

(Pim)

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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)

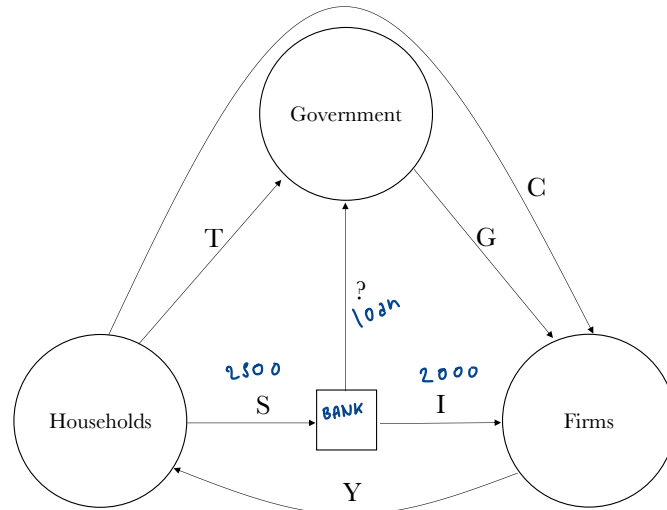
Answer to these questions in **a few sentences**.

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?

1. GDP per capita is a measure of a country's economic output divided by its population
2. Real GDP is a value of economic output adjusted change in current price. so, the value is almost close to the real total spending.
3. Since the discouraged-worker effect means jobless people who are not active to find any job due to the belief that they aren't any jobs for them and these people are not included as a part of unemployed, the unemployment rate will be decrease.
4. Transfer payment is a payment made by gov. in which no goods and services being received in return and it not included in the GDP because there are no output such as welfare, subsidy, and social security.
5. Since market exchange rate, per capita income in Switzerland exceeds that in Canada, if the price of goods and services of the two countries are equal, the purchasing power of Switzerland will be greater than Canada, but there are some factors that make the situation is reversed such as inflation.
Due to this factor, if Switzerland has a higher rate of inflation, the purchasing power of Canada could be greater than Switzerland.

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 have to give to the government
 Y refers to household income

Since the box refers to bank, question mark will refer to loan which the government borrow from the bank.

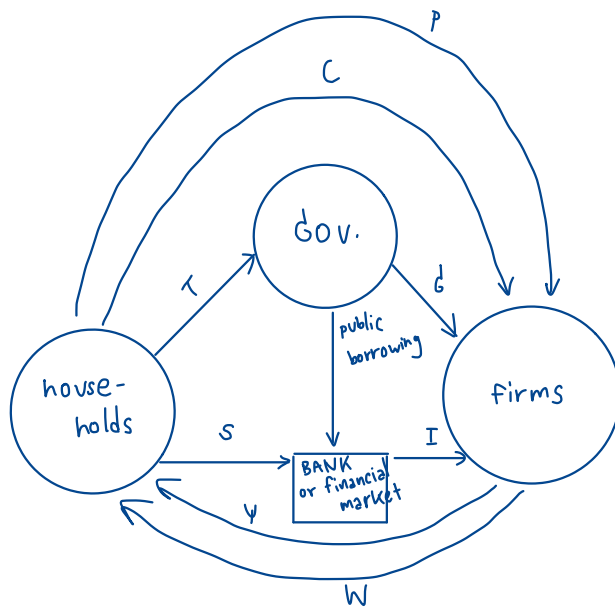
$$\text{GDP by the consumption approach} = C + I + G = 4000 + 2000 + 1500 = 7500$$

$$\text{GDP by the income approach} = W + D + P = 7500$$

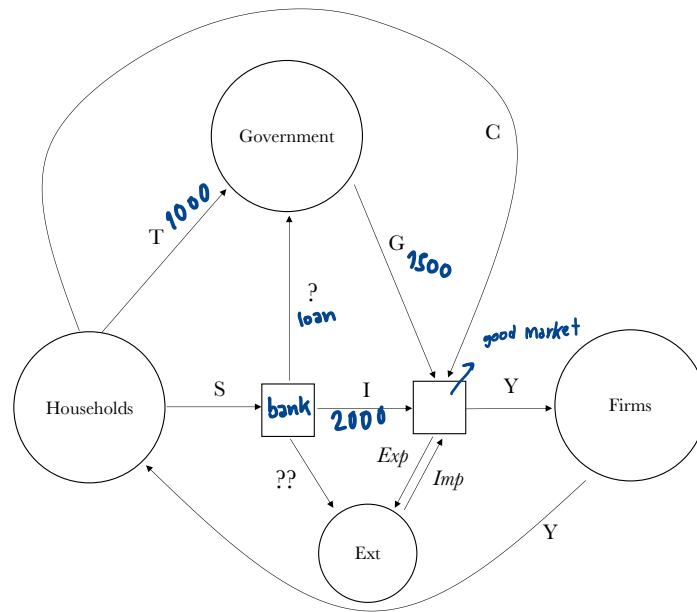
B) GDP by the consumption approach = $C + I + G = 4000 + 2000 + 1500 = 7500$

