

EDUCATION AND REGIONAL DEVELOPMENT- THE CASE OF GREECE

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Abstract: The contribution of human capital is well recognized in organization's and society's prosperity. Thus, the competitiveness of global economies is dependable not only on financial issues and assets but also on organisation's and more particularly on employees' level of knowledge and experience. It is also widely recognized that the economic success of local, regional and national economies depends increasingly on education and skills. In recent years, various countries across the world have introduced a series of deep reaching reforms to their education and training systems. The prime motivation has been the belief that the development of an economy's human capital is one of the most, if not the most, effective routes to improve national economic performance. The institutions of higher education contribute in social, cultural and economic growth of the region in which they are located. This paper focuses on the examination of the effects of the existence of the institutions of higher education on the GDP of the region. The research was focused on the west part of Greece.

Key words: Human Capital, Regional Development, Tertiary Education

Introduction

Theories on the relationship between education and economic growth, have been the main areas of research in the field of growth during the last decade. Before the 1950s the education was not on the agenda of macroeconomics. For instance, in Schumpeter (1954) one cannot even find the words: education or human capital. We cannot deny that in the Wealth of Nations, Adam Smith had some statement on the benefits of education, and that Mill (1948), emphasized the importance of education for society. However, the study of the relationship between education and economic growth had to await the significant work of T.W. Schultz and G. Becker, who even gave to his book the title "Human Capital".

In modern society factors such as capital and labour do not have the same gravity anymore. Globalization of economy implies that new and more complex patterns of flows of goods, services, ideas and information are emerging. As the result of these economic changes, there has been a rise in competitiveness, innovation and the striving for quality in products and services. When markets are shifting from the local to global arena, countries that want to survive the global competition of the future are facing tremendous pressures to improve the quality of their workforce (Brown, Lauder, 1996; Drake, 1998; Lall, 2000; Lewin, 1998; Steward. 1996).

The nature of competition in business is not only based on low costs and prices, but the current competition driven by global quality standard, flexibility, design, reliability and networking (Sieh, 2000; Lall, 2000). Therefore the new patterns of competition are

marked by knowledge, skills, attitude and technology based competitive advantages. Consequently educated and skilled human intelligence is increasingly viewed as a nation's and organizational primary economic (Brown, Lauder, 1996; Drake, 1998; Lewin, 1998; Sieh, 2000; Steward. 1996; Carnoy, 1998; Davies, Guppy, 1997; Kraak, 1999). This circumstances points to the important of human resource as factors of investment, economic development and as key elements of competitiveness.

Human Capital and Development

Among the factors, which contribute to economic growth, the quality of human input ranks high (Romer, 1986). The relative deficiency of human resource, count as a retarding factor for development of the underdeveloped regions (Hansen, 1972). The importance of education as a factor, building better human capital was coined, even in the fragmented literature of thinkers prior to Adam Smith, though not by the word education but by the word "art", which embodied a variety of skills helpful for development (Johnson, 1964; Ribich, 1969). In the Smithian literature, education was emphasised to improve civic and moral life, in the Malthusian literature, education was required to control population growth so as to check social unrest and induce civic peace. Later, Schultz (1959) has developed more systematic studies and given a modern approach to the human capital theory, upholding education as a factor of macroeconomic intervention. The human capital theory has been used differently for the interpretation of different related is-

sues. For example, Schultz (1959, 1961, 1963) and Denson (1964) used the human capital framework to analyse the sources of productivity and growth. On the other hand, Becker (1964, 1967, 1975) and Mincer (1958) focused on the implications of human capital theories to earnings distribution in general. These theories focus on human capital formation, by the way of education and training, which determines inequality in earnings. The theory considers demand for education as an investment demand because like any other investment expenditure, the expenditure on education earns a return though there is a lag effect. It establishes a direct relationship between education and earnings. As people get educated, they accumulate skills; as a consequence, their marginal productivity increases and is reflected in the increased levels of earnings. Thus, there is an established link with the marginal productivity theory.

Education building human capital has been perceived from two angles; from demand side and from supply side: that is from consumption and investment point of views. Education can be considered as consumption good, thereby it satisfy one's desire for acquiring knowledge and better living standard. It can also be considered as an investment because people are left with the choice of investing their funds, which brings them, profits or losses in future or spending the money either on their children or on they own.

