

EDUCATION DEVELOPMENT: IMPORTANCE, CHALLENGES AND SOLUTIONS

COLIN POWER

Junior Sophister

Colin Power investigates the necessity of education for fostering economic development in this thorough and highly informative essay. He examines the multitude of important effects that education has on health and welfare within a country and raises a number of salient issues which need to be addressed in order to best promote development worldwide.

Introduction

Education can be seen as both an objective and component of development, as well as “fundamental to the broader notion of expanded human capabilities that lie at the heart of the meaning of development” (Todaro and Smith, 2011, p.359). This essay argues that investment in education is essential for development, but also that the form this investment takes is of critical importance in addressing the key challenges to educational outcomes in less developed countries (LDCs) and indeed in the achievement of developmental goals. This essay will discuss the importance of education, and the problems that tend to occur in this sector within many LDCs, with a particular focus upon absenteeism and gender inequality, as well as possible solutions to these problems. This essay will finally discuss some of the possible policies that may be implemented by governments in LDCs, particularly the efficacy of conditional cash transfer programs, as well as simple and cost-effective policy proposals to enhance educational outcomes within LDCs.

Academic Foundation

Aside from the intrinsically important goal of the expansion of human capabilities, there is both significant theoretical and empirical basis for the assertion that human capital, and education in particular, is essential for both economic growth and development; numerous models of economic growth include human capital as an important explanatory variable in the achievement of economic growth. Most notably endogenous growth theory asserts that investment in human capital will significantly contribute to economic growth, and indeed foster development (Romer, 2011). Furthermore, Mankiw et al. demonstrate that an augmented Solow model of economic growth that includes human capital is superior

in its predictive power of growth (Mankiw et al., 1992). And similarly, Jones asserts that extending the original Solow model to include the investment of resources in skills accumulation, as well as in physical capital, is superior in explaining variation in wealth across countries (Jones, 2002). The effect of human capital upon aggregate income and development can thus be seen to be of “central importance” to policymakers and economists when considering the essential nature of human capital in development outcomes (Acemoglu and Angrist, 2000).

Educational Effects

Educational Effects on Income

Investment in education is widely considered to be of vital importance to development (Kremer, 2003) for myriad of reasons; indeed human capital and particularly education is arguably the most significant factor in regional differences in development (Gennaioli et al., 2011). Increased income levels are both a cause of, and indicative of, economic growth and development in a country and investment in education maintains a positive effect on both private (Acemoglu and Dell, 2010; Duflo, 2002) and aggregate levels of income (Acemoglu and Angrist 2000). While individual income levels are also a result of numerous other factors such as labour market structures (Pugatch, 2011), political system and stability, level of education remains the most significant explanatory factor in levels of income within countries (Acemoglu and Dell, 2010) and thus investment in education contributes to higher levels of both private and public income; increased income allows for greater autonomy and purchasing power for individuals, and a state which is better able to achieve its developmental goals.

Educational Effects on Human Capacity

Investment in education can also significantly contribute to the expansion of human capabilities, which is a key aspect of development. This idea is expressed by Sen who asserts that a person benefits from education "in reading, communicating, arguing, in being able to choose in a more informed way, in being taken more seriously by others and so on" (Sen in Todaro and Smith, 2011, p.359); this could even include better decision-making, more engagement in the political process and positive spillover effects to those around the educated person, in reading to others, or providing beneficial innovations to a wider community (Todaro and Smith, 2011, p.365). This increased human capability as a result of education is vital to consider as part of the significant benefits of investment in education, and its essential place at the heart of development.

Educational Effects on Foreign Technology Assimilation

Investment in education also allows for easier assimilation of foreign technology, and both convergence and development are assisted as technology transfer is made more efficient with greater education (Jones, 2002, p.63). According to Jones, technological progress can be viewed as the ‘engine of economic growth’; this technological progress can be significantly catalysed by the introduction and efficient adoption of foreign technologies (Jones, 2002, p. 63, 120), and human capital maintains a vital role in this process (Todaro and Smith, 2011, p.359).