GDP by the income approach = $W + D + P = 4800 + 1800 + P = 6600 + P = 7500$

$P = 900$



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)

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

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

$$600 = 1500 - m$$

$$m = 900$$

$$\begin{aligned} \therefore \text{the trade balance} &= \text{Export} - \text{Import} \\ &= 1500 - 900 = 600 \end{aligned}$$

$$\begin{aligned} \therefore \text{budget balance} &= T - G \\ &= 1000 - 1500 \\ &= -500 \end{aligned}$$

\therefore aggregate saving

$$\hookrightarrow S + T + M = I + G + X$$

$$S + 1000 + 600 = 2000 + 1500 + 1500$$

$$S + 1600 = 5000$$

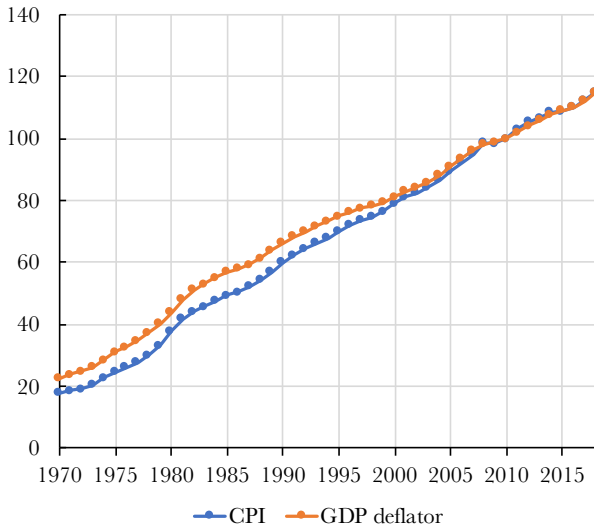
$$S = 3400$$

this deficit budget might occur from borrowing money from the bank and it might cause the public dept in the long term.

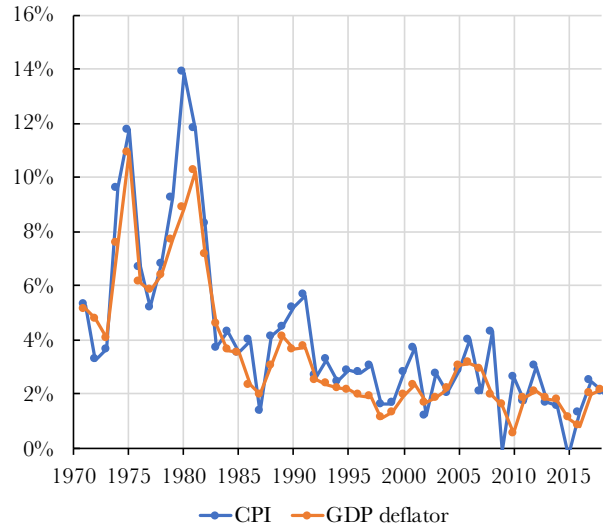
Problem III: The CPI and The GDP Deflator (6 points)

- 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



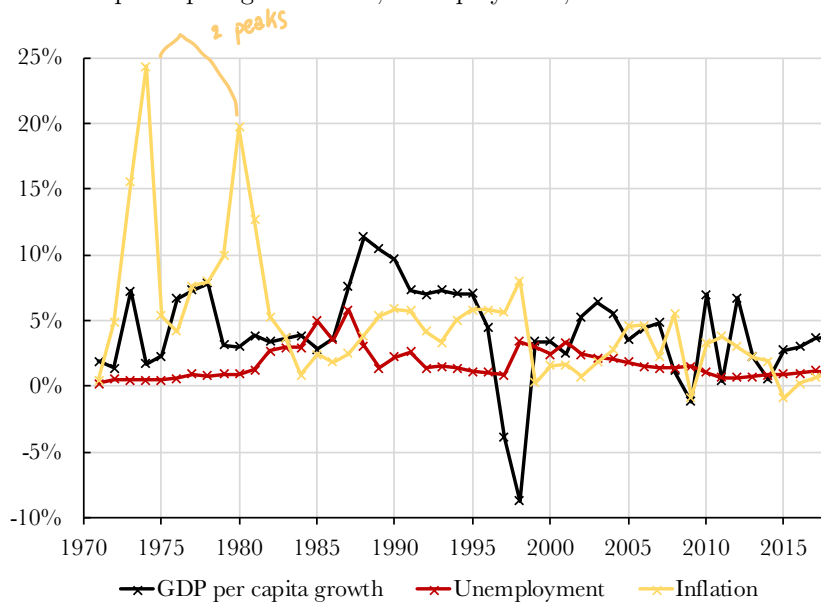
Source: Lecturer's calculation based on world bank data.