In a job competition model and in an identical employment situation, the productivity of highly educated person tends to be more in comparison to the less educated person, because of their inelastic supply. As supply of the highly educated increases, the earnings get reduced but never fall to a minimum level. It is argued, that if the higher educated persons got to get higher wages then the productivity must be positively correlated to their education and, that can only happen if the labour market is competitive one. But, research studies in the succeeding years proved the postulate without the assumption of perfect competition. Shah and Srikantiah (1984), also confirm the wage competition model, which implies that a diminished inequality of schooling is associated with diminished inequality of income (Tilak, 1994). Examining the contribution of education as consumption, Becker (1975), proposed that the association between the inequality in education and income is attributed to the effect of income on education, and hence of no greater causal significance than the ownership of wealth (Tilak, 2000). Likewise, Ahluwalia (1974) examined the contribution of education as an investment and helps in building better human capital. This implies, an increase in the quality of labour input leading to higher labour productivity and higher earnings.

Ribich (1969) has reached the conclusion that poverty eradication needs a large investment in human capital. Here the argument is to predicate as what percentage of the educated people will exactly fall into

the poverty line - which is an impossible work. So it is better to see the intergenerational mobility⁵⁹ aspect of education as educational attainment is more for the children of the educated family than the children of the less educated families (Kivinen, Rinne, 1996). It is also found that education alone when regressed on the level of earnings doesn't give much value. When education along with experience, age, occupational rank and other background variables are regressed on the earnings levels, the explanatory power of the equation improves a lot (Shah and Srikantiah (1984); Tilak (1986)

It is also found that education is having a lag effect. An immediate policy venture for educational expansion will gives results in a later stage. Mincer (1958, 1970), also established a positive correlation between distribution of schooling and earnings resorting to a human capital earning model.

Education has direct and indirect effect on poverty. Directly it improves the skills and thereby improved expected earnings opportunities and indirectly it gives an opportunity to have better life and paves the way for informed decision making and choices. Since the return to education is highest for the poor section of the communities, the expansion of education will benefit more to the poor than the rich. This is proved in both intra and inter-country analysis.

The human capital theory has been criticised on the ground that education is not the only factor building human capital and more than that education does not always ensure an increase in ability and development of the society (Bowman, 1968; Bowman, Anderson, 1968; Woodhall, 1987).

Sometimes education serves as a screening device to shortlist people on the basis of their credentials, irrespective of their ability and skill (Psacharopoulos, Richard, Layard, 1979; Psacharopoulos, 1981).

Large-scale realignments occur on a daily basis in global economy, leading to a new division of labour. All countries and regions seek their place in this new division of labour that will allow them not only to enjoy the fruits of their own effort but, more importantly, to create the necessary conditions for further development. This endeavour is conducted under conditions of relentless competition and becomes more difficult due to the countries' domestic regional problems.

The competitiveness of a country or region is defined on the basis of the performance of its economy in the international markets, as well as in the domestic market. Each region takes part in this competition with its own unique characteristics, i.e. with its strong and weak points, which depend on the technology it uses, the magnitude of the production units, the educational level of the labour force, and the rate at which the country renews its mechanical equipment

⁵⁹ Education can ensure two types of mobility, both horizontal and vertical as well.

and substitutes functions of machines for functions of labour (*Bradley, Taylor, 1994*). In other words, a region enters the competition track with its own "historical personality", with all the structural characteristics it has inherited from its own particular background. For this reason, it appears on competition track with some strong and some weak points.

