

Literacy and growth: Policy implications of new evidence from PIAAC



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Underlying policy questions:

- Are national differences in average literacy skill, and in the distribution of literacy skill by proficiency level, associated with differences in rates of growth in GDP per capita and labor productivity over the long-term?
- More subtly, what share of differences in growth can be attributed to a measure of human vs. financial capital and physical capital

Underlying policy question: cont'd

- Results are needed to refute claim that the large differences in individual economic outcomes associated with differences in literacy skill are simply allocative i.e. they have no impact on aggregate economic performance as measured by GDP per capita and labor productivity
- More subtly, to reconcile the estimated individual impacts of skill on individual outcomes with the the estimated macro impacts.

Methods:

- Use the age structure observed in 31 PIAAC countries:
 - to yield estimates of the change in the level and distribution of skill of incoming youth cohorts over time
 - to explain differences in growth rates controlling for other inputs to growth
- Use time series panel regressions:
 - To shed light on causality by leading and lagging changes in literacy and other growth inputs

Caveats:

- Observed skills capture inter-country differences in the quality of initial education but these differences are blurred by differences in net skill gain and loss occurring over the life course and in and out migration
- Capturing some of the effects of net skill gain and loss is positive because this will capture differences in skill utilization that are as large as differences in skill at the point of graduation

Key results:

- Differences in average literacy skill matter to national economic performance:
 - The model suggests that a 1% increase in average literacy skill precipitates a 3% increase in GDP per capita and a 5% increase in labor productivity
- Cognitive skills are becoming more important to aggregate economic performance:
 - Between 2003 and 2012 the estimated impact of skill on growth rates doubled

Key results: cont'd

- Impact of literacy skill distributions on growth:
 - Higher proportions of adults with low (Level 1 and 2) literacy skill reduce growth rates significantly
 - Higher proportions of adults with high skills (Level 4 and 5) appear to have no impact
- This result does not imply that:
 - The supply of highly literate workers does not matter to economic growth but rather
 - No country has been able to translate such differences into comparative advantage

Key results: cont'd

- Literacy skill is a powerful driver of productivity growth:
 - Increases in literacy skill averages lead rather than lag growth
 - This result mirrors results of longitudinal randomized controlled skill upgrading trials
 - Reconciles magnitude of macro estimates of skill on growth with micro estimates

Implications:

- Policies related to improving literacy skills would yield impressive economic returns
- These policies include measures to:
 - Increase the outgoing average skill levels of youth entering the labor market
 - Reduce the proportions of youth entering the labor market with low literacy proficiency
 - Reduce skill loss in adulthood
 - Ensure that immigrants have the literacy skills needed to contribute fully

Next steps:

- Replicate analysis for provinces and territories in Canada
- Use the regression parameters to estimate the value of economic output lost to skill loss. This will help to make the case for demand-side and market-efficiency measures to balance supply-side measures. “If you build it they won’t necessarily come”
- Find money to run more elaborate model that weights skill differences by indices of literacy and ICT skill use. This will confirm that observed growth is a product of the application of productivity-enhancing skills

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