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Discussion Session 7 (Chapter 18&19)

PART A: TRUE/FALSE/UNCERTAIN (Explain it.)

- a. The bilateral exchange rate between US and Japan is 124 (1\$ can buy 124 ¥). Therefore, American tourists in Japan find everything very cheap.

UNCERTAIN. We cannot infer how cheap the relative price of Japanese goods is by looking at the nominal exchange rate. To know whether goods in Japan are relatively cheaper or more expensive than American goods, we need to consider the real exchange rate.

- b. In theory, a financial account deficit necessarily implies a current account deficit.

FALSE. By definition, the capital account is equal to the negative current account. Thus, a capital account deficit implies a current account surplus.

- c. In practice, the sum of the measured current account balance and measured capital account balance is always exactly equal to zero.

FALSE. It is true in theory that the current account balance and capital account balance should add up to zero. In practice, however, the data used to construct the two sides of the balance of payments come from different sources, and because of measurement error the two balances will rarely if ever add up to exactly zero. The difference is called (somewhat unoriginally) the 'statistical discrepancy' and is often quite large.

- d. In practice, the sum of the measured current account balance and measured capital account balance is always exactly equal to zero.

FALSE. It is true in theory that the current account balance and capital account balance should add up to zero. In practice, however, the data used to construct the two sides of the balance of payments come from different sources, and because of measurement error the two balances will rarely if ever add up to exactly zero. The difference is called (somewhat unoriginally) the 'statistical discrepancy' and is often quite large.

PART B - ESSAY TYPE QUESTIONS.

Q 1. After working so hard in your Macroeconomics course, you decide this year to spend your Summer Break in Japan.

a. You leave home with 3000 TL, and convert it into 6000 Yen when you arrive in Hong Kong. What is E (the value of one unit of foreign (Yen) currency in terms of domestic (TL) currency)?

$$E = 3000 / 6000 = 0.5$$

b. After spending a week in Hong Kong, you have 4500 Yen left, which you convert at the airport into 2245.5 TL. What is the new value of E? So does this mean the Turkish currency has appreciated or depreciated against the Japanese currency during your holiday?

$E = 2245.5 / 4500 = 0.499$. Since E has fallen, this means the YTL has appreciated and Yen has depreciated during your holiday: Price of Yens in YTLs decreases or equivalently price of YTLs in Yens increases.

c. Assume you expect the trend in the movement of the exchange rate that took place during your week in Japan to continue for at least a year (i.e. E continues to move by the same amount each week as it did during your holiday). What is the expected annual percentage change in E? (In other words, calculate the expected change in E over the year as a percentage of the E you calculated in part (a)). For the purposes of this calculation, use the approximation that there are 50 weeks in a year.

If the trend continues, this means that E will be $0.5 - 0.001 \times 50 = 0.45$ in a year's time. The percentage change in E is $[(0.45 - 0.5) / 0.5] \times 100 = -10\%$.

d. Say the inflation rate in Turkey is 2 per cent, and in Japan it is 7 percent. Based on the expected rate of change in E you calculated in part (c), what do you expect to be the percentage change in the *real* exchange rate over the next year?

Recall that $\epsilon = \frac{EP^*}{P}$. With a bit of algebra, we can write:

$$(1 + \% \epsilon) = \frac{(1 + \% E)(1 + \% P^*)}{(1 + \% P)}$$

where $\%x$ means the percentage change in x . We can rewrite this as:

$$\% \epsilon \approx \% E + \% P^* - \% P$$

as long as the percentage changes are not too large (Remember that we really do not need to go through all this algebra because we know that if $z = x \times y$ then $g_z = g_x + g_y$ or if $z = x/y$ then $g_z = g_x - g_y$). So if $\% E = -0.10$, $\% P^* = 0.07$ and $\% P = 0.02$, then $\% \epsilon = -0.05$: the

real exchange rate is expected to appreciate by 5 percent over the coming year so that price of Japanese goods in terms of Turkish goods decreases (or equivalently price of Turkish goods in terms of Japanese goods increases).

