benchmark case

$N_t^a = 100$, $N_t^b = 100$

$y^a - c_{1,t}^a = y^b - c_{1,t}^b = 10$

$M_t^a = 800 \leftarrow$ Au\$

$M_t^b = 600 \leftarrow$ £

$\therefore$ each initial old holds

$\frac{800}{200} = 4$ Au\$ ($\swarrow M_t^a$)

$\frac{600}{200} = 3$ £ ($\uparrow M_t^b$)

avoid money-mkt clearing cond'n

$\bar{e} V_t^b M_t^a + V_t^b \cdot M_t^b = N_t^a (y^a - c_{1,t}^a) + N_t^b (y^b - c_{1,t}^b)$

($\bar{e} V_t^b \to V_t^a \to \frac{1}{2}$; $M_t^a \to 800$; $M_t^b \to 600$; $N_t^a(y^a - c_{1,t}^a) \to 1000$; $N_t^b(y^b - c_{1,t}^b) \to 1000$)

$V_t^b = 2$ $\quad \bar{e} = \frac{V_t^a}{V_t^b}$ $\quad V_t^a = 1$

$C^a_{2,t}$ (old people in country a)

$= V^a_t \cdot m^a_t + V^b_t \cdot m^b_t$

$= 1 \cdot 4 + 2 \cdot 3 = 10 = C^b_{2,t}$

Cooperative Game

sps each initial old borrows in $2 to acquire 1

200 (initial old) * $2 · 1/2

= 200 is needed

$m^a = 800 - 400 = 400$

$m^b = 600 + 200 = 800$

$\bar{e} \cdot V^b_t \cdot (m^a_t) + V^b_t (m^b_t) = 2000$

$\bar{e} = \frac{1}{2}$, $m^a_t = 400$, $m^b_t = 800$

$V^b_t = 2 \xrightarrow{\bar{e}=\frac{1}{2}} V^a_t = 1$

$$C^a_{2,t} = V^a_t \cdot m^a_t + V^b_t \cdot m^b_t$$

$$= 1 \cdot 2 + 2 \cdot 4 = 10 = C^b_{2,t}$$

Inflationary incentive under crop stock

SPS Aus$ 1000 (m^s ↑ by 200 Aus$)

$$\bar{e} V^b_t M^a_t + V^b_t M^b_t = 200$$

$\bar{e}$: $\frac{1}{2}$; M^a_t: 1000; M^b_t: 600

$$\rightarrow V^b_t = \frac{20}{11} < 2$$

$$V^a_t = \bar{e} \cdot V^b_t = \frac{1}{2} \cdot \frac{20}{11} = \frac{10}{11} < 1$$

$$C^a_{2,t} = V^a_t \cdot m^a_t + V^b_t \cdot m^b_t$$

$$= \frac{10}{11} \cdot 4 + \frac{20}{11} \cdot 3$$

$= \frac{100}{11} < 10$

$C^b_{2,t} = C^a_{2,t} = \frac{100}{11} < 10$

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in a close eco, the bar rate of seigniorage revenue is

$1 - \frac{1}{2}$

so if 100

$z = 1.25$

$= 1 - \frac{1}{1.25} = 20\%$

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open eco, bar rate

$\frac{\frac{100}{11} - 10}{10}\% \simeq 9.1\%$

Unilateral defense

$200 is need

$\therefore$ real value of the bar owned $\boxed{V_t^b \cdot 200}$

$\therefore$ earned in country a will be required to pay a tax of $\frac{(V^b) 200}{100} = \boxed{2V_t^b}$

$\Leftrightarrow 0.p_t^b = 200$

$\Rightarrow p_t^b = \frac{200}{p_t^b} = \boxed{V_t^b \cdot 200}$

$M_t^a = \$400 \leftarrow 800 - 400$

$\boxed{M_t^b = £600} \leftarrow 600$

difference!

$\frac{1}{2} V_t^b M_t^a + V_t^b M_t^b = 200$

$\frac{1}{2}$ ↑ 400 ↑ 600

$800\, V_t^b = 2000$

$\rightarrow V_t^b = 2.5 \leftarrow 2$

$\bar{e} = \frac{1}{2} \rightarrow V_t^a = 1.25 \leftarrow 1$

tax paid by each old in country a $(2V_t^b) = 5$

$\rightarrow$ 100 $*5$ units $= 500$ units of good

(initial old in country a)

c.B of country a

Sells 500 goods to initial old in country b $\frac{500 \text{ units}}{2.5 \text{ units}/£}$

$= £200$

C.B. of country a uses this £200 to satisfy all exchange

requests.

$C^b_{2,t}$ (old in country b) $= V^a_t \cdot m^a_t + V^b_t \cdot m^b_t$

$= 1.25 \cdot 2 + 2.5 \cdot 4 = 12.5 > 10$

$C^a_{2,t}$ (old in country a)

$= 1.25 \cdot 2 + 2.5 \cdot 4 - 5 = 7.5 < 10$

~~Each~~ old turns in $4 in exchange for £2 → tax on old will be 13.33 units of good X