service and sales and excise taxes paid by consumers are also included. Income taxes and investment items, such as stocks, bonds, and life insurance, are not included.

7. Prices for the goods and services used to calculate the CPI are collected in 87 urban areas throughout the country and from about 23,000 retail and service establishments. The data on rents are collected from about 50,000 landlords or tenants.

8. The weight given to an item in the CPI is derived from reported expenditures on that item as estimated by the Consumer Expenditure Survey.

Unemployment

1. The second part of the economic stability goal is stable employment. A common measure used is the unemployment rate. People are counted as unemployed if they are 16 years old or older, not currently employed, and actively seeking a job.

2. The unemployment rate is the percentage of the labor force that is willing and able to work, does not currently have a job, and is actively looking for employment. The labor force includes those who are employed and those who are unemployed—as defined above.

3. Stable employment does not mean zero unemployment.

4. The "natural" rate of unemployment (the lowest rate that does not trigger inflation) is the sum of frictional and structural employment (around 5 to 7% for the United States).

5. The economy is considered to be at "full employment" when the unemployment rate is around 5 to 7%.

6. There are four types of unemployment:
   - Frictional unemployment is short-term unemployment associated with normal turnover in the labor market, such as people changing jobs or entering the labor force for the first time.
   - Structural unemployment is unemployment caused by changes in the economy that result in a mismatch between the skills and/or the location of those looking for work and the requirements for and/or locations of available job openings.
   - Cyclical unemployment is unemployment caused by fluctuations in the overall rate of economic activity. Cyclical unemployment occurs when there's a downturn in the economy (recession).
   - Seasonal unemployment is unemployment caused by a change in season or time of year.

Resources

NOTE: See p. v for instructions on how to set up an Econ Lowdown account and assign resources found in the Resource Gallery to your students.

Online Modules

Allow time for students to complete the modules:

- Demand (60:00)
  https://www.econlowdown.org/resource-gallery/demand
- Great Inflation (120:00)
  https://www.econlowdown.org/resource-gallery/great_inflation
- The Story of Unemployment (90:00)
  https://www.econlowdown.org/resource-gallery/story_of_unemployment
- Consequences of Unemployment (15:00)
  https://www.econlowdown.org/resource-gallery/consequences_of_unemployment
- Education vs. Unemployment (15:00)
  https://www.econlowdown.org/resource-gallery/education_vs_unemployment
- Measuring Unemployment (40:00)
  https://www.econlowdown.org/resource-gallery/measuring_unemployment
- Types of Unemployment (30:00)
  https://www.econlowdown.org/resource-gallery/types_of_unemployment

Video Q&A

Allow time for students to view the videos and answer the questions:

- GDP and Pizza Video Series
  - The Definition of GDP (5:00)
    https://www.econlowdown.org/resource-gallery/gdp-and-pizza-video-series-definition-of-gdp
  - The Components of GDP (10:00)
    https://www.econlowdown.org/resource-gallery/gdp-and-pizza-video-series-the-compo-nents-of-gdp
  - Measuring Exports and Imports in GDP (10:00)
    https://www.econlowdown.org/resource-gallery/gdp-and-pizza-video-series-measuring-exports-and-imports-in-gdp

  - Per Capita GDP (5:00)
    https://www.econlowdown.org/resource-gallery/gdp-and-pizza-video-series-per-capita-gdp
  - Real vs. Nominal GDP (10:00)
    https://www.econlowdown.org/resource-gallery/gdp-and-pizza-video-series-real-versus-nominal-gdp

- Economic Lowdown Video Series—Gross Domestic Product (10:00)
  https://www.stlouisfed.org/education/economic-lowdown-video-series/episode-7-gross-domestic-product

- Economic Lowdown Video Series—Inflation (15:00)
  https://www.econlowdown.org/resource-gallery/economic-lowdown-episode-9-inflation

- Economic Lowdown Video Series—Unemployment (10:00)
  https://www.econlowdown.org/resource-gallery/economic-lowdown-episode-10-unemployment

Audio Q&A

Allow time for students to listen to the podcasts and answer the questions:

- Economic Lowdown Audio Series—Inflation (15:00)
  https://www.econlowdown.org/resource-gallery/economic-lowdown-audio-series-episode-4-inflation

- Economic Lowdown Audio Series—Unemployment (15:00)
  https://www.econlowdown.org/resource-gallery/economic-lowdown-audio-series-episode-5-unemployment

- Economic Lowdown Audio Series—Gross Domestic Product (15:00)
  https://www.econlowdown.org/resource-gallery/economic-lowdown-audio-series-episode-13-gross-domestic-product-gdp

Reading Q&A

Allow time for students to read the essay and answer the questions:

- *Page One Economics*®—Making Sense of Unemployment Data
  https://www.econlowdown.org/resource-gallery/making-sense-of-unemployment-data

