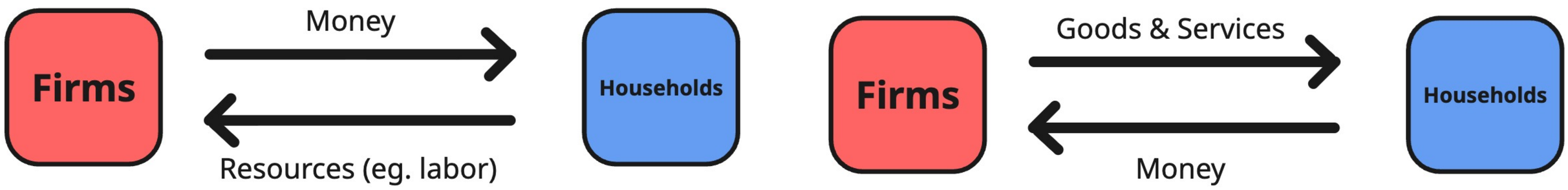
The Ultimate Unit 2 Cheat Sheet

Everything you need to know about GDP, inflation, unemployment, and the business cycle

Circular Flow & GDP

Circular Flow Model: shows how money, resources, and goods and services move throughout and economy



Gross Domestic Product (GDP): The total monetary value of all ***final goods and services*** produced ***within a country's borders*** in a given year.

Expenditure Approach: calculating GDP by adding up all spending by households, businesses, government, and the external sector. $GDP = C + I + G + NX$

(C: Consumption spending (households), I: Invesment spending (firms), G: government spending (government), NX: Net exports (exports - imports)

Income Approach: calculating GDP by adding up all income earned in production. $GDP = W + I + R + P$

(W: wages, I: interest, R: rent, P: profit)

Tip: both approaches will give roughly the same result, as one person's spending is another person's income (expenditure approach is MORE common on the AP exam!)

Unemployment

To be **unemployed** means that one is looking for work, but unable to find a job

Working Age Population: the segment of a country's population that is considered capable of participating in the labor force

Labor Force: all employed and unemployed people available to work. ***(Labor Force = employed + unemployed)***

Labor Force Participation Rate (LFPR): percentage of the working-age population that is part of the labor force. ***(LFPR = Labor Force / Working Age Population)***

Unemployment Rate: percentage of the labor force that is unemployed. ***(UE Rate = Unemployed / Labor Force)***

Frictional Unemployment	a temporary type of unemployment that occurs when workers are between jobs or searching for better opportunites
Structural Unemployment	Unemployment caused by changes in the economy that make some skills obsolete.
Cyclical Unemployment	Unemployment caused by downturns in the business cycle, like a recession
Natural Rate of Unemployment	The unemployment rate when the economy is healthy ***(NRU = Frictional Unemployment + Structural Unemployment)***

Discouraged Workers: individuals who have given up looking for work and dropped out of the labor force
(Note: not considered unemployed; an increase in discouraged workers decreases the unemployment rate**)**

CPI & Inflation

Inflation: a sustained increase in the general price level

Deflation: a sustained decrease in the general price level

Disinflation: A decrease in the rate of inflation; prices still rise but more slowly.

Two Price Indexes

Consumer Price Index (CPI)
measures changes in the prices paid by ***consumers*** for a ***market basket*** of goods and services.

GDP Deflator
measures inflation across the ***entire economy*** by comparing Nominal and Real GDP

$$CPI = \frac{\text{Market Basket Price (Current Year)}}{\text{Market Basket Price (Base Year)}} \times 100$$

$$\text{Inflation Rate Formula} = \frac{\text{(New CPI - Old CPI)}}{\text{Old CPI}} \times 100$$

Context: Lenders set the nominal interest based on their desired real interest rate and the expected inflation rate.

↳ Nominal Interest Rate = Desired Real Interest Rate + Expected Inflation

Context: When the actual inflation rate is different than the expected inflation rates, there are winners and losers

↳ Real Interest Rate = Nominal Interest Rate - Actual Inflation

When **actual inflation > expected inflation**, borrowers win and lenders lose because the RIR is lower than expected

When **actual inflation < expected inflation**, lenders win and borrowers lose because the RIR is higher than expected

Nominal v. Real Variables

Nominal Variable: measured in current dollars; not adjusted for inflation.

Real Variable: adjusted for inflation to measure actual purchasing power (wages, interest rates) or physical volume (GDP)

If a bank charges a 6% nominal interest but there is 2% inflation, they earn a real interest rate of 4%

If a worker's nominal wage increases by 10%, but there is 4% inflation, their real wages only increases by 6%

Real v Nominal GDP

Nominal GDP: the total value of all final goods and services produced within a country's borders, calculated using ***current market prices*** without adjusting for inflation

