“What have learnt about growth?” SESSION

RES 21 April 2009
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FOCUS ON:
Role of human capital?

- why does human capital vary across countries?
- how much of income differences does human capital account for?
Cross-country data on human capital wage premia

\[ \frac{w_S}{w_U} \]

\[ B \]

\[ x = \frac{S}{L} \]

poor country  rich
Implies that

- cannot explain from production side why human capital varies across countries

\[ Y_c = A_c \left( BS_c + U_c \right) \]

\[ \frac{Y_R}{Y_P} = \left( \frac{A_R}{A_P} \right) \times \left( \frac{BS_R + U_R}{BS_P + U_P} \right) \]
Accounting for output per worker:

SIMPLEST case

\[ \frac{w_S}{w_U} \]

\[ B \]

\[ l \]

\[ x = \frac{S}{L} \]
Imperfect substitutability across skills

- empirical evidence suggests that different levels of schooling are imperfect substitutes in production
- implies that the demand for skills is decreasing in the share of skilled workers
Cross-country data on human capital wage premia

\[ R^* = \frac{w_S}{w_U} \]

RELATIVE DEMAND FOR SKILLS with imperfect substitution

\[ x^* = \frac{S}{L} \]
Cross-country data on human capital wage premia

\[ \frac{w_S}{w_U} = B \]

Poor country \hspace{1cm} Rich

\[ x = \frac{S}{L} \]
Cross-country data on human capital wage premia

\[
\frac{w_S}{w_U} = \text{poor country rich}
\]

\[
x = \frac{S}{L}
\]
Formally:

\[ Y_c = A_c F_c \left( B_c H_c, L_c \right) \]

\[ \frac{Y_R}{Y_P} = \left( \frac{A_R}{A_P} \right) \times \left( \frac{F_R \left( B_R H_R, L_R \right)}{F_P \left( B_P H_P, L_P \right)} \right) \]
New situation:

• how much of the output per worker differences between rich and poor can be accounted for by human capital?
  → difficult question to answer

• how much can human capital alone raise output per worker in poor countries?
  → easy to find a general upper bound
Cross-country data on human capital wage premia

\[ \frac{w_S}{w_U} = \frac{S}{L} \]

Legend:
- Poor country
- Rich country
- Line representing the wage premia
- Region indicating the difference in wages
Development accounting: 
SIMPLEST case

\[ \frac{Y}{L} \]

\[ y_P \]

\[ x_P \]

\[ x_R \]

\[ x = \frac{S}{L} \]

\[ w_P^S - w_P^U \]
Production function perspective

\[ \frac{Y}{L} \]

\[ y_P \]

\[ x_P \]

\[ x_R \]

\[ x = \frac{S}{L} \]
Conclusion

• human capital-development accounting sensitive to slope of skill demand
• but the simplest case yields a general upper bound to the question of how much of the output gap can be closed by more human capital in poor countries
• poor countries would not close much of the output gap with rich countries even if they had the same human capital endowment