4.1 National accounts

Name: _____ Class: _____ Date: _____ **Total: 13 marks**

KEY WORDS gross domestic product • value added • GDP deflator GDP

Objective

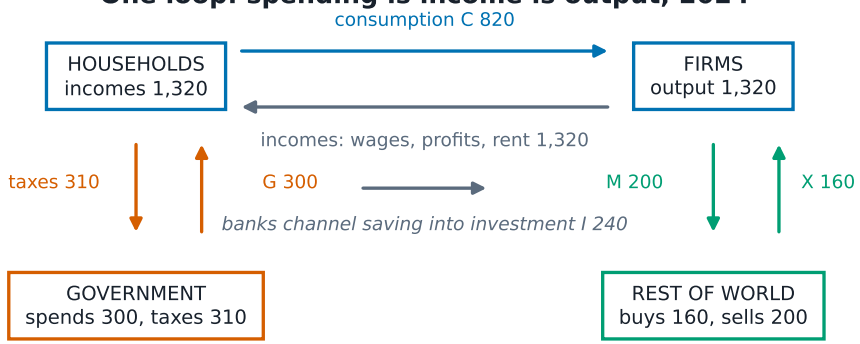
Build GDP from both sides and check they meet; apply value added to avoid double counting; deflate nominal to real and divide by population.

1 Key knowledge and worked examples

■ The loop and its identities

$Y = C + I + G + (X - M)$, and the income side – wages, profits, rents, interest, taxes net of subsidies – must equal it. **Value added** counts each production stage once; the **GDP deflator** GDP = nominal/real × 100; real GDP per person answers the living-standards question.

One loop: spending is income is output, 2024



Y = 820 + 240 + 300 + 160 - 200 = 1,320 (both sides close)

One loop, five leakages and injections: the loop closes by construction

■ Worked example. Aurora 2024, twice

Expenditure: 820+240+300+160−200 = 1,320 ✓. Income: 700+100+330+78+42+120 − 50 = 1,320 ✓. Real 1,100 → deflator 120.0; per-capita real 1,100/10.4 = 105.8 thousand ✓.

2 Practice

Borealia's 2024 accounts (£bn): C 500, I 150, G 200, X 90, M 140; wages 430, mixed income 60, profits 190, rents 55, net interest 30, production taxes 70, subsidies 35.

2.1 Compute GDP from the expenditure side, then from the income side, and state whether they tie. [3]

2.2 Nominal GDP is 880 and real GDP (2020 prices) is 800. Compute the deflator and the split of nominal growth since 2020 into real growth and prices. [3]

2.3 A mill sells 80 of flour to a bakery that sells 300 of bread. State what belongs in GDP, two ways. [2]

2.4 Population grew from 8.00 to 8.32 million while real GDP moved from 800 to 800. What happened to real GDP per person, in %? [3]

2.5 Borealia's state pays a 60 pension and buys a 25 van built this year. Say what each does to GDP and why. [2]

Solutions

2.1

- Expenditure: $500 + 150 + 200 + 90 - 140 =$ £800bn.
- Income: $430 + 60 + 190 + 55 + 30 + 70 - 35 =$ £800bn.
- They tie – the two sides are the same loop counted at two points.

2.2

- Deflator $= 880/800 \times 100 = 110.0$.
- Nominal growth 10.0% since 2020 (from 800).
- Real growth 0.0% – all of it was prices.

2.3

- The final sale: £300.
- Or value added: £80 at the mill + £220 at the bakery = £300 – the same total, no double count.

2.4

- Per person 2020: $800/8.00 = 100$; 2024: $800/8.32 = 96.2$.
- Change: $96.2/100 - 1 = -3.8\%$.
- Zero output growth plus 4% population growth is a 3.8% fall in living standards.

2.5

- The pension: a transfer, nothing produced – GDP unchanged.
- The van: government investment, produced this year – GDP +25.

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