Macroeconomics 2 Presentation

Article review :
Gabaix, Xavier. 2020. ”A Behavioral New Keynesian Model.” American Economic Review, 110(8): 2271-2327

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Sciences Po

Outline

Contextualization

1. Contextualization

1.1 Goal of the paper

1.2 Literature of the topic

Goal of the paper

Content of the Goal of the paper.

Content of the the Literature.

Baseline model of the paper

2. Baseline model of the paper

2.1 Household's Problem

2.2 Firms

2.3 Solution

2.4 Synthesis Of A Behavioral New Keynesian Model

2.5 Calibration

Household's Problem

$$U = \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t u(c_t, N_t)\right] \tag{1}$$

With

$$u(c_t, N_t) = \frac{c^{1-\gamma} - 1}{1-\gamma} - \frac{N^{1+\phi}}{1+\phi}$$

So we have the following objective function of the houshold :

$$U = \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \left(\frac{c^{1-\gamma} - 1}{1-\gamma} - \frac{N^{1+\phi}}{1+\phi}\right)\right]$$

Household's Problem

$$k_{t+1} = (1 + r_t)(k_t - c_t + y_t) \tag{2}$$

Consequences

1. Contextualization
2. Baseline model of the paper
3. Consequences
4. Implications for monetary policy
5. Implications for fiscal policy
6. Behavioral Enrichments of the Model
7. Discussion of the Behavioral Assumptions
8. Conclusion
9. Limits and Critics

3. Consequences

Implications for monetary policy

4. Implications for monetary policy

Implications for fiscal policy

5. Implications for fiscal policy

Behavioral Enrichments of the Model

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Term Structure of Consumer Attention

$$\begin{aligned} k_{t+1} &= \mathbf{G}^{k,BR}(c_t, N_t, k_t, \mathbf{X}_t) \\ &:= (1 + \bar{r} + \hat{r}^{BR}(\mathbf{X}_t))(k_t + \bar{y} + \hat{y}^{BR}(N_t, \mathbf{X}_t) - c_t) \end{aligned} \tag{49}$$

$$\begin{cases} \hat{r}^{BR} = m_r \hat{r}(\mathbf{X}_t) \\ \hat{y}^{BR}(N_t, \mathbf{X}_t) = m_y \hat{y}(\mathbf{X}_t) + \omega(\mathbf{X}_t)(N_t - N_t \mathbf{X}_t) \end{cases} \tag{50}$$

$$\begin{cases} \mathbb{E}_t^{BR}\left[\hat{r}^{BR}(\mathbf{X}_{t+k})\right] = m_r \bar{m}^k \mathbb{E}_t\left[\hat{r}(\mathbf{X}_{t+k})\right] \\ \mathbb{E}_t^{BR}\left[\hat{y}^{BR}(\mathbf{X}_{t+k})\right] = m_r \bar{m}^k \mathbb{E}_t\left[\hat{y}(\mathbf{X}_{t+k})\right] \end{cases} \tag{51}$$

Term Structure of Consumer Attention

$$\hat{c}_t = \mathbb{E}_t \left[\sum_{\tau \geq t} \frac{\bar{m}^{\tau - t}}{R^{\tau - t}} \left(b_r m_r \hat{r}(\mathbf{X}_\tau) + m_Y \frac{\bar{r}}{R} \hat{y}(\mathbf{X}_\tau) \right) \right] \tag{52}$$

$$\frac{\Delta^{GE}}{\Delta^{\text{direct}}} = R^{\tau+1} \tag{53}$$

$$\frac{\Delta^{GE}}{\Delta^{\text{direct}}} = \left(\frac{R}{R - r m_Y} \right)^{\tau+1} \in \left[1, R^{\tau+1} \right] \tag{54}$$

Flattening of the Phillips Curve via Imperfect Firm Attention

$$^{BR}(q_{it}, (\mathbf{X}_\tau)) :=^0 \Big(q_{it} - m^f_\pi \Pi(\mathbf{X}_\tau), m^f_x \mu(\mathbf{X}_\tau), c(\mathbf{X}_\tau)\Big) \tag{55}$$

$$\max_{q_{it}} \mathbb{E}^{BR}_t \left[\sum_{\tau=t}^{\infty} (\beta\theta)^{\tau-t} \frac{c(\mathbf{X}_\tau)^{-\gamma}}{c(\mathbf{X}_\tau)^{-\gamma}} {}^{BR}(q_{it}, \mathbf{X}_\tau)\right] \tag{56}$$

$$p^*_t = p_t + (1-\beta\theta) \sum_{k=0}^{\infty} (\beta\theta\bar{m})^k \, \mathbb{E}_t \left[m^f_\pi(\pi_{t+1} + ... + \pi_{t+k}) - m^f_x \mu_{t+k}\right] \tag{57}$$

$$\kappa = m^f_x \bar{\kappa} \tag{58}$$

Nonconstant Trend Inflation and Neo- Fisherian Paradoxes

$$\pi_t^d = (1-\zeta)\bar{\pi}_t + \zeta\bar{\pi}_t^{CB} \tag{59}$$

$$x_t = M\mathbb{E}_t\left[x_{t+1}\right] - \sigma\left(i_t - \mathbb{E}_t\left[\pi_{t+1}\right] - r_t^n\right) \tag{60}$$

$$\pi_t = \beta \cdot M^f \mathbb{E}_t\left[\hat{\pi}_{t+1}\right] + \kappa \cdot x_t \tag{61}$$

$$\phi_\pi + \zeta\frac{(1-\beta M^f)}{\kappa}\phi_x + \zeta\frac{(1-\beta M^f)(1-M)}{\kappa\sigma} > 1 \tag{62}$$

Discussion of the Behavioral Assumptions

- Theoretical Microfoundation
- Lucas Critique
- Long-Run Learning
- Parsimony and New Degrees of Freedom
- Reasonable Variants

Conclusion

8. Conclusion

Limits and Critics

9. Limits and Critics