More Education Does indeed Bring Higher Economic Growth

Laxenburg, 21 February 2008 – Finally, a long standing economic puzzle has been solved! There has never been a doubt that for individuals more years of education result in higher incomes. Yet, the same thing could never be shown convincingly for societies, although economic theory suggests that this should happen. We show that the puzzle is solved when the age profile of people by level of educational is taken into account. This could not have been done before, because until now the required data have not been available.

Now demographers at the International Institute of Applied Systems Analysis and the Vienna Institute of Demography of the Austrian Academy of Sciences produced a comprehensive reconstruction of educational attainment distributions for 5-year age groups for 120 countries since 1970. With these new data that can distinguish between younger and older workers and those beyond working age statistical analyses now show that education indeed is a significant driver of economic growth.

The analysis also reveals important patterns that suggest a refocusing of international development goals. The UN Millennium Development Goals focus on the achievement of universal primary education. Yet the new analysis shows that the economic boost that is necessary to lift countries out of poverty is likely only if secondary education of broad segments of the population is put in place. It also shows that university education—while a key determinant of growth in industrialized countries—has only limited effect in otherwise poorly educated countries, and this effect depends strongly on the age structure of the part of the population with tertiary education.

In the words of Wolfgang Lutz: “This study clearly illustrates that in the end development, technological innovation and economic growth are brought about by people applying skills which they mostly got through education. Good education requires near term efforts but is one of the best long term investments for every society”.

Frequently asked questions:

When did this new data become available?

The data have been publicly available on the website of the International Institute for Applied Systems Analysis for three months. The data can be found at:

http://www.iiasa.ac.at/Research/POP/edu07/index.html

The authors were among the creators of the new data. One of their reasons for creating the data was to do analyses of the sort that is published in this article.
How is your analysis of the relationship between education and economic growth different from others that have been done previously?

Ours is different in three ways. First, we use the new data. No other study has done this. Second, we take advantage of the fact that the new data allow us to see the age structure of educational attainment in a country. This means that we know not only the number of people at each educational level, but also how old people at each level are. Third, we distinguish between the additional productivity that more educated workers in each age group bring to the marketplace and the effects of having more education on the rate at which new technologies are implemented. Disentangling these two effects is crucial to understanding how education influences economic growth.

What should educational planners do, based on this new study.

Different countries have taken different paths to increasing the education levels of their populations. Some like India have emphasized college education even before universal primary education is achieved. Others like China have emphasized having at least some education for everyone. In the Supplementary Material, we provide the detailed results of our work. Educational planners can use those results and the characteristics of their own countries to find which educational strategy is best for them. In general, universal primary education alone does not provide the jump in economic growth that many envision. For that to happen a reasonable level of secondary education in the population is also needed.

In light of your study, should the UN revise it Millennium Development Goal of universal primary education?

Universal primary education is certainly a fine goal. Education improves health, provides the ability to function more effectively within political systems, and empowers people in numerous ways. But universal primary education by itself will not succeed in generating the economic growth that alleviates mass poverty. The educational policy that would do this best is one that also emphasizes secondary education. When the UN produces its next set of goals, we suggest that one be added concerning secondary education.

Your study emphasizes the relationship between education and economic growth. Aren't there many other policies that affect economic growth as well?

Yes, there are many policies that affect economic growth. Until this study, it was not clear that increasing education levels of people was among them. If economic policies are bad, such as in North Korea, the effects of increased education will be reduced. What we found was that, as a general rule across a wide variety of institutional and policy settings, education mattered to economic growth. We also found out that in understanding the way education mattered to economic growth, we needed to look at education levels in specific age groups.

How were the new education data put together?

The answer to this question is a bit complex. The new education data were constructed by taking solid recent observations on the age-education structure of countries and projecting them backwards to see what those structures must have been at earlier times. There are two main advantages of this approach. First, it is not subject to variations due to changes in national definitions of educational levels. Thus, it is more consistent over time than previous data. Second, it provides us with educational attainment data classified simultaneously be age and level of educational attainment. Both of these advantages were vital to our study.
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