Assignment 4 EE312 (Semester 2/2019)

1. Due March 1st, 2020 (before 11.30 pm. Submit your work on the BE Moodle.)
2. For question 1 and question 3, even-numbered groups are assigned to do even-numbered sub questions.
3. For question 2, you must attempt all.

$D_{fx}\uparrow$ shift right

Question 1: Use the demand and supply model. Predict the directional change of the exchange rate (baht/USD) under the following situations. → Thai people invest more in foreign countries

1.1 The bank of Thailand cuts its policy rate. → $r\downarrow$ → foreign invest less in TH → $S_{fx}\downarrow$ shift left

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

1.3 The US government has imposed a trade sanction (difficult to import) on Thai's agricultural product exported to the US market. export $\downarrow$ → People don't need USD $S_{fx}\downarrow$

1.4 A positive improvement in production technology of Thailand causes a decrease in domestic price.

Question 2 Suppose that S&P, an international credit-rating agency, has decided to *downgrade* the credit rating of Thai economy. Answer the following problems.

a) Under the flexible exchange rate, how does the upgrade of credit rating affect the value of Thai currency?

b) If the authority wishes to resist the movement of the exchange rate (baht/USD), what does the authority need to do? Explain about the implementation process under the forex market intervention.

c) Discuss about the unintended impact of the forex market intervention on the domestic financial system. If the authority wishes to limit the sided effect of the forex market intervention, what does the authority need to do?

Question 3 Under the Mundell-Fleming model, analyze the impact of the following situations on output, real interest rate, exchanger rate, unemployment rate. Analyze the impact under both fixed and flexible exchange rate system

3.1) A reduction of money supply. $M_s\downarrow$ → LM shift left → $r\uparrow$ → IS shift left → $r\downarrow$ → $Y\downarrow$

3.2) An increase in government spending. ↳ AD shift left → $P\downarrow$ → $VMP\downarrow$ → unemployment rate$\uparrow$

US invest more → $S_{fx}\uparrow$ → $D_{fx}\uparrow$ → $e^*\downarrow$ (flexible)

if (fixed e^*) ↳ excess D_{fx}

3.3) Thai government (import$\downarrow$) has imposed a tariff on imported products.

3.4) Thai's credit rating condition has been improved.

$M\downarrow$ → $Y\uparrow$ → AD shift right → $P\uparrow$ → $\frac{M^S}{P}\downarrow$ → LM shift left → $r\uparrow$

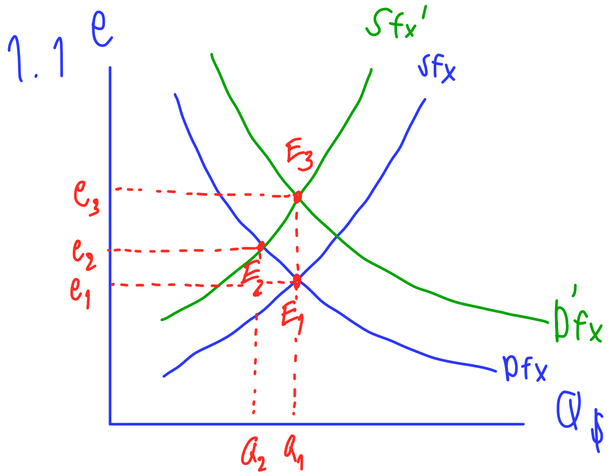
↳ $VMP\uparrow$ → unemployment rate$\downarrow$

$r\uparrow$ → risk$\uparrow$ → return$\uparrow$ → KA$\uparrow$

US invest more → $S_{fx}\uparrow$ → $D_{fx}\uparrow$ → $e^*\downarrow$ (flexible)

