

Mohamed Eid Balbaa,

*Ph.D. International Islamic Academy of
Uzbekistan*

*Senior Lecturer of Economics and Business
Administration,*

*Faculty of Islamic Economics and International
Relations*

Muhammad.balbaa@gmail.com

THE IMPACT OF INVESTMENT IN EDUCATION ON THE ECONOMIC GROWTH

ВЛИЯНИЕ ИНВЕСТИЦИЙ В ОБРАЗОВАНИЕ НА ЭКОНОМИЧЕСКИЙ РОСТ

ТАЪЛИМГА ЙЎНАЛТИРИЛГАН ИНВЕСТИЦИЯНИ ИҚТИСОДИЙ ЎСИШГА ТАЪСИРИ

Abstract: *This paper aims to review the relationship between investment in education and economic growth in an attempt to understand the relationship between them and economic development. Through the various applied studies, it was found that there is a group of studies that found a positive relationship between education and economic growth, while other studies reached opposite results.*

Keywords: *Investment, Education, Economic Growth, Economic Development.*

Аннотация: *Эта статья направлена на обзор взаимосвязи между инвестициями в образование и экономическим ростом в попытке понять взаимосвязь между ними и экономическим развитием. В ходе различных прикладных исследований было обнаружено, что существует группа исследований, в которых обнаружена положительная взаимосвязь между образованием и экономическим ростом, в то время как другие исследования дали противоположные результаты.*

Данная статья направлена на изучение взаимосвязи между образованием и экономическим развитием, инвестициями в образование и экономическим ростом. Различные тематические исследования показали, что существует группа исследований, которые обнаружили положительную корреляцию между образованием и экономическим ростом.

Ключевые слова: *Инвестиции, образование, экономический рост, экономическое развитие.*

Аннотация: *Ушбу мақола таълим ва иқтисодий ривожланиш ўртасидаги ўзаро боғлиқлик, таълим соҳасидаги инвестициялар ва иқтисодий ўсиш ўртасидаги муносабатларни кўриб чиқишга қаратилган. Турли хил амалий тадқиқотлар шуни кўрсатдики, таълим ва иқтисодий ўсиш ўртасида ижобий боғлиқликни топган тадқиқотлар гуруҳи мавжудлиги кўрсатилган.*

Калит сўзлар: *Инвестициялар, таълим, иқтисодий ўсиш, иқтисодий ривожланиш.*

Introduction

Economists make a clear distinction between economic growth and economic development. The first has quantitative dimensions that can be measured which are the gross domestic product, average per capita income, and the evolution of productivity ... etc. As for economic development, in addition to the quantitative dimensions, it has other non-quantitative dimensions - some of which cannot be measured - such as a sense of pride and dignity, freedoms, environmental security, food security, economic, educational and health security ... etc. Of necessity, the second includes the first, and vice versa. There have been many economic models to study the causal relationships between economic growth and development, and they have evolved over time. These models also differed - in one way or another - in the causes and determinants of economic growth and development, but most of them - if not all - assume that education has an important role at least in bringing about economic growth.

In order to achieve the goal of this paper, it has been divided into main parts: The first part is a historical overview. The second part deals with the analysis at the micro level or the returns to education at the individual and social levels. The third part deals with the analysis at the macro level. And the fourth and final part is a conclusion.

I. a historical overview:

Tracking the impact of education on or historically affected by economic growth is risky and often not possible due to lack of information. Education before the nineteenth century was a kind of scientific luxury limited to the elite and closely linked to religious education. In fact, in the United Kingdom, primary education did not become compulsory until 1870, and free secondary education was only introduced in a limited way in 1907, and free secondary education for all was

introduced in 1944. [4] Not only that, but some sources indicate that the quality of education in itself has a great impact on determining the relationship between education and economic growth. In Spain, education was dominated by the church and based on religious indoctrination without developing skills and competencies, consequently, Spain lagged behind other European countries in economic growth during the same period. [5]

One of the researchers was able to conclude that there is a positive correlation between GDP per capita in 1913, and enrollment in primary education in 1882 for a number of eight countries: the United Kingdom, France, Germany, Spain, Italy, Japan, Brazil, and Korea. [6] Table No. (1) shows a summary of the relationship between enrollment in primary education and GDP per capita.

