

Assignment 2 (Due on Feb,21th before 3 pm. Please turn in at the BE office.)

EE312 Intermediate macroeconomics theory

Instruction: There are **FOUR** questions. Attempt all. Question will be not be graded, but you are still required to submit. Your trade will grade the next two; meanwhile, I will grade the last one. As usual, your answer in note-taking style will not be graded; answer the question in complete sentences.

Question 1: The law of one price revisited. (will not be graded)

a) In class, we discussed an important proposition/theorem in international trade, known as the *law of one price*. The theorem suggests that, under the international trading system without trading frictions/restrictions, the price of an identical product must be the same across countries. *Explain the mechanism why the theorem holds true.*

b) Suppose instead that international trading system is full of frictions. For example, government might impose tax on imports/exports of goods. Do you think the law of price can still hold if the imposition is to be lasting forever?

c) Find a line of your own argument and convince that even under the trading frictions as mentioned in (b), *law of one price can still be established if factor inputs and firms can freely relocate across border*. Analyze the possibility that the statement can be correct with some economics intuitions provided.

Question 2: (Graded by your TA) Use the exchange rate theorem and analyze the impact of the following developments on the market exchange rate, i.e. the value of Thai baht against the USD. (When you answer each question, use the diagram that we discussed in class, and provide some economics intuitions that support your narrative answer.)

My answer will omit the diagram.

a) Market expects that the Bank of Thailand will raise its policy rate soon.

An expected increase in policy rate is likely to create an upward expectation on the opportunity of financial investment in Thailand. Foreign capital will be moving into

Thailand, causing an increase in the supply of the USD in the market. Thai Baht should appreciate then.

b) Productivity growth in Thailand is expected to decline rapidly.

An expected decline in productivity will cause an expected future depreciation in Thai Baht. Why? Following the PPP theorem, a country with lower productivity will experience a depreciation in its currency. As a result, foreign investors expect to make less return on the investment in Thai market. They will receive less amount of net return if they include or take into account the loss due to the expected depreciation in Thai baht. Then, (foreign) investors are likely to invest in Thai market, causing less supply in the USD in the foreign currency market.

c) Market expects that US dollar will be appreciating in the future.

Investors will likely taking the money out of Thailand. The dollar should be appreciating while the Thai baht should be depreciating. This occurs because of the capital outflow; the money moves back to the US causing a rise in the USD in the foreign currency market.

d) Rumor about the trouble in Thai banking sectors has become materialized.

The similar effects to "c". Thailand will then experience a capital flight problem. Investors withdraw money from bank. Foreign investors will leave the market, causing the demand for US to rise. Thai baht should likely be depreciating.

Question 3: (Graded by your TA)

3.1) Explain why BP is an upward sloping curve. Should the slope of BP be steeper or flatter under low sensitivity in imports demand?

BP is the curve that represents the equilibrium where balance of payment is equal to zero. To understand why BP is an upward sloping curve, consider the initial situation where we attain an equilibrium in the balance of payment.

If the interest rate rises above the equilibrium level, the capital account will improve. Given the fixed level of income, the balance of payments will be positive. To ensure that the BOP remains zero as before, the level of income can rise, so that domestic can import more, and offset the positive BOPs with a deterioration in the current account.

The sensitivity of the imports demand to income matters to the slope of the BP curve. Note first that an economy with a higher degree of import sensitivity will imply a sharp deterioration in the current account under the increase in income. Under the increase in the interest rate, income needs to rise along so that the BOP would remain under equilibrium. (The intuition is explained above.) If demand for imports is highly sensitive, an increase in income required must be small; otherwise we might have a negative BOP if the increase in income were to be rising equally in both cases. Therefore, the slope of BP should be flat if import demand is highly sensitive.

3.2) How does the increase in world GDP affect the three curves developed under the IS-LM-BP model?

Suppose we analyze the question under a perfect capital environment, i.e. a flat BP curve. The effect of an increase in world GDP depends on the choice of exchange rate regime.

If the exchange rate is fixed, the effect of an increase in world GDP will be strong. The increase in world GDP will generally cause IS to shift right; the country can export more of the product, leading to an increase in total spending. The market interest rate will rise. The level of interest rate will remain above the level of interest rate required to balance the BOP; this leads to the BOP surplus. Under the fixed exchange rate regime with a surplus in BOP, the central bank intervenes in the foreign exchange market and absorbs the excess amount of USD dollars. The action leads to the rise in the level of money supply, causing the lower interest rate. The lower interest rate further simulates the expansionary effect of world GDP. The effect of world GDP shocks is then very strong under the fixed exchange rate.

On the other hand, if the exchange rate is flexible, the effect would be ineffective. Similar to the above analysis, an increase in global GDP will cause a surplus in the

balance of payment. Contrast to the fixed exchange rate system, the surplus in the balance of payments can be eliminated through the adjustment of exchange rate. With more demand of Thai baht, Thai baht will appreciate. An appreciation in Thai baht will undo the effect because Thai products are getting more expensive. Export will start to decline, and the original effect of global economic expansion will be fully offsetted; this can be captured by the shift of IS curve back to the original one.

Question 4: (I will graded)

4.1) Analyze the impact of a cut in pay-roll income tax under the imperfect capital mobility, i.e. upward sloping BP curve.

4.2) Within the Mundell-Fleming model assuming perfect capital mobility, analyze the effects of a positive innovation in financial technology on open-economy. Compare and contrast your results under two different choices of exchange rate regimes, i.e. both fixed and flexible exchange rate.