The prospects of a region for economic development are considerably influenced by the natural resources it is endowed with and also the human resources it possesses (i.e. the number of its inhabitants and the level of their skill and specialization). In other words, the economic growth and development depends on the increases in capital reserve and the productivity with which labour and capital produce goods and services. In financial analysis, capital reserve signifies man-made capital: machines, buildings and infrastructures (man-made capital), as well as the training and experience of the labour force (human capital). Economists have defined the human capital as the value of the knowledge, experience and skills of the labour force, which just as man-made capital, increases productivity and income. Of course, in the world of human resources, what is of paramount importance is not only the number of inhabitants and the level of their specialization in labour but also their cultural perceptions, their attitude towards labour and their desire for progress; in other words, the whole nexus of the inter-dependence between civilization, tradition, morality, as well as racial segregation or cohesion. Therefore, the nature and character of the human resources of a region or a country are critical determining factors of its economic structures and differ significantly from one area to another. No one denies today anymore that the investment in human capital is as important as the investment in natural capital (*Schultz, 1967*). Besides, the investment in organized research is a means to acquiring new information and a source of new specialties and skills, as well as new materials, methods and techniques that promote and alter the opportunities for investment in soil, man, buildings and mechanical equipment. But technological changes also represent an investment among other things in the technical ability of man as well. Consequently the investment in human knowledge is a necessary condition for expanding the opportunities for investment in material capital.

The issue of human resources and their role in the development of an economy, whether one refers to a country or a region, has two sides: on the one hand the examination of the availability of human resources, and on the other the problem of the way these resources are to be used.

Tertiary Education and its Importance in Development

Tertiary institutions⁶⁰ influence the function of an economy to a great degree. In the first place, these institutions are centres where knowledge and speciality of a higher level is acquired, in such a way as to facilitate the changing needs of modern society, while at the same time developing through this knowledge the productive, consuming and aesthetic abilities of anyone wishing and having the potential to acquire this knowledge. Tertiary institutions have the obligation to conduct scientific research for the creation of new knowledge replacing the existing that has become outmoded due to developments or to complement and expand further the existing knowledge. In addition, they retain and cultivate the necessary contacts with the relevant institutions from other countries, so as to convey and adjust the knowledge and technology developed abroad to the local conditions and, eventually, to produce the required educational and research personnel. Tertiary institutions can provide many future employees with a first contact with the new techniques to be used in job posts. In addition, educational bodies and research institutions can often play an important role in the creation of a centre of specialization for a new industry before it becomes dominantly applicable. Some economists believe that an improved allocation of educational services could be a great force for the achievement of a more fair allocation of income, as well as for mitigating regional disparities.

The establishment of a tertiary institution in a less developed region can provide many important benefits to this area, such as: exploitation of inactive scientific resources, reduction of emigration, retention or/and attraction of scientists of high prestige, boosting of domestic demand, redistribution of income through the social demand for education and the expected social mobility, modernization of businesses, technological development of the greater area, increase of productivity, cultivation of a new perception of the economic behaviour of citizens, development and decentralization of the periphery as well as balanced distribution of people and activities within the Greek state.

The establishment of regional institutions of higher education, apart from its important contribution to the development of these regions satisfies also a claim for equal opportunities, emanating from the principles of a liberal parliamentary democracy. The presence of the higher institutions allows the inhabitants of these areas to enjoy the benefits of science and art in equal terms as the citizens of big cities, where

⁶⁰ The term "Tertiary Institutions" in this paper will be used to describe all institutions which offer tertiary education (post-secondary education). For example: colleges, universities, institutes of technology, polytechnics etc.

Universities are usually concentrated. The satisfaction of this claim demands an effective operation of regional institutions and their appropriate support, so that they may become competitive.

Naturally, all the possible benefits from the establishment of a regional institution of higher education require a series of presuppositions. The State and the region must take into consideration the fact that higher institutions are not a "money machine" to be exploited simply for increasing consumption and invoking investments and development. The Greek periphery does not only have a geographical distance from the centre but is also financially disadvantaged. For the essential contribution of these institutions to the development of a region, a rational plan of organization is a matter of priority. The fact that Departments are scattered in various cities causes many administrative and functional problems. The "desertion" that is observed in these areas during the months that students are absent verifies their short-term contribution. The regional institution of higher education should be perceived as a long-term pole of development and not as a short-term means of exploitation. The integration of a regional tertiary institution into a plan of a more general development of the greater area should be long-term, generous and emancipated from petty, vested interests of a trade-unionist character.

The case of Western Greece – region of Epirus

Greece followed, inevitably, the centralized model of development, so until 1964 the country had only two Universities: in Athens and Thessaloniki. In 1972 a few small technological institutes were founded in experimental form and after a number of transformations they have now approximated Universities in terms of equivalence. After 1981, and more intensely after 1999, the reverse tendency began: a multitude of Universities and Technological Institutes were established across the country. In most of the areas tertiary educational institutions are now the "heavy industry".

