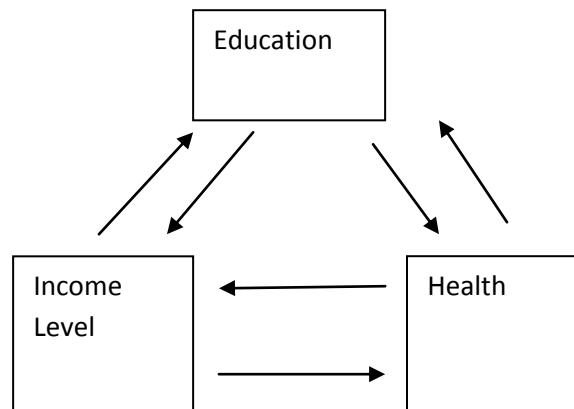


Human Capital 1: Education.



Health and education. Building up the capacities of human beings through better health and education.

Improved health and education are both objectives of development. Recall HDI.

Improved health and education are also critical components of growth and development.

We are interested in both aspects of human capital both as a means and an ends of development.

Focus on education first.

Recall the Millennium Development Goals.

<http://mdgs.un.org/unsd/mdg/Data.aspx>

Goal 2. Achieve universal primary education

Target 3.

Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

Indicators

6. Net enrolment ratio in primary education (UNESCO)
7. Proportion of pupils starting grade 1 who reach grade 5 (UNESCO)^b
8. Literacy rate of 15-24 year-olds (UNESCO)

Some evidence of international convergence in education measures (note contrast to income story). A variety of measures suggest things are getting better in developed countries at a faster rate than in developing countries for some measures.

School enrollment rates, Teacher-pupil ratio, schooling years. Averages differ still, but rates of change are higher for developing countries. Contrast 1970 and 1996 figures (1970, 1996)

	Advanced	SSA	Asia	MENA
Primary Enrollment Rate	103, 102	63, 87	73, 104	86, 98
Secondary Enrollment Rate	70, 111	10, 29	25, 48	37, 69
Average School years	7, 9	1, 2	3, 4	4, 6

education enrolment ratios

Total enrolment, regardless of age, divided by the population of the age group which corresponds to a specific level of education. The net enrolment ratio is calculated by using only that part of the enrolment which corresponds to the age group of the level considered.

Reference

United Nations Educational, Scientific and Cultural Organization. Revised Recommendation concerning the International Standardization of Educational Statistics. Paris, 1978. Also contained in UNESCO Statistical Yearbook, chap. 2. Paris, annual.

There is also progress on the female to male enrollment ratio, where again we have 1970, 1996 figures reported.

	Advanced	SSA	Asia	MENA
Primary Ratio	1, 1	0.71, 0.84	0.75, 0.90	0.76, 0.94
Secondary Ratio	0.92, 1.04	0.47, 0.73	0.58, 0.87	0.61, 0.93

Note that convergence here can reflect the nature of the measure (up to 100% enrollment rate, can't get higher. Only so many years of school feasible).

Contrast to income that has no inherent upper bound.

Also, leaves out qualitative difference once quantitative difference is no longer possible.

Returns to education.

Figure 8.1: Age-Earnings Profile

Figure 8.2: Financial Tradeoffs in Decision to Continue school

Table 8.1 and reading: returns to investment in education.

Primary education private rate of return: 22% dev, 41 % SSA – 26% LA

Secondary education private rate of return: 12% dev, 41 % SSA – 17% LA

Social rates of return look at pre-tax returns and cost of education is full amount of resources, not just that part paid for by the student.

Then one could add in a story about the positive spillovers; the public goods aspect to education.

Primary education social rate of return: 14% dev, 24 % SSA – 18% LA

Secondary education social rate of return: 10% dev, 18 % SSA – 13% LA and Asia

Consider the demand for education. In some sense, the demand for education is derived from the demand for different types of jobs that require education (the objective is not the education in and of itself, but what it can do for the individual).

Rising population, already unemployment and underemployment, limited formal sector job opportunities. Why do people keep seeking education in such a situation?

Think back to the migration model – a similar logic applies here.

Impact on increased income associated with that level of education.

Impact on increased probability of getting a job at this income level.

Both play a role in expected income.

Balance against the direct and opportunity of continuing education.

Education competing against the alternative of child labor.

Education used as a sorting device by employers, signaling device by individuals.

Education as an alternative to unemployment, perhaps in the hope that things will get better in the future.

