fill: s_1 G1 0 ← τ; s_0 G2 2

jove: s_0 G1 0; s_0 G2 2

max $u_1 = c_1 c_1'$
$\begin{cases} c_1 + p b_1 = 1 \\ c_1' = b_1 + \tau \end{cases}$

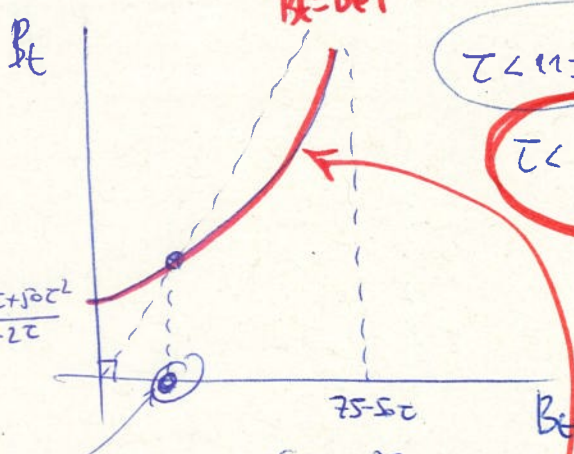
$b_1 = \frac{1}{2p} - \frac{\tau}{2}$

max $u_2 = c_2 c_2'$
$\begin{cases} c_2 + p b_2 = 2 \\ c_2' = b_2 + 2 \end{cases}$

$b_2 = \frac{1}{p} - 1$

$B = \frac{25 - 75\tau - \sqrt{\tau^2 - 22\tau + 1}}{2}$

$\tau < 11 - 2\sqrt{30}$



$\tau < 11 \pm 2\sqrt{30}$

$\tau < 11 - 2\sqrt{30} \approx 0,04554$

$\tau = 0 \to \begin{cases} p_t = \frac{75 - B_{t-1}}{50} \\ B_t = \frac{50 B_{t-1}}{75 - B_{t-1}} \end{cases}$

- **demanda de bons**: $b_{1,t} = \frac{1}{2p_t} - \frac{\tau}{2}$; $b_{2,t} = \frac{1}{p_t} - 1$
- **ef. mercat bons**: oferta = demanda
  $B_t = 50 \cdot b_{1,t} + 50 \cdot b_{2,t}$
  $p_t B_t = 50 \cdot p_t (b_{1,t} + b_{2,t})$
- **restricció pressupostària govern**: ingressos = despeses
  $p_t \cdot B_t = 50 \cdot \tau + B_{t-1}$

→ $p_t B_t = 50 \cdot p_t (b_{1,t} + b_{2,t})$

$50\tau + B_{t-1}$; $\frac{1}{2p_t} - \frac{\tau}{2} + \frac{1}{p_t} - 1$

$50\tau + B_{t-1} = 25 - 25 p_t \tau + 50 - 50 p_t$

$p_t [50 + 25\tau] = 75 - 50\tau - B_{t-1}$

$p_t = \frac{75 - 50\tau - B_{t-1}}{50 + 25\tau}$

$B_t = \frac{(50+25\tau)(50\tau + B_{t-1})}{75 - 50\tau - B_{t-1}}$

$p_t B_t = 50 \cdot \tau + B_{t-1}$ → $B_t = \frac{50 \cdot \tau + B_{t-1}}{p_t}$

$B_{t-1} = 0 \to B_t = \frac{(50+25\tau)50\tau}{75-50\tau} = \frac{(50+25\tau)\tau}{3/2 - \tau} = \frac{100\tau + 50\tau^2}{3 - 2\tau}$

$\tau < 3/2$

$B_t = B_{t-1} = B$

$75B - 50\tau B - B^2 = (50+25\tau)50\tau + B(50+25\tau)$

$B^2 + B(50 + 25\tau - 75 + 50\tau) + 50\tau(50+25\tau) = 0$

$75\tau - 25$

$B = \frac{25 - 75\tau \pm \sqrt{(75\tau - 25)^2 - 200\tau(50+25\tau)}}{2}$

$\tau = \frac{1}{2}$ $\quad p_t = \frac{50 - B_{t-1}}{50 + \frac{25}{2}} = \frac{100 - 2B_{t-1}}{125}$

$75^2\tau^2 + 25^2 - 50 \cdot 75\tau - 10000\tau - 5000\tau^2$

5625 $\quad$ 625 $\quad$ -13.750τ

$\frac{75}{50}$ 37,50

$B = \frac{1}{2}\left(\pm\sqrt{625\tau^2 - 13750\tau + 625} + 25 - 75\tau\right)$ $\quad B = \frac{1}{2}\left[(25 - 75\tau) \pm \sqrt{\tau^2 - 22\tau + 1}\right]$

$\tau = \frac{22 \pm \sqrt{22^2 - 4}}{2} = 11 \pm \sqrt{\frac{480}{4}} = 11 \pm \sqrt{120} = 11 \pm 2\sqrt{30} \approx 0,04557$

$\tau = \frac{1}{2}$ $\quad B_t = \frac{(50 + \frac{25}{2})(25 + B_{t-1})}{75 - 25 - B_{t-1}} = \frac{125(25 + B_{t-1})}{100 - 2B_{t-1}}$

27/11/19