

Development Policy

Lecture Note 13

Education

We have discussed the importance of education to economic development in many of your classes this year. If economic growth depends is based on increases in labor productivity, then surely the knowledge and skills possessed by the labor force will be of decisive importance. The idea of “human capital,” first introduced by Theodore Schultz in 1961, has been adopted by growth economics as a way to explain the growing gap between rich and poor countries. Moreover, as we have seen, education opens up economic opportunities for people, and is therefore closely related to poverty reduction. Years of studying the relationship between education, growth and poverty reduction have confirmed the importance of education to development.

And yet, as we shall see, education is not a panacea. It enables people to seize opportunities that present themselves, but it does not always create these opportunities. In many situations people who have benefited from education remain unemployed or employed in unskilled jobs that do not make use of their knowledge and capabilities. This is a loss to society, both in the sense of underutilizing an important resource, and in terms of the money that society (governments) has invested in education. The benefits of education only materialize when countries get other parts of development policy right.

Before we discuss the impact of education on growth and development, we should first review the progress that has been made around the world and in the region over the past fifty years and clarify some important definitions. All regions of the developing world have achieved substantial improvements in access to education. Access to education is generally measured by enrolment rates. The gross enrolment rate is equal to the number of students at the relevant grade level (for example, primary, secondary or tertiary) divided by the number of the children in the appropriate age cohort. Thus for primary school in Vietnam the relevant age cohort is 7-11 years of age.

However, as we can see from the figure the gross enrollment rate can be more than 100 percent because children younger than seven years of age may be registered in grade one, and children older than 11 may be registered in primary school. The net enrollment rate only considers children in school at the relevant age, and therefore net enrollments cannot exceed 100 percent.

South Asia and Sub-Saharan Africa made huge strides over the past fifty years in increasing primary enrollments. Among the large countries of Southeast Asia, Indonesia and Thailand were late starters, but caught up quickly after the 1960s. All countries and regions made progress in increasing girls' enrollments, and closing the gap between boys and girls, although a gap still exists except in East Asia.

We also need to differentiate between enrollment rates and primary school completion. The latter is a better measure of attainment because children may register for school but not progress, often because of absenteeism and frequent breaks from schooling due to work, illness or other causes. A commonly used indicator is "persistence to grade 5," which is the share of a given cohort of students that enrolled in grade one that eventually reaches grade 5. Not all countries collect this information regularly, but it is a better indicator of primary school coverage than enrollment rates because it goes beyond the mere fact of signing up to include a measure of progress.

We have also seen progress in secondary school enrollment rates, although the increase has not been consistent and in some places slow. Thailand was the main outlier in Southeast Asia until 1990, when the country launched a new policy of building secondary schools and improving access outside of the major cities. Remarkably, East Asia and the Pacific and Latin America and the Caribbean have eliminated the gap between male and female enrollment rates in secondary education, and progress has been made in South Asia. But Sub-Saharan Africa appears to have given up some of the gains that the region made up to the year 2000. All of the large countries in Southeast Asia have eliminated the gender gap at the secondary school level, including Indonesia.

Primary and secondary education is largely provided by the public sector, except in South Asia, where there has been a pronounced trend toward the privatization of even basic education. Some of these private institutions are religious schools, but many are not. Parents in South Asia are leaving public schools for small private schools which they think do a better job of teaching their children.

Regarding tertiary education, a large gap between the developing regions began to open up in 1990, with East Asia and Latin America approaching rich-country enrollment rates. In Southeast Asia, the Philippines has been replaced as the regional leader by Thailand and Malaysia, which is surprising given Thailand's relatively recent expansion of secondary education. Expansion of Thailand's higher education has come about primarily through the expansion of "special programs" of public sector universities that offer degree programs at higher cost than the regular degree programs. This has enabled universities to increase revenues and teacher compensation without undergoing more thorough reforms.

The gender gap has persisted in Sub-Saharan Africa and South Asia, but has disappeared in Latin America and East Asia. The gender gap in university education is caused by the gender gap in lower levels of schooling, of job opportunities (real or perceived) for educated women, and by parents investing in boys rather than girls. Early marriage contributes to low female secondary and tertiary enrollment rates in some African and South Asian countries.

