

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

Year	2014	2015
Nominal gross national income (GNI) (\$ billion)	291.53	284.59
Factor income sent abroad (\$ billion)	68.30	75.90
Factor income earned abroad (\$ billion)	8.13	9.49
Nominal gross domestic product (GDP) (\$ billion)	351.17	358.97
GDP deflator	100	100.88
Real GDP (\$ billion)	351.17	355.84

$$GDP = GNP - NFFI = 291 - 8.13 + 68.30 = 351.17$$

$$GNP = GDP + NFFI = 351 + 9.49 - 75.90 = 284.59$$

$$100.88 = \frac{358.97}{x} \cdot 100$$

$$x = \frac{358.97}{100.88} = 355.84$$

**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 (%)	4.55	5.33	5.03	4.47

$$\text{Inflation rate}_{2014} = \frac{(102.51 - 100.55)}{100.55} = 1.95\%$$

$$\text{Inflation rate}_{2015} = \frac{(107.52 - 102.51)}{102.51} = 4.89\%$$

$$\text{Unemployment rate} = \frac{\text{unemployed}}{\text{unemployed} + \text{employed}}$$

$$\text{Unemp}_{2012} = \frac{0.99}{0.99 + 12.50} = 4.55\%$$

$$\text{" } 2013 = \frac{0.71}{0.71 + 12.60} = 5.33\%$$

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

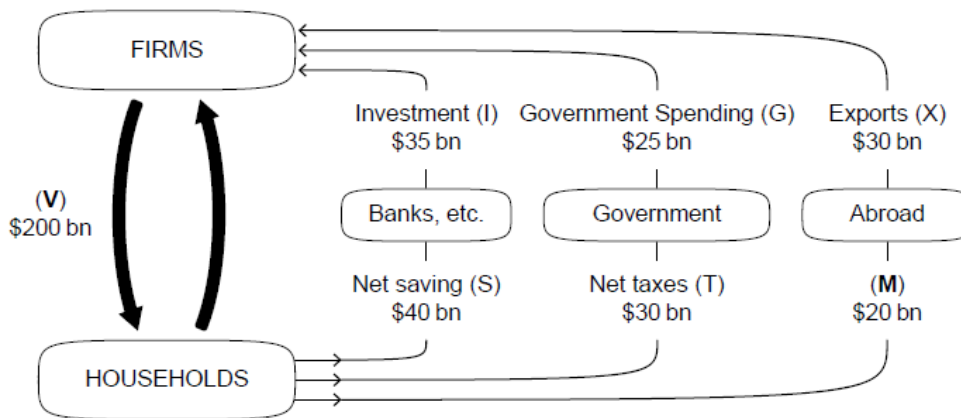
Item	\$ billion
Imports <i>M</i>	289
Transfer payments	253
Saving <i>-</i>	82
Exports <i>X</i>	234
Income from employment <i>I</i>	1160
Taxation <i>-</i>	396
Consumer spending <i>C</i>	745
Investment <i>I</i>	229
Net factor income from abroad <i>NFDI</i>	-111
Government spending on goods and services <i>G</i>	437

$$GDP = C + I + G + (X - M)$$

$$745 + 229 + 1160 + 437 + 234 - 289 = 2516$$

$$2516 - 111 = GNP = 2405$$

**Question 4** Answer the following questions.



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

*V = income M = import.*

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

*Surplus by \$5 bn*

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

*Deficit by \$10 bn*

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

*Yes because injection = leakage. injections = 90 leakages = 90*

**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

Because CPI uses fixed Quantity, but in reality when it is adjusted for inflation Quantity should go down. GDP deflator uses Quantity in the desired year so it is lower. ex: in 2014 p: 20 Q 10  
in 2015 p: 25 Q for CPI is still 10 while price goes up. (which isn't realistic)

**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
<b>Total cost of the typical basket</b>	<b>690</b>	<b>714</b>

typical basket cost

Q	2013	2014
10	125	129
100	115	125
10	450	460
<b>total</b>	<b>690</b>	<b>714</b>

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.

