[¶ 1.1]

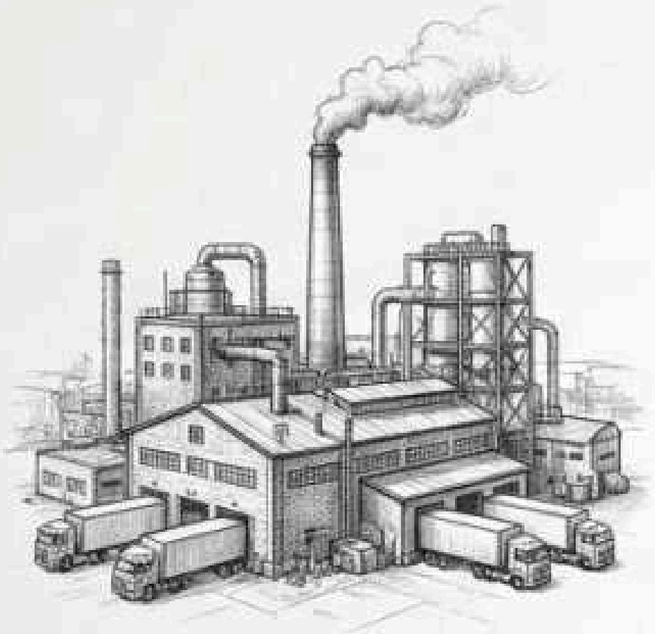
Measuring the Economy

Output, Prices, and Jobs

ECON 130 B • Lecture 1



[¶1.2]



Gross Domestic Product (GDP)

↳ Measures Output



Consumer Price Index (CPI)

↳ Measures Cost of Living & Inflation



Unemployment Rate

↳ Measures Jobs

Note: Each is a careful estimate with distinct strengths and weaknesses.

[¶1.3]

The market value of all final goods and services produced within a country in a given period.

Prices × Quantities

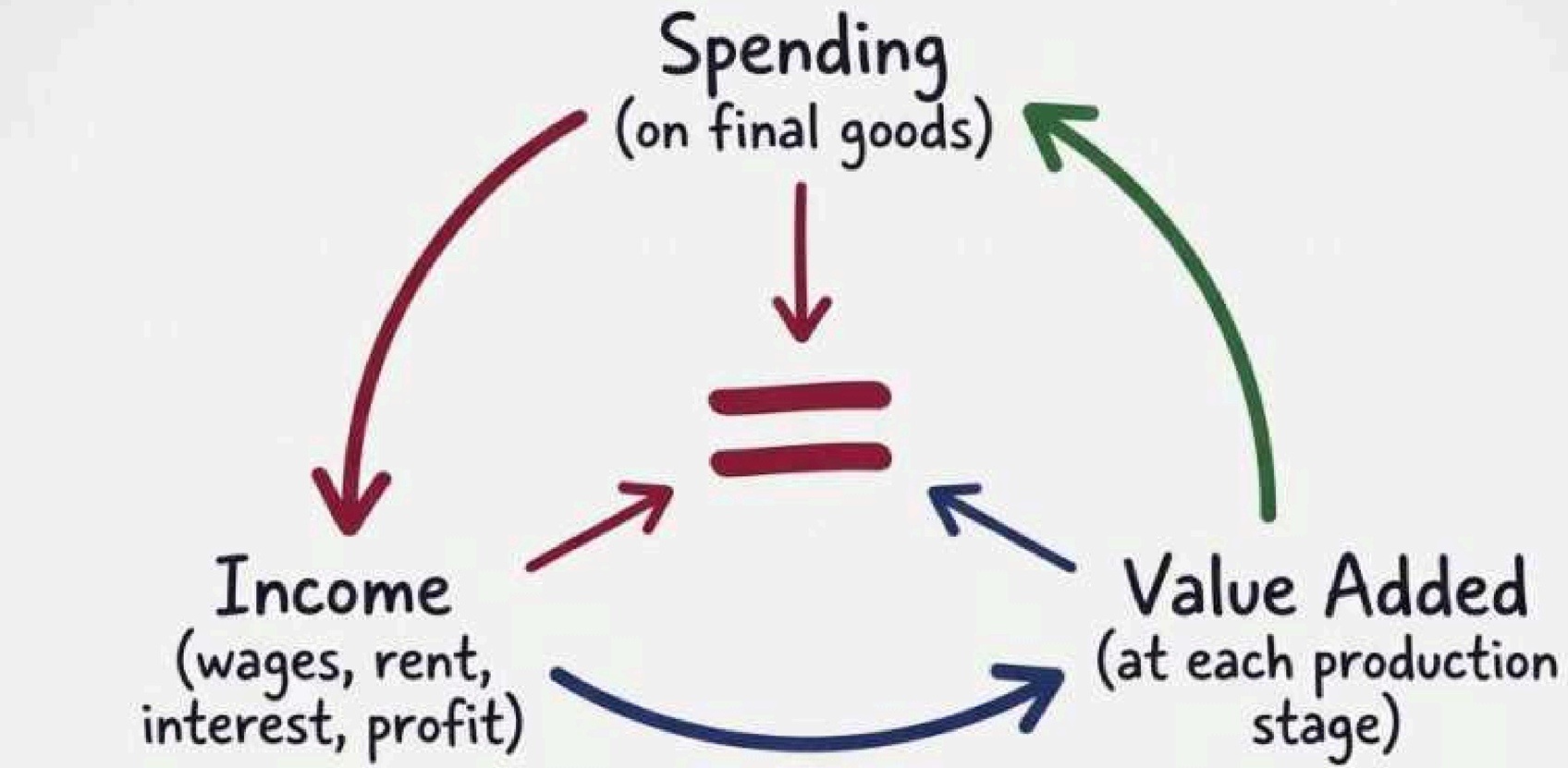
End product only.



