

宏观第二次作业

$$1. (1) \begin{cases} C = 100 + 0.8Y_d = 100 + 0.8(Y - t + tr) \\ Y = C + i + g \end{cases} \Rightarrow Y = \frac{1000}{0.2} = 5000 \quad \therefore \text{均衡收入为 } 5000 \text{ 亿美元}$$

$$(2) Y = C + i + g = 100 + 0.8(Y - t + tr) + i + g \quad \therefore Y = \frac{100 - 0.8t + i + g + 0.8tr}{0.2}$$

$$\therefore \text{投资乘数为 } \frac{\Delta Y}{\Delta i} = \frac{1}{0.2} = 5, \quad \text{税收乘数为 } \frac{\Delta Y}{\Delta t} = \frac{-0.8}{0.2} = -4,$$

$$\text{政府支出乘数为 } \frac{\Delta Y}{\Delta g} = \frac{1}{0.2} = 5, \quad \text{转移支付乘数为 } \frac{\Delta Y}{\Delta tr} = \frac{0.8}{0.2} = 4$$

$$\Delta Y = K_g \Delta g + K_t \Delta t = 5 \Delta g - 4 \Delta t, \quad \text{令 } \Delta g = \Delta t$$

$$\therefore \frac{\Delta Y}{\Delta g} = 5 - 4 = 1 \quad \therefore \text{平衡预算指数为 } 1.$$

$$2. (1) \text{收入需增加 } \Delta Y = 1200 - 1000 = 200.$$

$$\text{又 } \frac{\Delta Y}{\Delta g} = 5 \quad \therefore \text{政府购买需增加 } \Delta g = 40 \quad \therefore \text{政府购买需增加 } 400 \text{ 亿美元}$$

$$(2) \frac{\Delta Y}{\Delta t} = -4 \quad \therefore \text{税收需减少 } \Delta t = 50 \quad \therefore \text{税收需减少 } 500 \text{ 亿美元}$$

$$(3) \frac{\Delta Y}{\Delta tr} = 4 \quad \therefore \text{政府购买与税收需同等增加 } 2000 \text{ 亿美元}.$$

$$3. S = -1600 + 0.25(Y - t) \quad Y = C + S + t = C + i + g \quad \therefore S + t = i + g$$

$$\therefore Y = \frac{i + g + 1600 - 0.75t}{0.25}$$

$$\therefore \frac{\Delta Y}{\Delta t} = \frac{1}{0.25} = 4 \quad \Delta t = 600 - 400 = 200 \quad \therefore \Delta Y = 800$$

$$\therefore \text{均衡国民收入增加 } 800.$$

$$4. (1) \begin{cases} C = 1000 + 0.75(Y - t) \\ Y = C + i + g \end{cases} \Rightarrow Y = \frac{-0.75t + i + g + 1000}{0.25}$$

$$\therefore \text{均衡国民收入为 } Y = \frac{-0.75 \times 600 + 800 + 750 + 1000}{0.25} = 8400$$

$$\text{可支配收入 } Y_d = Y - t = 7800.$$

$$(2) \text{消费支出 } C = 1000 + 0.75 \times 7800 = 6850.$$

$$(3) Y = C + S + t \quad \therefore S = 950 \quad \text{政府储蓄为 } t - g = -150$$

$$\therefore \text{私人储蓄为 } 1100$$

$$(4) \text{投资乘数 } k_i = \frac{\Delta Y}{\Delta i} = \frac{1}{0.25} = 4.$$

$$5. \text{设 } C = \alpha + \beta Y_d + b_1 Y = C + S \quad \therefore S = -\alpha + (1 - \beta) Y + \beta(t - tr)$$

$$\Rightarrow 1 - \beta = 0.2 \quad \therefore \beta = 0.8 \quad C = \alpha + 0.8(Y - t + tr) = 600.$$

$$Y = C + i + g = \alpha + \beta Y_d + i + g = \alpha + 0.8(Y - t + tr) + i + g \quad \therefore Y = \frac{\alpha - 0.8(t - tr) + i + g}{0.2}$$

$$\Delta Y = \frac{-0.8(\Delta t - \Delta tr) + \Delta i + \Delta g}{0.2} = -300 \times \frac{1}{0.2} = -1500 \quad \text{减少 } 1500$$



附加题

1. (1) $y = c + i + g + nx = 30 + 0.8(y - tn) + i + g + \cancel{50} - 0.05y$

$\therefore y = \frac{30 - 0.8tn + i + g + \cancel{50}}{0.25} = 600$ \therefore 均衡收入为 600

(2) 净出口余额 $nx = 50 - 0.05y = 50 - 0.05 \times 600 = 20$

(3) 投资乘数 $k_i = \frac{\Delta y}{\Delta i} = \frac{1}{0.25} = 4$

(4) ~~已知~~ $y \pm \Delta i = 10$ $\therefore \Delta y = 40$ \therefore 均衡收入为 640

$nx = 50 - 0.05y = 50 - 0.05 \times 640 = 18$ \therefore 净出口余额为 18

(5) $y = c + i + g + nx = 30 + 0.8(y - tn) + i + g + 40 - 0.05y$

$\therefore y = \frac{30 - 0.8tn + i + g + 40}{0.25} = 560$ \therefore 均衡收入为 560

$nx = 40 - 0.05y = 40 - 0.05 \times 560 = 12$ \therefore 净出口余额为 12

