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Problem Set I

EE212 — Principles of Macroeconomics
Semester 2/2018
Total mark: 20 points
Due date: Friday 7 February 2020 **before midnight** to jenmana@econ.tu.ac.th.
For any late submission, one point will be deducted per half an hour.
Please submit in pdf form, and not word document.

Dear students,
Two weeks are given to complete this assignment. As mentioned, we will have four problem sets, each making up 5% of your total grade (20% in total). These will be challenging, and will demand you to revisit the topics that have been mentioned so far in class, as well as to read the mandatory readings.

Reminder on academic policy: I encourage you all to work together and exchange ideas out of class. However, I also encourage you all as university scholars to start independently critically approach a topic, a question, or a challenge that will be posed in this class, as well as the future ones.
I expect your independent completion of the short essays, as it would be obvious if they are not your own ideas. Plagiarism and cheating will be treated with disciplinary actions. Thammasat University, our faculty, and I take academic integrity extremely seriously.

Problem I: Macroeconomic concepts (2 points)

Answer to these questions in **a few sentences.**

1. What does GDP per capita measure?
2. Why are we interested in real GDP?
3. What is the discouraged-worker effect? How does it affect the unemployment rate?
4. What is transfer payment? and why is it not included in the GDP?
5. Using market exchange rates, per capita income in Switzerland exceeds that in Canada, but when PPP rates are used the situation is reversed. Why?

Problem I

1.) GDP per capita is a metric that break down country's GDP per person, calculated by dividing GDP (value) over a country's population.

2.) Because the real GDP determine rate that economy is growing without any of inflation effect.

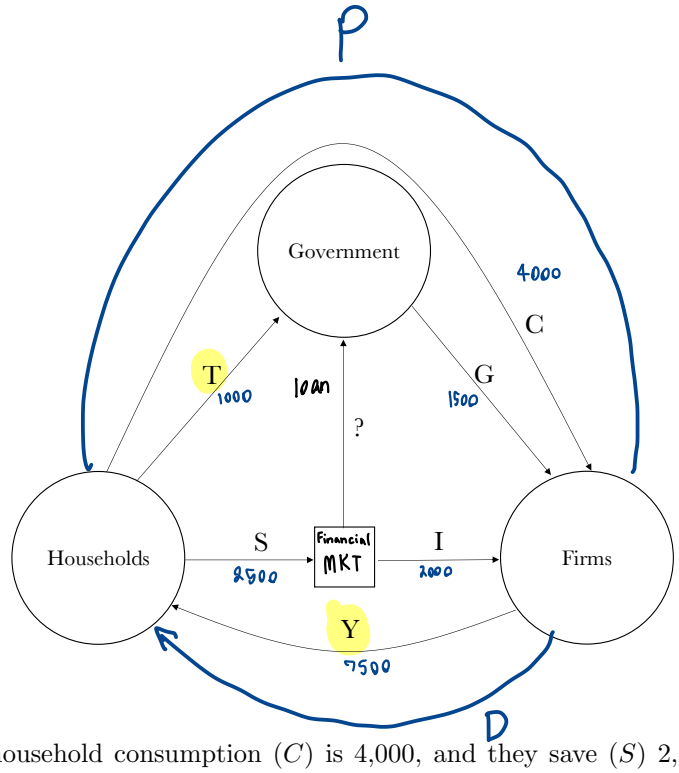
3.) Discouraged workers are not included in the unemployment rate.
They are counted in the real unemployment rate.

4.) Money such as welfare that is received by individuals, that is goods or services and it is one-way payment to a person who has given or exchanged no money, good, or service for it.
eg. Old-man received senior citizens is not their earned income. Therefore it's not included in GDP.

5.) Market Exchange rate or MER are based on foreign Exchange Market and likely to be influenced by other factors like Government Intervention, Interest Rate, but PPP is comparing without other factors. Therefore Switzerland's MER have more money due to their heavy tax.
The PPP is lower than Canada which had a lower tax.

Problem II: flows in a closed economy (5 points)

Assume that the circular flow of a closed economy is described by the figure below.



Suppose that in period, household consumption (C) is 4,000, and they save (S) 2,500. The firms invest (I) 2,000, and government spends (G) 1,500.

A) Find the values for the rest (T and Y), include the question mark. What market is the box, and how can we interpret the question mark. Then write out the identity function of the GDP by using the consumption and income approach. (1 point)

B) We still consider the same close economy, but now we introduce firms' ability to **immediately** self-finance, designated by P. We also introduce compensation of employees, W, and paid dividends D. Reconfigure the circular flow above (scan them for submission).
We now assume that $C = 4000$, $I = 2000$, $G = 1500$, $W = 4800$, $D = 1800$, $T = 1000$. Estimate the missing elements of the circular flow. What is the GDP?
Write out the same two identity functions for the GDP as before, but using the new variables. What is the aggregate profit in the economy. (2 points)
Tip: Y, household income, is replaced.

