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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)

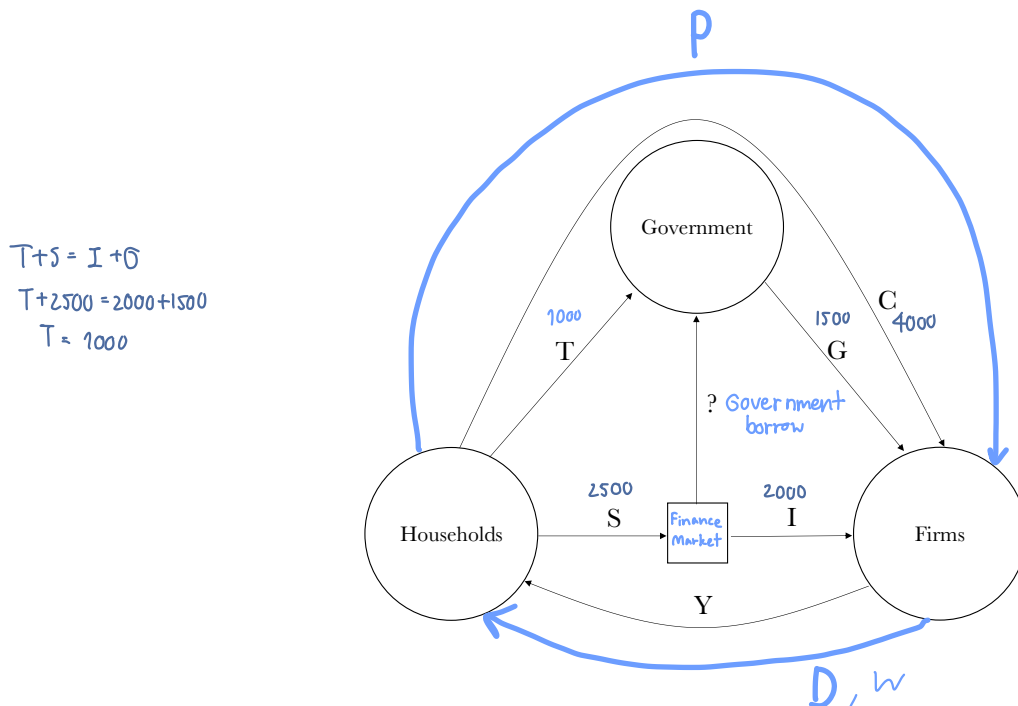
Answer to these questions in **a few sentences**.

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 <sup>social security, gov making subsidies.</sup> 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 <sup>(ค่าเงินซื้อของ)</sup> rates are used the situation is reversed. Why?

- Ans I
1. GDP per capita is GDP divided by population. It measured average standard of living in a country.
  2. Because real GDP measured in constant price and adjust for inflation which close to the real value of GDP. Moreover Real GDP is focus on quantity which proper to measure.
  3. They affect the unemployment rate, if they neither considered as unemployment nor part of labor force the unemployment rate would relatively lower than considered as unemployment and part of labor force.
  4. Transfer payment is payment of government including social security and subsidies. These are not included in GDP because They are not payment for goods and services which get nothing in return.
  5. There have another factor that affect PPP for example inflation rate and deflation rate in all price level.

## 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)  $Y = C + I + G = 4000 + 2000 + 1500 = 7500$

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.

Ans II

A.) To find  $T$  refer to tax use leakage-injection that  $T+S = G+I$ , so  $T = 1000$

To find  $Y$  refer to GDP we function of GDP  $Y = C+I+G+(x-m)$ , so  $Y = 7500$

Since firms receive investment from the box and household do saving with the box then the box is a financial market. Therefore the question mark is government borrow from financial market.

