Quiz macro

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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	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	355.84

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

- GNI_{2015} = 358.97 + (9.49 − 75.90)
  = 292.56
- GDP 2014 = GNP − NFFI
  = 291.53 − (8.13 − 68.3)
  = 351.71 #
- Real GDP 2014 = $\frac{\text{Nominal GDP}}{\text{GDP deflator}} \times 100$
  = $\frac{351.7}{100} \times 100$ = 351.7
- Real GDP 2015 = $\frac{\text{nominal GDP 2015}}{\text{GDP deflator 2015}} \times 100$
  = $\frac{358.97}{100.88} \times 100$
  = 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 % in 2014 = $\frac{\text{New CPI}_{2014} - \text{old CPI}_{2013}}{\text{old CPI}_{2013}} \times 100\%$
  = $\frac{102.51 - 100.55}{100.55} \times 100\%$ = 1.95 %
- Inflation Rate in 2015 % = $\frac{\text{New CPI}_{2015} - \text{old CPI}_{2014}}{\text{old CPI}_{2014}} \times 100\%$ = $\frac{107.52 - 102.51}{102.51} \times 100\%$ = 4.89 %
- unemployment rate (%) in 2012 = $\frac{0.99}{12.50 + 0.99} \times 100\%$
  = 7.33876 ≈ 7.34 %
- unemployment rate (%) in 2013 = $\frac{0.71}{12.60 + 0.71} \times 100\%$
  = 5.334 %

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

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

GDP = C + I + G + X − M

= 745 + 229 + 437 + 234 − 289

= 1356 #

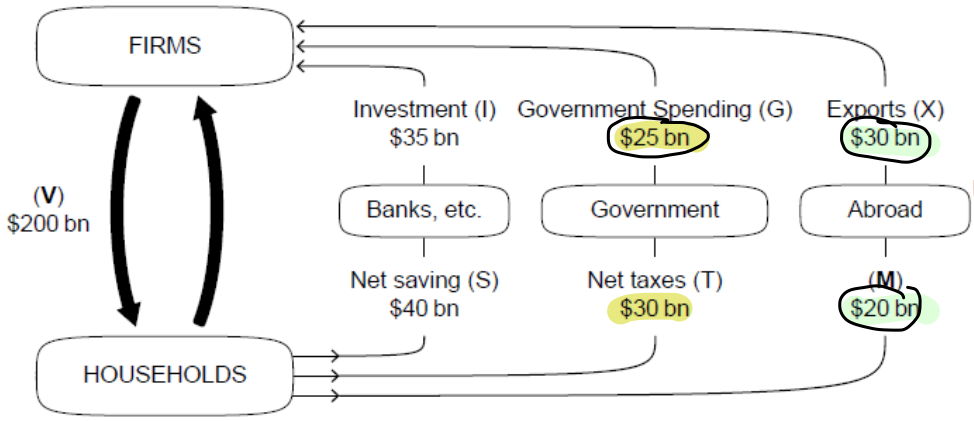
GNP = GDP + NFFI

= 1356 + (−111)

= 1356 − 111

= 1245 #

Question 4 Answer the following questions.



- T=G → Balance budget
- T>G → Budget surplus T − G > 0
- T<G → Budget Deficit T − G < 0

3 types!

Import & Export → trade

- M=X → trade Balance
- M<X → trade surplus
- M>X → trade deficit

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?

Budget surplus = $5 Because (T > G)

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

trade surplus = $10 Because (M < X)

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

leakage = injection

90 + 10 + 20 = 35 + 25 + 30

90 = 90

Equilibrium !

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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 CPI fixed quantity but price can change it make over all CPI have higher than GDP deflator because inflation affect the price of product higher than previously

key CPI : Fixed quantity (P↑, same Q)
price can change over time
↳ If inflation involve it increase level of price
: over all price of CPI is higher ***

Question 6 Answer the following questions.

	Price per unit in dollars ($)	
	2013	2014
Pizza	12.50 X 10	12.90 X 10
Chocolate milk (litres)	1.15 X100	1.25 X 100
Jazz concert	45.00 X 10	46.00 X 10
Total cost of the typical basket	690	719

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.