The research which results are shown below was conducted at Epirus Institute of Technology. The questionnaires that were compiled concerned the two principal teams that are involved with the function of tertiary institutions. In that of demand (students) and the corresponding of offer (businesses, municipalities, communities, prefectures, empirical societies, etc.) mapping is believed to have been complete, since the views of all those involved have been recorded.

At the same time, the development rate of the local economy was correlated, after taking into account all the multiplying outcomes (improvement of infrastructures, construction of medical care units, cultural expenses, etc.). This long research is expected to contribute to the estimation not only of the benefit and

the cost (the deducible cost of the non-function of this model was also estimated), but also of the limits of this policy.

From the analysis of temporary results it becomes evident that the country has not turned accidentally towards creating one tertiary educational institution after the other, of public character,⁶¹ in order to support the periphery, since viable industrial development proved to be impossible and the sector of services (mainly of tourism) is facing serious imbalances. In the period 1920-1980 the periphery was drained of all material and human resources. After 1999 the reverse course began in an extensive way: the only remaining solution was the development by means of "planting" tertiary institutions throughout the country. Since the population of the country is now mainly in the capital city and the other big cities, the main mass of students comes from them. As a result, the upper and lower middle classes, besides the working class, subsidize the development of the periphery. In this sense, the collective unconscious is gratified for the economic squeeze that the periphery suffered from the urban centre, while "regional" development is also achieved.

However, the limits of this policy are simply both restricted and insufficient in themselves to drag an aged population, with poor infrastructures, into development. As a consequence, taking into account the more general economic problems the country is facing, this policy seems to be in need of serious support from all the factors involved in regional development in order to become viable. It should also be mentioned that local communities appear to be concerned about the future of the tertiary institution in their area. Apart from the fact that these institutions are one of the greatest employers in their regions -- such as that of Epirus -- and that they boost local economic activity in diverse ways, the questionnaires also reveal an emphasis on the change of mentality and cultural activity that is brought about by the student population in the small cities where Departments have been established.

At a national level, similarly, it should be emphasized that this policy has also succeeded to a considerable degree in keeping the youth of the country within the borders, thus redeeming the loss of human capital and financial resources to foreign countries and institutions that have often been questioned in terms of the status of the academic studies they offer. It is believed, however, that if the Laboratories of Liberal Studies are officially recognized by the Greek state and/or the establishment of private universities is ultimately permitted, regional tertiary institutions are going to face a serious crisis and some of them may even cease to operate. In this case, the small number of regional Departments that will survive will probably rely on

⁶¹ Private tertiary education is prohibited by the Greek constitution. This has repeatedly become an issue of controversy between the Greek governments and the European Commission.

attracting students from the greater area in which they operate, as the majority of students coming from the big urban centres will be discouraged to abandon the amenities of Athens or Thessaloniki and spend a lengthy period of their lives in less developed regions -- and Departments -- with barely sufficient infrastructures, having to get accustomed to a totally different lifestyle, pursuing an educational career with dubious results.

Research Results

The collection of data was carried out by using questionnaires, the total number of which is approximately 2500. Based on that approach, data of economic as well as of social nature have been collected.

A. Questionnaire addressed to the students.

The main volume of the data from the primary research was derived from the questionnaires concerning students. Initially, information was collected by means of a sampling survey. This research covered 32% of the students enrolled. The first three questions concerned the demographic characteristics - sex, age, place of origin. Questions 4 and 5 were related to the student status of those asked. Question 6 was the key to separating the active (staying in the city) from the non-active (occasional) students. The first approximation of the economic influence of students on the city is derived from questions 7 to 14 (duration of stay, area, cost, visits of friends and acquaintances from other cities). Questions 15 to 18 are related to the degree of the Technological Educational Institute's contribution to the economic and socio-political formulation of the city. Finally, question 19 concerned the level of the student's satisfaction from the city.

The percentage of women in the sample was 57% versus 43% of men. This analogy approximates the analogy of the total number of the students enrolled.