(A) T refers to Tax that households give to the government.

Y refers to households income

Firms receive investment from the financial market and household do saving to the financial Market too. Therefore the ? is the government borrow from the bank which is loan.

Measure GDP by income approach = C + I + G

= 4000 + 2000 + 1500

= 7500

∴ The GDP of this closed economy = 7500

(B) Measure GDP by consumption approach = C + I + G

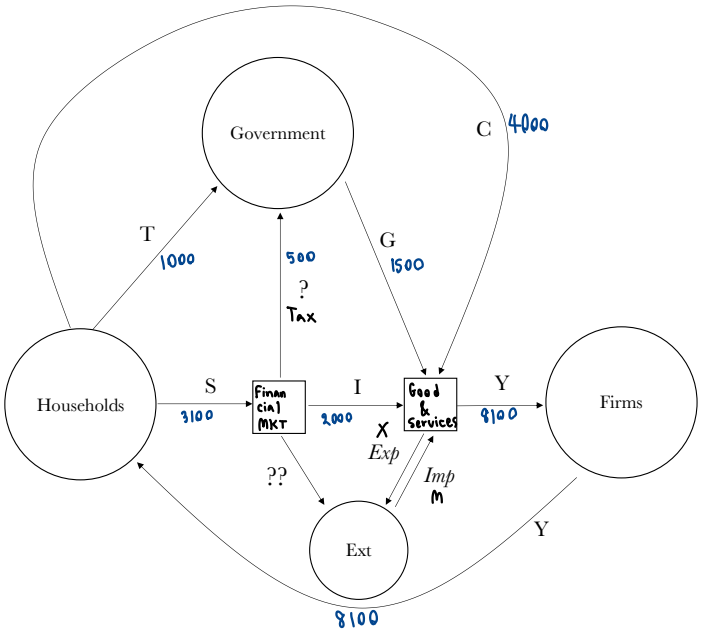
= 4000 + 2000 + 1500 = 7500

Measure GDP by income approach = W + D + P

= 4800 + 1800 + P = 7500

∴ P = 900

C) Now, we consider an open economy characterised by the circular flow below.



We know that $Y = 8100, C = 4000, I = 2000, G = 1500, T = 1000, Exp = 1500$. Determine the values of the other aggregates. What are the budget balance, the trade balance, aggregate savings? Interpret these results. Is such a situation sustainable? Is it condemnable? (2 points)

$Y = 8100$
$C = 4000$
$I = 2000$
$G = 1500$
$T = 1000$
$exp = 1500$
$imp = 900$
$S = 3100$

$Y = C + I + G + (x - m)$

$8100 = 4000 + 2000 + 1500 + (1500 - M)$

$600 = 1500 - M$

$M = 900$

$\therefore$ trade balance = Export − import

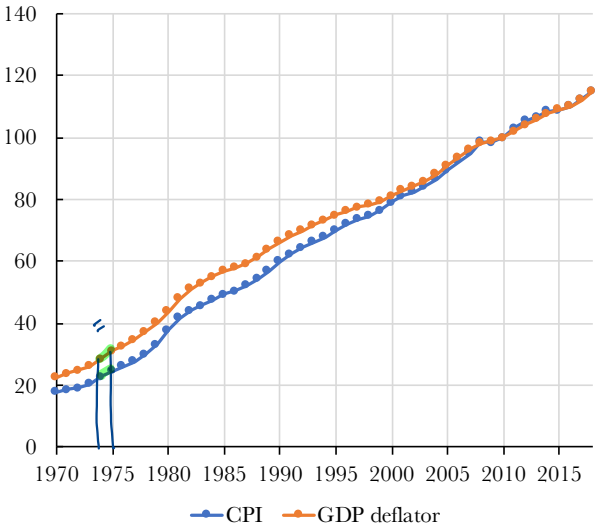
$= 1500 - 900$

$= 600$

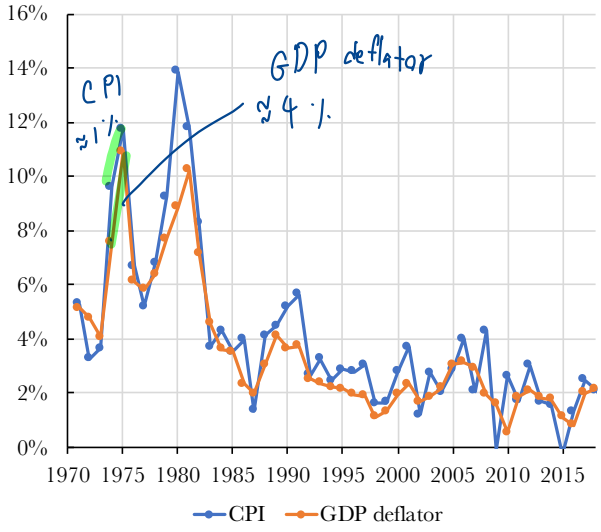
Problem III: The CPI and The GDP Deflator (6 points)

