Discussion of "Fiscal Policy and the Distribution of Consumption Rik" by M.M. Croce, T.T. Nguyen and L Schmid

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- Analyze fiscal policy design in a model with realistic macro-finance implications

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- Tradeoff: short-run stabilization vs long-run risk

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- No physical capital

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- When τ_t increases, ceteris paribus, endogenous L_t falls to satisfy condition

Technology

- Final good firms

$$Y_t = \Omega_t L_t^{1-\alpha} \left[\int_0^{A_t} X_{it}^{\alpha} di \right]$$

Ω_t is exogenous stationary productivity process and A_t is the measure of intermediate goods, firm picks L_t and X_{it}

- Intermediate good firms are monopolists charging a constant markup over marginal cost

$$P_{it} = P = \frac{1}{\alpha}$$

- Output from these choices can then be shown to follow

$$Y_t = \frac{1}{\alpha^2} A_t L_t (\Omega_t \alpha^2)^{\frac{1}{1-\alpha}}$$

Since L_t and Ω_t are stationary, growth in output can only come from A_t (intermediate goods variety).

R&D

- Innovators get patents for intermediate goods that they sell. Obsolescence with probability δ
- Value cum dividend of an existing variety

$$V_{it} = \Pi_{it} + \phi E_t \left(M_{t+1} V_{it+1} \right)$$

- Let $1/\vartheta_t$ be marginal rate of transformation of final goods into new varieties. Free entry in R&D:

$$\frac{1}{\vartheta_t} = E_t \left(M_{t+1} V_{it+1} \right)$$

- Variety follows

$$A_{t+1} = (1 - \delta) A_t + \vartheta_t S_t$$

where S_t denotes the units of final goods invested in R&D.

Stock Market

- Value of all three sectors: final, intermediate and R&D
- No profits from final and R&D, intermediate sector profits minus investment equals dividends
- Stock market value

$$Q_t = \frac{1-\delta}{\vartheta_t} A_t$$

- Innovation intensity now positively related to future growth prospects

Endogenous Growth

- The growth rate in the economy is

$$\frac{A_{t+1}}{A_t} = 1 + \delta + E_t \left[\chi^2 M_{t+1} V_{t+1}\right]^{\frac{1-\eta}{\eta}}$$

$$\beta\left(\frac{u_{t+1}}{u_t}\right)^k \left(\frac{c_{t+1}}{c_t}\right)^{-1/\nu} \left[\frac{U_{t+1}^{1-\gamma}}{E_t U_{t+1}^{1-\gamma}}\right]^{\frac{1/\psi-\gamma}{1-\gamma}}$$

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- Why is unconditional average of debt to gdp 10%?

Simple Exogenous Fiscal Policy

- Exogenous AR(1) process for G/Y
- Government can use tax income $\tau_t W_t L_t$ or public debt to finance G
- Fiscal Policy rule

$$\begin{aligned} \frac{B_t}{Y_t} &= \rho_B \frac{B_{t-1}}{Y_{t-1}} + \epsilon_t \\ \epsilon_t &= \phi_B (\log L_{SS} - \log L_t) \end{aligned}$$

All welfare analysis hinges on ϕ_B :
If $\phi_B = 0$, then no change in taxes. As ϕ_B rises then there is more care for stabilization policy (which is done through tax variation).

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- With tax smoothing, drop in output growth reduced at impact, but amplifies drop in expected long run growth

Welfare metric

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- Welfare costs of tax-smoothing increasing in ϕ_B, ρ_B

Comment 1: Quantitative magnitude

1. Based on welfare results, is zero tax-smoothing optimal? This result depends on debt evolution: could this not be grounded more closely to empirical work?
2. Effect is coming from intermediate sector: How big could this magnitude be in the data given size of intermediate sector?

Comment 2: Optimal Rules

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- Could another approach be to make welfare calculations subject to a host of exogenous fiscal policy experiments with more realistic debt/gdp processes?

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- This is not a production economy setting: how different are the proposed channels?

Conclusion

- Nice paper integrating realistic asset pricing implications with normative aspects of fiscal policy