Achievable

AP MACROECONOMICS DUMP SHEET

Unit 2: Economic indicators and the business cycle

Gross domestic product

$$Y = C + I + G + NX, \quad NX = X - M$$

- **GDP:** value of final goods and services produced within a country's borders in a period
- **Income = spending = production**
- **Investment** I: business capital and inventories, plus new houses
- **Not counted:** intermediate and used goods, stocks and bonds, non-market work (household, volunteer, black market), transfer payments
- **Factor payments:** wages (labor), interest (capital), rents (resources), profits

Real vs nominal GDP

$$\text{GDP deflator} = \frac{\text{nominal GDP}}{\text{real GDP}} \times 100$$

- **Nominal:** current prices. **Real:** base-year prices
- Base year: real = nominal, deflator = 100
- After the base year, with rising prices: nominal > real
- Real GDP = nominal GDP ÷ deflator × 100

Unemployment

$$\text{Unemployment rate} = \frac{\text{unemployed}}{\text{labor force}} \times 100$$

$$\text{Participation rate} = \frac{\text{labor force}}{\text{civilian non-institutional population}} \times 100$$

- **Labor force** = employed + unemployed (no job and looking)
- **Outside it:** no job and not looking, such as students and discouraged workers
- **Frictional:** between jobs. **Structural:** skill or location mismatch. **Cyclical:** the business cycle
- **Natural rate** = frictional + structural; full employment means unemployment at this rate

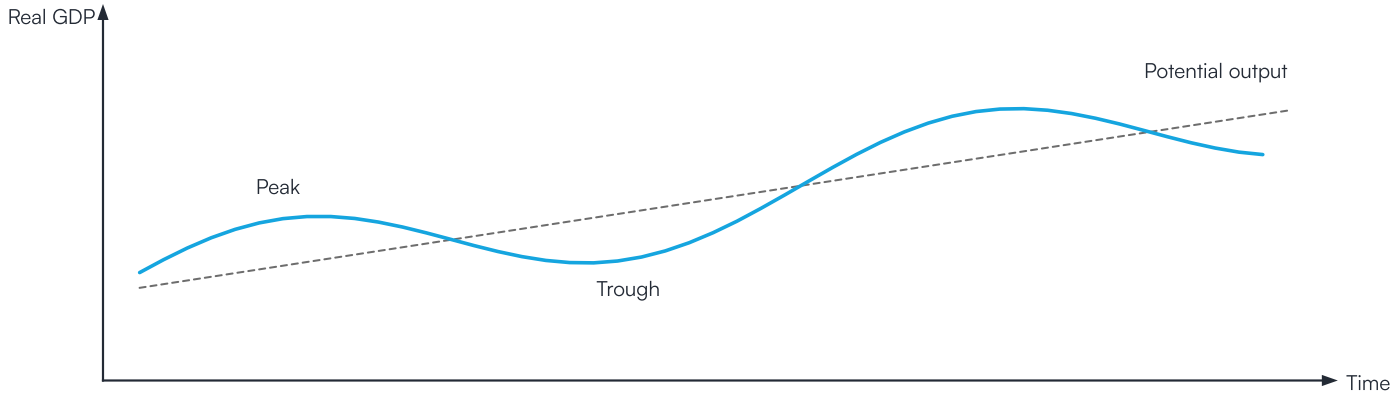
Inflation and price indices

$$\text{Inflation rate} = \frac{\text{new index} - \text{old index}}{\text{old index}} \times 100$$

$$\text{Amount in year 1 \$} = \text{year 2 amount} \times \frac{\text{year 1 index}}{\text{year 2 index}}$$

- **Disinflation:** inflation slows, prices still rise. **Deflation:** prices fall
- **CPI:** fixed consumer basket, imports included. **Substitution bias** makes it overstate inflation
- **Deflator:** all domestic output, imports excluded
- **Real wage** = nominal wage ÷ price index × 100
- **Unexpected inflation:** borrowers gain, lenders and savers lose

Business cycle



- **Expansion:** GDP ↑, unemployment ↓
- **Peak:** low unemployment, rising inflation
- **Contraction (recession):** GDP ↓, cyclical unemployment ↑
- **Trough:** lowest GDP, highest unemployment
- **Output gap** = real GDP − potential. **As a percentage:** divide by potential, × 100. Negative: recessionary. Positive: inflationary