Q 2. Suppose that Turkey has a large current account deficit. For each of the following (i) – (iii) state whether the event will lead to a larger, a smaller, or no change in the current account deficit:

- i. The Turkish people start to finance a greater share of their current account deficit selling foreign assets, rather than borrowing from overseas.

No impact on CAD. This is about reallocation between different parts of the capital account.

- ii. Foreign investors are paid 10 million TL in dividends from their holdings of Turkish public companies.

Larger CAD, since net investment income falls.

- iii. With the conclusion of the war in Iraq, Turkish people start to travel abroad more often.

Larger CAD since imports increase.

Q 3. Consider an open economy in which the real exchange rate is fixed and equal to one. Consumption, investment, government spending, and taxes are given by

$$C=10+0.8Y-T, I=10, G=10, \text{ and } T=10$$

Imports and exports are given by

$$IM=0.3Y \text{ and } X=0.3Y^*$$

Where Y^* denotes foreign output.

a. Solve for equilibrium output in the domestic economy, given Y^* . What is the multiplier in this economy? If we were to close the economy – so exports and imports were identically equal to zero – what would the multiplier be? Why would the multiplier be different in a closed economy?

b. Assume that the foreign economy is characterized by the same equations as the domestic economy (with asterisks reversed). Use the two sets of equations to solve for the equilibrium output of each country. (Hint: Use the equations for the foreign economy to solve for Y^* as a function of Y and substitute this solution for Y^* in part (a).) What is the multiplier for each country now? Why is it different from the open economy multiplier in part (a).

c. Assume that the domestic government, G , has a target level of output of 125. Assuming that the foreign government does not change G^* , what is the increase in G necessary to achieve the target output in the domestic economy? Solve for net exports and the budget deficit in each country.

d. Suppose each government has a target level of output of 125 and that each government increases government spending by the same amount. What is the common increase in G and G^* necessary to achieve target output in both countries? Solve for net exports and the budget deficit in each country.

e. Why is fiscal coordination, such as the common increase in G and G^* in part (d), difficult to achieve in practice?

- a. It is convenient to wait to substitute for G until the last step.

$$Y = C + I + G + X - IM = 10 + 0.8(Y - 10) + 10 + G + 0.3Y^* - 0.3Y$$

$$Y = [1/(1 - .8 + .3)](12 + G + 0.3Y^*) = 2(12 + G + 0.3Y^*) = 44 + 0.6Y^*$$

When foreign output is fixed, the multiplier is 2 ($=1/(1-0.8+0.3)$). The closed economy multiplier is 5 ($=1/(1-0.8)$). In the open economy, some of an increase in autonomous demand falls on foreign goods, so the multiplier is smaller.

- b. Since the countries are identical, $Y=Y^*=110$. Taking into account the endogeneity of foreign income, the multiplier equals $[1/(1-0.8-0.3*0.6+0.3)]=3.125$. The multiplier is higher than the open economy multiplier in part (a) because it takes into account the fact that an increase in domestic income leads to an increase in foreign income (as a result of an increase in domestic imports of foreign goods). The increase in foreign income leads to an increase in domestic exports.
- c. If $Y=125$, then $Y^*=44+0.6(125)=119$. Using these two facts and the equation $Y=2(12+G+0.3Y^*)$ yields $125=24+2G+0.6(119)$, which implies $G=14.8$. In the domestic economy, $NX=0.3(119)-0.3(125)=-1.8$ and $T-G=10-14.8=-4.8$. In the foreign economy, $NX^*=1.8$ and $T^*-G^*=0$.
- d. If $Y=Y^*=125$, then $125=24+2G+0.6(125)$, which implies $G=G^*=13$. In both countries, net exports are zero, but the budget deficit is 3.
- e. In part, fiscal coordination is difficult to achieve because of the benefits of doing nothing and waiting for another economy to undertake a fiscal expansion, as indicated from part (c).

ART C: MULTIPLE CHOICE

1) Which of the following would result in a real appreciation of the United States Dollar with respect to the British Pound?