$$CPI_{2013} = \frac{690}{690} \cdot 100 = 100$$

$$CPI_{2014} = \frac{714}{690} \cdot 100 = 103.5$$

6.2 Calculate the inflation rate of 2014.

$$\frac{(103.5 - 100)}{100} = 0.035 = 3.5\% \text{ inflation rate}$$

**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	23 471.32
2015	321.99	100	321.99	3.35	13 340 012	24 137.16
2016	332.65	102.2	325.49	1.09	13 473 412	24 157.95

$$\text{GDP deflator} = \frac{\text{Nominal}}{\text{Real}} \cdot 100$$

$$98.9 = \frac{308.12}{x}, \quad x = 311.55$$

$$\text{Real Growth rate}_{2015} = \frac{321.99 - 311.55}{311.55} = 3.35\%$$

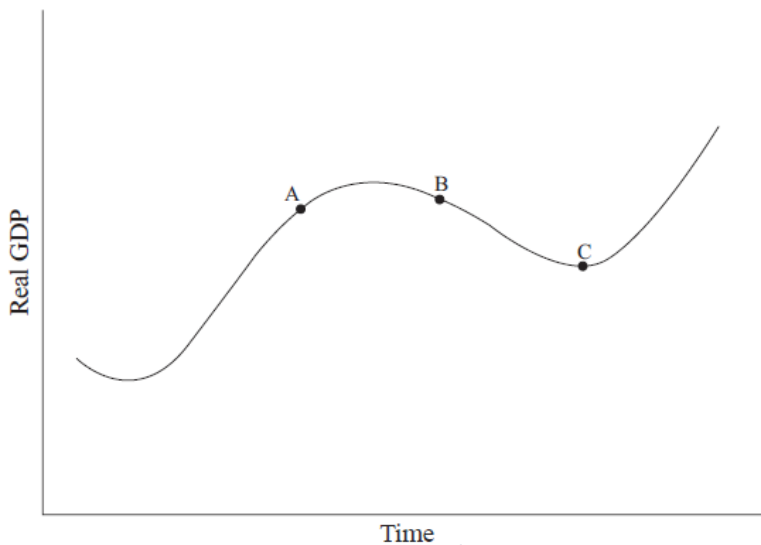
$$100 = \frac{321.99}{x} \cdot 100, \quad x = 321.99$$

$$102.2 = \frac{332.65}{x}, \quad x = 325.49$$

$$\text{Real Growth rate}_{2016} = \frac{325.49 - 321.99}{321.99} = 1.09\%$$

$$\text{GDP per capita} = \frac{\text{RGDP}}{\text{Pop.}}$$

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



I think B best describe the economy because in A the economy is about to reached it pecked and after the peak B follow with a recession which describe that the economy at that time is slowly stabilizing before hitting C and inflated like the trend line.

**Question 9**

Answer the following questions.

$$C_0 + c_1(1 - T) I_0$$

$$\rightarrow AE = C + I$$

$$MPS = 0.25$$

$$MPC + MPS = 1$$

$$MPS = 1 - MPC$$

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.

$$Y = AE$$

$$y - C_1 y = C_0 - C_1 T + I$$

$$\frac{1}{1 - C_1} = k$$

$$k = \frac{1}{1 - MPC}$$

$$\text{investment multiplier} = 4$$

$$y(1 - C_1) = C_0 - C_1 T + I$$

$$y = \frac{1}{1 - C_1} (C_0 - C_1 T + I)$$

actually there will be no T because No G

$$k = \frac{1}{MPS}$$

$$k = \frac{1}{0.25} = 4$$

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.

$$\frac{\Delta Y}{\Delta I} = 4 = \frac{200}{\Delta I} \Rightarrow \Delta I = 50$$

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?

I think it will be larger because they are more factors in calculating. eg.  $\frac{\Delta Y}{\Delta G}$   $\frac{\Delta Y}{\Delta I}$   $\frac{\Delta Y}{T}$