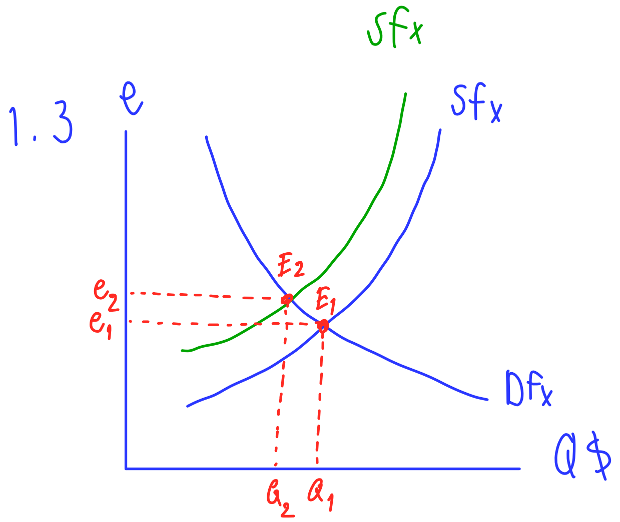
if (fixed e^*) ↳ excess D_{fx}

1.1



When the bank of Thailand cuts its policy rates, interest rate will decrease which makes the US invest less in Thailand causes the supply to decrease and also Thai people will invest more in the US which makes the demand of USD increase, therefore, USD appreciate or THB depreciate.

1.3



When the trade sanction is imposed by the US, it means that the US buy less products from Thai, therefore, no USD flows into Thailand, so the supply will decrease which makes USD appreciate or THB depreciate.

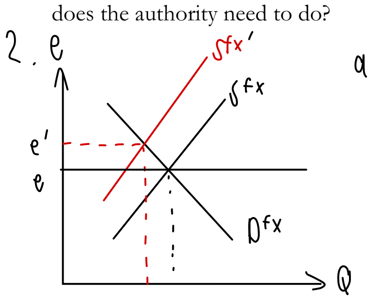
Question 2 Suppose that S&P, an international credit-rating agency, has decided to *downgrade* the credit rating of Thai economy. Answer the following problems.

a) Under the flexible exchange rate, how does the upgrade of credit rating affect the value of Thai currency? Sfx ↓

b) If the authority wishes to resist the movement of the exchange rate (baht/USD), what does the authority need to do? Explain about the implementation process under the forex market intervention.

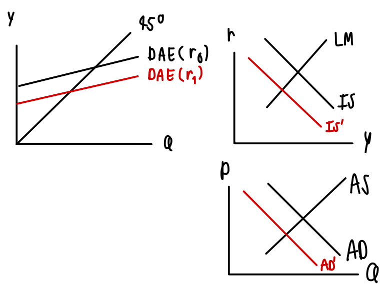
c) Discuss about the unintended impact of the forex market intervention on the domestic financial system. If the authority wishes to limit the sided effect of the forex market intervention, what does the authority need to do?

2.



a. The downgraded credit rating of Thai economy, foreigner withdraw the investment in Thailand caused decrease supply of USD in Thailand (S^{fx} shifts to the left from S^{fx} to $S^{fx'}$) The equilibrium increase from e to e'. Thai Baht depreciated.

b. According to a., there is an excess supply of USD (e↑). In order to resist the movement of e, the authority need to buy excess USD in the market until the exchange rate drop to original e.



c. When authority buying the excess USD, it increase the money supply in the market and it can lead to inflation. To limit the inflation by using monetary policy, increase the cost of borrowing and discourage spending money demand by increase interest rate causing people spend less, save more DAE shift down, making IS shift to the left from IS to IS'. This make AD shift to the left and overall price level decrease which will lower the inflation.

Question 3 Under the Mundell-Fleming model, analyze the impact of the following situations on output, real interest rate, exchanger rate, unemployment rate. Analyze the impact under both fixed and flexible exchange rate system

y r e u

3.1) A reduction of money supply. $M_s \downarrow \rightarrow$ LM shift left $\rightarrow r\uparrow \rightarrow$ IS shift left $\rightarrow r\downarrow \rightarrow Y\downarrow$

↳ AD shift left → $P\downarrow \rightarrow VMP_L\downarrow \rightarrow$ unemployment rate↑

US invest more $\rightarrow S_{fx}\uparrow \rightarrow D_{fx}\uparrow \rightarrow e^*\downarrow$ (flexible)

if (fixed e^*)

↳ excess D_{fx}

3.2) An increase in government spending.

