1/4/2021 (1)

IV. Friedman – Phelps – Lucas Model

Στρέβλωση: Incomplete Information
(Δεν είναι πλήρης + συμμετρική: Ατελής)
Mankiw (Κεφ. 13): Workers **Misperception** Model (λανθασμένη αντίληψη - πλάνη)
↓
Οι εργαζόμενοι δεν γνωρίζουν το P, αλλά έχουν μία εκτίμηση γι' αυτό: P^e.

$$l^d = \alpha_0 - \alpha_1 \cdot (w - p) \quad (1)$$

$$l^s = b_0 + b_1 \cdot (w - p^e) \quad (2)$$

$$y^s = \delta \cdot l \quad (3)$$

$$y^d = \gamma_1 \cdot (y - T) - \gamma_2 \cdot \left[r - (p^e_{t+1} - p_t)\right] + \gamma_3 \cdot g \quad (4)$$

$$m - p = \tilde{\delta}_1 \cdot y - \tilde{\delta}_2 \cdot r \quad (5)$$

5 εξισώσεις (1)–(5) + 5 άγνωστοι, y, l, r, p, w

$$(1): \; w - p = \frac{\alpha_0}{\alpha_1} - \frac{1}{\alpha_1} \cdot l^d \quad (1')$$

$$(2): \; l^s = b_0 + b_1 \cdot (w - p^e) + b_1 \cdot p - b_1 \cdot p = b_0 + b_1 \cdot (w - p) + b_1 \cdot (p - p^e) \quad (2')$$

$$(1') \rightarrow (2'): \; l = b_0 + b_1 \cdot \left[\frac{\alpha_0}{\alpha_1} - \frac{1}{\alpha_1} l\right] + b_1 \cdot (p - p^e) \iff$$

$$l^d = l^s = l \qquad \iff l \cdot \left[1 + \frac{b_1}{\alpha_1}\right] = b_0 + b_1 \cdot \frac{\alpha_0}{\alpha_1} + b_1 \cdot (p - p^e) \iff$$

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$$l^d = \alpha_0 - \alpha_1 \cdot (w - p) \quad (1)$$

$$l^s = b_0 + b_1 \cdot (w - p^e) \quad (2)$$

$$y^s = \delta \cdot l \quad (3)$$

$$y^d = \gamma_1 \cdot (y - T) - \gamma_2 \cdot \left[r - (p^e_{t+1} - p_t)\right] + \gamma_3 \cdot g \quad (4)$$

$$m - p = \tilde{\delta}_1 \cdot y - \tilde{\delta}_2 \cdot r \quad (5)$$

IV. Friedman-Phelps-Lucas Model

Στρέβλωση: Incomplete Information

$$\Rightarrow l \cdot \left[\frac{\alpha_1 + b_1}{\alpha_1}\right] = \frac{\alpha_1 \cdot b_0 + b_1 \cdot \alpha_0}{\alpha_1} + b_1 \cdot (p - p^e) \Rightarrow$$

$$\Rightarrow l = \frac{\alpha_1}{\alpha_1 + b_1} \cdot \frac{\alpha_1 \cdot b_0 + b_1 \cdot \alpha_0}{\alpha_1} + \frac{b_1 \cdot \alpha_1}{\alpha_1 + b_1} \cdot (p - p^e) \Rightarrow$$

⟸ Ισορροπία στην Αγορά Εργασίας

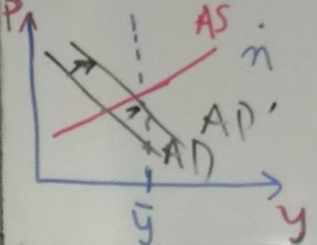
$$l = \frac{\alpha_1 \cdot b_0 + b_1 \cdot \alpha_0}{\alpha_1 + b_1} + \frac{\alpha_1 \cdot b_1}{\alpha_1 + b_1} \cdot (p - p^e) \quad (6)$$

(6) → (3)

Θετική Κλίση AS όταν υπάρχουν στρεβλώσεις

$$AS: \ y = \delta \cdot \left[\frac{\alpha_1 \cdot b_0 + b_1 \cdot \alpha_0}{\alpha_1 + b_1}\right] + \delta \cdot \frac{\alpha_1 \cdot b_1}{\alpha_1 + b_1} \cdot (p - p^e) \quad (7)$$

II, III, IV → Mankiw Sticky nominal wage



ή $y = \bar{y} + \Gamma \cdot (p - p^e)$, $\Gamma = \frac{\delta \cdot \alpha_1 \cdot b_1}{\alpha_1 + b_1} > 0$

Αν $p - p^e > 0$ $(p^e < p)$, $y > \bar{y}$

$p - p^e < 0$ $(p^e > p)$, $y < \bar{y}$

[Αν $p = p^e$, $y = \bar{y}$]

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$$l^d = \alpha_0 - \alpha_1 \cdot (w - p) \quad (1)$$

$$l^s = b_0 + b_1 \cdot (w - p^e) \quad (2)$$

$$y^s = \delta \cdot l \quad (3)$$

$$y^d = \gamma_1 \cdot (y - T) - \gamma_2 \cdot [r - (p^e_{t+1} - p_t)] + \gamma_3 \cdot g \quad (4)$$

$$m - p = \tilde{\delta}_1 \cdot y - \tilde{\delta}_2 \cdot r \quad (5)$$

IV. Friedman-Phelps-Lucas Model

Στρέβλωση: Incomplete Information

$$AS: \; y = \bar{y} + \Gamma \cdot (p - p^e), \quad \Gamma > 0$$

Lucas Supply Curve

$$\Leftrightarrow (y - \bar{y}) = \Gamma \cdot (p - p^e) = -\Gamma (p^e - p)$$

$(p^e - p) \rightarrow$ κάτι σαν αναμενόμενος πληθωρισμός

Πώς από AS → Καμπύλη Phillips

$$y = \bar{y} + \Gamma \cdot (p - p^e) \Leftrightarrow$$

$$\Leftrightarrow y - \bar{y} = \Gamma \cdot (p - p^e) \Leftrightarrow$$

$$\Leftrightarrow p - p^e = \frac{1}{\Gamma} \cdot (y - \bar{y}) \Leftrightarrow$$

(p, y → σε λογαρίθμους) P_{-1}: η τιμή την προηγούμενη περίοδο

$$\Leftrightarrow p = p^e + \frac{1}{\Gamma} \cdot (y - \bar{y}) \Leftrightarrow p - p_{-1} = p^e - p_{-1} + \frac{1}{\Gamma} (y - \bar{y}) \Leftrightarrow$$

$$p - p_{-1} = \pi, \quad p^e - p_{-1} = \pi^e$$

$$\Leftrightarrow \pi = \pi^e + \frac{1}{\Gamma} \cdot (y - \bar{y}) \Leftrightarrow$$

{OKUN'S Law: $y - \bar{y} = -B \cdot (u - \bar{u})$}

$\bar{u} \rightarrow$ φυσικό ποσοστό ανεργίας

$$\frac{1}{\Gamma} \cdot (y - \bar{y}) = -\frac{1}{\Gamma} \cdot B \cdot (u - \bar{u}) = -\Delta \cdot (u - \bar{u})$$

$$\Leftrightarrow \pi = \pi^e - \Delta \cdot (u - \bar{u}) \quad \text{ή}$$

$$\pi - \pi^e = -\Delta \cdot (u - \bar{u})$$ Καμπύλη Phillips