

ECON204 MACROECONOMIC ANALYSIS
SESSION 2, 2018
WEEK 3
TUTORIAL QUESTIONS

For the homework questions, please keep the following in mind:

- Each question is based on your **country/region**
- When asked to draw a graph, please use statistics (either monthly, quarterly or yearly, whichever is available) for the last **30 years** (less than this **only if** no statistics are available)
- When asked to draw a graph, Excel would be an appropriate software program. Hand-drawing is unnecessary, you could just bring your devices and show your attempts on them.

For homework on your group's country

- Find the data and then draw a graph of nominal and real GDP over time.
- Draw a graph of the growth rates of nominal and real GDP over time.
- Find the data and then draw a graph of inflation over time. Specify the type of inflation being used.

Question 1

Suppose that the economy is characterized by the following behavioral equations:

$$C = 1000 + 0.75 Y_D$$

$$I = 500 + 0.25Y$$

$$G = 900$$

$$T = 100 + 0.2Y$$

Solve for

- a. Compute total demand at equilibrium.
- b. Assume that G is now equal to 1200. Solve for equilibrium output. Compute total demand. Is it equal to production? Explain.
- c. Assume that G is equal to 1200, so output is given by your answer to (b). Compute private plus public saving. Is it equal to investment? Is it higher or lower than when G was 900? Explain.
- d. What is the multiplier? What happens to the multiplier if tax revenue (T) is instead fixed at 3000? Explain.

Question 2

Suppose that wealth is \$5trn and can be in money and bonds only. Suppose that yearly income is \$1.5trn. Also, suppose that money demand function is given by

$$M^d = \$Y (.8 - 2i)$$

- a. What is the demand for money and the demand for bonds when the interest rate is 2% ($i=0.02$)? 4% ($i=0.04$)?

- b. Describe the effect of the interest rate on money demand and bond demand. Explain.
- c. In percentage terms, what happens to the demand for money if yearly income is reduced by 10%?

Now suppose that the supply of money is \$1trn. Assume equilibrium in financial markets.

- d. Calculate the equilibrium interest rate.
- e. If the Reserve Bank of Australia wants to decrease i to 0% at what level should it set the supply of money? How does it do that?

3. Consider an economy with a banking sector. Money demand is given by $M^d = \$Y(0.35 - i)$ where $\$Y$ is \$2trn. Suppose that people desire to hold 20% of their money in currency ($c=0.2$) and 80% in deposits. Also, suppose that banks hold 10% of all deposits as reserves ($\vartheta=0.1$).

- a. Given that the central bank desires to keep the interest rate at 3% ($i=0.03$), what should be the supply of central bank money? What will be the overall money supply?
- b. Show and calculate the money multiplier. Explain its meaning.
- c. During the Great Depression in the 1930s, bank runs led to people taking their money out of banks, preferring to keep it in currency. How did this shift from deposits to cash affect the size of the money multiplier?