

Comments on “Service Sector Productivity and Economic Growth in Asia” by Lee and McKibbin

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What This Paper Does

- Document sectoral productivity growth for Asian countries.
- Use G-Cubed model of the world to predict the effect of service-sector productivity growth.
- Thus contributes to the recent growing literature on economic development based on multi-sector growth models.
- Fits the theme of the Conference very nicely.

My Comments, Overall

- Services are non-tradable. Relative price of services can differ across countries. Not clear how it is incorporated.
- You know how the world works. Could have done something I think is more interesting.

A Refresher: Convergence

- Aggregate production function for the country in question:

$$Q_t = \underbrace{A_t}_{\text{TFP level}} \times F(K_t, L_t).$$

If $F(K, L)$ is CRS (constant returns to scale),

$$\underbrace{\frac{Q_t}{L_t}}_{\text{labor productivity}} = A_t \times f(k_t), \quad k_t \equiv \underbrace{\frac{K_t}{L_t}}_{\text{capital/labor ratio}}.$$

- At least in the long run, the MPK $A_t f'(k_t)$ equals the world real interest rate, and so k_t is the same across countries.
- (International comparison) Suppose TFP level A_t is the same across countries for any given t . Then labor productivity should converge.

Should Sectoral Labor Productivity Converge?

- Two sectors, $A_{1t}f_1(k_{1t})$, $A_{2t}f_2(k_{2t})$. Sector 1 is tradable, sector 2 (services) is not.
- (Sectoral comparison) Equality of MPK across sectors within the country in question

$$A_{1t}f_1'(k_{1t}) = A_{2t}f_2'(k_{2t}) \times \underbrace{q_t}_{\text{relative price of Sector 2 goods}} .$$

But that doesn't mean equality of labor productivity, which is

$$A_{1t}f_1(k_{1t}) = A_{2t}f_2(k_{2t}) \times q_t.$$

- (International comparison) Sector 2 labor productivity may not converge.

About G-Cubed Model

- The dataset used in the paper.
 - ▶ In the first half (Sections II-VI), GGDC (Groningen Growth Developing Centre). Sectoral value added and labor, but not capital. (So you can't calculate TFP.)
 - ▶ In Section V, the G-Cubed database. Has everything.
- Questions:
 - ▶ Why not use G-Cubed database in the first half?
 - ▶ Are services nontradable in the model?
 - ▶ Labor and capital allocated efficiently between sectors?
 - ▶ PPP adjustment? Geary-Khamis?

About the Model Simulations

- Why a shock to labor productivity of 1% point?
 - ▶ You mean a shock to TFP growth that raises labor productivity by 1% point given the initial capital/labor ratio?
 - ▶ More transparent to work with TFP growth shocks than labor productivity growth shocks.
- I want to look at the baseline, rather than deviations. In the baseline scenario,
 - ▶ What is the GDP and employment share of services in the long run?
 - ▶ How big will China be relative to US in 2020? 2050?

Misallocation and Productivity

- Recent multi-sector analyses of economic development emphasize sectoral misallocation.
 - ▶ See, e.g., special issue of *Review of Economic Dynamics* (January 2013) on misallocation and productivity. Has papers on China and India.