Not counted twice

Usually a year or a quarter.

[¶ 1.4]





Every dollar spent by one person is a dollar of income for another. This is why spending and income match.

[¶ 1.5]

$GDP = C + I + G + NX$

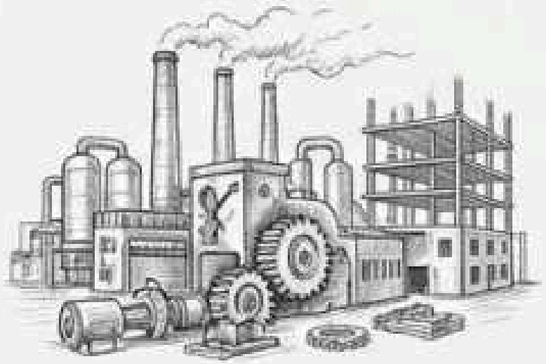
C

Consumption:
Household spending.



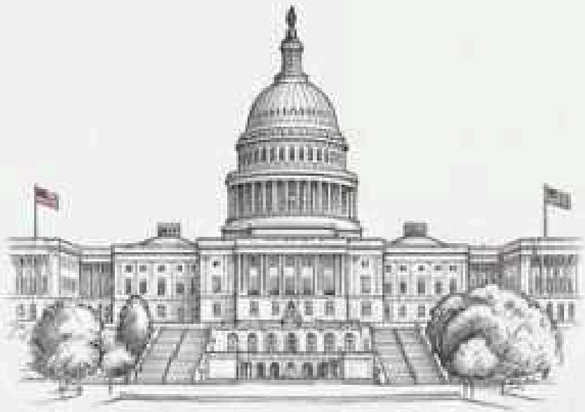
I

Investment:
Spending on new capital (factories, equipment, new houses).



G

Government:
Goods and services bought by governments.



NX

Net Exports:
Exports minus Imports.