1. The nominal GDP per capita of Thailand in 2000 and 2018 are 80,534 baht and 235,010 baht respectively. Given that the GDP deflator = 100 only in 2010, and equals to 73.49 and 116.59 in 2000 and 2018 respectively, calculate the real GDP per capita of Thailand in the year 2000 and 2018. What is the base year? What is the cumulative price increase between 2000 and 2018? between 2010 and 2018? (2 points)
2. Based on the figure below for the US, the main difference in the evolution of the series for the CPI and the GDP deflator takes place in 1974-75 and 1979-1982.

(a) Values of CPI and GDP deflator



(b) Inflation calculated based on CPI and GDP deflator



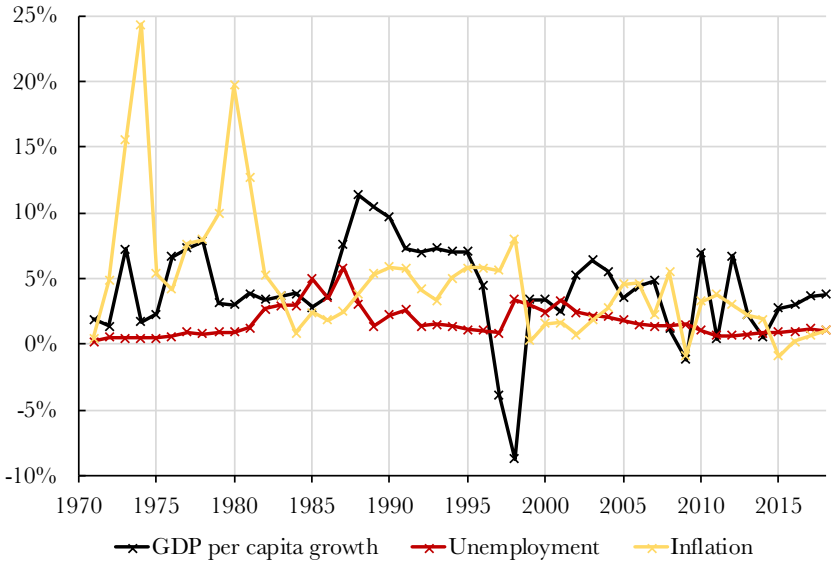
Source: Lecturer's calculation based on world bank data.

What could explain this pattern? (2 point)

Hint: think about the likely impact of an oil crisis on the price of imported goods and, in particular, on your own transport and fuel bills.

3. Write a short summary on the evolution of inflation, unemployment, and the real GDP per capita growth rate over the same period based on the figure below. (2 points)

Figure 2: Real GDP per capita growth rate, unemployment, and inflation in Thailand, 1970-2018



Problem III

1)

Year based : 2000

Real GDP per capita of year 2000 ?

Nominal GDP per capita of year 2000 = 80,534 ฿

GDP deflator = 73.49

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

$$\therefore \text{Real GDP}_{2000} = \frac{\text{Nominal GDP}}{\text{GDP deflator}}$$

$$= \frac{80534 \times 100}{73.49}$$

$\therefore$ Real GDP per capita = 109,534.9

Real GDP per capita of year 2018 ?

Nominal GDP per capita of year 2018 = 235,010 ฿

GDP deflator = 116.59

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

$$\therefore \text{Real GDP}_{2000} = \frac{\text{Nominal GDP}}{\text{GDP deflator}}$$

$$= \frac{235010 \times 100}{116.59}$$

$\therefore$ Real GDP per capita = 201,569.6

Cumulative Price increase between 2000 and 2018 based on real GDP per Capita.

Every calculation based on year 2010.

- between 2000 – 2018

$$\text{Cumulative price} = \frac{116.59 - 73.49}{73.49} \times 100 = 58.647$$

$\therefore$ the GDP per capita increased by 58.647

- between 2010 – 2018

$$\text{Cumulative price} = \frac{116.59 - 100}{100} \times 100 = 16.59$$

$\therefore$ the GDP per capita increased by 16.59

2) Graph (a) between 1974 - 1975 and 1979 - 1982 both graph look similar which GDP deflator > CPI. If consider Graph (b) the inflation calculated are difference. On 1974-1975 the difference about 1 %. but 1979-1982 the difference almost 4 % which means that GDP deflator increase a lot more than CPI. People have more money to spend but less product have been produced so the price is higher.

3.) Consider from the graph middle of 1970's. They are a Hyper Inflation almost 25 % and it happened again in 1980 about 20 %. According to the Hyper Inflation in the same year, the GDP per capita growth dropped.