Beyond the question of quantity of education provided is the equally important question of quality. It is difficult to measure the quality of education received by students around the world, because people judge quality on the basis of different criteria, and many of these criteria are subjective. The use of standardized tests to measure teaching quality has increased in recent years, both within countries and as cross-country comparisons. The most frequently cited of these is the OECD's Program for International Student Assessment (PISA) (<http://www.oecd.org/pisa/>). This program periodically tests a sample of secondary school students in OECD and other countries. Although standardized tests are not a perfect indicator, the tests do help countries benchmark their performance against international standards.

Three Southeast Asian countries regularly participate in PISA: Singapore, Malaysia, Thailand and Indonesia. Malaysia participated in 2010, but these results have not yet been published. Singapore is among the top performers globally, scoring well above average in reading, math and science. Thailand and Indonesia are at the bottom end of the rankings in all three subjects. Students are not offered a sufficiently rigorous curriculum and schools experience problems with under-qualified teachers, teacher and student absenteeism and poor facilities.

Subjects of study are another link between access to education and economic performance. A higher share of students taking courses in Science, Technology, Engineering and Mathematics (STEM) subjects is thought to promote economic growth more than studying social sciences and the humanities. The East Asian economies have traditionally encouraged students to enter STEM fields, and China seems to be replicating this experience. Southeast Asian countries like the Philippines and Thailand are not, which probably has important implications for the future trajectory of industrialization and research and development capabilities.

At the regional level there does not appear to be much difference in public support for education, but this uniformity masks considerable variation at the country level. This is clear in Southeast Asia, where the Philippines and Indonesians have for many years spent less on education than other countries in the region, particularly Malaysia, and recently Vietnam. Low spending on primary education is generally viewed as a missed opportunity, as the social rate of return on basic education is thought to be very high, a point made forcefully by Schultz in the 1960s. Basic literacy and numeracy

increases productivity, makes it easier for farmers to adopt new technologies, and is associated with lower fertility rates and better child and maternal health. Low educational attainment also carries over into future generations, as there is a link between the education of mothers and their children.

With all of these economic benefits from increasing access to education, one would expect the statistics to demonstrate a close relationship between education and growth. You will recall from macroeconomics class that Mankiw, Romer and Weil (1992) argue that human capital accounts for much of the unexplained residual in the Solow growth model. Mankiw, Romer and Weil use enrollment rates as a measure of human capital formation. But enrollment rates do not measure the *growth* of human capital because human capital is also being lost over time as workers leave the labor force. The question is not how many young people are in school, but is the labor force adding to its stock of skills.

Lant Pritchett corrected for this problem in a prominent study published in 1996.¹ Pritchett develops a measure of the growth of human capital, which is the change in the discounted value of wage premia attributable to education. He finds that this flow variable is not associated with growth in GDP per worker. This makes sense if we recall that educational attainment has been most rapid in Africa and South Asia, yet economic growth in these regions has been slower than in East Asia.

How is it possible that growth of human capital is not associated with economic growth at the macro level? Pritchett offers three explanations. The first is that education increases wages but not growth. Employers use educational qualifications as a signal for human capital, and pay more to workers with higher qualifications. But more educational experience does not in fact make them more productive.

The second possibility that he raises is that human capital only contributes to growth in a context in which there is a demand for skilled labor. Remember that the Solow model is a supply side model: Say's Law is in effect and the labor force is fully employed. This is an unrealistic assumption, and as we have seen some countries with high levels of educational attainment have high rates of graduate unemployment (for example, the Philippines). While education is important, it is not the only factor that increases productivity. For example, low rates of capital investment, or investing capital inefficiently, will break the link between education and growth.

The third possibility that Pritchett raises is more speculative. He suggests that some people are using the skills that they acquired through education to engage in socially and economically counter-productive activities like rent-seeking and corruption. In

¹ Lant Pritchett (1996) "Where Has All the Education Gone? World Bank Policy Research Working Paper 1581, March.

some countries it is easier to get through political connections than by competing in the market. If this is the case, more education will not lead to growth.