The supply side of education is usually driven by policy decisions by governments, so that is where we are focusing. Does the supply side make sense as a set of public policy decisions?

Figure 8.5. Marginal analysis of marginal costs and benefits to education.

What is the added benefit / cost of an incremental increase in providing a certain kind of schooling. Comparison at the private and social level.

Returns always exceed costs for private, and for most all of social.

Marginal private returns always exceed marginal private costs, but marginal social cost and marginal social returns are equal at the primary level, $MSC > MSR$ above.

Social marginal returns and benefits are equal at lower levels of education.

All offer a positive rate of return, but the marginal decision is to allocate resources to primary education.

Is this what we observe?

Public recurrent expenditures on schooling.

	Primary	Secondary	Tertiary
Expenditure (% of total)	43%	28%	20%

	Preprimary	Primary	Secondary	Tertiary
Brazil Students	13%	32%	45%	10%
Brazil Expenditure	9%	34%	36%	21%
Colombia Students	11%	46%	32%	11%
Colombia Expenditure	10%	43%	30%	16%
Niger Students	2%	85%	12%	1%
Niger Expenditure	2%	49%	29%	20%
Madagascar Students	7%	80%	12%	2%
Madagascar Expenditure	1%	49%	29%	20%
Phillipines Students	3%	60%	24%	13%
Phillipines Expenditure	0%	61%	22%	14%
UAE Students	9%	37%	42%	12%
UAE Expenditure	7%	47%	45%	0%

UNESCO data, mostly 2003 data.

For some more statistics and a cross country set of comparisons look at:

2004 report:

http://www.unesco.org/education/docs/EN_GD2004_v2.pdf

2006 report:

<http://unesdoc.unesco.org/images/0014/001457/145753e.pdf>

2008 report:

<http://unesdoc.unesco.org/images/0017/001787/178740e.pdf>

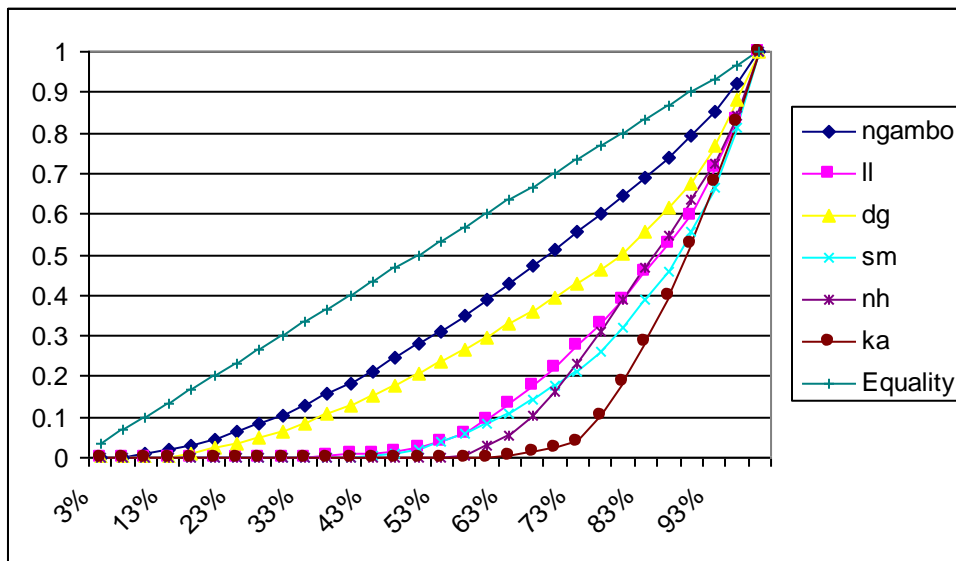
Spending per student in higher education in Africa: average is 44:1 for the spending per tertiary student to spending per primary student. OECD average is around 2.0 to 2.5. Tanzania had 238 to 1 !

Inequalities in the distribution of education.

Can compute a Gini curve of education distribution as we did for the income distribution. What percent of the population has received what percent of the education?

Kenya data, all households. The average person in the household spent how many years in school? Distribution of the findings.

Gini of 0.61. Mean is 1.8 years (the average person in the household spent 1.8 years in school). Note this is not sorted for over 15's as is done in the book.