3.3) Thai government has imposed a tariff on imported products.

import↓

3.4) Thai's credit rating condition has been improved.

$M\downarrow \rightarrow Y\uparrow \rightarrow$ AD shift right $\rightarrow P\uparrow \rightarrow \frac{M^s}{P}\downarrow \rightarrow$ LM shift left $\rightarrow r\uparrow$

↳ VMP↑ → unemployment rate↓

$r\uparrow \rightarrow$ risk↑ → return↑ → KA↑

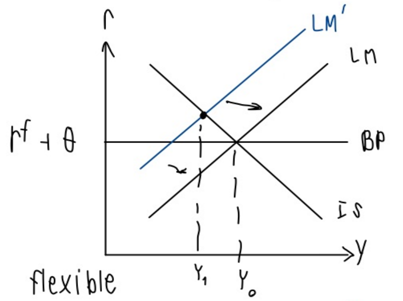
US invest more $\rightarrow S_{fx}\uparrow \rightarrow D_{fx}\uparrow \rightarrow e^*\downarrow$ (flexible)

if (fixed e^*)

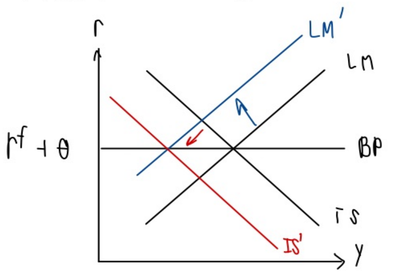
↳ excess D_{fx}

1

3.1 fixed exchange



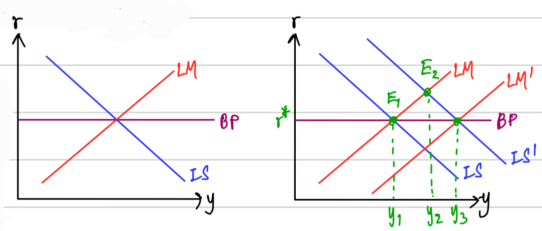
flexible

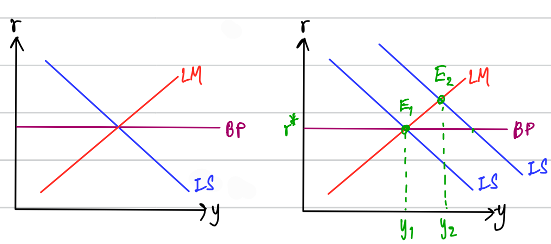


A reduction of money supply causes LM to shift to the left which move the IS-LM equilibrium to the point that have more interest rate and less output. The following effect is that AD shifts to the left as a reduction in output at the same price level. The new equilibrium in AD-AS model reduces the price level down which also reduce VMP in labor market making an increase in unemployment rate. In open economy market, the new equilibrium is at the point where KA increases making BOP greater than 0. With fixed exchange rate system, government has to hold the same e, so central bank absorbs USD by printing more THB which make an increase in money supply and shift LM to the right back to the point where BOP = 0.

With flexible exchange rate, rer increases at the new IS-LM equilibrium making an increase in import and a drecrease in export that will shift IS to the left.

3.3)





Since import product will be reduced, people will buy more domestic products, AE will rise and cause IS curve to shift right. When IS curve shift right, there will be an excess of BOP at E_2. Under fixed exchange rate condition, the authority will buy more USD which makes MS increase and LM shift to the right to maintain BOP. Moreover, an increase in AE makes output rise which makes AD to shift right causing the increase in overall price level. Furthermore, an increase in overall price level leads to increase in VMP which will create lower unemployment rate.

Since import product will be reduced, people will buy more domestic products, AE will rise and cause IS curve to shift right, output also increase from Y_1 to Y_2. When IS curve shift to the right, there is a rise in interest rest which attract foreigners causing increase in S_{fx}. S_{fx} shift to the right causes THB to appreaciate, therefore, we import more which makes IS shift left to E_1 again. Moreover, an increase in AE makes output rise which makes AD to shift right causing the increase in overall price level. An increase in overall price level leads to increase in VMP which will create lower unemployment rate.