



THE ECONOMICS OF HIGHER EDUCATION IN THE UNITED STATES

Elvira NICA¹, Gheorghe H. POPESCU²

¹Academy of Economic Studies, Bucharest, ¹E-mail: popescu_elvira@yahoo.com

²Faculty of Finance, Banking and Accountancy, Dimitrie Cantemir Christian University, ²E-mail: popescu_ucdc@yahoo.com

Abstract *The purpose of this study is to examine the relationship of education and economic growth, investment in education to increase human development and economic growth, and the role of education in promoting economic well-being. We are specifically interested in how previous research investigated the robustness of the relationship between education and economic outcomes, the association between the returns to college and the decision to attend college, human capital as an engine of economic growth for technological change, and the economic impact of schools.*

Key words:

Education; economic growth;
college; human development

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1. Introduction

Although researchers have discovered some important findings regarding school attainment as a measure of human capital, the impacts of educational quality on economic outcomes in the developing world, the economic and noneconomic factors influencing college attainment, the importance of cognitive skills in determining individual earnings, and there is still a great deal that is unknown and that requires further empirical inquiry. The results of the current study converge with prior research on the impact of variations in measured cognitive skills on economic outcomes, the role that colleges and universities play in building local human capital, the rise in for-profit enrollment, and the economic returns to differing levels of school attainment for individuals. The paper generates insights about the causal effects of higher education on subsequent socioeconomic outcomes, the relationship between education and economic growth, the importance of cognitive skills for economic outcomes, and the importance of schools in producing differences in cognitive skills.

2. The Relationship of Education and Economic Growth

Holding constant schooling attainment, the income distribution in the United States has become more dispersed in reflection of growing rewards to individual skills. Policies aimed at improving school quality and educational outcomes may affect the income distribution. Education increases the human capital inherent in the labor force, may increase the innovative

capacity of the economy (Naito, 2013), and may facilitate the diffusion and transmission of knowledge needed to understand and process new information and to implement new technologies devised by others. Education is important both as an investment in human capital and in facilitating research and development and the diffusion of technologies. Consideration of cognitive skills alters the assessment of the role of education and knowledge (Corsani, 2013) in the process of economic development. What students know as depicted in tests of cognitive skills is more important for economic growth than the mere quantity of schooling. Schooling might not be the actual cause of growth but may just reflect other attributes of the economy that are beneficial to growth. Skill differences as measured by the international tests are rewarded in the U.S. labor market. The United States has never done well on these international assessments, but its growth rate has been high for a long period of time. Three factors are important in U.S. growth and potentially mask to detrimental effects of low school quality: (i) the openness and fluidity of its markets (Prager, 2013), the United States maintaining generally freer labor and product markets than most countries in the world, and having generally less intrusion of government in the operation of the economy; (ii) the expansion of the education system in the United States outpaced that around the world, thus expanding higher education with the development of land grant universities, the G.I. bill, and direct grants and loans to students; and the analysis of growth rates across countries emphasizes quality of the primary and secondary schools of the United States. (Hanushek and Woessmann, 2008)

The lifeblood of for-profit higher education in the United States is federal student financial aid. The for-profit sector plays an important role in U.S. higher education in an era of public-sector fiscal constraints. For-profit schools offer a wide array of programs, from doctorates to certificates earned in a year or less: they have rapidly expanded their presence in the bachelor's degree and graduate education markets. The large increase in federal higher education spending has coincided with a tightening of state budgets. For-profit colleges have grown rapidly to meet demand; taking advantage of expanded federal student aid (the rapid growth of the sector may have eroded program quality). The for-profits are quick to open new schools, hire faculty, and add programs that train students for jobs in fast-growing areas, providing identical curriculum and teaching practices at multiple locations and at convenient times. The vast bulk of revenue among large for-profit chains derives from federal student aid. The economic returns to students who attend for-profit colleges are lower than those for public and nonprofit colleges, whereas default rates on student loans for proprietary schools exceed those of other higher-education institutions. (Deming, Goldin, and Katz, 2013)

Individuals make decisions about whether to pursue higher education on the basis of cost-benefit analyses (the rational-behavioral model). Mechanisms influencing college attainment may differ by social background. Less-educated workers' earnings prospects are bleak if they come from disadvantaged backgrounds. Mental ability and work habits may be positively associated with the likelihood of attaining higher education and higher earnings. Multiple actors and factors influence college attendance (many noneconomic factors figure prominently in youths' educational attainment). When individuals with a low propensity of completing college actually complete college, they benefit the most from doing so. The value of college variable encompasses both economic and noneconomic incentives. Low propensity students are more likely to concentrate in business and education, whereas high propensity students are more likely to major in the sciences and humanities. In the absence of a college degree, low propensity men and women have limited labor market prospects. A college education may be particularly beneficial among groups targeted by educational expansion efforts. Individuals who are less likely to obtain a college education benefit more from college. (Brand and Xie, 2010)

3. Investment in Education to Increase Human Development and Economic Growth

School attainment has no independent effect over and above its impact on cognitive skills. Openness and

cognitive skills have significant individual effects on economic growth and a significant positive interaction. The effect of cognitive skills on economic growth is higher in countries that have been fully open to international trade than in countries that have been fully closed. Both the quality of the institutional environment and the level of cognitive skills (Hunter, 2013a) are important for economic development. The effect of cognitive skills on economic growth is larger in countries with a productive institutional framework. Developing countries are severely lacking in terms of both schooling quantity and student outcomes. Cognitive skills have powerful economic effects. The distribution of skills in society is closely related to the distribution of income, and economic growth is strongly affected by the skills of workers. Having well-functioning economic institutions have clear importance for economic development (Pera, 2014b) and may magnify the benefits of cognitive skills. In terms of aggregate growth, school attainment has a positive impact if it raises the cognitive skills of students. Getting the substantial improvements in the quality of schools that are necessary requires structural changes in schooling institutions. (Hanushek and Woessmann, 2008)

