Comments on “Education Policies and Structural Transformation”

Maurizio Bussolo (World Bank)

Macroeconomic Policies and Income Inequality

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Introduction

- Very rich model
  - It endogenizes labor supply which is often, in general equilibrium analyses, linked to exogenous demographic trends
  - In addition it endogenizes education decisions and thus labor supply by skill level
- The paper basic goal is understanding what went wrong with Brazil growth process:
  - Was the reallocation of labor to higher productivity sectors?
    - No
  - Was the performance of the service sector?
    - Yes; successful Korea developed a high skilled service sector and this is mainly due to its education policies

Authors' main claims

- The authors offer two sets of proof that the model captures well the causality mechanisms

1. Once calibrated, it reproduces vey well the labor allocations observed in reality
2. Indeed the education policies make a difference because when Brazil gets Korean policies its performance is greatly enhanced

Comment

- The labor allocations across sectors is almost too good:
  - However the comparison across observed data and model runs is for a large period (1960-1982, and 1983-2005); does the fit diminish is narrow time interval is chosen?
  - What is the main mechanism that explains this?
  - What about other metrics of model fitness? For example relative prices (more on this later)

Main mechanism

- The role of supply and demand forces in shaping the allocation of labor (understanding why labor moves to, or enters, a specific sector – interaction between goods and factor markets):

1. On the supply side, technology is given, and the growth paths of sectoral TFP must be quite important;
2. Consumers' demand: what is the income elasticity of demand for agriculture, manufacturing and services? How does demand shift as income grows?

Main mechanism (production side)

- Consider the production function in services in the two countries (i = Korea and Brazil)

$$Y_i = A_i S_i^{\alpha_i} U_i^{1-\alpha_i}$$

- One country is more efficient than the other if it can produce the same amount with fewer inputs. We can aggregate S and U (skilled and unskilled) using their respective input prices. We can thus consider a country to be more efficient if its unit costs are lower (while facing the same input prices). The unit costs are:

$$c_i = \left(\frac{ws}{\alpha_i}\right)^{\alpha_i} \left(\frac{wu}{\alpha_i}\right)^{1-\alpha_i} \Big/ A_i$$

Main mechanism (production side)

- If the share parameters (skilled and unskilled share in production of services) are the same, then there is a direct relation between the efficiency measured by unit costs (wu and ws are the wages for unskilled and skilled) and the TFP parameter A:

$$c_i = \left(\frac{ws}{\alpha_i}\right)^{\alpha_i} \left(\frac{wu}{\alpha_i}\right)^{1-\alpha_i} \Big/ A_i$$

$$c_{Kor} < c_{Bra} \; iff \; A_{Kor} > A_{Bra}$$

- Or in terms of the model in the paper, the efficiency (and thus growth and thus labor allocation) depends on pace of change of the parameter A

- Are A's changing at the same pace in the model and in the observed data?
- And are the share parameters the same?

Main mechanism (fertility)

- Would the results – in terms of labor allocation across sectors and growth – be very different if labor supply, by skill level, were left exogenous?
- One could still simulate changes in education policies; but obviously not explain how the education policy works… but in the current version of the model there is not much description of this;
- I missed specifically a discussion of the trade offs between different policies; the budget has to be balanced, so more education has to come with more taxation.

Comment (other metrics)

- Another common feature of structural adjustment is the Balassa-Samuelson effect:
- Productivity in the tradables rises fast (and uniformly across countries) and this tends to drive up wages in this sector and, as labor is assumed to be mobile across sectors, push up wages in the non-tradable sector. As the latter increase is not matched by a productivity increase, costs and prices in the non-tradables will go up (RER appreciation).
- How is the model performing in terms of relative prices?

Other Comment

- Accumulation and inter-temporal discount (preferences)
- A well know stylized fact is the difference between East-Asia and Latin America in terms of saving behavior. And demography (aging) does not seem to explain the much larger saving (and investment in both physical and human capital) between the regions;
- What about the time preference?