

Discussion of “Adjusting to Capital Liberalization” by Kosuke Aoki, Gianluca Benigno and Nobuhiro Kiyotaki



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The paper

- Starting from autarky steady state, the paper shows theoretically how an economy adjusts to capital liberalization.
- The main message: the adjustment process depends on the level of development of domestic financial system, θ (relative to the foreign development).



The paper (cont.)

- Example: Intermediate θ (relatively lower than foreign level) characterised by suppressed interest rate: Opening up → Capital outflow → Temporary loss of employment while structural improvement → Eventual comeback of employment
- Extension: Government policy



The way I see the paper

- Autarky economy part (before capital liberalization): essentially the same as Kiyotaki (1998)'s baseline model (future output as a collateral)
- Kiyotaki (1998): replacing future output with fixed asset (land) as a collateral to study the amplification and persistence of technology shock.
- This paper: adding an international aspect (i.e. international as well as domestic borrowing constraint) to study the adjustment process of capital liberalization



Overall view

- One less complication to allow one more complication: model remains manageable.
- Overall, this is a brilliant piece of analytical work. Well motivated, relatively simple framework full of intuition and very systematic and rigorous approach.



Questions

- Here, I have four questions: two within the currently presented framework and another two to do with relaxing some assumptions.

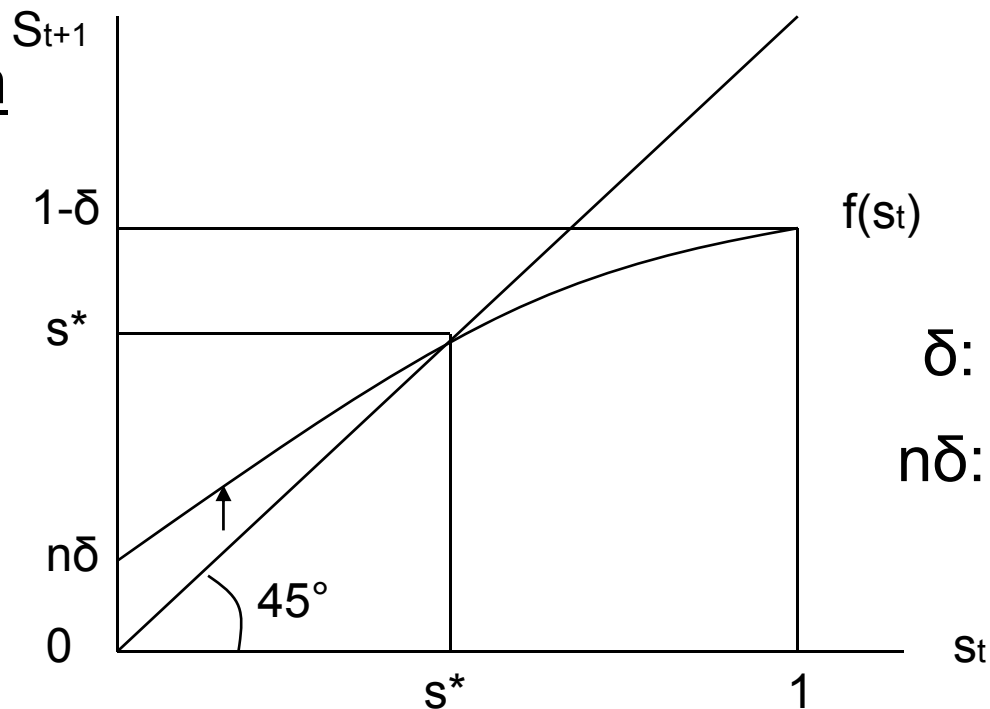
1.1: Economy might not be in the steady state when opening up? If not, how does it adjust?

- Suppose that θ is intermediate, but the economy is under capital accumulation when opening up.
- Before liberalisation: Low total entrepreneurial wealth \rightarrow Low real wage: even unproductive making high return \rightarrow High domestic interest rate (**like** low θ case)
- Soon after liberalisation: Capital inflow: Unproductive work as a financial intermediary \rightarrow TFP falls (**like** low θ case)
- Overtime: Total wealth keeps going up. So does real wage. What happens eventually? TFP comes back? (**unlike** low θ case)

1.1: Economy might not be in the steady state when opening up? If not, how does it adjust? (cont.)

$$Eq.(29) : s_{t+1} = \frac{(1 - \delta)s_t(1 + x_t) + n\delta(1 - s_t)}{1 + s_t x_t} \equiv f(s_t)$$

Before Liberalization



δ : Prob($a_{t+1} = \gamma | a_t = \alpha$)

$n\delta$: Prob($a_{t+1} = \alpha | a_t = \gamma$)



1.2: What exactly happens in the new steady state?

- Example: Intermediate θ ; What happens to total employment in the new steady state?
- Opening up \rightarrow Capital outflow \rightarrow Immediately, total labour $\downarrow \rightarrow$ Overtime, efficient labour \uparrow while inefficient labour \downarrow (TFP \uparrow) \rightarrow Eventually, inefficient is gone and total labour starts going up. Converging to the new steady state.
- In the new steady state, is total employment higher than in the initial autarky steady state?



1.2: What exactly happens in the new steady state? (cont.)

- If so, worth going through the temporary pain (loss in employment)?
- If not, liberalisation might be bad news at least for workers?



2.1: What if income effect is introduced in the labour supply function?

- Focus on the workers' utility function
- Instead of $\sum_{t=0}^{\infty} \beta^t u(c_t - v(l_t))$ (from Eq.9),
- $\sum_{t=0}^{\infty} \beta^t (u(c_t) - v(l_t))$ such as $\sum_{t=0}^{\infty} \beta^t (\ln c_t - \chi l_t^{\eta+1})$?
- Then, we have $w_t = \chi \eta c_t l_t^{\eta}$.



2.1: What if income effect is introduced in the labour supply function? (cont.)

- Again in the case of intermediate θ
- One reason for the TFP increase after liberalisation: Productive entrepreneurs benefit from lower wage.
- If wage decreases further in the presence of income effect, the structural adjustment happens more quickly?
- If proceed numerically, worthwhile exercise?

2.2: Is θ constant over the time of adjustment?



- Suppose initially θ is lower than foreign level.
- Maybe plausible to assume that liberalisation (exposure to more developed financial system) results in higher θ ?
- Say, intermediate θ initially: Increasing θ (productive entrepreneurs can borrow more) quickens the structural change (TFP increase)?
- Temporary loss in employment can be shorter?
- Any feasible way to endogenise θ ?