For-profit colleges are more expensive than their counterparts in the public and nonprofit sectors. Students leave for-profit colleges with higher levels of debt than students from the other types of institutions. Students attending for-profits wind up earning less than students from other types of institutions. For-profit institutions are not offering students as good a return on their investment as do other types of colleges. In the for-profit sector, an associate's degree typically serves as the terminal credential for a particular occupation. Many students in for-profit colleges enroll in short programs with a clearly defined curriculum and specific job placement goals. For-profits provide a more structured, supervised approach, and does a better job of accommodating the busy schedules of older students, might step into the vacuum created by shrinking public budgets, and offer a wide variety of programs and courses in fields that are in high demand among employers. Part of the enrollment growth at for-profit colleges is a consequence of declining access in the public sector. Many students who attend for-profits are not academically strong enough to attend a selective institution. For-profit colleges are at their best with short, well-defined programs that offer a clear path toward a particular occupation. (Deming, Goldin, and Katz, 2013)

In declining regions, academic institutions tend to bring stability to area economies. Colleges and universities can help build the knowledge and skills of a region's people. A region with higher levels of human capital

has greater amounts of economic activity and more rapid economic growth, its workers being more productive and earning higher wages. The knowledge and new technologies created through research activities (Nicolăescu, 2013b) at colleges and universities can help local businesses grow. Higher levels of economic activity may be driving an increase in human capital levels if highly skilled people are attracted to productive places. Higher levels of human capital in a region (Pera, 2014a) can contribute to higher levels of economic activity increasing individual-level productivity and the generation of ideas. The geographic concentration of human capital facilitates “knowledge spillovers.” Colleges and universities employ a large number of high-skilled workers; can increase the supply of human capital by producing skilled labor, whereas much of the research and development (R&D) activity in the United States occurs at colleges and universities. Insufficient local demand for human capital may inhibit new graduates’ ability to find a job. Migration plays an important role in the geographic distribution of human capital across the nation. Areas that produce more degrees generally have a larger stock of human capital. (Abel and Deitz, 2012)

4. The Role of Education in Promoting Economic Well-being

Income change (CINC) is significantly and positively related to education change (CHED) (a one percent increase in education increases income by 0.3 percent in West Virginia). A one percent change in income growth increases educational growth by 1.7 percent. High income in a county may lead to more savings and investment which increases education opportunities, and may also lead to improved educational facilities (with unemployment and poverty people may tend to be less educated). Growth in population (CPOP) has a negative relationship with education change (higher educated people tend to control family size). Higher investment on education occurs with higher income level. Increasing education change (CHED) decreases population growth in West Virginia, and education in 2000 (EDUBASE) has a negative relationship with population change. Lower income and education with unemployment may lead to bigger family sizes of West Virginia. Education and income growth are positively related in West Virginia. (Bashir, Herath, and Gebremedhin, 2013) Many growth relationships are quite sensitive to the countries included and time period of analysis. Neither the increase nor the initial level of higher education has a statistically significant relationship with growth rates (Zaharia *et al.*, 2013) both in the OECD and worldwide. Levels of technical skills at the end of compulsory education matter,

whereas the employment of higher level technical skills is also a strong predictor of growth. Mass higher education may lead to higher growth (Makó and Mitchell, 2013), depending on the skills produced by an expanding tertiary sector and their (under) utilization in the jobs available to increasing numbers of graduates. (Holmes, 2013)

Colleges and universities require human capital to produce higher education degrees. An increase in degree production can result in a permanent shift in a region’s human capital stock. The supply side of the labor market and differences in the demand for human capital (Hunter, 2013b) matter in determining a region’s stock of human capital. Colleges and universities can help raise a region’s human capital levels by supplying local graduates and by conducting research activities. Highly localized spillovers between academic research and innovative economic activity can alter the composition of local labor markets by increasing the demand for specialized skills and by attracting new businesses. Universities may use local businesses to develop (Hunter, 2013c) and commercialize products that result from their research activities. Research-oriented colleges and universities are more likely to facilitate spillovers into the local economy. Places that are more research intensive also tend to have a larger stock of human capital. Academic R&D’s spillover benefits to local business activity (Nicolăescu, 2013a) depend on support from an area’s economic environment and infrastructure. Increasing the demand for skilled labor through academic R&D activities has a larger causal effect on local human capital levels than does an expansion in the supply of local graduates. The U.S. economy has shifted away from manufacturing and the distribution of goods toward the production of knowledge and ideas. Higher education institutions can play a vital role in local economic development. Enhancing the research dimension of local colleges and universities can promote spillovers into the local economy. (Abel and Deitz, 2012)

5. Conclusions

The overall results provide strong evidence for the impact of human capital on a region’s economic performance, the effect of improvements in achievement on school attainment, the sluggish growth in state funding for public institutions, and the fundamental role of cognitive skills on the operations of international economies. As a result of these earlier research findings, this study sought to determine the underlying behavior of individuals in terms of their investments in developing skills, government expenditures on investment in education for human capital formation, and the human capital accumulation as a source of economic growth.

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