MAT 1700

Løsning-forslag

Oppgaveseminar #13

Seminar #13

Oppgave 1

$y = 60.000$; $M^d = \#y(0.35 - i)$

(a) $M^d \mid i = 5\% = \#60.000(0,35 - 0,05) = \underline{18000}$

$M^d \mid i = 10\% = \#60.000(0,35 - 910) = \underline{15000}$

(b) $M^d \uparrow$ when $i \downarrow$ fordi obligasjoner og sertifokat blir mindre interessante som sparеobjekt

(c) $M^d \mid i = 10\% = \underline{15.000}$

$M^d \mid i = 10,\ y = 30.000$ (50% reduksjon)

$= 30.000(.35 - .10) = \underline{7.500}$ ie. reduseres med 50%

(d) $\#y \uparrow$ by 1% $\Rightarrow M^d \uparrow$ by 1% ... uavhengig av rentenivået.

Oppgave 2

$$M^d = \#Y(0.25 - i)$$

(a) $20 = M^d = 100(.25 - i)$; $\underline{i = 0.05}$

(b) $M^s = M^d = 100(.25 - .15) = \underline{10}$

Oppgave 3

(a) $$Y = \frac{1}{1 - c_1}\{c_0 + I + G - c_1 T\}$$; $c_1 \equiv$ marginale konsumtilbøyelighet

Multiplikator $= 1/(1 - c_1)$

(b) $$Y = c_0 + c_1(Y - T) + b_0 + b_1 Y - b_2 i + G$$

$$= \left[\frac{1}{1 - c_1 - b_1}\right]\{c_0 + b_0 - b_2 i + G - c_1 T\}$$

Effect of autonomous spending > in part (a)
'cause multiplier is larger $((c_1 + b_1) < 1)$
Increase in autonomous spending $\Rightarrow$ increase in investment as well as consumption

oppgave 3, cont

(c) $M/P = d_1 y - d_2 i$

$d_1 y = M/P + d_2 i$

$d_2 i = d_1 y - M/P$

$$i = \frac{d_1 y - M/P}{d_2}$$

$$y = c_0 + c_1(y-T) + b_0 + b_1 y - b_2\left[\frac{d_1 y - M/P}{d_2}\right] + G$$

$$y - c_1 y - b_1 y + \frac{b_2 d_1}{d_2} y = c_0 + b_0 + \frac{b_2 M/P}{d_2} + G - c_1 T$$

$$y\left[1 - c_1 - b_1 + \frac{b_2 d_1}{d_2}\right] = c_0 + b_0 + \frac{b_2 M/P}{d_2} + G - c_1 T$$

$$\Rightarrow y = \left[\frac{1}{1 - c_1 - b_1 + \frac{b_2 d_1}{d_2}}\right]\left\{c_0 + b_0 + \frac{b_2 M/P}{d_2} + G - c_1 T\right\}$$

"multiplikatoren"

(d) Multiplikatoren > del (a) dersom $\left(b_1 - \frac{b_2 d_1}{d_2}\right) > 0$

Multiplikatoren "stor" dersom b_1 er "stor";

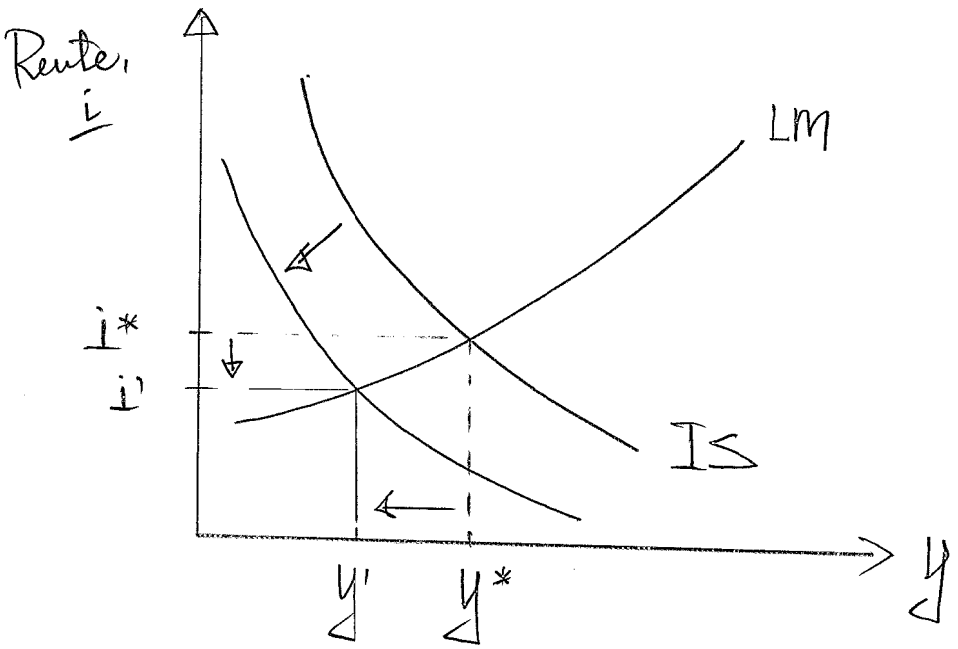
b_2 er "liten", d_1 er "liten" og/eller d_2 er "stor"

