Student ID: 6304 041605

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

Year	2014	2015
Nominal gross national income (GNI) ($ billion)	291.53	292.56
Factor income sent abroad ($ billion)	68.30	75.90
Factor income earned abroad ($ billion)	8.13	9.49
Nominal gross domestic product (GDP) ($ billion)	351.7	358.97
GDP deflator	100	100.88
Real GDP ($ billion)	351.7	355.8386

real GDP_{2015} : $\frac{NGDP}{RGDP} \times 100 = \frac{358.97}{X} \cdot 100 = 100.88 = 355.8386$

nominal GNI_{2015} = GDP - NFFI = 358.97 - 66.41 = 292.56

nominal GDP_{2014} = GNI + NFFI = 291.53 + 68.3 - 8.13 = 351.7

real GDP_{2014} : $\frac{NGDP}{RGDP} \times 100 = \frac{351.7}{X} \cdot 100 = 100 = 351.7$

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

labor force$_{2012}$ = employed + unemployed = 12.5 + 0.99 = 13.49

unemployment rate$_{2012}$ = $\frac{0.99}{13.49} \times 100$ = 7.34

labor force$_{2013}$ = employed + unemployed = 12.6 + 0.71 = 13.31

unemployment rate$_{2013}$ = $\frac{0.71}{13.31} \times 100$ = 5.33

inflation rate$_{2014}$ = $\frac{CPI_{new} - CPI_{old}}{CPI_{old}} \times 100 = \frac{102.51 - 100.55}{100.55} \times 100$ = 1.95

inflation rate$_{2015}$ = $\frac{CPI_{new} - CPI_{old}}{CPI_{old}} \times 100 = \frac{107.52 - 102.51}{102.51} \times 100$ = 4.89

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

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

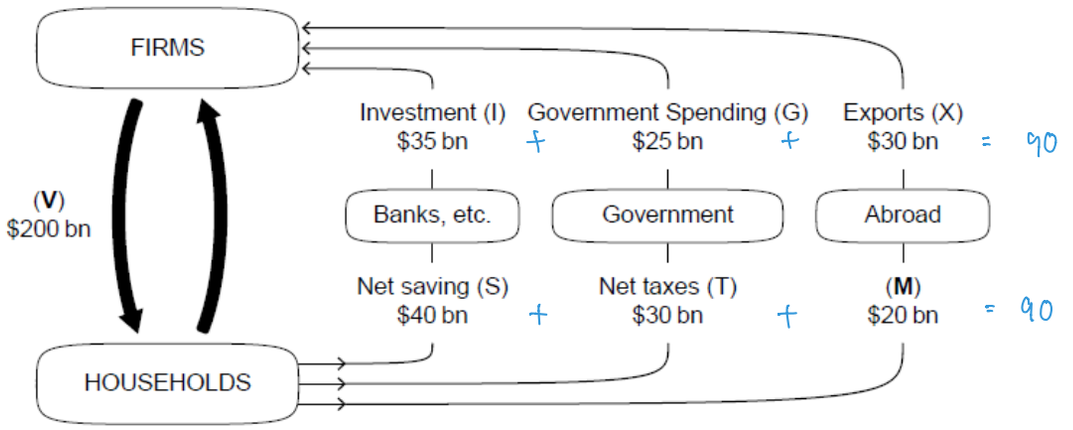
= 1,356

GNP = GDP + NFFI

= 1356 - 111

= 1,245

Question 4 Answer the following questions.



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

V represents as an income, M represents as an imports.

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

Surplus by $5

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

Surplus by $10

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

Yes, because AE = Aggregate income

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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

Due to a fixed Q of CPI and a change in P, that makes CPI is higher than GDP deflator because the inflation affects the price of product more than the previous one. So CPI tends to be higher than GDP deflator.