About 8% of the students come from the city and the Prefecture of Preveza; something that confirms that young people are successfully retained as part of the whole population of the area. The percentage of students coming from the adjacent prefectures, 40% versus 60% from the rest of Greece, is also remarkable.

The monthly expenses of a student living in Preveza, per category of expenses, is presented in table 1:

Table 1. Monthly expenses of active students
Tabela 1. Miesięczne wydatki aktywnych studentów

	Rent	Rest of house expenses	Personal Expenses	Total
<i>Maximum (90%)</i>	300	100	500	900
<i>Representative (50%)</i>	230	50	300	580
<i>Minimum (10%)</i>	180	20	150	350

Eighty per cent (80%) of the students from the sample answered that they were paid visits at their house in Preveza during the previous academic year. It is estimated that the representative stay of those visitors is 10 nights, with representative upper and lower extremes 30 nights maximum and 2 nights minimum.

The average yearly inflow per active student is estimated at 6.393 €. By converting that to the estimated population of active students, the total yearly inflow from the community of students in the city, including the night stays of their visitors, amounts to 6.450.000 €. It should be noted that three (3) of those asked have purchased a flat, the expenditure of which has not been included in the yearly inflow.

Table 2 illustrates the total yearly inflows in the city from the students, as well as their fluctuations.

Table 2. Illustration of the fluctuation of yearly inflows
Tabela 2. Fluktuacje dochodów rocznych

Semester	Average inflow from each student	Typical inflow divergence per student ($\times 1.96$)	Minimum estimated total inflow	Maximum estimated total inflow
'04-'05 S (a)	6.106	485	611.571	717.148
'04-'05 F (b)	4.906	627	533.562	689.908
'03-'04 S (c)	5.451	656	617.540	786.606
'03-'04 F (d)	6.238	659	927.539	1.146.628
'02-'03 S (e)	7.391	689	667.770	805.026
'02-'03 F (f)	6.226	524	957.962	1.134.128
'01-'02 S (g)	7.538	826	757.244	943.664
'01-'02 F (h)	7.511	669	453.026	541.578
Higher than standard semesters	9.061	2.680	213.340	392.539
Total	6.448.389		5.739.553	7.157.226

As for the opinions of the students themselves who live in the city of Preveza, about their contribution to the economic development of the region, a particularly high tendency appears in the assessment "very much" (59%) to "adequately" (39%), while regarding their contribution to the socio-political formulation of the region, the tendency emerges with lower percentages between "adequate" (53%) and "very much" (28%), with a 19% of those assessing their contribution as "small" or "none" (figure 2).

The students' satisfaction from their stay in the city of Preveza is indirectly an indicator of the degree of the city's response (and also of the T.E.I. as administration) to the expectations of the student community. The biggest percentage appears to be a little satisfied, 45%, followed by the percentage of those quite satisfied, 38%.

Along with the primary research, the statistical data was collected. The sources were mainly municipalities and prefectures with their various services. It was examined to what extent there were essential changes in the demographic indexes and urban planning.

It was natural that the issuing of new building licences was above the average of the country, since the tertiary institutions did not possess housing for student accommodation.

Building, *a classic syndrome of every developing country*, is taking place in a disorderly manner. There has been no conscious strategy for zoning and urban planning morphology. In many cases traffic congestion was inevitable and the price of land skyrocketed. In quite a few cases, with the assistance of tourism, land costs more than in any other European country, whether for instance one refers to Britain or France.

Transport, after what has been mentioned, was not developed, and as a consequence commuting of any kind is achieved by means of private vehicles.

In contrast, there were positive demographic changes. On the one hand a small part of students settled permanently in their place of study; on the other, most importantly, a significant part (theoretically the whole) of the inhabitants - young people for the most part, who otherwise would have emigrated to the capital city - stayed in their regions. About 1/3 of the current population with conservative estimations, and most importantly those aged 20-45, have stayed exactly because of the existence of a tertiary institution.

Similar was the influence on spending habits. Fast food, clothing, the whole living style hardly differs nowadays - because of the student population - from the equivalent of the big city (with all the positive and negative consequences). More generally, social mores tend to become uniform and the local, despite the endeavours of various government or non-government organizations, seems to wane.

