PROBLEM SET 6

CHP10 #3

a) The election of this president will cause future taxes to decrease. This will cause an increase in private spending (consumption), and a rightward shift in the currents IS curve. This, in turn, will cause an increase in current output and-because the Fed does nothing- an increase in future output as well, tending to increase private spending still further.

The rightward shift in the IS curve, however, will raise the current and expected future interest rate. This will tend to decrease private spending somewhat, through its effects on human and non-human wealth and also on investment, but it cannot reverse the increase in private saving.

b) The decrease in future taxes will initially cause private spending to increase and shift the current IS curve rightward. Ordinarily, this would raise current and future output, but here the FED is assumed to prevent this, with a contractionary monetary policy that shifts the LM curve upward. As a result, current output does not change, and current and future interest tares rise by eve more than in a above.

The effect on private spending might seem, at first glance, to be ambiguous: Future taxes have decreased, tending to increase private spending but the interest rate has increased tending to decrease private spending. However, we know that the FED is acting to keep output unchanged, and that, in equilibrium, output and total spending (private and government) are equal. Since, there is no change in government spending, and no change in output, we know there can be no change in private spending either.

c) Once again, the decrease in future taxes will increase private spending and shift the current IS curve rightward. Ordinarily, this would raise current and future interest rates, but this time the FED is assumed to prevent and change in interest rates-by shifting the LM curve downward. This will cause current output to increase even more, and future output as well, causing a further rightward shift in the IS curve. Since future taxes have decreased, and current and future output have increased, with no change in the current or future interest rate, private spending must increase.

CHP11#3

a) The price of bushel of wheat in dollars is $5.00. The price of a bottle of wine in U.S. dollars is also $5.00. Therefore, the real exchange rate is $5.00/$5.00=1

b) Now, the price of wine in dollars is $6.00. The real exchange rate is $6.00/$5.00=1.2

c) Now, the price of a bottle of wine in dollars is $7.50. The real exchange rate is $7.50/$5.00=1.5

CHP11#5

a) The formula for the real exchange rate is :

$$\in = EP^{*} / P$$

here,

$$P^{*} = 1.2$$

$$E = 1/5$$

$$P = 1.5$$

$$\in = 0.16$$

Now,

b) $$E = 1/8$$

$$\in = 0.10$$

c) This is the real appreciation of dollar, since the real exchange rate has decreased. The percentage change in real exchange rate is -37.5 percent, telling us that the rate of depreciation of dollar is -37.5 percent. Negative depreciation is appreciation. Thus dollar appreciates by +37.5 percent

CHP11#6

a) Since the exchange rate is 0.01, 1 dollar would buy 100 yen, which would become 101 yen after one year of investment in Japan. The exchange rate at the end of the year is expected to be 0.011, so 101 yen would be exchanged for (0.011)(101)=$1.111 dollars

b) In the US, $1 would return $1.06 in one year: in Japan, it would return $1.111 in one year. Ignoring risk and transactions cost, an American would prefer to invest in Japan.

c) Since the exchange rate is 0.01, one yen would buy 0.01 dollars, which would become (0.01)(1.06)=0.0106 dollars after one year of investment in the United States. The exchange rate at the end of the year is expected to be 0.011, so 0.0106 dollars would be exchanged for 0.0106 / 0.011 yen, or 0.96 yen.

d) A resident of Japan would prefer to invest in Japan, since there, one yen would return 1.01 yen after one year, while investing in America, one yen returns only 0.96 yen.

e) The price of the yen is expected to rise, so the dollar is expected to depreciate. The expected rate of depreciation is (0.011-0.01) / 0.01=0.10 or 10 percent.

f) Uncovered interest parity requires the domestic interest rate (6%) to equal the foreign interest rate (1%) plus the expected rate of depreciation of the domestic currency (10%). The data in this problem clearly violate this condition.

CHP12#4

a) Equilibrium is attained when

$$Y = C + I + G + X - \in Q$$

Substituting from the given behavioral equations:

$$C = 400 + 0.5(Y - 200)$$

$$I = 700 - 4{,}000i + 0.2Y$$

$$G = 200$$

$$X = 100 + 0.1Y^{*} + 100 \in$$

$$Q = 0.1Y - 50 \in$$

$$i = 0.10$$

$$\in = 2$$

$$Y^{*} = 1{,}000$$

$$Y = 2{,}800$$

b) Given **Y=2,800**

$$C = 1{,}700$$

$$I = 860$$

$$Q = 180$$

$$X = 400$$

$$X - \in Q = 40$$

c) Now, **G=400**

i) Substituting:

Y=3,200

ii) Components:

$$C = 1{,}900$$

$$I = 940$$

$$Q = 220$$

$$X = 400$$

$$X - \in Q = -40$$

iii) Net exports have decreased from +40 (a trade surplus) to -40 (a trade deficit). This is because an increase in domestic output causes the quantity of imports to rise, as well as the real value of imports, but has no effect on exports.

d) Now, $\mathbf{Y^{*}=1{,}200}$

i) Substituting

Y=2,840

ii) Components

$$C = 1{,}720$$

$$I = 868$$

$$Q = 184$$

$$X - \in Q = 52$$

iii) In this case, net exports increased. By contrast, when government spending went up, net exports decreased. The difference in effects is due to different influences on net exports. When government spending increases, the only impact on net exports is an increase in output, which causes imports to increase. When foreign output increases, there is a dual impact on net exports: first, exports increase as foreigners buy more of the home country's goods, second, the domestic income increases, causing an increase in imports. The net effect, though, is that exports increase more than imports, so net exports rise.