

EDUCATION

Should More Resources be Spent in Education in Developed and Developing Economies?

1. Facts

2. Returns on Education: Micro Level

3. Returns on Education: Macro Level

4. Policy Issues

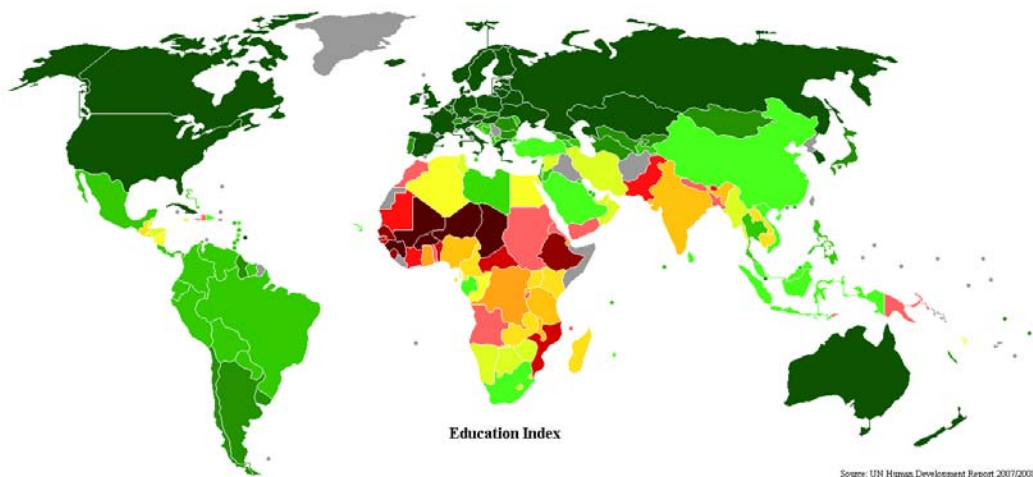
5. Appendix: Movies

- Reading: PRL, Chap. 8.

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FACTS

PICTURE: U.N. Education Index



U.N. Education Index, reflecting years of schooling and literacy rate

Green: High, Yellow: Middle, Red: Low

(Source: http://en.wikipedia.org/wiki/File:Education_index_UN_HDR_2007_2008.PNG)

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FACTS

- FACT 1: High-income economies tend to have better education.
(This is a correlation. Not sure about the direction of causality.)
- FACT 2: Since 1960, education is improving on average.
(For example, years of schooling increased. You will see it in a problem set.)
- Natural Questions: What does education do? If an economy has more education, does the output grow faster? Should the govt intervene in education?

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RETURNS ON EDUCATION: MICRO LEVEL

- View in economics:
 - Firms invest in physical capital (machines, computers, etc.) to increase the profit.
 - Workers invest in human capital (pay tuition and spend time on schooling and OJT) to increase the (net) wage.
- The consensus among labor economists is that the XS data across workers suggest that

Education for Worker A

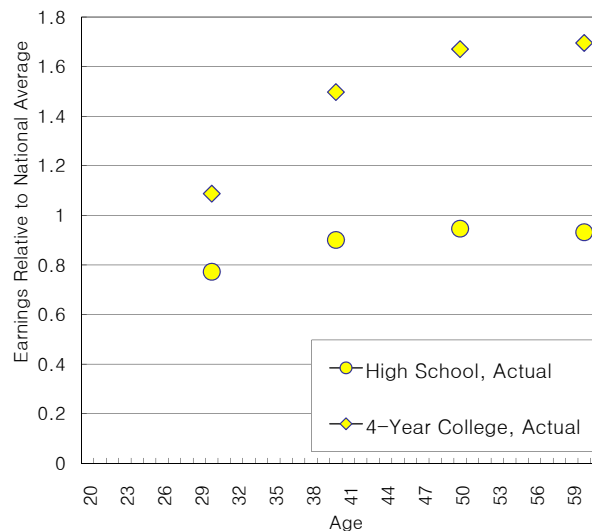
Higher Earnings for Worker A

- Causality from education to earnings.
- An additional year of education will increase the earnings by about 10%.

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RETURNS ON EDUCATION: MICRO LEVEL

FIGURE: Age-Earnings Profile



(Source: Computed from 1980, 1990 and 2000 Census of Population: Earnings by Occupation and Education)

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RETURNS ON EDUCATION: MICRO LEVEL

- In the U.S., the main decision on your education is whether you go to college or not
 - Cost: Tuition, Opportunity cost, ...
 - Benefit: Higher earnings, Higher productivity of OJT, ...
- Education increases the earnings in XS.
- Does it apply to TS?
- For example, if China increases years of schooling by 1 year on average, will China's income increase by 10% on average?

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RETURNS ON EDUCATION: MACRO LEVEL

- Question: Does education cause growth?
- Answer: We don't have the consensus.
 - Barro (1991): Very likely. "One more year of attainment in 1960 is associated with 0.30% faster annual growth over 1960-90."
 - Bils and Klenow (2000): Maybe yes, but less than what we expected. The correlation between education and growth is mainly from the opposite direction.
- Why no consensus? The quality of education is difficult to measure. There are only 200 countries at maximum. So it is not easy to test how the quantity AND quality of education affect growth.

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POLICY ISSUES

- Question: Should the government subsidize education?
(If people think education is beneficial, they will pay for it. Why should the govt intervene?)
- Answer:
 - Capital market is imperfect. (Not all children can borrow.)
 - “Externalities”. Education on person A can help person B.
Static externalities: I produce more output if surrounded by smarter workers.
Dynamic externalities: I learn more if surrounded by smarter workers.
Problem: How large are those externalities – controversial.
- Maybe these are why some govts run public schools and primary education is mandatory in many countries.

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CHALLENGES IN DEVELOPING ECONOMIES

- Funding (?) (even though we do not know the “right” amount of educational spending): Some families can’t afford, so public education is important. But education tends to be the target in budget cut.
- Allocation: How to allocate among primary, secondary and tertiary schooling.
Primary is important because estimated (private) returns are higher according to econometricians.
But tertiary schooling is important because a lot of new knowledge is produced there. This knowledge benefits everyone. (positive externalitiy).
- Quality: How to improve, given resources?
- <http://www.youtube.com/watch?v=-BxL1aqb6mY>

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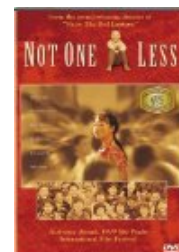
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APPENDIX: MOVIES

- “MACHUCA” (2004)
 - Director: Andrés Wood
 - Poor vs. rich in education in Chile, around Pinochet coup in 1973
 - Trailer: http://www.youtube.com/watch?v=l_p3QAPtdEY
- “NOT ONE LESS” (1999)
 - Director: Yimou Zhang
 - Rural education in China (?)
 - Trailer: <http://www.youtube.com/watch?v=sxGB6p5UIrI>



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APPENDIX: MOVIES

- “CENTRAL STATION” (1998)
 - Director: Walter Salles
 - Low education in Brazil
 - Trailer: <http://www.youtube.com/watch?v=ako8metwLAY>