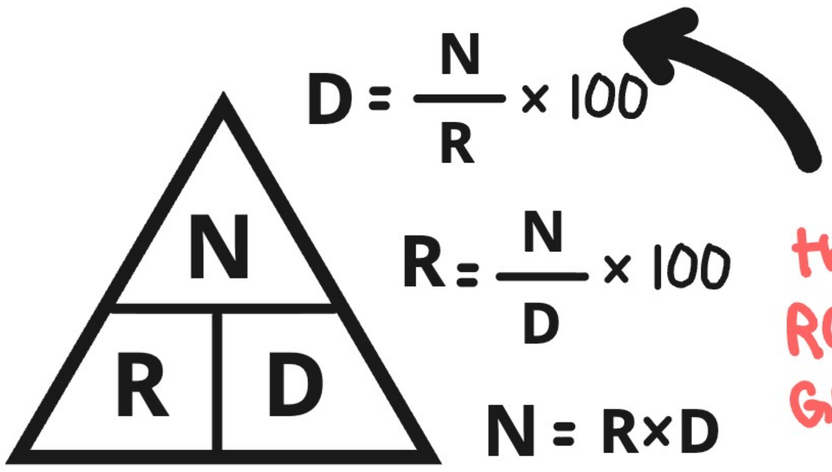
Real GDP: the total value of all final goods and services produced within a country's borders, calculated using price from ***base year*** to adjust for inflation

GDP Deflator: an economic metric that measures inflation by comparing nominal GDP and real GDP

$$\text{Nominal GDP} = \text{Current Output} \times \text{Current Prices}$$

$$\text{Real GDP} = \text{Current Output} \times \text{Base Year Prices}$$

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$



$D = \frac{N}{R} \times 100$

$R = \frac{N}{D} \times 100$

$N = R \times D$

remember this trick to calculate RGDP, NGDP, and the GDP Deflator

N: Nominal GDP
R: Real GDP
D: GDP Deflator

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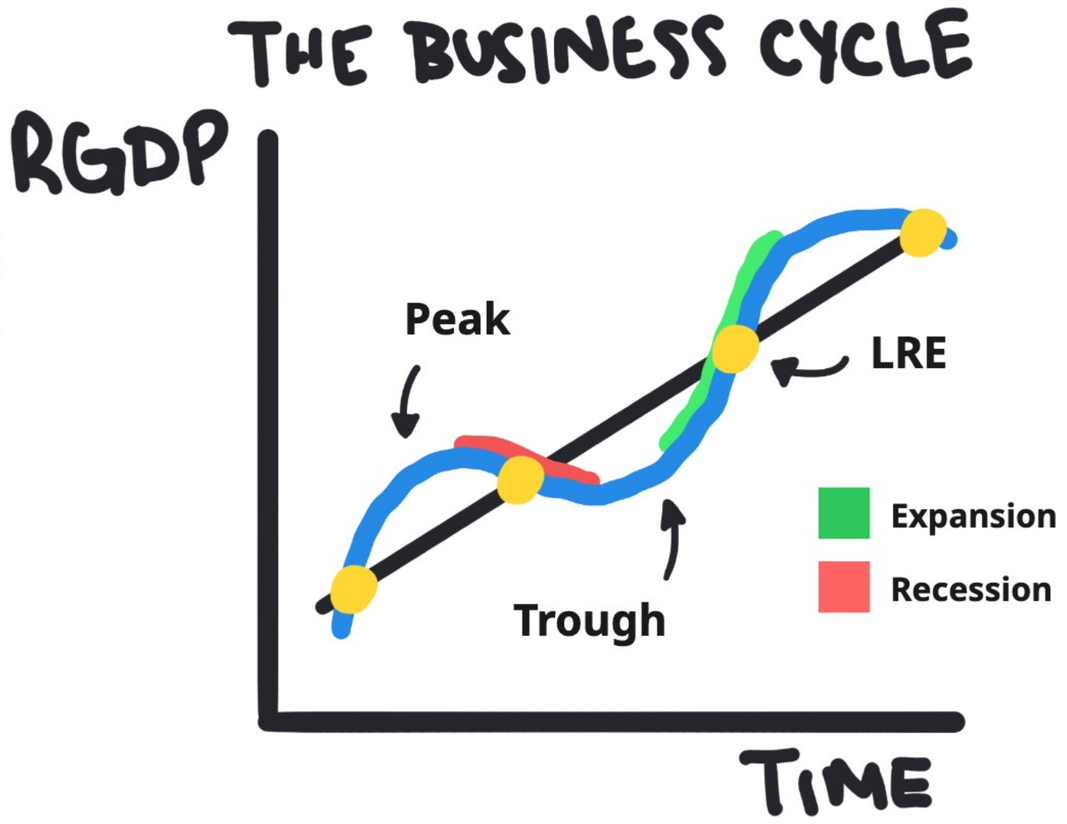

Knowledge Check

Check your answers at apdojo.com/ultimateCramSheet/answer-keys

Total Population	800
Working Age Population	600
Employed	350
Unemployed	50
Discouraged Workers	20

Year	Nominal GDP	GDP Deflator
1982	$20,000	80
1983	$25,000	100
1984	$35,000	130
1985	$40,000	135
1986	$48,000	145

	Year 1		Year 2	
	Price	**Quantity**	**Price**	**Quantity**
Mangoes	$5	120	$8	140
Oranges	$4	80	$5	90

Country X Expenditures	
Consumption	270
Taxes	80
Private Investment	65
Government Spending	100
Transfer Payments	30
Exports	60
Imports	30

a. Calculate Country A's unemployment rate and labor force participation rate

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b. Which year was Country B's real GDP the highest?

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c. Calculate Country C's nominal GDP using the expenditure approach

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d. Calculate Country D's nominal GDP and real GDP in Year 2

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e. Describe the price level, unemployment rate, and output level of country at the trough of the business cycle.

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