

The Cost of Low Educational Achievement in the European Union

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Based on past experience, improving educational achievement to reach the EU benchmark of less than 15% low-achievers in basic skills by 2020 would lead to astounding €21 trillion in long-run aggregate economic gains for the EU. Maintaining a focus on educational outcomes, rather than just attainment, can yield immense long-run economic effects in the EU.

The European Union has consistently recognized the importance of educating its citizens to ensure that all EU citizens have the skills needed to compete in a modern, integrated society. But going beyond the impact on individuals, current macroeconomic research into the growth of nations concludes that a strong economy depends on its workers' cognitive skills. We utilize this research to quantify the cost, in terms of foregone future GDP, that the EU Member States incur because of low educational achievement.

HOW EDUCATION CAN IMPACT GROWTH

The economic literature stresses three channels through which education can impact growth. First, education functions as a factor of production that can be accumulated. More "human capital" raises the aggregate income that an economy can reach.

Second, education increases the innovative capacity of the economy. Through developing new ideas and new technologies growth can increase even when no new education is added.

Third, education helps in diffusing new technologies by facilitating the transmission of knowledge needed to implement them.

LEARNING RATHER THAN ATTAINMENT MATTERS

Convenience and data availability focused past research and policy discussions on school attainment, i.e., years of schooling. But recent empirical research has highlighted what people know – their cognitive

skills. Direct measures of cognitive skills through international tests like TIMSS and PISA prove to be far superior to years of schooling in predicting growth.

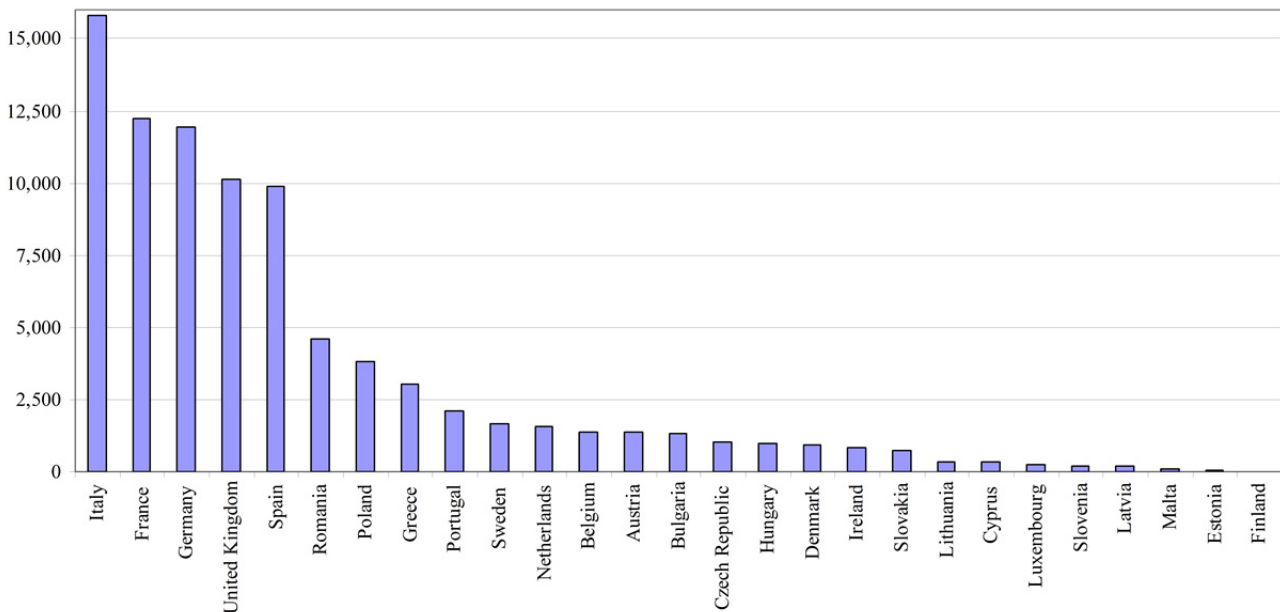
Our analysis provides a quantitative look at the implication of improved cognitive skills on each of the EU countries. Specifically, based on measures of cognitive skills from international assessments in math and science and available estimates of the impact of these cognitive skills on economic growth, we simulate how future GDPs would evolve under school reforms that improved the cognitive skills of a country. The analysis uses past history of growth over the period 1960-2000 to provide indication of what future development might be like.

MEASURING THE COST OF LOW ACHIEVEMENT

Our projections quantify the cost, in terms of foregone future GDP, of low educational achievement. Viewed from a different perspective, these cost estimates reveal the growth potential that the EU could unlock by successful educational reform.

The gains from improving cognitive skills are, by past history, enormous. Under plausible assumptions, the present value of the aggregate gains for the EU from feasible programmes is much larger than the size of EU nations' annual GDPs. In particular, the aggregate gains for the EU range from €32 trillion for an average increase in student achievement in the order of 25 PISA points ($\frac{1}{4}$ standard deviations), to €87 trillion for bringing each nation's educational achievement up to

Gains from bringing each nation's educational achievement to the Finnish level, billion Euro



Discounted value of future increases in GDP until 2090, expressed in billion Euro (PPP). Source: see main reference below.

the level of top-performing Finland, and to €21 trillion for reaching the official EU benchmark (contained in its current Strategic Framework for European Cooperation in Education and Training, ET 2020) of less than 15% low-achievers in basic skills by 2020.

Our projection results also suggest that the present values of educational reforms vary dramatically by country, depending on the current levels of GDP and of educational achievement (see Figure). Some of the recent accession countries tend to gain very substantially from educational reform.

IT'S TIME FOR A FOCUS ON SKILL IMPROVEMENT

At any point in time, attention to economic policies that deal with current demand conditions and with business cycles always seems to take priority. Perhaps this has never been as true as today, when the most obvious focus of attention is the recent worldwide recession and the sovereign debt crisis. Without minimising the need to deal with current conditions, the message of our projections is that considering

issues of longer-run economic growth, which are closely intertwined with people's education, may be more important for the long-run welfare of nations.

Existing research clearly suggests that improvements in skills cannot be achieved by simply putting more money into the system. Skill improvements require a clear focus on student outcomes. Institutional structures that ensure that top graduates enter the teacher labour force, that stakeholders are held accountable for achieved outcomes, that schools have autonomy to pursue the educational goals, and that foster choice and competition for schools to develop and apply best practice can help in pursuing a focus on improved cognitive skills.

There is little evidence that advances in quantitative attainment alone would bring the gains in job-creating growth that the Europe 2020 strategy hopes for. Our results show that an alternative focus on qualitative achievement could reap enormous gains in long-run economic performance over the century.

Main reference: Eric A. Hanushek, Ludger Woessmann: *The Cost of Low Educational Achievement in the European Union*, EENEE Analytical Report No. 7, http://www.eenee.de/dms/EENEE/Analytical_Reports/EENEE_AR7.pdf.