In 1997, the GDP per capita severely dropped as the result of the financial crisis almost -10 %, so inflation rate increase leading unemployment rate increase too.

GDP ↑ ⟶ inflation ↑ ⟶ unemployment ↓

GDP ↓ ⟶ inflation ↓ ⟶ unemployment ↑

Problem IV: Short essays of 500 words each (7 points).

Must: cite your sources.

300 words

1. What is Thailand's definition of unemployment rate? How has Thai unemployment evolved since 2001? Based on your interpretation of the article, what is the biggest problem in the Thai labour market, and how should we try to fix it? Any reference to the other mandatory reading written by Bruno Jetin in 2012, *"Distribution of income, labour productivity, and competitiveness: is the Thai labour regime sustainable?"*, is welcomed and will be awarded.

500 words

2. Based on the "*Against Economics*" article, the author – David Graeber, an American anthropologist at the London School of Economics – said:

   "Economic theory as it exists increasingly resembles a shed full of broken tools."

   What does he mean by this? Give one example amongst many that the author used to support his argument. Do you agree with the article and why?

Note: I will allow ± 20 words for each of the essays.

(1)

Thailand's definition of unemployment rate is 1.1% which is 9th lowest out of 233 countries worldwide unemployment rate because of many structural problems in Thai Labor market. Unemployed is a person who are without work or work less than one hour per week (defines by ILO) The US also added more definition for people who work in the family businesses without any compensation and work less than 15 hours per week. Using the US definition consider Chart number 1, Thailand's unemployment rate is still much lower than US, despite using the same calculation based.

The biggest problems in the Thai labour market can divide in to 4 main problem
1.Some workers have unstable jobs
Unstable jobs, which constitutes almost one-third of the labor force, are self-employed in Chart number 2 (not in the social security system). They not have significant social benefits, such as childbirth, disabilities, death ,unemployment and also self-employed such as retail businesses, street stalls ,mom and pop shops.
2.Some workers in the agricultural sector are underemployed
Agricultural sector is 36 hours per week, which is lower than the average of non-agricultural sectors in Chart number 3. Large number of agricultural worker compared to non-agricultural workers is underemployed that difficult for agricultural workers to move to other economic activities.
3.Some workers have give up seeking jobs and excluded from the labor jobs
The Early retirement of workers are not counted in the labor force like houseworkers are out of labor force, trending between 51-60 years in Chart number 4. In other ways they are not retirement, just give up and become discouraged workers are showing in the chart which mean this type of people have not suitable jobs it mismatch jobs.
4. Fourth problem Some workers confront skill mismatch given their educational levels or fields of studies.
The jobs does not match his or her skills.The experiences a job mismatch because of the level of education in Thailand too, 1 in 10 of non-agricultural workers in Thailand is underpaid.

We could fix it by monitor the overall Thai labor market, the 4 main problems and give the full potential work, support about working skills and basic education for real life in the future, and also consider the trend of labor market too (Chart 5).

Problem Ⅳ

②

According to the article “Against Economics” which David Gaebar said “Economic theory as it exists increasingly resembles a shed full of broken tools.” I agree with the article because many reasons. Firstly, in the different time different situations maybe the old theory can not solve in this century’s problems. The problem of how to determine the optimal to distribute work and resources leading to the high levels of economics growth i.e., how to deal with increasing technological productivity, decreasing real demand for labor, and the effective management of care work for example in the article of the obsession with inflation.Economics teach their students about the basis proper role for our vigilant over the dangers of inflation. For governments to simply print money is therefore inherently sinful. In 1989s ,there is an idea about “natural rate of unemployment,” taking advantage of clear price signals could be ensure healthy growth. The government restrict itself to managing supply of money, later on 1990s it’s just a elementary common sense that set the political debate. We now live in the different economics universe than they did before the crash. Like printing money does not cause inflation, but the wisdom conveyed in the economics textbooks really unchanged. Secondly, the article show that we misunderstanding of the basic economics theory, Graeber suggests that if not practicing, falling unemployment might cause wages to rise. The Observed negative correlation between the rate of wage increase and the rate of unemployment. But correlation does not imply causation. No basis in rate of increase in wages.

One expectation is a certain institutional lag. Mainstream economists nowadays might not be particularly good at financial crashes prediction, facilitating general prosperity or coming up with the model for preventing climate change. One thing that the economists should do is looking at the history of religions to find anything like it. To predict the financial crises would be desirable ,but cannot advanced our understanding of how economic is organized or what can effects policy. In general, the economists can make more than a modest contribution to improved the policy.

To conclude the article, full of broken tools means even more difficult through neoclassical economics’ not mention all the subtle ways, depend on conceptions of human motivations and horizons of human possibility.