Lecture 4 — Measuring GDP: the expenditure approach

Principles of Macroeconomics · Revision notes for the midterm · Calvera is a made-up country used for the worked examples

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1. What GDP measures

Gross domestic product (GDP) is the market value of all *final* goods and services *produced* within a country in a given period, usually a quarter or a year. Each part of the definition matters on the exam:

- **Market value:** goods are added up at the prices they sell for, so apples and haircuts can be added together.
- **Final:** only goods sold to their end user count. Flour sold to a bakery is an intermediate good; its value is already inside the price of the bread.
- **Produced:** only new production counts. Selling a used car moves money but produces nothing new.
- **Within a country:** output made inside the borders counts, whoever owns the factory.

2. The expenditure approach

Everything produced is bought by someone, so GDP can be measured by adding up spending on final goods and services by four groups:

$$GDP = C + I + G + NX$$

- **C — Consumption:** household spending on goods and services (food, rent, phones, haircuts). Usually the largest part.
- **I — Investment:** business spending on equipment and buildings, new houses, and changes in inventories. Buying shares or bonds is *not* investment in GDP; it is a financial transaction.
- **G — Government purchases:** spending by all levels of government on goods and services, such as teachers' salaries, roads and equipment. Transfer payments (pensions, unemployment benefits) are *not* included, because nothing is produced in exchange.
- **NX — Net exports:** exports minus imports. Exports are made here and bought abroad; imports are made abroad and already counted inside C, I or G, so they are subtracted.

3. Worked example: Calvera, 2025

Component	Billions of dollars
Consumption (C)	620
Investment (I)	180
Government purchases (G)	210

Exports	150
Imports	160

Net exports = 150 − 160 = **−10** billion: Calvera imported more than it exported, a trade deficit.

GDP = 620 + 180 + 210 + (−10) = **1,000 billion dollars**. Consumption is 62% of GDP.

4. What is not counted

- Intermediate goods (to avoid counting the same value twice).
- Used goods, such as a second-hand car or an older house.
- Financial assets: shares, bonds, bank deposits.
- Transfer payments from the government.
- Unpaid work at home, such as cooking for your own family.

5. Nominal and real GDP

Nominal GDP uses the prices of the current year. **Real GDP** uses the prices of a fixed base year, so it changes only when the quantity of output changes. Economic growth is measured with real GDP.

> Calvera's nominal GDP rose from 1,000 billion in 2025 to 1,080 billion in 2026, an increase of 8%. Over the same year, prices rose by 5%. Real GDP in 2026, at 2025 prices, is 1,080 ÷ 1.05 ≈ 1,029 billion, so real growth was only about 2.9%. Most of the 8% was higher prices, not more output.

6. Common exam mistakes

- Adding imports instead of subtracting them.
- Counting the purchase of shares or bonds as investment.
- Including pensions or unemployment benefits in G.
- Counting an intermediate good and the final good it went into.
- Calling a rise in nominal GDP "growth" without removing price changes.