

Analysis on the Role of Education in Economic Development

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ABSTRACT

Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. In addition it plays a very crucial role in securing economic and social progress and improving income distribution.

Keywords: Human Development, Economic Growth, Poverty, Labor Productivity, Education, Technology, Trade, Health.

1.1 Introduction

The main purpose of this paper is to show the role of education in economic development and the effect of education on labor productivity, poverty, trade, technology, health, income distribution and family structure. Education provides a foundation for development, the groundwork on which much of our economic and social well being is built. It is the key to increasing economic efficiency and social consistency. By increasing the value and efficiency of their labor, it helps to raise the poor from poverty. It increases the overall productivity and intellectual flexibility of the labor force. It helps ensure that a country is competitive in world markets now characterized by changing technologies and production methods. By increasing a child's integration with dissimilar social or ethnic groups early in life, education contributes significantly to nation building and interpersonal tolerance.

"A nation which does not educate its women cannot progress" Haci Bektaş Veli (1208-1270)

1.2 The Importance of Education in Economic Development

Prior to the nineteenth century, systematic investment in human capital was not considered specially important in any country. Expenditures on schooling, on-the-job training, and other similar forms of investment were quite small. This began to change radically during this century with the application of science to the development of new goods and more efficient methods of production, first in Great Britain, and then gradually in other countries.

During the twentieth century, education, skills, and the acquisition of knowledge have become crucial determinants of a person's and a nation's productivity. One can even call the twentieth century the "Age of Human Capital" in the sense that the primary determinant of a country's standard of living is how well it succeeds in developing and utilizing the skills and knowledge, and furthering the health and educating the majority of its population.

The past decades have seen extraordinary expansions in access to basic education throughout the Middle East. Many countries are now on the brink of a further increase in access to secondary and higher education and in effecting spectacular improvements in the quality of education offered at all levels. As increasing numbers of students complete their basic education, their demand for education at higher levels is similarly increasing. Educating girls and women is probably the single most effective investment a developing country can make, whether or not women work outside the home. It creates a multitude of positive remunerations for families including better family health and nutrition, improved birth spacing, lower infant and child mortality, and enhanced educational attainment of children. Countries in the Middle East are increasingly integrated in world markets for manufactured goods. Their ability to compete in these markets and in globalizing service markets

will depend on the excellence of human capital they bring to the competition. Ensuring that all citizens are educated and numerate, that many possess a wide range of problem solving skills beyond the basic level, and that some have world class professional skills will necessitate new curricula, improved teacher programs, and academic methods that encourage higher order cognitive skills.

No country has achieved constant economic development without considerable investment in human capital. Previous studies have shown handsome returns to various forms of human capital accumulation: basic education, research, training, learning-by-doing and aptitude building. The distribution of education matters. Unequal education tends to have a negative impact on per capita income in most countries. Moreover, controlling for human capital distribution and the use of appropriate functional form specifications consistent with the asset allocation model make a difference for the effects of average education on per capita income, while failure to do so leads to insignificant and even negative effects of average education.

Investment in human capital can have little impact on growth unless people can use education in competitive and open markets. The larger and more competitive these markets are, the greater are the prospects for using education and skills.

In the earlier neoclassical models, education was not considered a major input for production and hence was not included in growth models (Harberger, 1998: 1-2). In the 1960s mounting empirical evidence stimulated the "human investment revolution in economic thought" (Bowman, 1960). The seminal works of (Schultz, 1961) and (Denison,1962: 67) led to a series of growth accounting studies pointing to education's contribution to the unexplained residuals in the economic growth of western economies. Other studies looked at the impact of education on earnings or estimated private rate of returns (Becker 1964, Mincer 1974). A 1984 survey of growth accounting studies covering 29 developing countries found estimates of education's contribution to economic growth ranging from less than 1 percent in Mexico to as high as 23 percent in Ghana (Psacharopoulos, 1984).

2.1 Education and Productivity

Clearly the educational provisions within any given country represent one of the main determinants of the composition and growth of that country's output and exports and constitute an important ingredient in a system's capacity to borrow foreign technology effectively. For example: health and nutrition, and primary and secondary education all raise the productivity of workers, rural and urban; secondary education, including vocational, facilitates the acquisition of skills and managerial capacity; tertiary education supports the development of basic science, the appropriate selection of technology imports and the domestic adaptation and development of technologies; secondary and tertiary education also represent critical elements in the development of key institutions, of government, the law, and the financial system, among others, all essential for economic growth. Empirical evidence at both micro and macro levels further illuminates these relationships. At a micro level, numerous studies indicate that increases in earnings are associated with additional years of education, with the rate of return varying with high level of education (Behrman 1990, Psacharopoulos 1994). The returns to primary schooling tend to be greater than returns to secondary and tertiary education (Psacharopoulos, 1994: 1325-45).