Educational Effects on Health Outcomes

The close relationship of the health and education elements of human capital leads to numerous externalities in both policy areas that affect the other (Todaro and Smith, 2011, p.361-2) and policy performance in one of these areas almost necessarily impacts the other. This essay acknowledges that the health sector is a key component of development, and its relationship with education is one of huge significance in encouraging development. Health is undoubtedly a “prerequisite for productivity” (Todaro and Smith, 2011, p.359) in any state, and low levels of health should be regarded as a significant constraint on aggregate production and development (Todaro and Smith, 2011, p.359). Indeed Schultz argues that low levels of health is the single most significant human capital factor that has hindered development in Africa (Schultz, 1999). One of the most significant externalities of education is in its capacity as a foundation for further learning; many health programmes in LDCs are reliant on basic skills learned in schools such as literacy and numeracy, and improvement in these areas of education could yield large positive effects in the health sector (Todaro and Smith, 2011, pp.361-2). Similarly, educational quality maintains important externalities in the further training of health professionals, who are often reliant on skills learned through previous schooling in later training; schools are also able to use their capacities to teach basic sanitation and hygiene to huge numbers of people in LDCs, thereby reducing the spread of disease and also reducing pressure on the health systems of the state (Todaro and Smith, 2011, pp.361-2). Other educational externalities that should be considered are the positive relationship between education and later childbirth and fertility rates, as well as the effects of higher income on health as a result of increased education (Todaro and Smith, 2011, pp.361-2). Education can thus be seen to have a central role in loosening the tight constraint of low levels of health on developmental progress, and in alleviating the insidious and challenging ‘disease burden’ of many LDCs (Todaro and Smith, 2011, pp.390-1); the presence of numerous educational externalities also suggest an important role for governments and policymakers in educational investments.

Challenges to Education

Absenteeism

One of the most damaging problems that affects development in the human capital sectors in LDCs is that of absenteeism; particularly the absenteeism of service providers in education which is “widespread and unpredictable” (J-PAL, 2009, p.1) and contributes to low levels of educational outcomes. This prevalence of absenteeism is negatively correlated with economic development and income and thus poorer countries suffer more than wealthier states (J-PAL, 2009, pp.1-3). However, there is significant evidence that some relatively low cost and targeted investments can be highly effective in combating service provider absenteeism in LDCs, particularly through the implementation of external monitoring, accompanied with impersonal and direct incentives for attendance as well as punishment for absenteeism (J-PAL, 2009, pp.1-3). This is further supported by Duflo, et al. who tested the effects of monitoring, where attendance is monitored using a tamper-proof camera, as well as financial incentives, on teachers’ absenteeism; they found that absenteeism decreased significantly with the introduction of this relatively simple monitoring system, and observed an increase in students’ test scores (Duflo et al., 2010). The problem of absenteeism also extends to students in many LDCs, where absence is often caused by health problems such as malnutrition and disease that are a far higher cause of student absenteeism in LDCs than in developed countries and this exacerbates the already existing gap in years of schooling between these regions and states (Todaro and Smith, 2011, pp.360). Miguel and Kremer’s analysis of a relatively simple and cheap school ‘deworming’ scheme in Kenya found evidence that this ‘deworming’ had a positive effect on both school and health participation, as well as decreasing student absenteeism by up to 25per cent (Miguel and Kremer, 2004). Investments in education are of vital importance to development, and investments in solutions to the problem of absenteeism, such as those outlined above, that are cost-effective and dynamic in their application can play an enormous role in ameliorating human capital and fostering development within LDCs.