	N'gambo	Logologo	Dirib Gumbo	Sugata Marmar	North Horr	Kargi
Average Years	3.5	2.3	2.1	1.4	1.0	0.6
Gini	0.31	0.64	0.45	0.68	0.67	0.76

Overall relationship in cross country comparisons is that as average years of education goes up, the education Gini goes down. Perhaps not surprising, as there are limits to how long one can spend in school.

Low average education and high inequality in education are associated. This would suggest that education does not focus on primary to begin with.

Can increased education increase inequality? At some level, it may. Table 8.3. Share of public resources for education divided by the share of the population.

Farmers: .49 (ME and NA) to .95 (OECD).

Blue collar: .35 (ME and NA) to 1.19 (Anglophone Africa)

White collar: 1.2 (OECD) to 5.93 (Francophone Africa).

Kids of already higher class families are the ones to get to higher education.

They can afford the direct costs, they can pass up the opportunity cost of child labor, they are in the city where the opportunities are... This could support the argument that education policy can lead to a transfer of wealth from the poorer to the wealthier.

WB calculates benefits incidence for public subsidies to education. Overall, the lowest 40% income class gets 43% benefit incidence from total education spending. However, for tertiary education this figure is 10%.

Opportunity cost of child's labor is higher for lower class families.

If the kids are not in school, where are they? Child labor.

Takes them away from school, diminishing future prospects.

Work is often physically debilitating, diminishing future prospects.

Objectionable from a normative standpoint.

120 million in developing countries working full time, another 130 million part time. (ILO)

What happens if we ban child labor?

First, let us assume that households with high income will not send children to work – child labor reflects poverty.

Second, let us assume that adults can perform the tasks that child labor performs (substitutes). Nothing special about their little fingers or what have you.

Ban child labor, raise wages for adults could address the problem of child labor.

If child labor is banned and the adult wage increases, will the firm relocate (perhaps to an area where no such ban is in place)? Could banning child labor lead to both the loss of the child's income and the other incomes associated with the industry?

Concern about these impacts has led to an alternative approach.

- 1) Focus on eliminating poverty rather than child labor – the assumption is addressing the former will take care of the latter.
- 2) Increase incentives and opportunities for children to go to school. Can make education compulsory, but absent effective enforcement, better to focus on incentives. More places, local schools, free food,...
- 3) Accept child labor is going to happen, but work to implement policies that require children get time off for

school, provide services for working children and their families,...

- 4) Work towards goal of banning child labor worldwide by banning it in its most abusive forms. “Worst Forms of Child Labor Convention” (ILO 1999).
- 5) Trade sanctions on countries that permit child labor. If children move from export sector to informal sector, may not help the children.

What about gender inequality in education?

Educational gender gap. Females receive less education than males in most developing countries.

Female literacy rate for all developing countries is 71% of male literacy rate for developing countries taken as a whole. Primary school enrolment approaches male levels (91%), but secondary declines to 72%, while post secondary is 51% of male enrolment.

Why might we think this is something that needs to be addressed?

- 1) Normative.
- 2) Educating females leads to lower population growth rates.
- 3) Educating females leads to better household nutrition.
- 4) Education of females leads to higher health standards.
- 5) Educating females leads to better education of daughters.
- 6) Higher marginal returns.
- 7) Females are disproportionately poor, so if education leads to jobs, addressing poverty and addressing female education are linked.

Missing women mystery. Demographic structure indicates the female to male ratio is related to culture and level of development.

Female: male ratio is around 1.05 in Europe, .91 in Pakistan. Not just poverty (SSA is 1.03), but interaction of culture, policy, and poverty.

Summary

- 1) Demand for higher levels of education can be a response to a demand for formal sector jobs.
- 2) Demand for higher levels of education can be a response to individuals seeking alternatives to unemployment / underemployment.
- 3) Since higher employment is often expensive and located in the larger cities, higher education and hence opportunities for formal employment go to the children of families of already relatively wealthy, already resident of urban areas.
- 4) If the government does decide to subsidize higher education, it is not the most efficient use of societal resources, and can also lead to transfers of wealth from the poor to the wealthy.
- 5) Structure of education also leads to a focus of a few extremely specialized people, when more generalists would be more socially beneficial.
- 6) Further concerns can be raised about the role of governments in allocating spaces. Is it a form of patronage rather than a meritocracy?
- 7) Is education a signaling device almost exclusively, rather than a transfer of skills and knowledge?
- 8) Child labor needs to be addressed in tandem with education policy.
- 9) Explicit focus on girl's education is needed.