[¶ 1.6]

$$C = \$700 \text{ Billion}$$

$$I = \$200 \text{ Billion}$$

$$G = \$250 \text{ Billion}$$

$$NX = \$50 \text{ Billion} \quad (\text{Exports } \$150\text{B} - \text{Imports } \$100\text{B})$$

$$\text{Total GDP} = \$700 + \$200 + \$250 + \$50 = \$1{,}200 \text{ Billion}$$

$$= \$1{,}200 \text{ Billion}$$



"Investment" means buying new physical capital goods, NOT financial stocks.







- Government Purchases (G) exclude transfer payments (pensions, unemployment) because nothing is produced in exchange.
- Imports are subtracted (in NX) because they are already embedded in C, I, and G, but were not produced at home.

[¶ 1.8]

GDP Rises

Output Increased

Real GDP: Uses fixed base-year prices to isolate pure quantity changes.

Prices Increased

Nominal GDP: Uses current prices (mixes output growth with inflation).

Real GDP is the true measure of economic growth.

[¶ 1.9]

Year 1 (Base)



Bread: 100 loaves @ $2.00 = $200

Coffee: 50 cups @ $4.00 = $200

Nominal GDP = $400

Year 2 (Current)



Bread: 110 loaves @ $2.20 = $242

Coffee: 55 cups @ $4.40 = $242

Nominal GDP = $484

Nominal GDP grew by 21% ($400 to $484)—but how much of that is just higher prices?

¶ 1.10

Step 1: Finding Real GDP

(Valuing Year 2 quantities at Year 1 prices)

(110 loaves × $2) + (55 cups × $4) = $440

Real Growth = $400 to $440 (10% true growth).

Step 2: The GDP Deflator

Formula: (Nominal / Real) × 100

($484 / $440) × 100 = 110

Because the deflator is 110, prices rose exactly 10%.

[¶ 1.11]

Left Out of GDP (The Limits)



- Excludes unpaid work (housework, childcare).
- Excludes underground Excludes underground economy and the value of leisure.
- Ignores how income is shared (inequality).