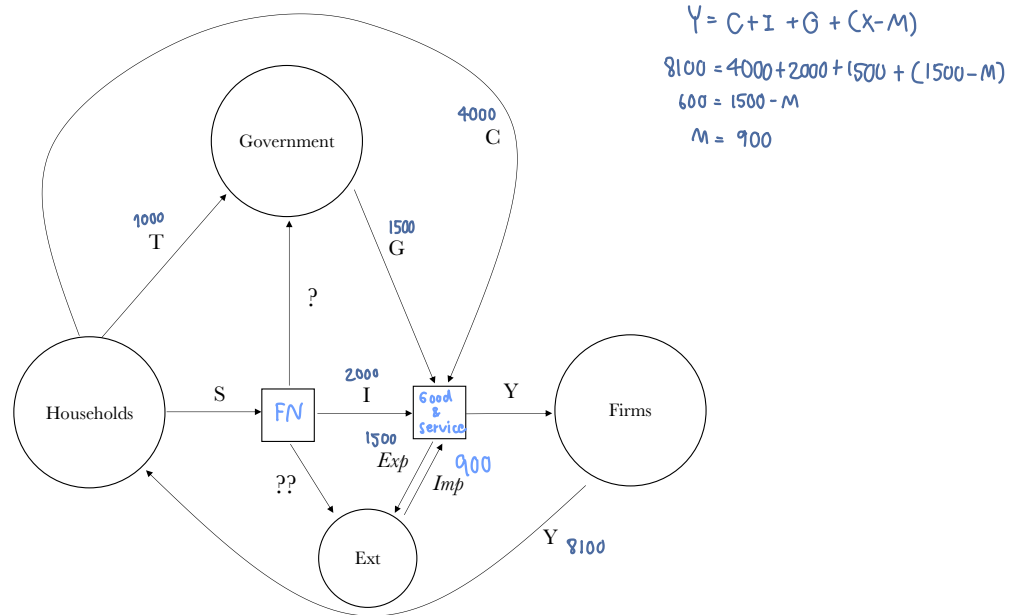
B.) Income approach  $Y = C+I+G+(x-m)$   
 $= 7500$

Expenditure approach  $Y = W+D+P$

$$7500 = 4800 + 1800 + P$$

$$P = 900 \#$$

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)

Ans II Budget balance =  $T - G = 1000 - 1500 = -500$  (Budget deficit)

Trade balance =  $E - M = 1500 - 900 = 600$

Aggregate saving =  $S + T + M = I + G + X$

$$S + 1000 + 900 = 2000 + 1500 + 1500$$

$$S + 1900 = 5000$$

$$S = 3100$$

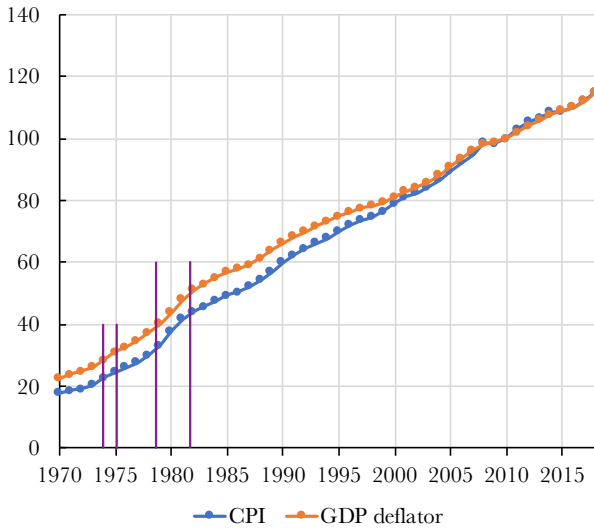
It is not sustainable. Budget deficit is spending exceeds revenue for example your revenue is 10,000 baht but you spending 20,000. More over, it can cause increasing in dept.

