A Note for Prescott (2002)

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Abstract

This note is a short summary of Prescott (2002). This paper is on Section 6: Asset Pricing of ECON 330 Theory of Income I reading list at University of Chicago.

1. Question: why are France and Japan depressed, whose output per working-age person is 30% less than the US level?

2. Answer:

   (a) France: higher intratemporal tax wedge in France that distorts the trade-off between consumption and leisure. France welfare in consumption equivalents would increase by 19% if the tax wedge is the same as the US level.

   (b) Japan: lower productivity efficiency in Japan (US is 20% higher). Japan welfare in consumption equivalents would increase by 39% if it has same productivity as US.

3. Measurement: national income and product accounts. Use GNP instead of GDP, which is more consistent with a single-sector growth model.

4. Model:

   (a) Stand-in household maximizes

$$\sum_{t=0}^{\infty} \beta^t N_{it}[\log(c_{it}) + \alpha \log(1 - h_{it})] \tag{1}$$

   (b) Stand-in firm using CD:

$$Y_{it} = (A_{it}\gamma^t)^{1-\theta} K_{it}^{\theta} H_{it}^{\theta} \tag{2}$$

   (c) Flat-tax (τ_c, τ_h, τ_k) and rebate T.

   (d) Insight:

      i. A growth accounting decomposition exercise

$$\log(y_t) = \underbrace{\gamma t}_{\text{trend growth}} + \underbrace{\log(A_t)}_{\text{productivity factor}} + + \underbrace{\frac{\theta}{1-\theta}\log(k_t/y_t)}_{\text{capital factor}} + \underbrace{\log(h_t)}_{\text{labor factor}} \tag{3}$$

   Those countries have very similar capital factor, so the reasons are from productivity and labor factor.

ii. Labor supply

$$h = \left[1 + \frac{\alpha(c/y)}{1-\theta}\widehat{\tau}\right]^{-1}, \quad \widehat{\tau} = \frac{1+\tau_c}{1-\tau_h} \tag{4}$$

$\widehat{\tau}$ is called intratemporal tax wedge. The equilibrium is a function of $\alpha\widehat{\tau}$ instead of α, τ_c or τ_h, separately.

5. Policies:

   (a) Trading clubs and productivity:

      i. Detail: inefficient industries that seek the protection of their state cannot be granted this production without violating the club's agreement.

   (b) Financial systems and productivity:

      i. Mechanism: inefficient producers are subsidized in order to preserve jobs. This has the perverse effect of lowering productivity and decreasing overall employment in the economy.

   (c) Competition and productivity:

      i. Example 1: North America iron mines under international competition
      ii. Example 2: Waterway to railway, railway to highway in US.

References

PRESCOTT, E. C. (2002): "Prosperity and depression," *American Economic Review*, 92, 1–15.