Educational Gender Gap

There exists an extensive gender gap in educational sectors in many LDCs (Todaro and Smith, 2011, pp.373) which is a significant problem as, besides the intrinsic injustice of its existence, it is a considerable hindering factor in the effectiveness of human capital as an essential component and driver of development. There exists a particularly large gender gap in education, which hinders economic development mostly in 3 ways: firstly, the rate of return on expansion of basic education of females is extremely high, considerably higher than mens’ in most LDCs (Psacharopolous, 1994); higher even than the return on investment in many large public infrastructural projects (Todaro and Smith, 2011, pp.374-5). Investment in women’s education also results in numerous other benefits including greater labour force participation, later marriage and childbirth, lower fertility rates and hugely

improved child nutrition and overall health (Todaro and Smith, 2011, pp. 374-5; Glewwe, 1999). Thirdly, according to Todaro and Smith “because women carry a disproportionate burden of poverty, any significant improvements in their role and status via education can have an important impact on breaking the cycle of poverty and inadequate schooling” (Todaro and Smith, 2011, pp.374-5). The existence of this gender gap is somewhat indicative of, and symptomatic of a larger issue of inequitable distribution of resources throughout LDCs, particularly in education, and it is a topic that should be of definite concern in the discussion of human capital investment being essential for development.

Policy Implications

Role for Government

This essay argues in favour of educational investments in LDCs as a means of encouraging development. However, it is also the argument of this essay that the method, structure and focus of these investments is hugely important in determining how effective developmental outcomes of any such investment will be, and therefore a focus on the role and responsibility of policymakers and government in education provision is of vital importance in determining the efficacy of investment in this sector. The necessity of focusing upon the role of government intervention in education provision is largely a result of four factors: the fact that higher private incomes do not necessarily lead to improvements in education (Todaro and Smith, 2011, p.360, 403), the existence of market failures leads to outcomes in educational provision that are socially sub-optimal, the fact some government policies can lead to distortions in education provision and even act to perpetuate and exacerbate inequities in education systems (Todaro and Smith, 2011, p.403) and finally the concept that resources alone are not enough to ensure beneficial outcomes in education, that the structure and implementation of investments are enormously salient in the encouragement of development through educational investments (Banerjee et al., 2007).

Conditional Cash Transfers

There are numerous policies that this essay would support in order to encourage more socially optimal outcomes in education, and that could be undertaken to best ensure that investments in education promote development most effectively. The first of these is the implementation of conditional cash transfer (CCT) schemes; whereby welfare payments are directly made to people in poverty with conditions attached, such as payments in exchange for children’s school attendance or completion of vaccination schemes. The distributions of income, educational opportunities and services across LDCs are highly unequal, and CCTs are a highly effective method of combating this inequity through targeted redistribution. The effectiveness of CCTs in yielding improved development outcomes, largely through improvements in human capital outcomes, is widely supported by empirical evidence across LDCs, and indeed across multiple policy areas; as Rawlings

and Rubio note, they are effective at "increasing enrolment rates, improving preventive health care, and raising household consumption" (Rawlings and Rubio, 2005 pp.29). In Brazil for example, CCTs have incentivised and therefore increased school attendance (The Economist, 2008); they have also been more effective at reaching those regarded as the 'most poor' than almost all previous social welfare schemes in the country (The Economist, 2005). There is also some evidence to suggest that CCT's may be able to redress the gender imbalances that exist in LDCs as discussed earlier in this essay; they can be used to redistribute more education towards females, the benefits of which have also been discussed earlier in this essay. The cost of this would arguably be outweighed by the social benefits alone (Todaro and Smith, 2011, pp.375), such as in Brazil, where money from CCTs is given to women, thus giving them more control over spending decisions as they are seen as more likely to spend money on children (and particularly female children) than men (The Economist, 2005).

Information Provision

Another cost-effective and relatively simple policy that this essay argues would be beneficial for policymakers in many LDCs to pursue would be to combat informational and perception problems, particularly those concerning education. As noted in Jensen's study of the Dominican Republic, there often exists a significant gap between perceived returns to schooling and the actual rate of returns; very cost-effective and simple government information distribution schemes can be effective in diminishing this information gap and increasing school attendance (Jensen, 2010).

