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Question 1 Fill in the blanks. You must show your work.

Year	2014	2015
Nominal gross national income (GNI) ($ billion)	291.53	425.38
Factor income sent abroad ($ billion)	68.30	75.90
Factor income earned abroad ($ billion)	8.13	9.49
Nominal gross domestic product (GDP) ($ billion)	231.36	358.97
GDP deflator	100	100.88
Real GDP ($ billion)	231.36	355.84

GNP 2015 = GDP + (factor income sent - factor income earned)

= 358.97 + (75.9 − 9.49) = 425.38

GDP 2014 = GNP − (factor income sent − factor income earned)

= 291.53 − (68.30 − 8.13) = 231.36

Real GDP 2014 = $\frac{\text{nominal GDP}}{\text{deflator}} \times 100 = \frac{231.36}{100} \times 100 = 231.36$

Real GDP 2015 = $\frac{\text{nominal GDP}}{\text{deflator}} \times 100 = \frac{358.97}{100.88} \times 100 = 355.84$

Question 2 Fill in the blanks. You must show your work.

Year	2012	2013	2014	2015
Consumer price index (CPI)	99.08	100.55	102.51	107.52
Inflation rate (%)	–0.92	1.48	1.95	4.89
Employed (millions)	12.50	12.60	12.85	13.05
Unemployed (millions)	0.99	0.71	0.68	0.61
Population (millions)	20.75	21.48	21.82	22.02
Unemployment rate (%)	7.34	5.33	5.03	4.47

inflation rate 2014 = $\frac{CPI_{2014} - CPI_{2013}}{CPI_{2013}} \times 100 = \frac{102.51 - 100.55}{100.55} \times 100 = 1.95\%$

inflation rate 2015 = $\frac{CPI_{2015} - CPI_{2014}}{CPI_{2014}} \times 100 = \frac{107.52 - 102.51}{102.51} \times 100 = 4.89\%$

unemployment rate 2012 = $\frac{0.99}{12.5 + 0.99} \times 100 = 7.34$

unemployment rate 2013 = $\frac{0.71}{12.6 + 0.71} \times 100 = 5.33$

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Question 3 Calculate GDP and GNP. You must show your work.

Item	$ billion
Imports	289
Transfer payments	253
Saving	82
Exports	234
Income from employment	1160
Taxation	396
Consumer spending	745
Investment	229
Net factor income from abroad	–111
Government spending on goods and services	437

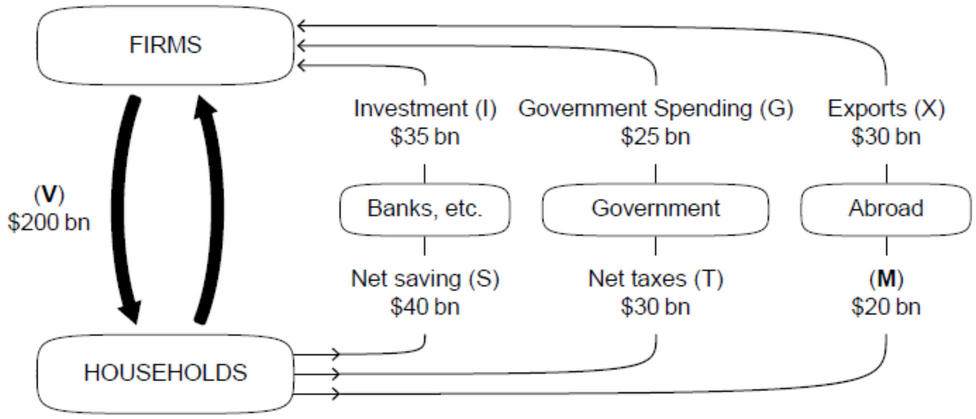
GDP = consumer spending + investment + government + spending + (export - import)

745 + 229 + 437 + (234 - 289) = 1356

GNP = GDP + net factor income from abroad

1356 + (-111) = 1275

Question 4 Answer the following questions.



4.1 What do the flows (V) and (M) represent?

(M) = import (V) = income (wage, rent, profit, interest, dividend) goods& services

4.2 Does the government run a budget deficit or surplus? By how much?

Budget surplus $ 5 bn

4.3 Does the country run a trade deficit or surplus? By how much?

trade surplus $ 10 bn

4.4 Is the economy in equilibrium? Why or why not?

It is in equilibrium because the injection = leakage

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Question 5 Why does CPI tend to be higher than GDP deflator?

Year	Consumer price index (CPI)	GDP deflator	GDP ($ million)
2014	100	100	4465
2015	105.35	105.11	4814
2016	109.21	108.92	5026

CPI have fixed quantity but price can change cause the inflation effect the price

Question 6 Answer the following questions.