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	690	714

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.

$$CPI = \frac{\Sigma P_{2013} \times Q_{fixed}}{\Sigma P_{2013} \times Q_{fixed}} \times 100 = \frac{(12.5\times10)+(1.15\times100)+(45\times10)}{(12.5\times10)+(1.15\times100)+(45\times10)} \times 100 = 100$$

$$CPI_{2014} = \frac{\Sigma P_{2013} \times Q_{fixed}}{\Sigma P_{base\text{-}year} \times Q_{fixed}} \times 100 = \frac{(12.9\times10)+(1.25\times100)+(45\times10)}{(12.5\times10)+(1.15\times100)+(45\times10)} \times 100 = 103.4782$$

6.2 Calculate the inflation rate of 2014.

$$\Pi_{2014} = \frac{CPI_{new} - CPI_{old}}{CPI_{old}} \times 100 = \frac{103.4782 - 100}{100} \times 100 = 3.4782\ \%$$

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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	311.547		13 273 644	0.00002347
2015	321.99	100	321.99	3.35	13 340 012	0.00002414
2016	332.65	102.2	325.4892	1.0867	13 473 412	0.00002416

$RGDP_{2014} = \frac{NGDP}{GDP\ deflator} \times 100 = \frac{308.12}{98.9} \times 100 = 311.547$

$RGDP_{2015} = \frac{321.99}{100} \times 100 = 321.99$

$RGDP_{2016} = \frac{332.65}{102.2} \times 100 = 325.4892$

$annual\ real\ growth\ rate_{2015} = \frac{321.99 - 311.547}{311.547} \times 100 = 3.35$

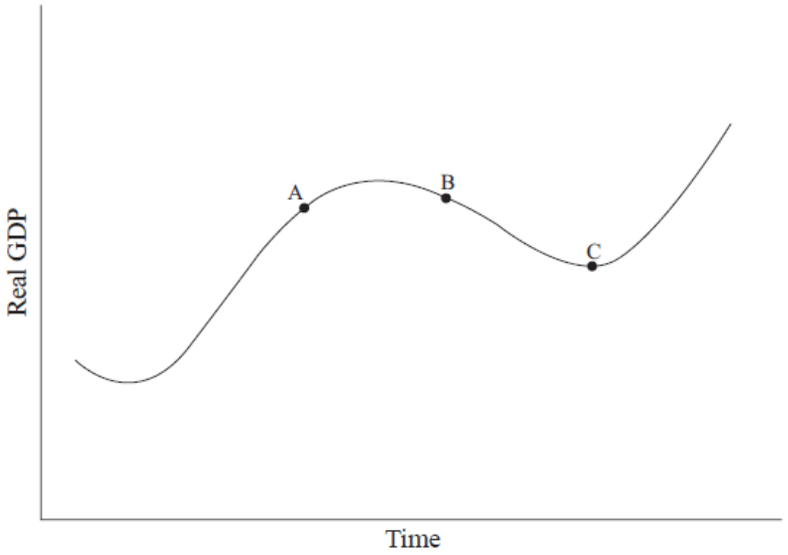
$RGDP\ per\ capita_{2014} = \frac{RGDP}{population} = \frac{311.547}{13273644} = 0.00002347$

$RGDP\ per\ capita_{2015} = \frac{321.99}{13340012} = 0.00002414$

$RGDP\ per\ capita_{2016} = \frac{325.4892}{13473412} = 0.00002416$

$annual\ real\ growth\ rate_{2016} = \frac{325.4892 - 321.99}{321.99} \times 100 = 1.0867$

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



A = expansion (high AE) increasing over time.

B = recession (low AE) decreasing over time.

C = trough (min. point in the curve) observing deflation.

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Question 9 Answer the following questions.

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

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.

$Y = C + I$ | $\Delta Y = \Delta C_0 + MPC(\Delta Y) + \Delta I$ | $\Delta Y = \frac{1}{1-0.75}(\Delta I)$

$Y = C_0 + C_1(Y) + I$ | $\Delta Y - 0.75(\Delta Y) = \Delta C_0 + \Delta I$ | $\Delta Y = \frac{1}{0.25}(\Delta I)$

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.

$\Delta Y = \frac{1}{0.25}(\Delta I)$ | $\Delta I = \$80$

$200 = \frac{1}{0.25}(\Delta I)$

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?

No, I think it will be the same because the multiplier will only effet the change in C and Y