

## Economic Growth Also Depends on the Quality of Workforce

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**Abstract:** *In the general framework concerning the theory and practice of economic growth, which has practically been a concern for all countries since the post war period, the role and importance of labour resources occupy an increasingly important place, we could even say the most important place. The special concern in this problem is determined, in our opinion, by at least two circumstances: firstly, labour recruitment is the main production force of society and, therefore, the main resource of its economic potential and dynamism. Capitalizing all existing labour resources in the national economy of a country and using them as rationally as possible ensures the increase of national income and the increase of the material and cultural living standards of the people in that country; secondly, but not in terms of importance, workforce, by its nature, feels the effects of contemporary technical-scientific progress in the most direct way, which contributes to the increase, or even change, of the place and role of labour resources in the process of economic growth. Instead of the more or less traditional division of economic growth factors, where the main emphasis was on the increase of physical capital, a new division appears in which an increasingly important role is played by human capital, human resources.*

*What makes labour resources a key factor of economic development nowadays is not only the quantitative aspect, whose role generally tends to decrease compared to the previous period, but also the qualitative aspect, from the point of view of training and professional qualification.*

*This paper attempts to analyse the dependence of the economic growth process on the level of training and the structure and professional mobility of the workforce.*

**Keyword:** competitive advantage, economic growth, labour resources, level of education, level of qualification, professional mobility, skilled workforce, technical progress, quality of workforce.

## Introduction

Labour resources, viewed under their many elements concerning the duration of training, the level of qualification, the structure and the professional mobility progressively depend on the increase of production, the pace and scale of the country's economic development, the degree of capitalization of the natural and labour resources and the more active participation, in terms of efficiency and competitive advantage, to the world economic circuit.

Increasing the role of the qualitative side and the use of labour resources as a factor of economic growth is determined by the fact that, with the current changes taking place in the structure of the productive forces, the increase of production and labour productivity depends more and more on the technical progress, the general state of science rather

than the amount of capital and labour .<sup>1</sup>

Although the issues that form the qualitative side of labour represent a significant element, the unanimous opinion among

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<sup>1</sup> According to calculations made by American economist Edward Denison, in the period 1929-1957 US economic development, as a result of increasing real national income, was 43% generated by the development of education, the increase of the qualification level and the progress of the technical knowledge in general and only 15% by the increase of the physical capital. (E. Denison, Education, Investment in human capital; in: Monthly Economic Letter, First National City Bank, 1965, p. 93.)

Similar calculations were made for the U.S. by Robert Solow as well, and for Norway and Finland by Odd Aukrust and Olavi Niitamo, respectively. Using a Cobb-Douglas production function, where the education factor was introduced as an exponential trend, the economists determined that the three factors of production (physical capital, labour and education) influenced growth as follows: the 1% increase in physical capital led to a production increase of 0.20 in Norway (between 1900 and 1955), 0.26 in Finland (1925-1952) and 0.35 in the US (1900-1949). The 1% increase in the numbers of employees led to a 0.76 production increase in Norway, 0.74 in Finland and 0.65 in the U.S., and the production increase based on the residual factor (education and knowledge) was 1.80 in the first country, 1.20 in the second and 1.50 in the third country.

economists who study these issues cannot ignore certain elements when considering the dependence between economic growth and the quality of labour resources: structure by branches, sub-branches and areas of activity of labour forces employed, the level of education of the population in general and of the employed population in particular, including the level of qualification, the structure and professional mobility of the workforce in general and of specialists in particular.

In the process of continuous improvement of workforce quality, these three occur simultaneously and mutually influence each other.

The way of dependence and influence of economic growth caused by the quality of labour resources is a concern for scientific researchers in various areas, since welfare and living standards affect the economies of all countries and create world-wide relationships.

### 1. Economic growth and level of training

Of course, the educational factor has always played an important role in the social progress of mankind; nevertheless, its role has not been as clear as nowadays, when science has become a direct production force. Contemporary scientific and technical progress imposes new and increasingly complex demands on the labour force both on the level of training and qualification, as well as on its structure and professional mobility. However, the general framework for meeting all these requirements is the level of education of the population.

It is rightly said that the keys that can open the treasure of economic and social

progress of a country are made in the classroom, by education.

A higher level of training of the workforce firstly results in a higher level of labour productivity<sup>2</sup>. The special importance given today to the level of education and generally to education as a factor of economic development is emphasized to such an extent in the literature that, according to some points of view, the differences between the level of labour productivity between different countries are due to a certain extent to the different levels of workforce training in those countries.