Table No. (1): The relationship between enrollment in primary education in 1882 and GDP per capita in 1913.

Country	Enrollment in primary education in 1882 per 10,000 inhabitants	GDP per capita in 1913 (in US dollars in 1984)
Germany and France	1400-1600	Over \$ 2,500
Spain	1050	Over \$ 2,000
Italy	700	2000 dollars
Japan	750	Over \$ 1,000
Brazil	200	\$ 600
Korea	Less than 50	Less than \$ 1,000

Whatever the matter of this study, the sample size is very small and its results cannot be trusted at this level, and it is possible that the development in per capita GDP is a result of other factors not included in the calculation. The increase in the per capita GDP may be the reason for the high levels of education, not the other way around, as the increase in the per capita GDP is preceded and at the same time followed by higher levels of education. Despite the limited results of this study, it indicates that the increase in enrollment levels in primary education by 1% increases GDP per capita by 0.35% after 30 years !

II. Analysis at the micro level (education returns):

The returns to education at the micro level are divided into two types: the first is the returns to education for the individual, and the second is the returns from social education. The social returns of education are calculated from the individual returns of education, after adjustment, by adding the costs of education that are borne by society and not borne by the individual. Accordingly, the returns to education for the individual outweigh the returns to education for society as a whole.

The economic theory assumes that the individual continues his education until the marginal cost and the marginal return of education are equal, meaning that the cost of an additional academic year is equal in addition to the expected return as a result of studying this year. The purely economic interpretation of continuing education is based on the fact that spending a longer period of study will increase income (return) by an amount that outweighs the costs, including lost income as a result of studying instead of work, and any deviation from this path results from social considerations.

But another study indicates that the social return of education decreases with the increase in the number of years of schooling per person. Not only that, but the social return of education also decreases with the increase in income, as shown in Table (2). [8]

Table No. (2): The social returns to education for different levels of income. [9]

Per capita income level	The social return of education		
	Primary education	high school	Higher Education
Low	23.4	15.2	10.6
Medium (low)	18.2	13.4	11.4
Medium (high)	14.3	10.6	9.5
High	-	10.3	8.2

The results of the study referred to above can be summarized as follows: [10]

1. The rate of return is higher in low-income countries.
2. Primary education contributes more to expected per capita income in developing countries.
3. The rate of return decreases with the educational level and average per capita income.

4. Investing in girls' education gives a higher rate of investment in boys' education.

5. The return for the educated in the private sector is greater than the return in the public sector.

Perhaps it is important to point out in this regard that if it is true to say that the rate of return decreases with the educational level, then the state's investment in higher education must be reduced in exchange for primary and secondary education, where the expected return is lower. Not only that, but such results say that individuals of their own will stop continuing education if the expected return decreases with the increase in the academic level, especially since the most educated always get higher salaries. From this standpoint, the increase in the individual or social return that increases with increasing education seems more convincing. If this is the case, then individuals will willingly invest in higher education, and this requires the expansion of higher education.

On the whole, there is no doubt that education has significant positive effects on income and improved access to suitable work. Applied studies indicate that an additional year of education increases income in European countries by about 6.5%, and this effect in some European Union countries may reach about 9%. [11] The same source indicates that the individual rate of return ranges between 7.5% and 10% for most European countries.

It is also important to note that previous studies measure the impact of education level on per capita income or return only, and this does not reflect the effect of education on per capita productivity, especially in developing countries whose economies are dominated by the public sector. As the use of higher educational certificates to obtain jobs in the public sector that pay better salaries does not mean at all an improvement in individual productivity. In general, the rate of return on education is a measure of the effect of education on economic growth only if the differences in salaries reflect differences in productivity. From this standpoint, if education has no apparent effect on productivity, it is unreasonable for it to have a visible effect on economic growth. But are there other effects of education besides income?

