



MACROECONOMICS UNIT 2

Economic Indicators



BIG PICTURE IDEAS

- Economists measure the health of the economy by looking at key economic indicators like gross domestic product (GDP), the **unemployment** rate, and the **consumer** price index, which measures inflation.
- The circular flow model shows how households, businesses, and the **government** interact.
- Gross domestic product (GDP) is the dollar value of all **final** goods and services produced within a country in one **year**.
- There are three types of unemployment: frictional, **structural**, and cyclical. The economy is at full employment when there is no **cyclical** unemployment.
- Real** GDP is adjusted for inflation and expressed in constant, or unchanging, dollars. **Nominal** GDP is not adjusted for inflation.

■ Topic 2.1- The Circular Flow and GDP

- How does the expenditures approach measure GDP? **The expenditure approach adds up all the spending done in the economy by households, businesses, the government, and other countries.**
- How does the income approach measure GDP? **The income approach adds up all the income earned in the economy including wages, rent, interest, and profit.**

$$GDP = C + I + G + X - M$$

$$National\ Income = W + R + i + PR$$

- How does the value-added approach measure GDP? **The value-added approach calculates GDP by adding up the dollar value added at each stage of the production process.**
- Businesses sell goods and services to households in the **product** market and households sell resources to **businesses** in the resource market.
- Public goods and services are provided by the **government** and are funded by **taxes**.
- Identify an example of each of the following:

Consumer Spending	Investment Spending	Government Spending	Net Exports
A grandma buys a new sewing machine to sew at home	A business buys a new commercial-grade sewing machine to make products to sell	The government buys a new sewing machine for a 8th grade home economics class	A Canadian buys a sewing machine made in the US (exports for USA). An American buys thread made in Mexico (imports for USA)

■ Topic 2.2- Limitations of GDP

- Identify three types of transactions that are not included in GDP. Give an example of each. **1. Intermediate goods- GDP includes only final goods (price of finished car, not the radio or tires) 2. Non-production transactions or financial transactions. (eg: used goods, stocks, or real estate) 3. Non-market activities- (eg: illegal production or illegal labor)**

Identify if each statement is True or False.

- Services are not counted in the calculation of GDP because nothing new was produced. **False**
- Intermediate goods are used in the production process to produce final goods. **True**
- A new paint job on a used car is not counted in GDP. **False**
- Investment spending is spending on financial assets like stocks and bonds. **False**
- Subsidies to businesses are examples of transfer payments. **True**
- Transfer payments are not counted in the calculation of GDP. **True**
- The equation for net exports is imports minus exports. **False**
- New housing construction is considered investment and is counted in GDP. **True**
- Canada's GDP includes goods produced in other countries by Canadian companies. **False**
- Inventories, goods that have been produced by a business but have not yet been sold, are counted in GDP as investment. **True**



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■ Topic 2.3- Unemployment

18. For each example, identify if the person faces frictional, structural, or cyclical unemployment or if they are not counted in the labor force.

- Avery loses her job because of a recession and decides to stop looking for work
- Lindsey quits her part-time job at a restaurant to search for a full-time job
- David lost his job at a toy factory due to a national slowdown in production
- After graduating from college, James lacks the skills to fill any of the available jobs
- Daniel retires from being a lawyer and volunteers at a local museum full time

	Frictional	Structural	Cyclical	Not Counted
Avery loses her job because of a recession and decides to stop looking for work				✓
Lindsey quits her part-time job at a restaurant to search for a full-time job	✓			
David lost his job at a toy factory due to a national slowdown in production			✓	
After graduating from college, James lacks the skills to fill any of the available jobs		✓		
Daniel retires from being a lawyer and volunteers at a local museum full time				✓

Use the info in the chart to identify the following. Show your work.

Total Adult Population	1600
Full-time Workers	600
Part-time Workers	120
Unemployed	80
Discouraged Workers	20

- 19. Number of workers in the labor force. $800 = 600 + 120 + 80$
- 20. Labor force participation rate. $50\% = 800 / 1600 \times 100$
- 21. What is the equation for calculating the unemployment rate?
 $(\text{Number of Unemployed People} / \text{Labor Force}) \times 100$
- 22. Calculate the unemployment rate. $10\% = 80 / 800 \times 100$
- 23. Assume that 50 of the 80 unemployed workers also become discouraged workers. Calculate the new unemployment rate.
 $4\% = 30 / 750 \times 100$
- 24. Why are discouraged workers not included in the unemployment rate? **The unemployment rate includes workers with jobs or actively looking for work. Individuals that are not looking for work are not part of the labor force**