- A) Increase in Dollar per Pound nominal exchange rate
- B) Increase in Price Index of United Kingdom (Britain)
- C) Increase in Price Index of United States**
- D) None of the Above

2) If the interest rate is higher in the US than in the UK, then

- A) The dollar is expected to appreciate with respect to the pound.
- B) The pound is expected to appreciate with respect to the dollar.**
- C) The interest rate in the US is expected to increase.
- D) The interest rate in the US is expected to decrease.
- E) Uncertain.

3) If disposable income rises in the United States, what will be the effect on the American current account?

- A) It will worsen.**
- B) It will improve.
- C) It will remain about the same.
- D) We cannot make any predictions without further information.

4) Assume the Marshall-Lerner condition holds. Which of the following will cause an increase in net exports?

- A) a reduction in foreign output
- B) a real depreciation**
- C) an increase in government spending
- D) an increase in investment
- E) all of the above

5) When the interest parity condition holds, we know that the domestic interest rate must be equal to:

- A) the expected rate of depreciation of the domestic currency.
- B) the foreign interest rate minus the expected rate of appreciation of the domestic currency.**
- C) the expected rate of appreciation of the domestic currency.
- D) the foreign interest rate.
- E) the foreign interest rate minus the expected rate of appreciation of the foreign currency.

7) Countries O and C are identical in all aspect, except that O is an open economy while C is a closed economy. The government in both countries decide to increase spending. Assume that prices are fixed. How does the resulting change in GDP differs.

- A) GDP increases in C but decreases in O
- B) GDP increases in both countries, but more so in O
- C) GDP increases in both countries, but more so in C**
- D) GDP increases in both countries, by the same amount

8) Following a real appreciation, which of the following scenario is consistent with Marshall-Lerner condition holding? Assume Net Income from abroad and Net Transfer does not change.

- A) Capital Account initially deteriorate but eventually improves**
- B) Current account initially deteriorates but eventually improves
- C) Capital Account not affected
- D) Current Account not affected

9) Suppose the Turkey one-year interest rate is 3% per year, while a foreign country has a one-year interest rate of 5% per year. Ignoring risk and transaction costs, a Turkish investor should invest in foreign bonds as long as the expected yearly rate of depreciation of the foreign currency is:

- A) less than 2%.
- B) greater than 5%.
- C) less than 1%.
- D) less than 5% .
- E) greater than 2%.

For the following four questions, look at the following balance of payments table.

(Million US Dollars)	
CURRENT ACCOUNT	3,760
Exports	34,810
Imports	38,092
Balance on Goods	A
Services: Credit	15,122
Services: Debit	6,067
Balance on Goods and Services	5,773
Primary Income: Credit	2,753
Primary Income: Debit	B
Balance on Goods, Services and Primary Income	773
Secondary Income	2,987
CAPITAL ACCOUNT	0
FINANCIAL ACCOUNT	C
Direct Investment: Net acquisition of financial assets	497
Direct Investment: Net incurrence of liabilities	3,352
Portfolio Investment: Net acquisition of financial assets	752
Portfolio Investment: Net incurrence of liabilities	-3,727
Equity Securities	-79
Debt Securities	-3,648
Other Investment: Net acquisition of financial assets	637
Central Bank	39
General Government	36
Banks	-233
Other Sectors	795
Other Investment: Net incurrence of liabilities	-12,296
Central Bank	735
General Government	-1,977
Banks	-9,644
Other Sectors	-1,410
Current, Capital and Financial Accounts	-10,797
NET ERRORS AND OMISSIONS	-2,127

RESERVE ASSETS	D
Official Reserves	-2,694
Credit and loans with the IMF	-10,230
Exceptional Financing	0

10) What is the value of A?

- A) 3.288
- B) 5.765
- C) -3.288
- D) -5.765

11) What is the value of B?

- A) 7.753
- B) 4.245
- C) -7.753
- D) -4.245

12) What is the value of C?

- A) -9.781
- B) 9.781
- C) -14.557
- D) 14.557

13) What is the value of D?

- A) -12.924
- B) 12.924
- C) -2.749
- D) 2.749