That is why, focussing its economic policy, the state must proceed at a fast pace with the process of building a modern economy, based on contemporary technical and scientific discoveries and a superior capitalization of resources available through intensive use of the full potential production and high labour productivity; under these circumstances it is a priority to develop and support education, to continue its modernization and specialization in order to meet the increased demands of skilled workers, specialized personnel, but also specialists who graduated short and long-term programmes of higher education.

In connection with the increased role of education as a factor of economic development, the issue of the type of the investment in education is raised: considering the contemporary conditions when education influences the general framework of acquiring knowledge, which is in fact a long-term investment recovered in time as a result of

<sup>2</sup> According to the Russian economist Strumilin's calculations, the simple fact that a worker can write and read contributes to the increase of work productivity by about 30% (Problèmes économiques, no. 767, 1962, p. 5)

the increased efficiency of higher level of education, whether it had a degree of social consumption or whether it also acquires a significant degree of investment.

In my opinion, the views of economists who consider investment in human resources as a long-term productive investment, especially those investments aimed at training and improving labour force, come closest to the meaning and role of education as a factor of economic growth under the contemporary conditions.

In fact, controversies about the nature of investment in science still exist today, and they are still considered to be non-productive, similar to education; nevertheless, theoretically, economists unanimously agree that science has become a direct force of production. Investments in labour resources, in the specialized training of skilled staff, as well as those for the development of science, are not only productive, they are even more efficient than investments in production.

When emphasizing the increasing role of education and the level of training of the labour force in the process of economic growth, one must also point out that these are in their turn results of that development process, which are interdependent and mutually conditioned.

Increasing the level of culture and education of the population, the degree of acquiring new scientific and technical knowledge and their wide application in the production process also depend on the level of economic development and wealth of the country, on the volume of accumulations a country has, and implicitly, on the extent to which it can assign higher or lower investments to the development of human capital in general, to education, science and culture in particular. Education, the level of knowledge in general

is at the same time cause and effect of the growth process.

The close connection between the level of economic development and the degree of education of the population, which in fact reflects in a way the possibilities that different countries have for investing funds in human capital, is particularly clear in the way of distributing the school population on the three levels of education (primary, secondary and higher education) by geographic regions and by countries or groups of countries with different levels of economic development.

The data presented above shows that in the regions and countries known in the past as having a higher economic development level the higher education share is higher and the areas where primary and secondary education is more developed are located in the regions and countries with lower economic development. The gap is enormous, especially when comparing the economically developed countries.

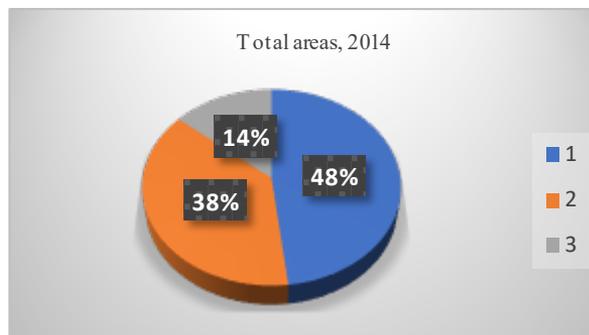
Table no. 1 Data is retrieved and processed in the author's own approach from  
Statistical Yearbook 2016: Fifty-Ninth Issue Education <http://dx.doi.org/10.18356/60e28a31-en-fr>

Geographical areas	Reference years	The three levels of education	Out of which		
			1 Primary education	2 Secondary education	3 Tertiary education
TOTAL	2005	1,327,365	678,999	509,073	139,293
	2010	933,370	697,216	546,230	181,531
	2014	1,494,594	719,059	568,019	207,516
Africa	2005	194,262	136,433	49,218	8,611
	2010	233,974	159,501	63,020	11,453
	2014	264,819	179,138	72,670	13,011
North America	2005	119,362	52,783	43,698	22,881
	2010	125,689	53,217	45,193	27,279
	2014	126,476	52,937	46,727	26,812
South America	2005	97,120	43,066	42,241	11,813
	2010	99,701	40,569	42,796	16,336
	2014	101,857	39,172	44,313	18,372
Asia	2005	773,363	405,137	305,614	62,612
	2010	828,409	403,584	333,624	91,201
	2014	864,991	405,269	342,889	116,833
Europe	2005	135,359	38,438	64,839	32,082
	2010	128,669	36,749	58,232	33,688
	2014	126,857	38,199	57,917	30,741
Oceania	2005	7,900	3,142	3,463	1,295
	2010	8,536	3,597	3,365	1,574
	2014	9,596	4,344	3,504	1,748

From the graphical representation, it can be noticed that generally speaking in 2014 primary and secondary education (1 and 2) are predominant 86% in all regions

compared to the tertiary level of 14%, indicating that the average schooling is a characteristic on the whole.