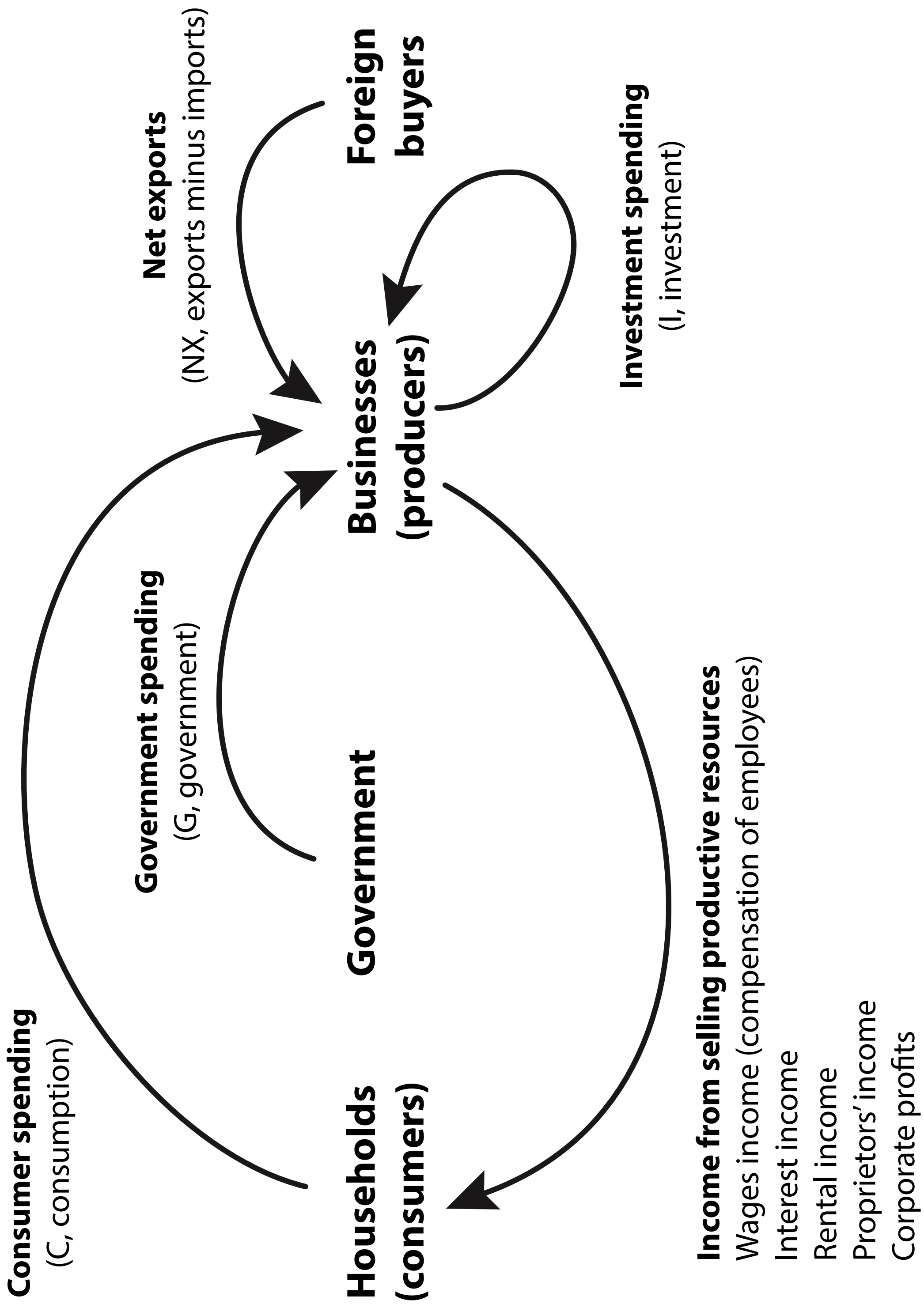
Lessons

Allow time for students to complete the lessons:

- The GDP Expenditures Equation: What Is GDP and How Do We Measure It?
  https://www.stlouisfed.org/education/gdp-expenditures-equation
  - Visual 8A: GDP Expenditure Flows (see p. 8.8 in this session) (may be used with the above lesson if desired)

- Visual 8B: Unemployment (see p. 8.9 in this session)
- Handout 8B: Types of Unemployment (see p. 8.10 in this session)
    - Handout 8B: Types of Unemployment—Answer Key (see p. 8.11 in this session)
- *High School Economics,* 3rd Edition (email acee@economicsarkansas.org to order this book)
    - Lesson 17: Inflation
      Visuals and activities for this lesson can be found at
      https://highschooleconomics.councilforeconed.org/
    - Lesson 18: Unemployment Survey
      Visuals and activities for this lesson can be found at
      https://highschooleconomics.councilforeconed.org/
    - Lesson 20: Explaining Short-Run Economic Fluctuations
      Visuals and activities for this lesson can be found at
      https://highschooleconomics.councilforeconed.org/
- *The Great Depression: A Curriculum for High School Students*
    - Lesson 1: Measuring the Great Depression
      http://www.stlouisfed.org/education/great-depression-curriculum-unit
      NOTE: This lesson provides an introduction to GDP, unemployment, and CPI.
- Teaching About Money, Spending, and Inflation Using a Classroom Inflation Auction
  https://www.stlouisfed.org/education/classroom-inflation-auction
- How Do We Measure Unemployment?
  https://www.stlouisfed.org/education/how-do-we-measure-unemployment
- FRED® Activities for AP Macro
    - Activity 3: Measures of Inflation
      https://www.stlouisfed.org/education/fred-activities-ap-macro
    - Activity 9e: Unemployment and Labor Force Participation
      https://www.stlouisfed.org/education/fred-activities-ap-macro