Schooling Costs

This essay also agrees with Jensen's support of decreasing costs of education in LDCs, which is empirically and intuitively an effective policy for increasing educational attendance. Indeed as Kremer asserts, using a stylized model of education, simple and cost-effective policies such as decreasing costs of education and provision of school meals can yield significant results in increasing school attendance and expanding educational involvement (Kremer, 2003).

Conclusion

This essay has argued that investment in education is essential for development; largely by discussing the problems that occur as a result of sub-optimal levels of education that are highly damaging to development, as well as some of the challenges facing effective educational provision in LDCs, and the possible policy implementations to combat this. This essay has argued that a focus on educational investment is necessary for development due to its positive effects on income, human capacity, technology transfer, and in improving health outcomes. This essay has also focused on the highly debilitating problems of ab-

senteism and gender inequalities in education. This essay has argued that government intervention in the educational sector is necessary, but with the caveat that the form of their intervention and investment must be cognizant of recent empirical findings such as those included in this paper. Finally, this essay has suggested possible policies such as the implementation of CCTs that, if adopted by policymakers, may catalyse improvement educational outcomes, and therefore foster development within LDCs.

References

- Abdul Latif Jameel Poverty Action Lab, 2009. Fighting Poverty: What Works?, MIT.
- Acemoglu, Daron and Angrist, 2000... How Large are the Social Returns to Education? Evidence from Compulsory School Attendance Laws, NEVER Macro Annual, No. 15.
- Acemoglu, Daron, & Dell, 2010.. Productivity Differences Between & Within Countries. American Economic Journal 2(1), 169-188.
- Banerjee, Cole, Duflo, and Linden, 2007. Remedying Education: Evidence from Two Randomized Experiments in India. Quarterly Journal of Economics 122 (3), 1235-1264.
- Duflo, Esther, Hanna and Ryan, 2010. Incentives Work: Getting Teachers to Come to School, Mimeo, MIT.
- Duflo and Esther, 2002. The Medium Run Effects of Educational Expansion: Evidence from a Large School Construction Program in Indonesia, NBER Working Paper 8710, 2002.
- Gennaioli, La Porta, Lopez-de-Silanes and Shleifer, 2011. Human Capital and Regional Development, NBER Working Paper 17158.
- Glewwe, P., 1999. Why Does Mother's Schooling Raise Child Health in Developing Countries? Evidence from Morocco, The Journal of Human Resources 34(1), p.124
- The Economist, 2008. Happy Families, The Economist, 9 Feb., 2008.
- Jensen and Robert, 2010. The (Perceived) Returns to Education and the Demand for Schooling, Quarterly Journal of Economics 125 (2), pp.515-548.
- Jones, C. I., 2002. Introduction to Economic Growth, W.W. Norton & Company, Inc. Ch. 2-4.
- Kremer, M., 2003. Randomized Evaluations of Educational Programs in Developing Countries: Some Lessons, American Economic Review 93(2), pp.102-106.
- Mankiw N.G., Romer D. and D. Weil, 1992. A contribution to the Empirics of Economic Growth, Quarterly Journal of Economics.

Miguel, Ted and Kremer, 2004. Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities, *Econometrica* 72 (1), pp.159-217.

The Economist, 2005. New Thinking About an Old Problem, *The Economist*, 17 Sep., 2005.

Psacharopoulos, G, 1994. Returns to Investment in Education: A Global Update, *World Development* 22(9), pp.1325-1343.

Pugatch, T., 2011. Bumpy Rides: School to Work Transitions in South Africa, Mimeo, Oregon State University.

Rawlings, L. B. & Rubio, G. M., 2005. Evaluating the Impact of Conditional Cash Transfer Programs," *World Bank Research Observer* 20(1), pp.29-55.

Romer, D., 2011, *Advanced Macroeconomics* (Fourth ed.). New York: McGraw-Hill

Schultz, T. P., 1999. Health and Schooling Investments in Africa, *Journal of Economic Perspectives* 13(3), pp.67-88.

Todaro, M. & Smith, S., 2011. *Economic Development*, (11th ed.), Addison Wesley, 2011.