PLAIN LANGUAGE SUMMARIES

Literacy scores, human capital and growth across fourteen OECD countries

By T. Scott Murray

What is this study about?

This paper, by Serge Coulombe, Jean Francois Tremblay and Sylvie Marchand of the University of Ottawa explores how the amount of literacy skill available is associated with the rate at which productivity and the size of the overall economy grow.

The study uses data from the 1994 International Adult Literacy Survey (IALS) to derive estimates of the likely change in the literacy skills of over the 1960-1995 period on the literacy level of youth aged 17 to 25.

This information is then used as a measure of the quality of the investment in education in an analysis of economic growth for 14 OECD countries.

The paper is organized in six parts.

The first part introduces the study, introducing readers to the concept of literacy as an indicator of human capital, the skills and knowledge that individuals have that can be used to create economic value.

The second part reviews how other researchers have tried to estimate how human capital has influenced long term rates of economic growth and productivity growth.

The third part documents the data that was used in the analysis.

The fourth part provides an overview of the methods that were used to estimate the impact that differences in the average level, and distribution of literacy skill by skill level, have influenced the growth of Gross Domestic Product (GDP) per capita and labour productivity for the period for the period 1960 through 1990.

The fifth part presents the results of the analyses.

The final part summarizes what the study found and suggests what policy makers need to do in response to the new insights offered by the study.

What are the questions addressed by the study?

In studies including large numbers of developed and less developed countries, standard measures of human capital based on educational achievement appear to have a positive and significant long run level effect on countries' GDP and a transitory positive effect on economic growth.

According to neoclassical economic theory this is the best effect a variable such as human capital can have on economic growth since labour productivity growth in the long run is solely determined by the growth rate of technological progress.

One of the most puzzling results in the empirical literature on human capital and growth is, however, that, when the sample under study is restricted to the OECD countries, the effect of human capital or education on economic growth is not significant, sometimes zero, or even negative.

One of the reasons behind this negative result might be associated with the fact that indirect measures of human capital, such as educational attainment and/or enrolment rates, might not be very comparable across countries.

In this paper, Coulombe, Tremblay and Marchand explore the relationship between human capital and economic growth across OECD countries by using direct measures of human capital based on literacy scores.

The literacy data come from the 1994 International Adult Literacy Survey (IALS) for fourteen OECD countries. They use the age distribution of the test results to construct a synthetic time series, over the 1960-1995 period, of the literacy level of the young cohort entering the labour market in each period. The relative literacy level of these cohorts is seen as an indicator of a country's investment in human capital relative to the other countries in the sample.

The results suggest that literacy has had a positive and significant effect on the long run GDP level and labour productivity, and on the transitory growth rate.

The study finds that average literacy scores per country perform better that comparable indicators based on the percentage of the population which has achieved top scores. This result suggests that productivity is mostly influenced by the effect of skill and human capital accumulation on the general labour force, rather than their effect on highly specialized employment only. Second, female literacy appears to have a stronger impact on long term economic growth than male literacy.

Why is this study important?

This study is important for several reasons.

First, it confirms that literacy is an important dimension of human capital, the skills and knowledge that individuals posses and can put to use economically.

Second, it shows that differences among countries in the average level of literacy skill have had a strong positive impact on both the level of economic activity and upon the rate of economic growth achieved over a 35 year period.

Third, the size of these effects is larger than obtained in previous studies and closely matches the size of the impact of literacy skill upon employment and wages at the individual level.

It is likely that individuals, employers and government policy makers have underestimated the economic value of literacy with the result that they have paid less attention to raising literacy skills than they should have.

If the study can help adults and policy makers find a way to improve literacy skills in the future Canadian's will become richer faster.

What does the study conclude?

The central result of the paper is that direct measures of human capital based on literacy scores perform better than measures based on years of schooling in analyses trying to explain economic growth. The results indicate that, overall, literacy scores have a positive and significant effect on the rate of economic growth, and on the long run levels of wealth (as measured by GDP per capita) and of how labour productivity (the amount of economic output produced per unit of labour).

The key economic policy implication that comes out of this result is that, in contrast to most previous findings, literacy matters for the long run wellbeing of economically developed nations.

The implicit implication of the study is that individuals, employers and government policy makers could get richer, faster, if they found ways to increase levels of adult literacy.

Publication information

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