Student ID: 620464747

**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 | 355.64 |

$GNP_{2015} = GDP_{2015} + (\text{factor income sent abroad} - \text{factor income earned abroad})$

$= 358.97 + (75.9 - 9.49) = 425.38$

$GDP_{2014} = GNP_{2014} - (\text{factor income sent abroad} - \text{factor income earned abroad})$

$= 291.53 - (68.3 - 8.13) = 231.36$

$GDPD = \frac{NGDP}{RGDP} \times 100 \Rightarrow RGDP_{2014} = \frac{231.36}{100} \times 100 = 231.36$

$= RGDP_{2015} = \frac{358.97}{100.88} \times 100 = 355.64$

**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 |

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

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

$\text{Unemployed rate}(\%) = \frac{\text{Unemployed people}}{\text{labor force}} \times 100 \Rightarrow \text{unemployed rate}_{2012} = \frac{0.99}{12.5 + 0.99} \times 100 = 7.34\%$

$= \text{unemployed rate}_{2013} = \frac{0.71}{12.6 + 0.71} \times 100 = 5.33\%$

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

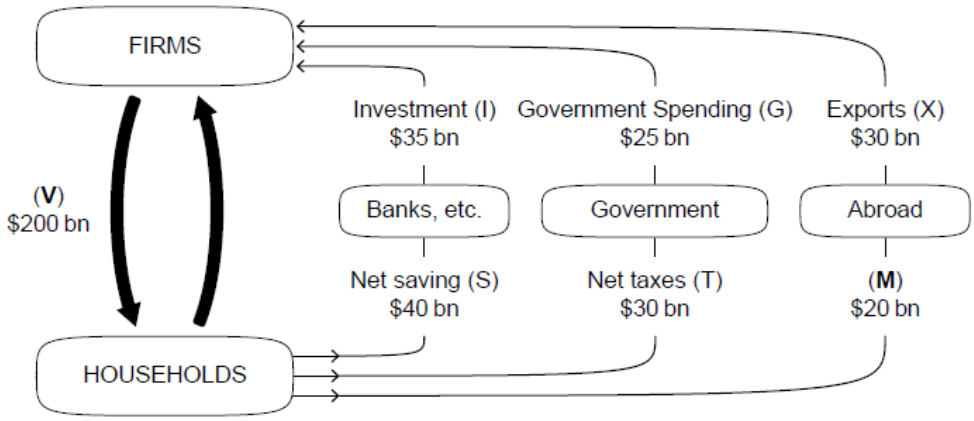
| Item | $ billion |
|---|---|
| Imports | 289 |
| Transfer payments | 253 |
| Saving | 82 |
| Exports | 234 |
| Income from employment | 1160 |
| Taxation | 396 |
| Consumer spending | 745 |
| Investment | 229 |
| Net factor income from abroad | –111 |
| Government spending on goods and services | 437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

GDP = Consumer spending + Investment + Government spending + (export - import) / C + I + G + (x - M)

= 745 + 229 + 437 + (234 - 289) = 1,356

GNP = GDP - Net income = 1356 + (-111) = 1,245

**Question 4** Answer the following questions.




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

(V) : income (rent, profit, wage, interest), (M) : imports

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?

The economy is in equilibrium because injection equivalent to 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 tend to be higher than GDP deflator because

**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 |

$(12.5 \cdot 10) + (1.15 \cdot 100) + (45.10) = 690 \rightarrow 2013$

$(12.9 \cdot 10) + (1.25 \cdot 100) + (46.10) = 714 \rightarrow 2014$

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.