GDP Expenditure Flows



Visual 8B: Unemployment

Unemployment—A condition where people at least 16 years old are not currently employed but are actively seeking a job.

Natural rate of unemployment—The rate of unemployment that denotes full employment of resources such that unemployment is at its "optimal" level (debated to be between 5 and 7%).

Four types of unemployment

- ***Frictional unemployment***—The "good" unemployment: short-term unemployment associated with normal turnover in the labor market, such as new entrants into the workforce and people changing jobs.
- ***Structural unemployment***—Job loss due to changes in the business structure (e.g., the introduction of new technologies or a change in the location of manufacturing).
- ***Cyclical unemployment***—Job loss due to a downturn in the business cycle (e.g., caused by a recession or natural disaster).
- ***Seasonal unemployment***—Job loss due to a change in the season/time of year (e.g., after the Christmas shopping season or summer vacation season).

Bureau of Labor Statistics (BLS) estimates and notation

- Employment (E)
- Unemployment (U)
- Population (POP)
- Labor force = E + U
- Labor force participation rate = (E + U)/Adult POP
- Not in labor force = Adult POP – (E + U)
- Unemployment rate = (U/(E + U)) × 100

Handout 8A: Types of Unemployment

Directions: Identify the type of unemployment each scenario below.

Structural = S   Cyclical = C   Frictional = F

________ 1. A computer programmer moves to Mexico City and temporarily cannot find a job that complements her family responsibilities.

________ 2. A steelworker is laid off because of a long recession.

________ 3. A clerical worker trained 30 years ago cannot find work in modern offices that require computer skills.

________ 4. A store clerk loses her job because retail sales are slow due to high unemployment and consumers' fears of eroding family budgets.

________ 5. A high school dropout applies for several jobs but is told each time that he is not qualified.

________ 6. An unemployed college senior is looking for her first job.

________ 7. Robotics replace 30% of assembly line autoworkers, whose skills are not readily transferable to other industries.

________ 8. An unemployed person rejects a job offer because the wage is too low.

________ 9. The banking sector of the economy lays off 20% of its workforce because of the global financial crisis.

________ 10. A prolonged rainy season prevents agricultural workers from beginning their harvesting at the usual time.

Handout 8A: Types of Unemployment—Answer Key

Directions: Identify the type of unemployment each scenario below.

Structural = S   Cyclical = C   Frictional = F

__ **F** __ 1. A computer programmer moves to Mexico City and temporarily cannot find a job that complements her family responsibilities.

__ **C** __ 2. A steelworker is laid off because of a long recession.

__ **S** __ 3. A clerical worker trained 30 years ago cannot find work in modern offices that require computer skills.

__ **C** __ 4. A store clerk loses her job because retail sales are slow due to high unemployment and consumers' fears of eroding family budgets.

__ **S** __ 5. A high school dropout applies for several jobs but is told each time that he is not qualified.

__ **F** __ 6. An unemployed college senior is looking for her first job.

__ **S** __ 7. Robotics replace 30% of assembly line autoworkers, whose skills are not readily transferable to other industries.

__ **F** __ 8. An unemployed person rejects a job offer because the wage is too low.

__ **C** __ 9. The banking sector of the economy lays off 20% of its workforce because of the global financial crisis.

__ **F** __ 10. A prolonged rainy season prevents agricultural workers from beginning their harvesting at the usual time.

Standards and Benchmarks

Arkansas Economic Standards

Content Standard E.1: Students will understand the impact of economic decision-making. This includes the exchange of goods and services; role of producers, consumers, and government in the marketplace; and growth, stability, and interdependence within a global economy.

Content Standard E.4: Students will understand the growth, stability, and interdependence within a national economy. This includes the current and future state of the economy using economic indicators and monetary and fiscal policies for a variety of economic conditions.

- **E.4.ECON.1:** Evaluate the roles of scarcity, incentives, trade-offs, and opportunity costs in decision making (e.g., PACED decision making model, cost/benefit analysis)
- **E.4.ECON.2:** Identify various causes and impacts of inflation, deflation, and stagflation, including the role of federal fiscal policies.
- **E.4.ECON.3:** Evaluate the impact of advancements in technology, investments in capital goods, and increases in human capital on economic growth and standards of living.