$$GDPD = \frac{NGDP}{RSDP} \cdot 100$$

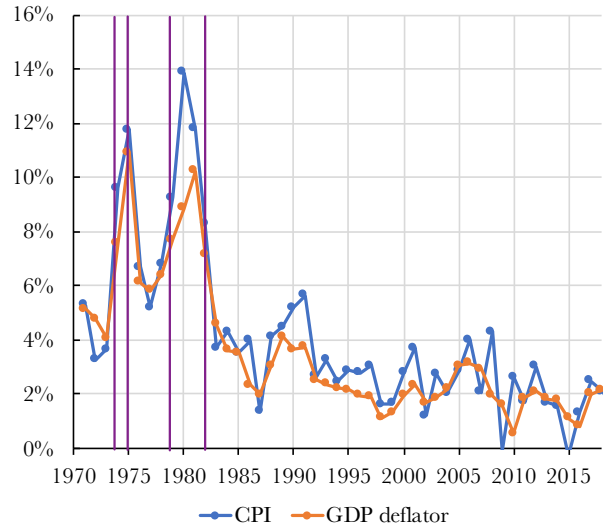
### Problem III: The CPI and The GDP Deflator (6 points)

- 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)
- 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



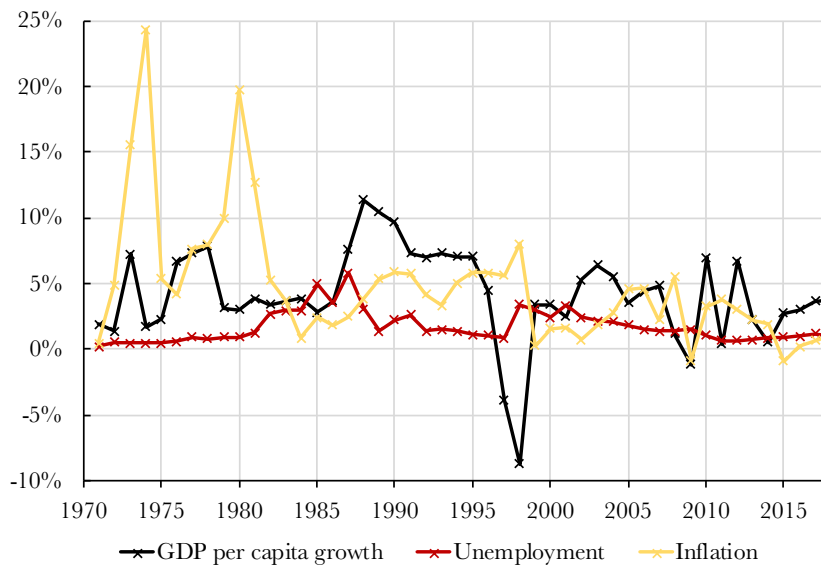
Source: Lecturer's calculation based on world bank data.

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.

- 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



GDP ↑ → Inflation ↑ → Unemployment ↓  
 GDP ↓ → Inflation ↓ → Unemployment ↑

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)

Ans

$$- \text{GDPD} = \frac{\text{NGDP}}{\text{RGDP}} \cdot 100$$

$$\text{2000} \quad \text{GDPD}_{2000} = \frac{\text{NGDP}_{2000}}{\text{RGDP}_{2000}} \cdot 100$$

$$73.49 = \frac{80,534}{\text{RGDP}_{2000}} \cdot 100$$

$$\text{RGDP}_{2000} = 109,584.978$$

$$\text{2018} \quad \text{GDPD}_{2018} = \frac{\text{NGDP}_{2018}}{\text{RGDP}_{2018}} \cdot 100$$

$$116.59 = \frac{235,010}{\text{RGDP}_{2018}} \cdot 100$$

$$\text{RGDP}_{2018} = 201,569.603$$

$$- \text{cumulative price} = \frac{\text{New} - \text{Old}}{\text{Old}} \cdot 100$$

$$\text{2000} - \text{2018} \quad \text{Cumulative price} = \frac{116.59 - 73.49}{73.49} \cdot 100$$

$$= 58.647$$

$$\text{2010} - \text{2018} \quad \text{Cumulative price} = \frac{116.59 - 100}{100} \cdot 100$$

$$= 16.59$$

-The base year is 2010

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.

What could explain this pattern? (2 point)

Ans

Oil crisis from 1973 affect both increase in CPI and GDP Deflator not only value but also inflation. The value of oil rapidly increase which also affect increase in inflation in 1974-1975.

Another oil crisis after 1973 for five year, in 1978. The value of oil increase because the demand is more than supply and also cause inflation in 1979-1982.