To corroborate the primary research, and parallel to it, an approximation was conducted based on macroeconomic data. For this reason regional tables of inflows-outflows were compiled. This approximation was carried out for the years 1988, 1995, 1998, and a corresponding one is being completed for the year 2004. Roughly speaking, from the two tables of 1995 and 1998 (the T.E.I. began to function fully after 1995), the small "official" differentiation that came about is inferred. A significantly greater one is expected between 1998 and 2004. More specifically in standard prices the gross added value, while it was

173 in 1995 in the sector of education, it rose to 240 in 1998. Regional tables of inflows-outflows of the region of Epirus and more particularly the quartiles of intermediate expenditure and added value of the years 1995 and 1998, as well as the economic magnitudes of the region of Epirus and the rest of Greece were also compiled for reasons of comparison.

Conclusions

The Greek periphery has been struggling during the past years to escape from economic and social decline and organize (or re-organize) its social and financial structures. The creation of tertiary institutions has definitely contributed to the improvement of the economic and social conditions in the regions where these institutions were established. In addition, the human and scientific capital of the periphery has remained in these areas and found employment that is equivalent to their educational status and interests. It therefore seems that the tendency of the population to move to the big cities, draining the periphery from life, activity and resources has already begun to change, as the existence of the student population has "grafted" local life in the small regional cities with fresh ideas, changing their mentality and also influencing their lifestyle. Small changes can often pave the ground for bigger ones. In order for these to happen, however, the development of the Greek periphery needs also the following: firstly, an extensive network of infrastructures that would create the necessary conditions for the boost of economic and social activity; secondly, the dissemination of knowledge in the periphery, and especially the exploitation of the new specializations that are required by businesses. Finally, the role of institutional and social mechanisms and networks that are part of a region's historical and cultural character is pivotal in the formation of the context of values and the background in which interaction and co-operation will take place in the local community. Taking into consideration all these matters, it becomes evident that the operation of institutions of higher education in the periphery can contribute in multiple ways to the overall improvement of life in the less developed regions of the country. If all of the factors involved cooperate for the common cause of regional development, the country will definitely attain a more balanced status in the years to come.

From the previous analysis it was found out that the country did not turn accidentally towards creating one tertiary educational institution after the other, of public character, in order to support the periphery, since viable industrial development proved to be impossible and the sector of services (mainly of tourism) is facing serious imbalances. In the period 1920-1980 the periphery was drained of all material and human resources. So the only remaining solution was the

development by means of "planting" tertiary institutions throughout the country.

However, the limits of this policy are simply both restricted and insufficient in themselves to drag an aged population, with poor infrastructures, into development. As a consequence, taking into account the more general economic problems the country is facing, this policy seems to be ineffectual, at least in the short and long run. Development could be possible, provided there are infrastructure projects, the medical and pharmaceutical system is developed and motives are provided for the support of investment projects.

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Streszczenie: Rola kapitału ludzkiego w rozwoju organizacji społecznej jest powszechnie uznawana. Konkurencyjność gospodarek globalnych uzależniona jest nie tylko od zasobów materialnych i finansowych, lecz również od stopnia wiedzy i doświadczenia pracodawców i zatrudnionych. Powszechna jest również opinia, iż sukces ekonomiczny lokalnych, regionalnych i narodowych systemów ekonomicznych zależy w ogromnym stopniu od poziomu wykształcenia i umiejętności ludzi. W ostatnich latach wiele krajów świata wprowadziło daleko idące reformy swoich systemów edukacyjnych i doskonalenia zawodowego. Decyzje takie były wynikiem przekonania, że rozwój kapitału ludzkiego jest jednym z najważniejszych, jeśli nie najważniejszym sposobem poprawy ogólnonarodowej wydajności ekonomicznej. Instytucje szkolnictwa wyższego wnoszą wkład do rozwoju społecznego i kulturowego oraz wzrostu ekonomicznego regionu, w którym występują. Niniejszy artykuł koncentruje się na ocenie wpływu istniejących instytucji szkolnictwa wyższego na poziom PKB w regionie. Badania zostały przeprowadzone w zachodniej części Grecji.

Key words: kapitał ludzki, rozwój regionalny, szkolnictwo wyższe

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