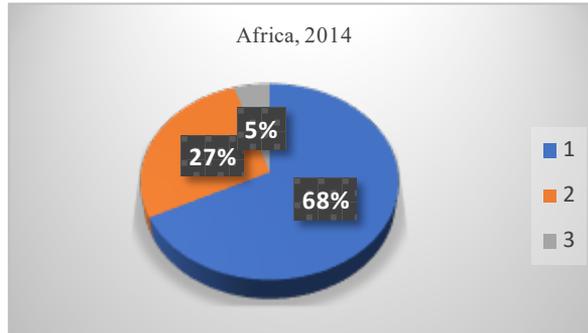
Chart no. 1 Distribution in all areas in 2014, by education levels



Africa. As can be seen from Chart no. 2 Distribution in Africa in 2014, on level of education, only 5% is represented by tertiary education (3) which situates it on the lowest

level among all analysed areas, while primary and secondary education (1 and 2) represent 95%.

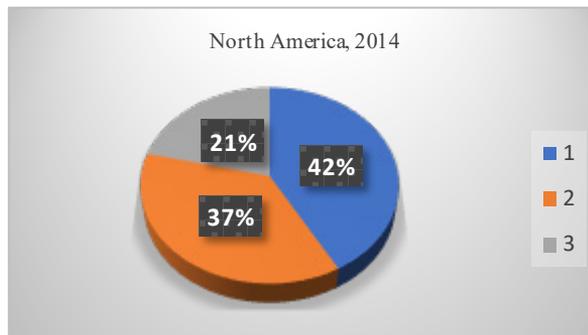
Chart no. 2 Distribution in Africa in 2014 by education levels



In North America as can be seen from Chart no. 3 Distribution in North America, in 2014, by levels of education, a percentage of 21% is represented by tertiary education (3)

ranking second among the analysed areas, whereas primary and secondary education (1 and 2) represent 79%.

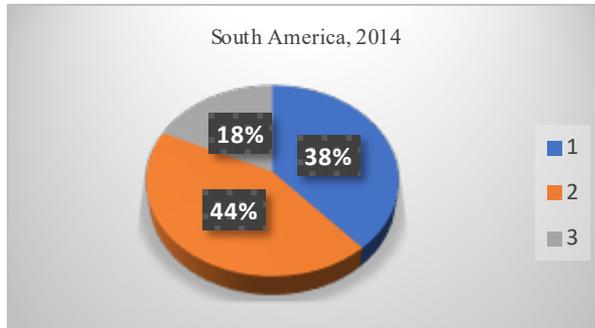
Chart no. 3 Distribution in North America, in 2014, by levels of education



In South America, as can be seen from Chart no. 4 Distribution in South America, in 2014, by levels of education, a percentage of 18% is represented by tertiary education

(3) ranking third among the analysed areas, whereas primary and secondary education (1 and 2) represent 82%.

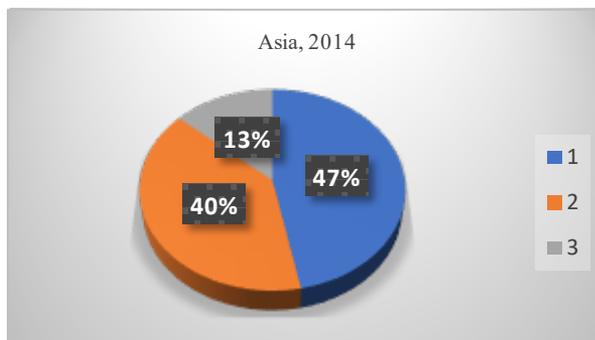
Chart no. 4 Distribution in South America, in 2014, by levels of education



In Asia, as can be seen from Chart no. 5 Distribution in Asia, in 2014, by levels of education, a percentage of 13% is represented by tertiary education (3) ranking fourth

among the analysed areas, whereas primary and secondary education (1 and 2) representing 87%.