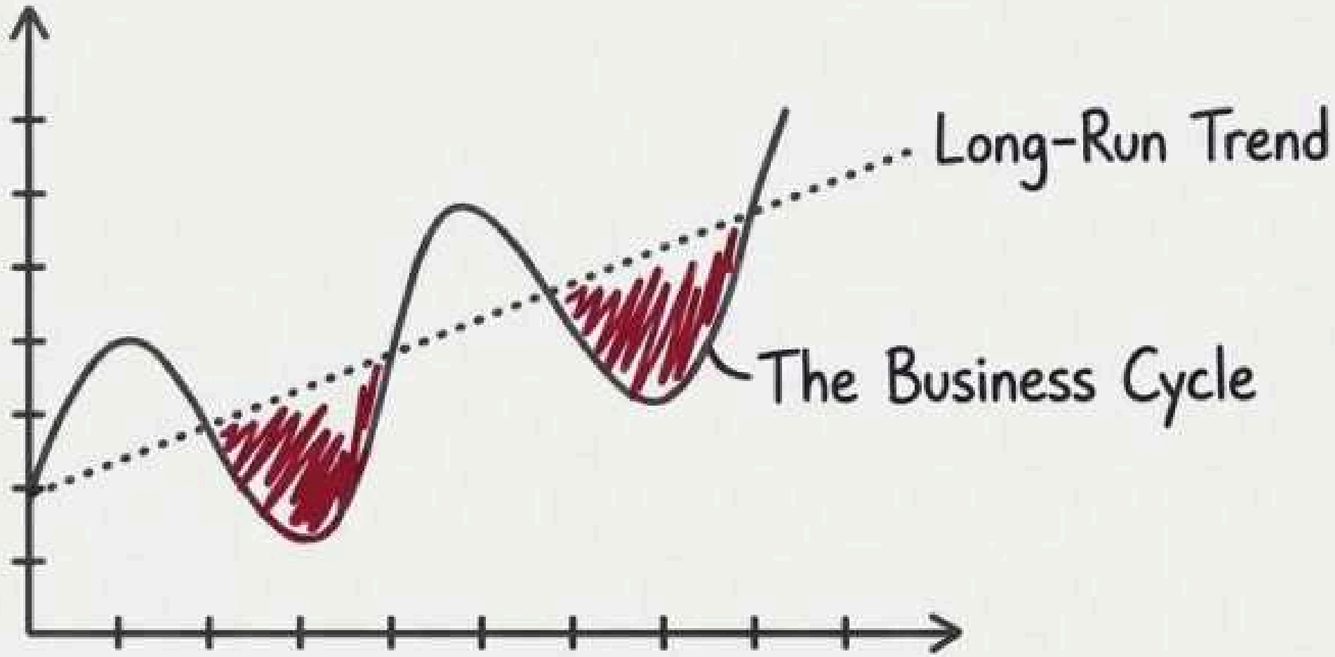


- Does not subtract pollution/environmental cost.

Correlates With (The Utility)

- Despite flaws, GDP per person acts as a rough guide to living standards.
- Highly correlated with: Life expectancy, schooling, and overall health.
- (Note: A large GDP with a massive population may still mean poor per capita).

[¶ 1.12]



The Business Cycle: The fluctuation of real GDP around its long-run trend.

Recession: A period of falling output and rising unemployment.

Dating Recessions: Often casually cited as "two consecutive quarters of falling GDP," but officially determined in the US by a committee at the National Bureau of Economic Research (NBER) using multiple indicators.

[¶ 1.13]



Consumer Price Index (CPI): Tracks the cost of a fixed basket of goods and services bought by a typical household.

The Mechanics: Statisticians price this exact same basket every single month.

Index Logic: The base period is set to 100.

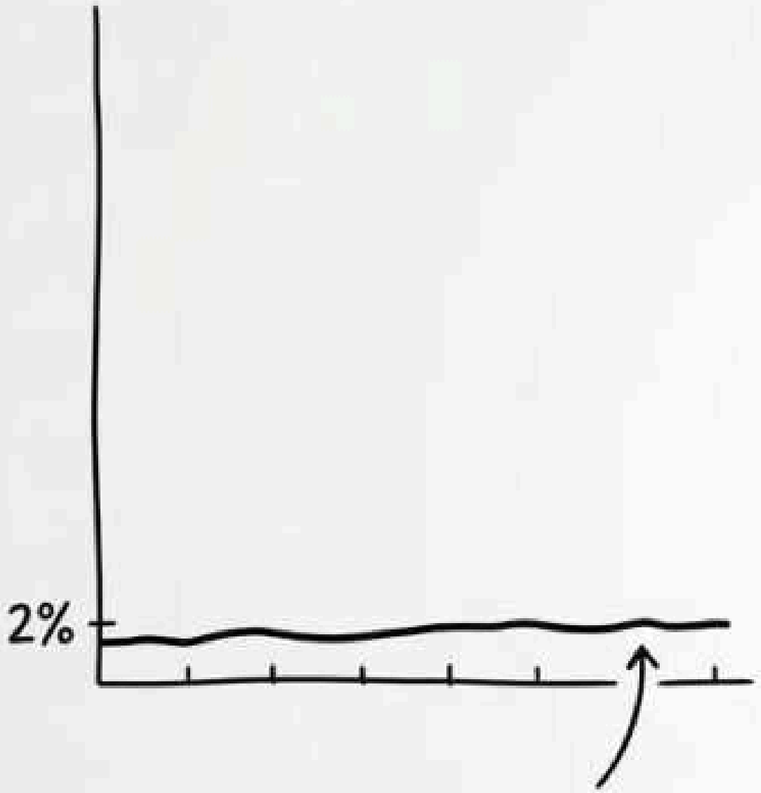
Example: If the base basket cost $200, and current cost is $210, the CPI is 105.

The Inflation Rate: The percentage change in the price index (an average, as different goods rise at different rates).