- 25. Assume an economy saw an increase in discouraged workers. Does the unemployment rate overstate or understate the actual level of joblessness in the economy? Explain. **The unemployment rate would understate the level of joblessness. The unemployment rate would fall because people left the labor force, but there would still be many people without a job.**
- 26. What happens to the unemployment rate when full-time workers involuntarily become part-time workers? Explain. **The unemployment rate stays the same. The unemployment rate makes no distinction between full-time or part-time workers**
- 27. What is the natural rate of unemployment (NRU)? **The NRU is the amount of unemployment that exists when the economy is healthy. It includes both frictional and structural unemployment, but NOT cyclical unemployment**
- 28. Fully explain why "full employment" does not mean 0% unemployment. **A healthy economy will always have some frictional and structural unemployment. The economy is at full employment when it only has these two types of unemployment and no cyclical unemployment**

■ Topic 2.4- Price Indices and Inflation

- 29. Identify the equation for the CPI
 $(\text{Cost of current basket} / \text{Cost of basket in base year}) \times 100$
- 30. Fill in the chart. Start with 2020 as the base year then recalculate with 2021 as the base year.

Year	Market Basket	CPI: Base Year 2020	CPI: Base Year 2021
2020	\$20	100	50
2021	\$40	200	100
2022	\$50	250	125
2023	\$30	150	75

- 31. If the CPI for a given year is 200 then the change in prices between that year and the base year is **100 %**.
- 32. If the CPI for a given year is 90 then the change in prices between that year and the base year is **-10%**.
- 33. Assume the value of a market basket for a given year is \$220 and the same basket in the base year is \$200. Calculate the CPI.
 $110 = (220 / 200) \times 100$
- 34. Assume the CPI is 120 and the current value of the market basket is \$600. What is the dollar value of the same basket using base year prices?
 $\$500 = (600 / 120) \times 100$
- 35. Assume the CPI is 140 and the value of a market basket adjusted for inflation is \$200. What is the dollar value of the basket in current prices?
 $\$280 = (200 \times 140) / 100$



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■ Topic 2.4- Price Indices and Inflation (continued)

36. What is the difference between the CPI and the GDP Deflator? **The CPI measures prices of a fixed basket of consumer goods. The deflator is an index number that measures all prices and is used to convert nominal GDP into real GDP.**
37. Identify the equation for the GDP deflator. **$(\text{Nominal GDP} / \text{Real GDP}) \times 100$**
38. The nominal GDP is \$100 billion and the real GDP is \$80 billion. Calculate the GDP deflator.
 $125 = (100 \text{ billion} / 80 \text{ billion}) \times 100$
39. The Real GDP is \$100 billion and the GDP deflator is 200. Calculate the nominal GDP.
 $\$200 \text{ billion} = \$100 \text{ billion} \times (200 / 100)$
40. The real GDP is \$200 billion and the GDP deflator is 120. Calculate the nominal GDP.
 $\$240 \text{ billion} = \$200 \text{ billion} \times (120 / 100)$
41. The nominal GDP is \$300 billion and the GDP deflator is 150. Calculate the real GDP.
 $\$200 \text{ billion} = \$300 \text{ billion} / (150 / 100)$
42. The nominal GDP is \$100 billion and the GDP deflator is 125. Calculate the real GDP.
 $\$80 \text{ billion} = \$100 \text{ billion} / (125 / 100)$

■ Topic 2.5- Costs of Inflation

43. Identify who is hurt and who is helped by unexpected inflation.
Savers and lenders (that lend at fixed interest rates) are hurt and borrowers are helped.
- Identify if the following are helped or hurt by unexpected inflation.
44. A tenant who pays \$1850 for rent each month. **Helped**
45. An elderly couple living off fixed income. **Hurt**

■ Topic 2.6- Real v. Nominal GDP

46. Nominal GDP is measured in current prices and does not account for **inflation** whereas **Real** GDP is expressed in constant, or unchanging, dollars.

True or False:

47. Real GDP must increase when the Nominal GDP increases. **False**
48. Nominal GDP is always greater than the Real GDP. **False**

Use the table with data for Country X to calculate the following for 2023. Show your work.

49. Real GDP. **$\$2500 = (\$3000 \times 100) / 120$**
50. Real GDP per capita. **$\$25 \text{ per capita} = \$2500 / 100$**

Year	Nominal GDP	GDP Deflator	Population
2022	\$2000	100	50
2023	\$3000	120	100

51. Based solely on the data, has the average standard of living for a person living in Country X increased or decreased? Explain. **Standard of living decreased. The real GDP per capita fell from \$40 to \$25. Even though real GDP increased, people are worse off.**

■ Topic 2.7- Business Cycles

Use the letters on the graph to identify the following:

52. Peak **A**
53. Potential GDP **C**
54. Recession (contraction) **E**
55. Trough **B**
56. Expansion **D**

Use the graph to identify if each statement is True or False.

57. At C the economy is at full employment. **True**
58. When the economy is at point A there is only frictional unemployment. **False**
59. When the economy is at point B there is only cyclical unemployment. **False**
60. Unemployment decreases when the economy moves from E to D. **True**
61. At C the economy has 0% unemployment. **False**