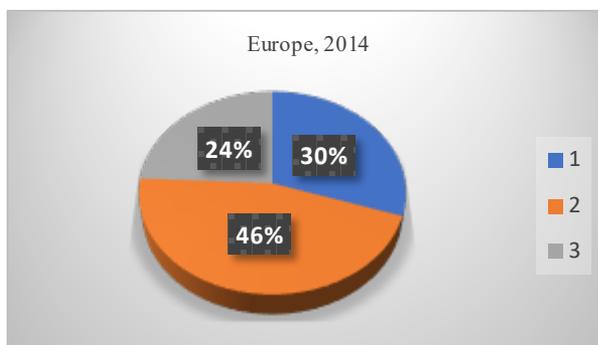
Chart no. 5 Distribution in Asia, in 2014, by levels of education



In Europe, as can be seen from Chart no. 6 Distribution in Europe, in 2014, by levels of education, a percentage of 24% is represented by tertiary education (3) ranking first

among the analysed areas, whereas primary and secondary education (1 and 2) representing 76%.

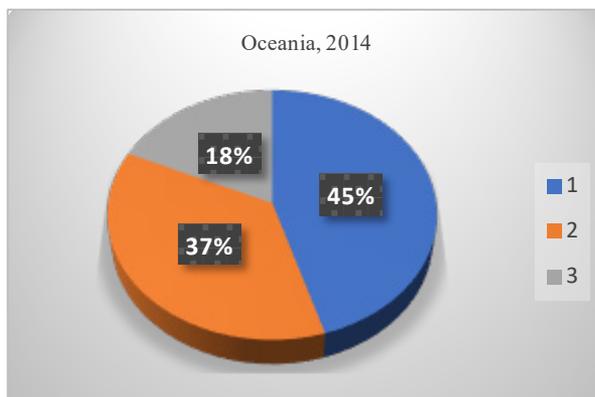
Chart no. 6 Distribution in Europe, in 2014, by levels of education



In Oceania, as can be seen from Chart no. 7 Distribution in Oceania by levels of education, a percentage of 18% is represented by tertiary education (3) ranking fifth among

the analysed areas, whereas primary and secondary education (1 and 2) representing 82%.

Chart no. 7 Distribution in Oceania in 2014 by education levels



## 2. Dependence between economic growth and skilled workforce

If the prosperity of a country, the pace and magnitude of its economic development depend more than ever on the level of education and the level of workforce training, they depend in an even more significant way on the number and quality of specialized staff, on their rational and efficient use. As economy and culture develop, the role of the

specialists is of greater importance throughout social life and more technical specialists are necessary, namely highly trained staff with extensive specialized knowledge connected to the evolution of world technology, well trained in production and marketing management.

Specialized labour force in general and specialized in the technical and economic profile in particular are landmarks and basic indicators used to characterize the level of

economic development of a country. Indeed, more and more studies and research papers by collective researchers with specialized international bodies and organizations (the Organization for Economic Cooperation and Development, the United Nations, the International Labour Office) underline the existence of a connection between the level of economic development of a country (usually expressed as national per capita income) and the number of specialists.

According to a study by the International Labour Office on the causes of the difference between the growth rates of economies that have identical speed of investment growth, it results from the 52 countries surveyed that it is due to the difference in the quality of the workforce in general, and in particular the specialized workforce.

Very interesting from this point of view is that the benefits, the amounts the US earned from the gross immigration of highly qualified staff (engineers, scholars, researchers) in recent years account for 5% of the annual domestic production.

Emphasizing the growing role of specialists as a factor of economic development of a country under current conditions, it must be mentioned at the same time that this role is not present and does not have the same intensity everywhere. The number and structure of specialists, the rhythm and their rates of growth and implicitly their contribution to economic growth vary from one country to another or from one geographic region to another, depending on many factors.

Without claiming that we identify all the factors in order of their importance, as improvements are possible, I consider that among the factors that determine the model of the occupational structure by branch, professional and qualification of the specialists one must enumerate the following:

- the level of economic development of the country, including the degree of modernization of the structure of the national

economy and industry, and the diversification of production;

- the forms, degree and speed of implementing technical and scientific progress and technical endowment of labour;

- the level of scientific organization of labour and production, degree of specialization and cooperation in production;

- the general level of education of the population and, above all, of the active population;

- the degree of integration of the country into the world division of labour, participation in international economic, technical and scientific cooperation based on the requirements of current scientific and technical progress.

### Conclusions and suggestions

Firstly, it should be noticed that the level of economic development depends on the quality of the labour force, respectively on the level of its training, but also on the quality of the existing and trained specialists in the economy.

The view about the profile and role of specialists, the forms and methods of training them is very important.

A first conclusion may be that increasing the role of specialists in the conditions of technical and scientific progress represents their fast development compared to the overall workforce and therefore I suggest taking active measures of fast training of specialists altogether with the introduction of technical progress in the economy.

Another suggestion is that there is a need for a wider collaboration between researchers, science and education specialists with those in the productive branches so that training new specialists takes into account the technical progress at the international level.

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