	Price per unit in dollars ($)	
	2013	2014
Pizza	12.50	12.90
Chocolate milk (litres)	1.15	1.25
Jazz concert	45.00	46.00
Total cost of the typical basket	58.65	60.14

The typical basket of goods purchased by an average consumer consists of 10 pizzas, 100 litres of chocolate milk and 10 jazz concerts.

6.1 With 2013 as the base year, calculate CPI of 2013 and 2014.

$CPI_{2013} = \frac{\text{cost of fixed basket in 2013}}{\text{Base year cost of fixed basket}} \times 100$

$= \frac{690}{690} \times 100 = 100\%$

$CPI_{2014} = \frac{\text{cost of fixed basket in 2014}}{\text{Base year cost of fixed basket}}$

$= \frac{714}{690} \times 100 = 103.48\%$

6.2 Calculate the inflation rate of 2014.

$\text{Inf Rate}_{2014} = \frac{CPI_{2014} - CPI_{2013}}{CPI_{2013}} \times 100$

$= \frac{103.48 - 100}{100} \times 100 = 3.48\%$

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Question 7 Fill in the blanks. You must show your work.

Year	Nominal GDP ($ billions)	GDP deflator	Real GDP ($ billions)	Annual real growth rate (%)	Population	Real GDP per capita ($)
2014	308.12	98.9	311.55		13 273 644	23470.9
2015	321.99	100	321.99	3.35%	13 340 012	24137.2
2016	332.65	102.2	325.49	1.09%	13 473 412	24157.9

GDPD 2014 = $\frac{NGDP\ 2014}{RGDP2014}$ × 100 ; 98.9 = $\frac{308.12}{RGDP2014}$ × 100 RGDP 2014 = 311.55

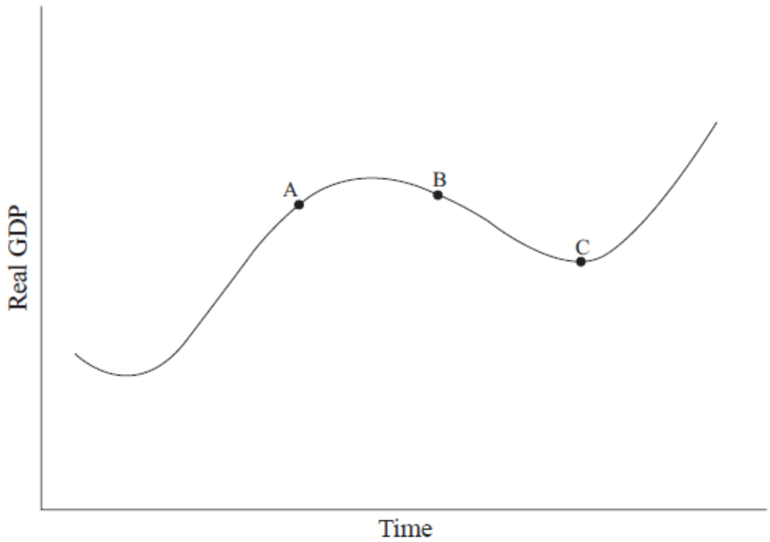
GDPD 2015 = $\frac{NGDP\ 2015}{RGDP\ 2015}$ × 100 ; 100 = $\frac{321.99}{RGDP\ 2015}$ × 100 RGDP 2015 = 321.99

GDPD 2016 = $\frac{NGDP\ 2016}{RGDP\ 2016}$ × 100 ; 102.2 = $\frac{332.65}{RGDP\ 2016}$ × 100 RGDP 2016 = 325.49

$\frac{RGDP\ 2015 - RGDP\ 2014}{RGDP\ 2014}$ × 100 = $\frac{321.99 - 311.55}{311.55}$ ×100 = 3.35%

2016 ; $\frac{325.49 - 321.99}{321.99}$ × 100 = 1.09%

Question 8 Based on the data above, which position – A, B, or C – best describes the economy in 2016? Why?



A = Expansion → growing up before peak period

B = Recession → the economy is decline

C = torgh → low economy period have high unemployment rate

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Question 9 Answer the following questions.

Country A is a closed economy with no government. The marginal propensity to save in the country is 0.25.

9.1 Calculate the value of the (investment) multiplier.

MPS + MPC = 1 → 0.25 + MPC = 1 MPC = 0.75

$\frac{1}{1-MPC} = \frac{1}{0.25} = 4$

9.2 Due to the initial investment made by firms and the multiplier effect, the (equilibrium) output in the economy has increased by $200m. Calculate the value of the initial investment.

$\frac{\Delta Y}{\Delta I} = 4$ ∴ if Y ↑ by 1 unit I ↑ 4 units

if Y ↑ 200 units I ↑ 800 units

Country B is an open economy with government.

9.3 Do you think the multiplier effect in Country B will be larger than that of Country A? Why or why not?

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