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

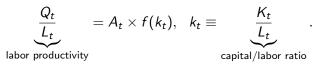
- Services are non-tradable. Relative price of services can differ across countries. Not clear how it is incorporated.
- You know how the world works. Could have done something I think is more interesting.

# A Refresher: Convergence

• Aggregate production function for the country in question:

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

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



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

## Should Sectoral Labor Productivity Converge?

- Two sectors, A<sub>1t</sub>f<sub>1</sub>(k<sub>1t</sub>), A<sub>2t</sub>f<sub>2</sub>(k<sub>2t</sub>). Sector 1 is tradable, sector 2 (services) is not.
- (Sectoral comparison) Equality of MPK across sectors within the country in question

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

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 Sectrion 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.