ie. dersom investment følsom overfor y, investment ikke følsom for i, $(M/P)^d$ ikke følsom for y, og/eller

Oppgave 3, fort

(d) $(M/P)^d$ ikke følsom for i

Oppgave 4



IS-kurven skifter til venstre; dvs. Y og i faller

Effekt på I (investeringer) ikke entydig; Y og i drar i hver sin retning

$Y \downarrow \Rightarrow I \downarrow$ and

$i \downarrow \Rightarrow I \uparrow$

(a) Se oppgave 2 (c)

$$Y = \left[\frac{1}{1 - c_1 - b_1 + \frac{b_2 d_1}{d_2}}\right]\left\{C_0 + b_0 + \frac{(b_2 M/P)}{d_2} + G - c_1 T\right\}$$

Oppgave 4, fortsettelse

(b) $m/p = d_1 y - d_2 i$;

$$i = \frac{d_1 y - m/p}{d_2}$$

$$i = \frac{d_1 [y] - m/p}{d_2}$$ y from part (a)

(c) $I = b_0 + b_1 y - b_2 i = b_0 + \left(b_1 - \frac{b_2 d_1}{d_2}\right) y + b_2 (m/p)/d_2$

substitute for y (from part (a)) and i from part (b) above.

(d) Holder m/p konstant; I øker med $\left(b_1 - b_2 d_1/d_2\right) / \left(1 - a_1 - b_1 + \frac{b_2 d_1}{d_2}\right)$

(e) $G \downarrow \Rightarrow y \downarrow$ $(I \downarrow)$ og $i \downarrow$ $(I \uparrow)$

For $I \uparrow \Rightarrow b_1$ (output effect) must be ~~smaller~~ than the interest rate effect $(b_2 d_1/d_2)$

Int. rate effect has two terms.

(i) d_1/d_2 = slope of LM-curve (effect of one unit change in equilibrium output on the interest rate)

Oppgave 4, forts.

and ~~b~~ (ii) b_2 ≡ effect of a one-unit change in the equilibrium int. rate on investment.

Oppgave 5

$$Y = C+I+G = 200 + 0.25(Y-200) + 150 + 0.25Y - 1000i + 250$$

(a) $$\Rightarrow Y - .25Y - .25Y = 200 - 50 + 150 - 1000i + 250 = 550 - 1000i$$

$$Y - 0.50Y = Y(1-0.50) = 550 - 1000i$$

$$\Rightarrow Y = \underline{1100 - 2000i}$$

(b) $$M/P = 1600 = 2Y - 8000i$$

$$i = -\frac{1600}{8000} + \frac{2Y}{8000} = \underline{-1/5 + Y/4000}$$

(c) $$Y = 1100 - 2000\left[-1/5 + Y/4000\right] = 1100 + 400 - 1/2Y$$

$$1.5Y = 1500; \quad \underline{Y = 1000}$$

$$i \Rightarrow -1/5 + 1000/4000 = -0,20 + 0,25 = \underline{0,05}$$

Oppgave 5, forts.

(d) $y = 1000 = C + I + G$

$= \underbrace{200 + .25(1000 - 200)}_{C_0 + c_1(y-T)} + \underbrace{150 + .25(1000) - 1000(.05)}_{b_0 + b_1 y - b_2 i} + 250 + G$

$C + I + G$

$= \underbrace{200 + 200}_{400} + \underbrace{150 + 250 - 50}_{350} + 250$

$= 1000 = y \equiv$ likevektsprodukt/inntekt (c)

Oppgave 6

(a) $w/p = \frac{1}{1+\mu} = \frac{1}{1.05} = \underline{0,95}$

(b) $u_N = 1 - w/p = 0,05$

(c) $w/p = 1/1.10 = 0,91$; $u_N = 1 - 0,91 = \underline{0,09}$

naturlig ledighet ↑ når μ ↑

essentially fall in labor demand ⇒ less competition in product markets ⇒ lower desired outputs ⇒ lower demand for labor ⇒ increases u_N and decreases $w/p \equiv$ real wage