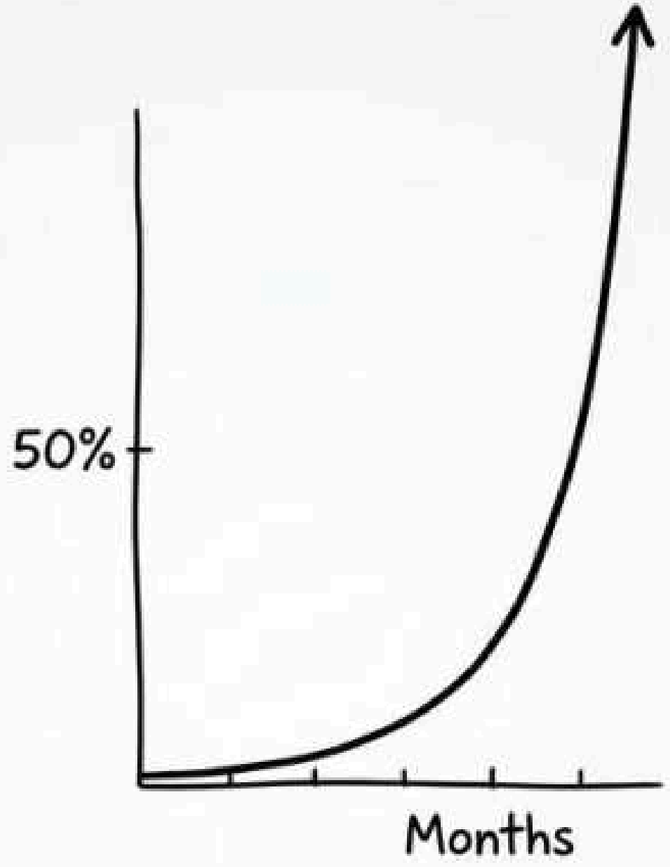


Calculation: $\frac{(110.25 - 105)}{105} = 5\%$ inflation.

Key Nuance: Inflation is a rate of change. Prices can continue going up, but at a slower rate, which means inflation is falling even while things get more expensive.



Goal of most central banks is a modest ~2%.

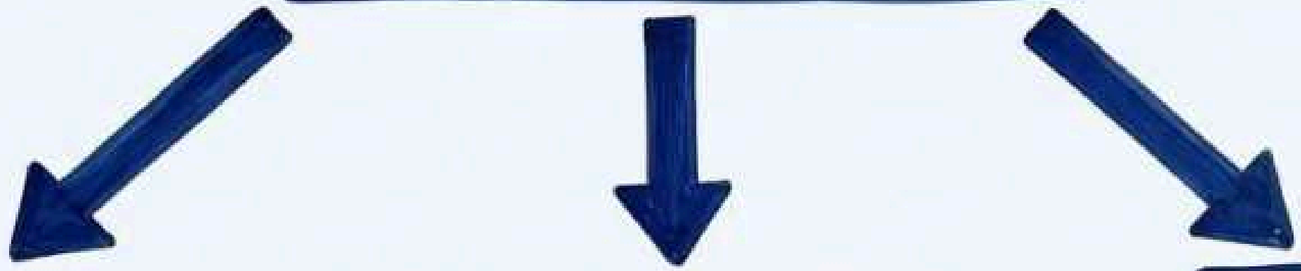




Rates above 50% per month.
In Germany (1923), prices doubled every few days; workers were paid twice daily to spend wages before they lost value.

[¶ 1.16]

Adult Population



1. Employed

Worked for pay in the survey week.

2. Unemployed

No job + available to work + actively looked within the last 4 weeks.

3. Outside Labor Force

Stopped looking / not participating.
(Crucially: not counted as unemployed).