$CPI_{2013} = \frac{\text{cost of fixed basket in 2013}}{\text{Base year cost of fixed basket}} \times 100 = \frac{690}{690} \times 100 = 100\%$

$CPI_{2014} = \frac{\text{cost of fixed basket in 2014}}{\text{Base year cost of fixed basket}} \times 100 = \frac{714}{690} \times 100 = 103.474\%$

6.2 Calculate the inflation rate of 2014.

$\text{Inflation rate}_{2014} = \frac{CPI_{2014} - CPI_{2013}}{CPI_{2013}} \times 100 = \frac{103.474 - 100}{100} \times 100 = 3.474\%$

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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 | | 13273644 | 23470.5 |
| 2015 | 321.99 | 100 | 321.99 | 3.35% | 13340012 | 24137.2 |
| 2016 | 332.65 | 102.2 | 325.49 | 1.09% | 13473412 | 24157.9 |

RGDP / Population

0.00000745

0.0000075

0.0000759

GDPD = NGDP / RGDP × 100 → $GDPD_{2014} = \frac{NGDP_{2014}}{RGDP_{2014}} \times 100 \rightarrow 98.9 = \frac{308.12}{RGDP_{2014}} \times 100 \rightarrow RGDP_{2014} = 311.55$

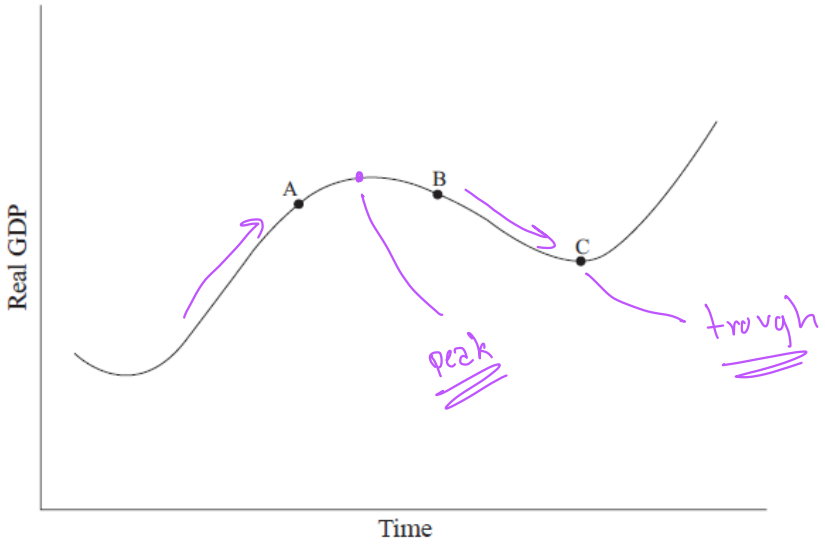
$GDPD_{2015} = \frac{NGDP_{2015}}{RGDP_{2015}} \times 100 \rightarrow 100 = \frac{321.99}{RGDP_{2015}} \times 100 \rightarrow RGDP_{2015} = 321.99$

$GDPD_{2016} = \frac{NGDP_{2016}}{RGDP_{2016}} \times 100 \rightarrow 102.2 = \frac{332.65}{RGDP_{2016}} \times 100 \rightarrow RGDP_{2016} = 325.49$

$\frac{RGDP_{2015} - RGDP_{2014}}{RGDP_{2014}} \times 100 = \frac{321.99 - 311.55}{311.55} \times 100 = 3.35\%$ (2015)

$= \frac{325.49 - 321.99}{321.99} \times 100 = 1.09\%$ (2016)

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




First, the economy is growing up before peak then when economy though the peak then going down untill trough. This period is low economy have high unmployment 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.

Multiplier (k) = $\frac{1}{1-MPC} = \frac{1}{1-0.75} = \frac{1}{0.25} = 4$ MPS = 0.25 → MPS + MPC = 1

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.

I : Sensitivity of investment to change income = 4

$\frac{\Delta Y}{\Delta I} = 4$ y increase by 1 unit → I increase 4 unit

y increase by 200 unit → I increase 4 × 200 unit = 800

**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?

Country A = C + I , country B : C + I + G + (X − M)

because people spend a high % of any extra income then there will be a larger than country A.