2023春季宏观第二次作业

1. (1) $\begin{cases} y = c+i+g \\ y_d = y - t + tr \end{cases}$

$\therefore y = 100 + 0.8(y - 250 + 62.5) + 250$

$= 1000$

(2) $\beta = 0.8$

$K_i = \frac{\Delta y}{\Delta i} = \frac{1}{1-\beta} = 5$

$K_g = \frac{\Delta y}{\Delta g} = \frac{1}{1-\beta} = 5$

$K_t = \frac{\Delta y}{\Delta t} = -\frac{\beta}{(1-\beta)} = -4$

$K_{tr} = \frac{\Delta y}{\Delta tr} = \frac{\beta}{(1-\beta)} = 4$

$K_b = K_g + K_t = 1$

2. $1200 - 1000 = 200$

(1). $K_g = 5$. $\Delta g = 1000$

(2) $K_t = -4$ $\Delta t = -800$

(3). $5X - 4X = 200$

$X = 200$ $\therefore$ 各需 200 billion

3. $1 - \beta = 0.25$.

$\beta = 0.75$.

$K_S = \frac{1}{1-\beta} = 4$

$\therefore \Delta y = K_S \cdot \Delta S = 800$.

4 (1) $\begin{cases} y = c+i+g \\ y_d = y - t + tr \end{cases}$

$\therefore y = 1000 + 0.75(y - 800) + 800 + 750$

$= 8400$

$y_d = 8400 - 600$

$= 7800$

(2). $C = 1000 + 0.75 y_d$

$= 6850$

(3) $S_p = y_d - C = 7800 - 6850 = 950$

$S_g = t - g = 600 - 750 = -150$

(4) $K_i = \frac{1}{1-\beta} = \frac{1}{1-0.75} = 4$

5. $MPS = 1 - \beta = 0.2$

$\beta = 0.8$.

$\therefore K_g = \frac{1}{1-\beta} = 5$ $\Delta y = -1500$

$K_{tr} = \frac{\beta}{1-\beta} = 4$ $\Delta y = 1200$

$K_t = -\frac{\beta}{1-\beta} = -4$ $\Delta y = 1200$

$\therefore \Delta y = -1500$ 减少 1500

附加题：

(1) $\begin{cases} y = c+i+g+nx \\ y_d = y - t + tr \end{cases}$

$\therefore y = 30 + 0.8(y - 50) + 60 + 50 + 50 - 0.05y$

$= 600$

(2) $nx = 50 - 0.05y$

$= 50 - 0.05 \times 600 = 20$

(3) $\beta = 0.8$. $r = 0.05$.

$K_i = \frac{1}{1-\beta+r} = 4$

(4) $\begin{cases} y = c+i+g+nx \\ y_d = y - t + tr \end{cases}$

$y = 0.8(y - 50) + 30 + 75 + 50 + 50 - 0.05y$

$= 640$

$nx = 50 - 0.05y$

$= 50 - 0.05 \times 640$

$= 18$

(5) $\begin{cases} y = c+i+g+nx \\ y_d = y - tr + tr \end{cases}$

$y = 0.8(y - 50) + 30 + 60 + 50 + 40 - 0.05y$

$= 510$

$nx = 40 - 0.05y$

$= 40 - 0.05 \times 510 = 12$