[¶ 1.17]

Labor Force = Employed (150M) + Unemployed (10M) = 160M

$$\text{Unemployment Rate} = \frac{\text{Unemployed}}{\text{Labor Force}}$$

$$\frac{10M}{160M} = 6.25\%$$

$$\text{Participation Rate} = \frac{\text{Labor Force}}{\text{Adult Population}}$$

(Assuming adult pop = 250M)

$$\frac{160M}{250M} = 64\%$$

[¶ 1.18]

Frictional	Structural	Cyclical
The short search time that happens as workers and firms try to find the right fit.	A mismatch of skills or geography (e.g., a mill town loses its only mill).	Joblessness tied directly to business cycle recessions.

Natural Rate of Unemployment = Frictional + Structural

(Note: This is the baseline rate around which cyclical unemployment moves).

[¶ 1.19]

Lecture Assignment: Look up your own country's latest figures.

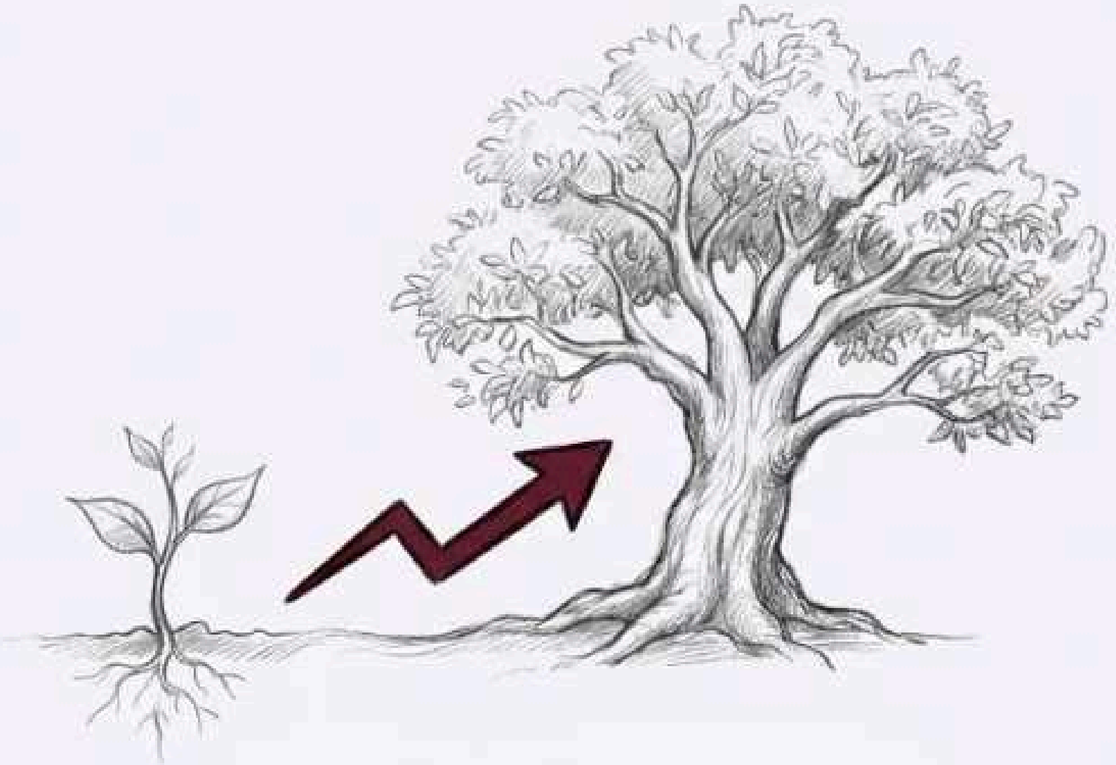
Current GDP Growth? [____%]

Current Inflation? [____%]

Current Unemployment? [____%]

Reflection: Which number is the most worrying to you, and why? Which of the measurement weaknesses we discussed might make that specific number look better or worse than people's actual, real-world experience?

[¶ 1.20]



Looking Ahead: Lecture 2 — Economic Growth

Questions for next time:

- Why does output per person grow over time?
- Why do some countries grow so much faster than others?