In agriculture, evidence suggests positive effects of education on productivity among farmers using modern technologies, but less impact, as might be expected, among those using traditional methods. In Thailand, farmers with four or more years of schooling were three times more likely to adopt fertilizer and other modern inputs than less educated farmers (Birdsall, 1993: 75-79). Similarly, in Nepal, the completion of at least seven years of schooling increased productivity in wheat by over a quarter, and in rice by 13% (Jamison and Moock, 1994:13).

Education is also an important contributor to technological capability and technical change in industry. Statistical analysis of the clothing and engineering industries in Sri Lanka, to cite just one example, showed that the skill and education levels of workers and entrepreneurs were positively related to the rate of technical change of the firm (Deraniyagala, 1995).

Education alone, of course cannot transform an economy. The quantity and quality of investment, domestic and foreign, together with the overall policy environment, form the other important determinants

of economic performance. Yet the level of human development has a bearing on these factors too. The quality of policy making and of investment decisions is bound to be influenced by the education of both policy makers and managers; moreover, the volume of both domestic and foreign investment is likely to be larger when a system's humancapital supply is more plentiful.

For a macro prospective, the 'new growth theories' aim to endogenize technical progress by incorporating some of these same effects, emphasizing education as well as learning and R&D. According to Lucas (1998), for example, the higher the level of education of the work force the higher the overall productivity of capital because the more educated are more likely to innovate, and thus affect everyone's productivity. In other models a similar externality is generated as the increased education of individuals raises not only their own productivity but also that of others with whom they interact, so that total productivity increases as the average level of education rises (Perotti, 1993). The impact of education on the nature and growth of exports, which, in turn, affect the aggregate growth rate, is another way in which human development influences macro performance. The education and skills of a developing country's labor force influence the nature of its factor endowment and consequently the composition of its trade. It has been argued that even 'unskilled' workers in a modern factory normally need the literacy, numeracy, and discipline, which are acquired in primary and lower secondary school (Wood ,1994).

2.2 Education and Income

There is also a positive feedback from improved education to greater income equality, which, in turn, is likely to favor higher rates of growth. As education becomes more broadly based, low-income people are better able to seek out economic opportunities. For example, a study of the relation between schooling, income inequality and poverty in 18 countries of Latin America in the 1980s found that one quarter of the variation in workers' incomes was accounted for by variations in schooling attainment; it concludes that 'clearly education is the variable with the strongest impact on income equality' (Psacharopoulos, 1992). Another study suggested that a one percent increase in the labor force with at least secondary education would increase the share of income of the bottom 40 and 60% by between 6 and 15% respectively (Bourguignon and Morrison, 1990). An investigation of the determinants of income distribution in 36 countries found secondary enrollment rates to be significant (Bourguignon, 1995:53-86).

Education may affect per capita income growth via its impact on the denominator, i.e. population growth. For example, a study of fourteen African countries for the mid-eighties showed a negative correlation between female schooling and fertility in almost all countries, with primary education having a negative impact in about half the countries and no significant effects in the other half, while secondary education invariably reduced fertility (Birdsall 1995, Behraman and Wolfe 1987). The three success countries in terms of reduced fertility, Kenya, Botswana, and Zimbabwe, had the highest levels of female schooling as well as the lowest child mortality rates (Ainsworth, 1995).

2.3 Human Capital and the Family: Education and the Family

Where does human's capital come from? What constitutes a successful investment in human capital, either at the individual or national level? One has to start with the family. It is the foundation of a good society and of economic success. Families have differed over time, but they are still very important in the modern economy. To understand human capital, you have to go back to the family, because it is families that are concerned about their children and try, with whatever resources they have, to promote their children's education and values. Families are the major promoters of values in any free society and even in not-so-free societies.

Families make a variety of decisions. One is whether to have many children or to have fewer children. Also some try to do more for each child. As countries develop, the trend shifts very strongly toward the latter. Every nation that has developed has done that, some in remarkably short periods of time. Taiwan, for example, has a birth rate lower than the United States.

Declining birth rates also characterize Hong Kong, Mexico, and Poland (Becker, 1998).

In the developed part of Turkey the average number of children that families have is lower than the less developed part of Turkey. This is related with the level of education level of families. On average, educated families, particularly educated women, have 1.4 children and uneducated families have 5.1 children in the eastern region of Turkey (Baloglu, 1998: 40-42).