- $CPI = \frac{\sum P_{2013} \times Q_{2013}}{\sum P_{2013} \times Q_{2013}} \times 100$
- $CPI_{2014} = \frac{719}{690} \times 100$

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

$CPI_{2014} = 103.48$

6.2 Calculate the inflation rate of 2014.

$$\text{Inflation Rate} = \frac{\text{New CPI} - \text{old CPI}}{\text{old CPI}} \times 100\%$$

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

$$= 3.48\%$$

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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		13273644	2.347×10^{-5}
2015	321.99	100	321.99	3.351	13340012	2.414×10^{-5}
2016	332.65	102.2	325.49	1.09	13473412	2.416×10^{-5}

Real GDP per capita = Real GDP / population

$= \frac{311.55}{13273644}$

$= \frac{321.99}{13340012}$

$= \frac{325.49}{13473412}$

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

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

$= \frac{308.12 \times 100}{98.9}$

$= 311.55$

2015: $\frac{321.99 \times 100}{100}$

$= 321.99$

2016: $\frac{332.65 \times 100}{102.2}$

$= 325.49$

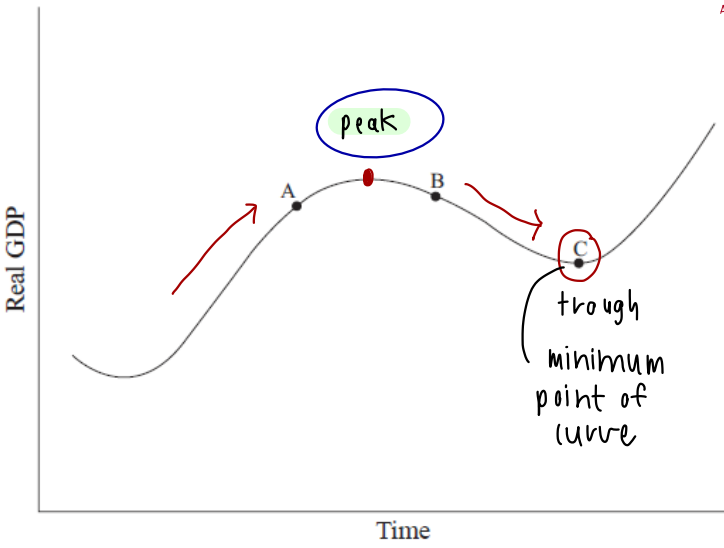
Annual Real growth Rate

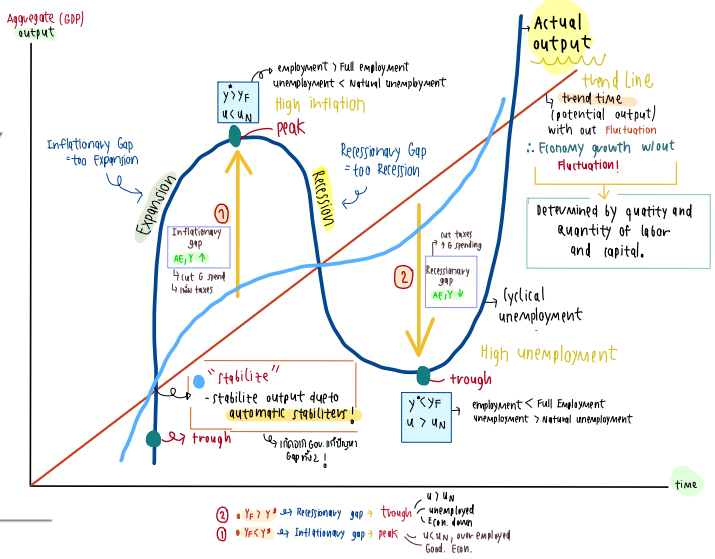
$\frac{321.99 - 311.55}{311.55} \times 100\% = 3.351\%$

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

$\frac{\text{New real GDP} - \text{old real GDP}}{\text{old real GDP}} \times 100\%$

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





(a) = Expansion time ▸ this peroid the economy is growing up (Before peak peroid)

(B) = Recession time ▸ this peroid the economy is down

(C) = trough ▸ this peroid is low economy have high unemployment rate

↳ unemployment rate > natural 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.

C+I

closed economy no government MPS = 0.25

$\frac{1}{1-MPC} = \frac{1}{1-0.75} = \frac{1}{0.25} = 4$

MPS + MPC = 1

MPS = 0.25 | MPC = 0.75

$\frac{1}{1-MPC} = \frac{1}{1-0.75} = \frac{1}{0.25} = 4$

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. I_0

I_1 = sensitivity of investment to change income = 4

$\frac{\Delta Y}{\Delta I} = 4$

if y increase by 1 unit = I increase 4 unit

if y increase by 200 unit = I increase 4 x 200 unit = 800 units

Have trade + Gov.

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

I think the multiplier effect in country B will be smaller than country A Because MPC - MPM have trade together Between country and country

close economy multiplier

$= \frac{1}{1-c_1}$

open economy multiplier

$= \frac{1}{1-c_1+M_1}$ → import have multiplier to affect!