Comments on "The production of cognitive and non-cognitive human capital in the global economy"

Jianhuan Xu

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Overview

- Important research question: assess the education system in differrent countries
    - Idea: use output, occupation share 7rather than the test score
- Classical labor model
    - Two abilities cognitive vs non-cognitive (initial talent draw from Frechet dist with shape parameter θ)
    - Aggregate production function

$$y^k = \Theta^k \left(A_c L_c^{k\frac{\alpha-1}{\alpha}} + A_n L_n^{k\frac{\alpha-1}{\alpha}} \right)^{\frac{\alpha}{\alpha-1}}$$

    - Human capital production function

$$h_c = h_c^k e^\eta, \quad h_n = h_n^k e^\eta$$

- Education quality is the part of output per worker, which can not be explained by the TFP Θ^k

Comment: Model setup

- Parameters that are same across all countries
  - A_c, A_n and α in the production function,
  - and η in the human capital production function
- It seems to me that assuming A_c and A_n same across k is difficult to swallow

Comment: The Identification

- Three observed variations: output per worker, test score and employment share (education expenditure)
- Three country specific variables Θ^k, h_c^k and h_n^k; and two elasticities η and α

$$\frac{p_c^k}{p_n^k} = f\left(\frac{h_c^k}{h_n^k}, \frac{A_c}{A_n}\right)$$

$$\frac{y^k}{L^k} = g\left(\theta^k, \frac{p_c^k}{p_n^k}, \frac{A_c}{A_n}\right)$$

$$S^k = m\left(h_c^k, p_c^k\right)$$

$$E^k = \eta y^k$$

- Variation of education expenditure is not well used in the current model
  - When $\frac{A_c}{A_n}$ deoopends on k, the expenditure share is not a constant

Comment: Measurements

- How to handle the jobs that needs both cognitive and non-cognivie skills, when computing the employment share?
    - If a worker with high cognitive skill is matched with a low cognitive skill demand job, can the model capture it as well?
- Does the classification of cognitive vs non-cognive occupancy same across all countries?