

Answers

① We are given the consumption function:
 $C = aY + b$ and two points:

$$\text{when } Y = 10, C = 28$$

$$\text{when } Y = 30, C = 44$$

using $C = aY + b$

$$28 = 10a + b$$

$$44 = 30a + b$$

$$10a + b = 28 \quad (\text{I})$$

$$30a + b = 44 \quad (\text{II})$$

$$30a + b = 44$$

$$-10a - b = -28$$

$$\hline 20a = 16 \quad a = 0.8$$

$$10 \times 0.8 + b = 28 \rightarrow 8 + b = 28 \rightarrow b = 20$$

So, $C = 0.8Y + 20$

$$Y = C + I$$

$$Y = 0.8Y + 20 + 13$$

$$0.2Y = 33$$

$$Y = 165$$

2

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

$$Y = (0.8Y + 80) + 70 + 130 + 100 - (0.2Y + 50)$$

$$Y = 0.8Y + 330 + 200 - 0.2Y$$

$$Y = 0.6Y + 330$$

$$0.4Y = 330$$

$$Y = 825$$

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$$Y = C + I$$

$$Y = (0.8Y + 60 - 30r + 740)$$

$$0.2Y = 800 - 30r \quad (\text{her tarafı } 0.2 \text{ 'ye böl})$$

$$Y = 4000 - 150r \quad (\text{I})$$

Money market equilibrium

$$MS = L_1 + L_2$$

$$4000 = (0.15Y) + (-20r + 3825)$$

$$175 = 0.15Y - 20r \quad (\text{II})$$

(I) ve (II) 'yi kullanarak;

$$175 = 0.15Y - 20r$$

$$175 = 0.15(4000 - 150r) - 20r$$

$r = 10$, yerine koy

$$Y = 2500$$

④

for option A:

$$A = P \left(1 + \frac{r}{n}\right)^{n \times t}$$

$$= 20000 \left(1 + \frac{0.07}{2}\right)^{2 \times 4}$$

$$= \$26,336.18$$

~~option B~~ gives \$26,000

$26,336.18 > 26,000$. Option A is a better

⑤ Option A

$$A = 35000 \left(1 + \frac{0.06}{4}\right)^{4 \times 5}$$

$$= 47142.00$$

Real value of 47142.00 as the inflation rate is 2.5% (= 1.025 ^{scale factor})

$$\text{Real value} = \frac{47142.00}{(1.025)^5} \text{ in 5 years}$$

$$= 41658.87$$

Option B

Initial amount effected by fee:

$$46500 - 1200 = 45300$$

$$\text{Real future amount} = \frac{45300}{(1.025)^5} = 40030.42$$

Option A is better