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



1. base year \rightarrow 2010

$$\text{Real GDP of year 2000} = \frac{\text{Nominal GDP}}{\text{GDP deflator}} \times 100$$

$$= \frac{80,534}{73.49} \times 100 = 109,584.978$$

$$\text{Real GDP of year 2018} = \frac{235,010}{116.59} \times 100 = 201,569.603$$

$$\text{the cumulative price increase between 2000-2018} = \frac{116.59 - 73.49}{73.49} \times 100 = 58.647$$

$$\text{the cumulative price increase between 2010-2018} = \frac{116.59 - 100}{100} \times 100 = 16.59$$

2. According to the graph (a) which is the values of CPI and GDP deflator without inflation, between 1974-1975 and 1979-1982, CPI values are lower than GDP deflator by 2 from 23 to 25 and by 10 from 33 to 43, but when inflation are taken into account, the CPI values are higher than GDP deflator in both 1974-75 and 1979-1982 which mean the price of all products and services that the consumer buy are higher than the price of all products and services that produced within the country.

3. According to the graph of real GDP per capita growth rate, unemployment, and inflation in Thailand between 1970-2015, the inflation is peak on two years which are 1973 and 1980 at 24% and 20% respectively. Also, the GDP per capita growth is peak in 1988 at 11%, but it went down the the minimum point in 1998 at around -8%. Lastly, for the unemployment rate, it's lowest at the beginning and the last, but it is peak in 1985 and 1987 at 5% and 6% respectively.

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

Must: cite your sources.

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 ± 20 words for each of the essays.

1. The definition of unemployment rate that has been using for countries all over the world including Thailand defined by The International Labour Organization is the rate of the unemployed as all persons who are without work or work less than an hour per week. As can be seen from the chart 1 of the article, in 2001, Thai unemployment rate is about 3.7% and continually lower to 1.1% in 2016.

Nevertheless, due to the addition of the U.S.'s definition that includes those who work for family businesses without any compensation and work for less than 15 hours per week, Thai unemployment rate increase to about 4.8% in 2001 and lower to about 1.8% in 2016.

Since there are 4 main problems that increase the rate of unemployment, on my perspective, the biggest problem in the Thai labour market is some workers have given up seeking jobs and are therefore excluded from the labor force which some are becoming discouraged-workers who are not considered as unemployed or the part of the labor force. Unfortunately, Thailand's labor force survey are not be able to separate discouraged workers out of the unemployed which means those people are still counted as unemployment which increase the rate of Thailand's unemployment.

As can be seen from the chart 4, the number of houseworkers out of the labor force with age between 15 and 60 in 2016 increase from in 2001 excepting the age between 31-40 in 2016 that decrease from 2001.

In order to fix this problem, in the U.S., The Basic Life Support created U-4 rate to quantify the number of discouraged workers by using the number of unemployed plus discouraged workers, as a percentage of the labor force plus discouraged workers. Therefore, after we know how many the discouraged workers are, we will be able to separate those people out of the unemployed to get the real number of Thai unemployment and also encourage some that are still looking for job to find one that fit to them.

2. According to the speech of David Graeber, "Economic theory as it exists increasingly resembles a shed full of broken tools.", current economic theories cannot be the only tools to address the problems that we are now facing anymore due to the different kind of problems that no longer fit for purpose. So, we need the other fields such as physics, Mathematical truths, behavioral economics, psychology, and even anthropology to obtain the knowledge based on how people actually behave and to figure out the solution together as well.

For example that given from the article, "Falling unemployment no longer drives up wages. Printing money does not cause inflation. Yet the language of public debate, and the wisdom conveyed in economic textbooks, remain almost entirely unchanged," he said or another example is the obsession with inflation that economists still believe that the primary economic role of government will ensure the price stability which means no prolonged inflation and deflation, but actually there are many factors that cause or do not cause the stability of price such as unexpected inflation or interest rate.

I agree with the article because I believe that the economic theories are made to solve the economic situation or event that had already occurred, but we should not rely on just the theory even though it might true and useful sometimes. For instance, if there is a growth of the GDP of Thailand, then it is a meaning that Thai economy is good and the citizens are well-being? No, these conclusion might wrong because GDP is a measure of the market value of all the final goods and services produced within a country, so lots of the time that we buy goods or services just because of the bad quality of life such as P.M.2.5 and Corona Virus that lead you to buy many masks or Bangkok congested road that waste your petrol and money to refill.

Apart from these, the high amount of GDP per capita does not guarantee that everyone will get the same rate because It does not take the social equality into account. Therefore, we cannot summarize that GDP is everything that indicate the good or bad quality of citizens' living, but also look from the overview of the country and other fields.

Cite : Against Economics
: <https://www.nationalaffairs.com/publications/detail/how-effective-is-economic-theory>
: <https://themomentum.co/beyond-gdp/>