Meaning, are there positive impacts of education other than income that could affect economic growth, directly or indirectly? One study

indicates that besides the income effect, there is another set of positive effects, including: [12]

1. Education has a positive effect on improving the health of individuals and thus increasing life expectancy. The more educated are likely to choose jobs with fewer health risks. Also, higher income as a result of education leads to better health care and a healthier lifestyle.

2. As a result of improvement and health status, it is expected that the individual's productivity is higher, the number of absence days resulting from illness is less, and the number of work years is longer. All of these impacts have positive consequences for economic growth.

3. Education has a positive impact on raising children. The more educated parents are expected to care for their children better than the less educated, whether in parenting methods or through the availability of better income. As a result, the educated children have more opportunities to obtain better education and better job opportunities.

4. Education has a set of other positive effects on the learner's colleagues at work as a result of the transfer of knowledge through observation or discussion ... etc. In addition, many social scientists suggest that education has a positive effect on reducing crime rates.

III. Macroeconomic Models:

We can conclude from the previous part that if education has all these positive direct and indirect effects on the individual, then why not notice greater economic growth in countries that invest more sums in education? It is not easy to answer this question through the results of the applied studies that dealt with the topic. However, it is recognized that reaching results that link education and economic growth through individual or social rate of return is extremely difficult. In fact, it is not possible to rely on such results except by developing a set of assumptions that limit the efficiency of the model. Accordingly, it is possible to try to directly find the relationship between education and economic growth.

Apart from the problems associated with defining an appropriate model that measures the relationship between education and economic growth, and the problems associated with measuring its variables, the important question is whether the development of education is the cause

and effect of economic growth? Or is the economic growth that leads to raising the level of education?

What do applied studies say about the relationship between education and economic growth? The answer is that the results are mixed and unclear at best, although in theory there are many convincing reasons for the important role of education in developing productivity. Many applied studies indicate a strong relationship between education and economic growth. [13] These studies clearly proved that the effect of education is positive on the total output and that education is a major determinant of the rates of technological development.

However, studies that appeared in the second half of the 1990s showed different results. These studies concluded that the relationship between education and economic growth - using regression - is statistically insignificant. [14] Some researchers have concluded that the high rates of economic growth as reflected by the increase in GDP are the reason for the improvement in the level of education. [15] While some accepted these results, a number of economists did not accept this, and attributed the matter to a number of reasons related to specifying standard models, and to the inaccuracy of the information and data used, especially measurement errors. [16] The same source points out that some recent studies show that the contribution of education to the growth of total production may exceed the estimates of educational returns calculated at the micro level. In a recent study on education and long-term economic growth in Nigeria, this book concluded that there is a positive and statistically significant relationship between education, productivity and the consequence of economic growth [17]

However, on the other hand, the results of the experience of more than half a century are mixed and unclear. Some countries, such as Korea, Singapore, Malaysia and others have achieved relatively great success, while economic growth rates in some other countries have declined or at least did not develop despite the increasing number of educated people and graduates in them in particular. African countries, including countries rich in natural resources. One study indicates that the growth of gross national product (GNP) per capita in Nigeria has not changed since its independence in 1966, and likewise, the growth of

gross national product per capita during the period 1965 - 1998 of some other countries rich in natural resources was negative, in Venezuela and Iran it was on average (-1%), in Libya (-2%), in Iraq and Kuwait (-3%), and in Qatar (-6%). [18] The same study indicates that the gross national product per capita decreased on average for the OPEC countries as a whole, at a rate of 1.3% during the period 1965-1998, compared to a 2.2% improvement on average of the average GDP per capita in low-income and middle-income countries. The same study indicates that this pattern is prevalent in 65 countries rich in natural resources. There is no doubt that education levels have increased in all these countries, whether in the number of students in the different stages of education or the number of degrees. Whatever the reasons behind this decline in the level of economic growth, the result itself is alarming in that the levels of education and their development alone could not improve the level of economic performance. The worry necessarily stems from that spending on education competes with many other uses of public money. The same study indicates that there are a number of reasons that may be behind this decline in the gross national product of countries rich in natural resources, the most important of which are:

1. Most citizens of countries rich in natural resources believe that these resources are the most important thing they possess, and this leads to a lack of interest in education and sound economic policies to develop human resources.