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)

Ans

GDP  $\uparrow$   $\rightarrow$  Inflation  $\uparrow$   $\rightarrow$  Unemployment  $\downarrow$

GDP  $\downarrow$   $\rightarrow$  Inflation  $\downarrow$   $\rightarrow$  Unemployment  $\uparrow$

As GDP increasing will lead to people spending more. Producer will want to increase the price then it will be inflation. As inflation is increasing Producer would want to produce more which to produce more they need to hire more then the unemployment rate is decreasing.

## 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.
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  $\pm 20$  words for each of the essays.

# Essay 1

Definitions of an unemployment rate of Thailand is based on international standard which is a person who has no work or work not more than 1 hour per week. Since 2001 unemployment rate of Thailand gradually lower, on the other hand, can say that demand for labor force has increased. When compare unemployment rate of Thailand to U.S. definition which include who work for family business with nothing in return for example welfare. The unemployment rate of Thailand with U.S. definition is increasing more than usual but still less than the unemployment rate of U.S.

The Thai labor market can not define some group such as self employed or people who looking for a job. Which those group should count to calculate the unemployment rate because those group can also reflect unemployment rate. There are many problem that effect Thai labor force. First some worker work for a job that mismatch their qualification or not direct education, they are graduated. This problem will leads worker not work for their full capability. Worker should find their job match with their potential and education level to work for their full ability and get well paid. Second in Thailand discourage worker, worker who can not find a job and then give up, can not separate from the labor force which effect the unemployment rate.

Therefore, low unemployment rate of Thailand did not indicate the problem that Thailand has faces which just unemployment rate can not occur all features of labor force market. Then other indicator will be consider including employers confidence, employer behavior, they want worker to work more in overtime represent demand of labor force market, and number of unemployed worker and have no experience represent utilization of worker for full potential.

## Essay 2

As article "Economic theory as it exists increasingly resembles a shed full of broken tools" mentioned in Against economics said by David Graeber. He refers to some economics theory can not solve the problem that happen in a meantime which look like a solve problem that no longer exists. He think that we are now live in different economic universe which now cause of something did not affect the way it use to back then. For example falling unemployment no longer drives up wages and printing money does not cause inflation. He also believe heterodox economists(marxist, feminist)is often much better than mainstream economists. Nevertheless, heterodox economists are not treated well and their supporter are not consider to be serious.

While economists arguing about loan, heterodox economists hold theory —credit creation theory of banking. In 2014 german economist, Richard Werner, discovered that loan officer just create money within the air. Bone of contention is the question of money creation and no one find out what happen. Technocrats came with a false information about the creation of money ,although, they do not know exactly what it is. After that economists ,who are not longer in government system, reveal report call "Money Creation in the Modern Economy" which an idea that economics text book are wrong. Moreover the report is also point that heterodox economists are right but monetarists(the theory of control supply of money) are wrong. Afterward, monetarism got a respectability by having uphold from Bank of England economists.

In sixteenth century price inflation hardly or impossible to explained whether the money supply drives prices, or prices drive the money supply. An argument of inflation between Treasury Secretary William Lowndes, Sir Isaac Newton and the John Locke, who philosopher. Newton had agreed with Treasury that silver coins had to be officially devalued to prevent a deflationary collapse. On the other hand, Locke arguing that government should be limited to guarantee the value of property. The result is Locke won. Then the government supported his argument then the pattern repeat again which always see the same event. What Locke produced is just a short term. Since then economists have separated short run and long run.

In my opinion we should respect everyone opinion even if they are or they are not economists because it would help to shape the best way to understand an economics. Furthermore, opinion from another specialist can be the way that economists may not see it before. But to say that economics theory is a shed full of broken tools may not to be assure economics theory. Because the theory that we study today came from the things that happened in the past which it had happened then we learn from it. As I have mentioned earlier that they are argued ,therefore, most of the theory have been use and work before. What can happened in the past, we can not confirm that it will not happen again and if it happed again we are have an maybe useful information to look in through. There are would be a shed full of tools ,however, not the broken tools.