Thus, in order to reduce the birth rate and inequalities between these regions of Turkey, more importance has to be given to education. Greater education of parents, perhaps of mothers, tends to improve the treatment of children, especially the daughters. The gap between the education of sons and daughters is smaller when parents are more educated.

More educated men and women tend to invest more in their own health and the health of their children. Indeed, education may be the single most important personal determinant of a person's health and life expectancy. I will only mention a few examples of the considerable evidence for the link between education and health.

The educated persons in the United States and other rich nations are the least likely to smoke. Smoking in the United States is now found in significant numbers only among those with no college education, and is especially common among high school dropouts. The educated persons in Turkey are mostly working most of the time. The uneducated people not in work usually sit in cafes and waste their times. Many of them smoke.

Education of the poor helps improve their food intake not only by raising their incomes and spending on food but also by inducing them to make better, healthier, choices. All the studies from different nations I have seen indicate that educated persons tend to consume a healthier diet even when the total amount spent on food is held constant. Of course, the relation between education and better health and life expectancy involves causation in both directions, for greater health and lower mortality also induce larger investments in education and other human capital since rates of return on these investments are greater when the expected amount of working time is greater.

2.4 Education and Trade

Some countries have successfully combined openness and investment in learning and education, forming a virtuous circle: openness creates demand for education, and learning and education make a country's export sector more competitive. Knowledge accumulation influences a country's trade performance and competitiveness (Grossman and Helpman 1989); trade, in turn, enhances knowledge accumulation, especially through imports (Ben David and Loewy, 1995). Lucas notes that to sustain any kind of knowledge accumulation, a country has to be outward-oriented and a significant exporter. Young and Keller find that trade itself cannot be the engine of growth, but rather must operate throughout some mechanism, such as the formation of human capital, to affect growth. A World Bank study found that economic growth rates in a sample of 60 developing countries during 1965-87 were especially high where there was a combination of a high level of education and macroeconomic stability and openness (Tilak,1989). The impact of trade openness on long-term growth thus depends on how well people are able to absorb and use the information and technology made available through trade and foreign investment.

It is widely accepted that in order to adapt to an environment of stronger competition, and to a world emphasizing the role of information, knowledge and skills, advanced economies need continuously to upgrade the overall quality of their labor force.

3.1 Challenges: Access, Equity, Quality, and Speeding Up Reform

The economies of low-and middle-income countries have been growing at historically rapid rates. Progress in education-expanded enrolments and longer schooling-has contributed to this growth and so has helped to reduce poverty in developing countries. In 1990 a typical six-year-old child in a developing country could expect to attend school for 8.5 years, up from 7.6 years in 1980. In Eastern Europe and central Asia schooling for 9 to 10 years is the rule; in East Asia and in Latin America and the Caribbean primary education is almost universal.

Countries in the Middle East and North Africa are making steady progress; so are those in south Asia, although they have a considerable distance to go. Sub-Saharan Africa is lagging; certain countries there are making gains, but overall, primary enrolment ratios are actually declining. Yet despite these substantial achievements in the world as a whole, major challenges remain: these are to increase access to education in some countries, to improve equity, to improve quality, and, where needed, to speed educational reform. In most countries, more children wish to go to secondary schools than are able to enroll, and the demand for higher education is in general increasing faster than the supply. The enrolment gap between the transition economies of Europe and central Asia and the members of the OECD is also widening as enrolment ratios decline in the former and rise in the OECD countries.

The issue of equity mainly affects several overlapping disadvantaged groups, including the poor, linguistic, and ethnic minorities, nomads, refugees, and street and working children. The different access that boys and girls have to the education system in some parts of the world is also very important because it contributes to gender differences later in life. The gender gap in expected years of schooling in now very small in most countries in Europe and central Asia and in Latin America. It remains large in the Middle East and North Africa and in south Asia, where it is not closing at all. The quality of education is poor at all levels in low and middle-income countries. Students in developing countries have a mean level of achievement below that in industrial countries, and their performance shows a much greater variation around the mean.

Delays in reforming education systems to keep pace with economic structures are most apparent in the transition economies of eastern and central Europe. Lags in reform can hinder growth; conversely, timely reform can pay off in terms of economic growth and poverty reduction, as evidenced by the East Asian countries that have generally invested heavily inbasic human capital, both male and female.

3.2 Conclusion

Education is indispensable to economic development. No economic development is possible without good education. A balanced education system promotes not only economic development, but productivity, and generates individual income per capita. Its influence is noticeable at the micro level of an individual family.

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