2. Many citizens of countries rich in natural resources occupy jobs that do not require high skills and efficiency that generate adequate cash income. As a result, it is believed that education is not rewarding.

In addition to the above, there are another set of reasons behind the inverse relationship between education and economic growth in developing countries as a whole. The quality of education in and of itself may be the reason for the difference in the results obtained. The reason may be in economists' neglect of differences in the quality of education, assuming that education is a mechanical process that requires a teacher, classroom, seats, a book... etc. By linking these different inputs like any other productive economic process, it is possible through examinations, for example, to obtain a number of graduates. They have nearly uniform characteristics. As a result of

this pattern of thinking, it is expected that allocating greater financial resources to education will lead to an increase in the level of education. From this standpoint, educational policies focus on providing greater resources for the education sector.

However, recent studies indicate that increasing resources for education does not necessarily mean developing students' skills and competencies. In spite of the large increases in educational expenditures in the United States and the Organization for Economic Cooperation (OECD) countries, the levels of students in the educational stages decreased. [20] These studies show that the decisive factor in improving students' levels is teacher quality or efficiency, if you will. Others think that other factors that could contribute to improving the level of education are the focus on finding the appropriate incentive system for students, teachers, and school principals and increasing competition between schools. Some argue that if it is true that there is a positive relationship between education and economic growth, then the income of workers in different economic sectors other than education will rise while the income of education workers will remain constant! As a result, teaching becomes an unwanted job and the number of qualified teachers decreases. Accordingly, the level of education will decline if the matter is not avoided annually by correcting teachers' salaries. [21]

Another important reason is the direct intervention of the state in choosing students' scientific majors through planning or an orientation system. Such a system - in light of the bureaucracy and associated administrative problems - is unable to estimate actual needs after more than four years in the future. As a result, there are a large number of graduates from universities and institutes that do not suit their qualifications and the needs of the labor market. Matters are exacerbated by the narrow specialization that it becomes very difficult to re-train and qualify for other job opportunities. Indeed, the same result can be reached if the market system fails to provide the necessary information for students to choose the disciplines appropriate to the needs of the labor market. There is an urgent need to study this topic from a practical point of view.

Whatever the case, is it possible to reconcile the results of studies that found a positive relationship

between education and economic growth, and studies that reached opposite results?

It is possible that the effect of education on economic growth depends on the basic conditions, meaning that in order for education to have a positive effect on economic growth, a certain level of development must be reached. What is meant here is that the real income of the individual must be high in order to be able to educate his children first, to have appropriate health care, to have capable and stable institutions, to have an appropriate incentive system ... etc. If these basic conditions are not met, the effect of education on economic growth will be negative, as some studies referred to above show.

IV. Conclusion:

This paper reviewed the relationship between education and economic growth in an attempt to understand the relationship between them and economic development. Through the various applied studies, it was found that there is a group of studies that found a positive relationship between education and economic growth, while other studies reached opposite results. It is possible that this difference results from the difference in basic conditions. For education to have a positive effect on economic growth, there must be a minimum of basic conditions without which the relationship is negative. This understanding has implications for public policy and future directions regarding education and requires a review of education and training policies as a whole. The most important of these trends and policies:

1. The quality of education is mainly represented in the quality of the teacher and not in other material resources. This requires a serious review of teacher retraining and qualification.
2. The development in entry into different economic sectors other than education requires reviewing the salary-setting policies for teachers annually in order to attract qualified teachers or at least to retain their employees.
3. Reconsidering the system of orientation to different scientific specializations and trying to find a system by which students' desires can be reconciled with the requirements of the labor market.
4. Developing a mechanism that makes the education system flexible enough to be able to

respond to labor market requirements and social and economic changes.

5. Reconsidering the system of very narrow specialties so that it becomes possible to retrain graduates in other fields according to the change in the requirements of the labor market.

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