posted Q.2

HW #2
P21 + B
Q25

23. In a model with income taxes, a decrease in autonomous investment will
A) decrease saving
B) increase the budget deficit
C) decrease tax revenues
D) decrease consumption
E) all of the above

24. A decrease in the income tax rate (t) will
A) increase the full-employment budget surplus
B) increase the size of the expenditure multiplier
C) increase disposable income and autonomous spending
D) increase consumption but decrease saving
E) none of the above

25. In a model with income taxes, if autonomous net exports decrease, which of the following is FALSE?
A) the budget deficit will not be affected
B) the budget deficit will increase
C) disposable income will decrease
D) saving will decrease
E) income will decrease by more than net exports

- insight
  - your preliminary answer

please

Q25

	T	F
A		
B		
C		
D		
E		

25/

①

$$Y = C + I + G + X - M$$

$$C = \bar{C} + c * YD$$

$$YD = Y + TR - TA$$

$$TA = \bar{TA} + t * Y$$

$$I = \bar{I}$$

$$G = \bar{G}$$

$$(X - M) = \overline{(X - M)} \qquad TR = \bar{TR}$$

$$Y = \bar{C} + c * YD + I + G + (X - M)$$

$$Y = \bar{C} + c * (Y + TR - TA) + I + G + (X - M)$$

$$Y = \bar{C} + c * (Y + \bar{TR} - \bar{TA} + t * Y) + \bar{I} + \bar{G} + \overline{X - M}$$

$$Y - c * Y + c t * Y = \bar{C} + c\,\bar{TR} - c\,\bar{TA} + \bar{I} + \bar{G} + (X - M)$$

$$Y^{eq} = \frac{\bar{C} + c\,\bar{TR} - c\,\bar{TA} + \bar{I} + \bar{G} + (X - M)}{(1 - c + ct)}$$

$$\Delta Y^{eq} = \frac{\Delta\bar{C} + c * \Delta\bar{TR} - c * \Delta\bar{TA} + \Delta\bar{I} + \Delta\bar{G} + \Delta(X - M)}{(1 - c + ct)}$$

$$\Delta Y^{eq} / \Delta(X - M) = \frac{1}{(1 - c + ct)} > 1.0$$

Q25: (e) → [If $\Delta(X - M) = -1.0$ then $\Delta Y^{eq} < -1.0$

$\longrightarrow BS = TA - G - TR$

$BS = \overline{TA} + t * Y - \overline{G} - \overline{TR}$

$\Delta BS = \Delta\overline{TA} + t * \Delta Y - \Delta\overline{G} - \Delta\overline{TR}$

$\Delta BS/\Delta(X-M) = \Delta\overline{TA}/\Delta(X-M) + t * \Delta Y/\Delta(X-M) - \Delta\overline{G}/\Delta(X-M)$

$\Delta BS/\Delta(X-M) = 0 + \underbrace{\frac{t}{(1-c+ct)}}_{(+)} - 0$

$(+)$

if $\Delta(X-M) < 0$ then $\Delta BS < 0$. the deficit increases

Q25: (a) (b) $\longrightarrow$

$\longrightarrow YD = Y + TR - TA$

$\Delta YD = \Delta Y + \Delta TR - \Delta TA$

$\Delta YD = \Delta Y + \Delta\overline{TR} - t * \Delta Y$

$\Delta YD/\Delta(X-M) = \Delta Y/\Delta(X-M) + \Delta\overline{TR}/\Delta(X-M) - \frac{t * \Delta Y}{\Delta(X-M)}$

$\Delta YD/\Delta(X-M) = (1-t)\,\Delta Y/\Delta(X-M) = \frac{(1-t)}{(1-c+ct)} = \frac{(+)}{(+)} = (+)$

$$\frac{\Delta Y^D}{\Delta(\bar{X}-\bar{M})} = \frac{(1-t)}{(1-c+ct)} = \frac{(+)}{(+)} = (+)$$

Ans: (c)

[if $\Delta(\bar{X}-\bar{M}) <$ 0 then $\Delta Y^D < 0$

remember

$$S = Y^D - C$$

$$S = Y^D - \bar{C} + c * Y^D$$

$$S = (1-c)\,Y^D - \bar{C}$$

$$\Delta S = (1-c)\,\Delta Y^D - \Delta \bar{C}$$

$$\frac{\Delta S}{\Delta(\bar{X}-\bar{M})} = (1-c)\,\frac{\Delta Y^D}{\Delta(\bar{X}-\bar{M})} - \frac{\Delta \bar{C}}{\Delta(\bar{X}-\bar{M})}$$

$$\frac{\Delta S}{\Delta(\bar{X}-\bar{M})} = \frac{\overset{(+)}{(1-c)}\;\overset{(+)}{(1-t)}}{(1-c+ct)} = (+)$$

(d) → [if $\Delta(\bar{X}-\bar{M}) < 0$ then $\Delta S < 0$