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**THE LEVEL OF EDUCATION VS. HUMAN CAPITAL  
EMPLOYMENT. THE LOCAL PROSPECT**

*POZIOM WYKSZTAŁCENIA A ZATRUDNIENIE KAPITAŁU LUDZKIEGO.  
UJĘCIE LOKALNE*

**Key words: human capital, labor market, education, employment**

*Słowa kluczowe: kapitał ludzki, rynek pracy, wykształcenie, zatrudnienie*

**Abstract.** The subject matter undertaken in the article refers to human capital of the rural areas in Poland and its impact on situation on the local labor market. The aim of the article is a presentation of chosen labor market characteristics together with the research of relations between the level of education and the dynamics of employment in rural communities of the Koszalin county. The article adopts the obvious thesis that the education is one of the key factors determining the human capital quality and consequently affects the functioning and development of economies. However, is this factor sufficient towards changes arising within the rural areas in Poland? In this context, in the spectrum of the human capital theory and the development of regions, it is worth undertaking a discussion concerning this subject.

**Introduction**

Rural areas in Poland have been struggling with a poor economic condition, and the subject of the human capital of the rural areas is more often undertaken by scientists and politicians. The importance of utilizing (or rather not utilizing) of human potential of the rural areas residents as well as implementation of assumptions of the Common Agricultural Policy as the factor allowing to decrease the developmental distance of Polish rural areas and agriculture of this sector to the EU most developed countries [Kobyłecki 2006, Wielewska, Jeleń 2007] is underlined. It is postulated that the rural areas must become more multifunctional so they are supposed to be the space for non-agricultural and semi-agricultural activities, as well. In this context the human capital quality gains an essential importance. The theory of human capital reaches the classical thoughts of Smith [1937] who used to look for similarities between workers' skills and abilities and the properties of real capital. The vital input in development of this theory was brought by Shultz [1961] and Mincer [1958]. However, the overall shape of the human capital theory was given by the Nobel Prize laureate Becker [1975]. In the broad meaning the human capital is understood as all psychophysical characteristics of a human being such as inborn abilities, stock of knowledge, level of education, skills and professional experience, health condition, cultural level, socio-economic activity, world view etc. [Florczak 2007]. Human capital in contemporary theories of labor market is treated as one of the most valuable resources, and the human capital theory has become an essential element of comprehensive analyses of the role of human factor quality in business activity [Cichy 2008]. As Domański [1993] has written, this resource is given by genetic features of a given population once and forever, but it can be improved through investments called investments in a human being. It causes a growing demand for education and knowledge workers, what is an indispensable feature of development of the knowledge economy [Howitt 1996, Kukliński 2000, 2001].

In discussion over the human capital and its meaning for development of regions, also those economically backwarded, the thesis that this factor is the most expensive but on the other hand the most effective ways of relatively permanent solution of the rural issues in Poland can be adopted [Szafranec 2006]. The problem of a low activity of the human capital particularly strongly concerns the rural areas where the definitely weaker professional activity of the population than in cities has been observed [Czapiński, Panek 2011]. It's clear differentiation in different regions of Poland has been observed.

## Materials and methods

The aim of the article is to analyse the human capital of the local labor market and to study the relations. The subject of the research are rural communities of Koszalin county: Będzino, Biesiekierz, Manowo, Mielno, Polanów, Sianów i Świeszyno. The questions to which the answers were looked for are: What direction the professional activity of human capital in rural communities of Koszalin county has changed to? Does a correlation between the employment dynamics and the education structure exist? What is it like? How much are the researched communities differentiated? In the article an effort of finding the existence of correlation between employment and education of population in rural boroughs of Koszalin county was undertaken. In order to do it, the coefficient of Pearson linear correlation and the coefficient of regression were applied. The time taken for analysis are the years 2003-2011. The available literature, statistical data of the Central Statistical Office, of the BDL (the Bank of Local Data), census data and data of the WUP (Voivodeship Labour Office) in Szczecin sources were used to reach the assumed goal. Determined frames of the article introduce certain restrictions as for the wider presentation of the problem, so it is advisable to treat it as a kind of signal to deal with this matters in a wider spectrum.

## Research results

Professional activity of population of a given region is determined by the human capital resources, especially its quality. The number of professionally active people, their knowledge, qualifications and skills make the capital, which when properly utilized by employers in a consequence leads to the improvement of business efficiency and to economic development [Klonowska-Matynia, Zdrojewski 2008], as well. It also determines the abilities of the resources to take a job and to adjust to the alternating conditions on the labor market. In a context of undergoing social, economical and demographic transformations, the basic challenge for state employment policy, vitally affecting the labor market structure, is professional activation of the jobless, including those professionally. Human resources of a certain region are determined by demographic factors [Frenkel 2007] created under influence of many aspects amongst which five following processes have their basic meaning: Procreation, mortality, migrations, dynamics and directions of social-economic development as well as intensity and level of education [Zdrojewski 2008]. The last decade local labor market observation indicate the clear changes arising within its basic characteristics, such as: The general amount of population, participation of productive age population and structure of professionally active population. The table 1 includes the detailed information.

A positive transformation observed in all investigated boroughs is a decrease of amount of the jobless and simultaneous increase of amount of professionally active people. In 2003, apart from the boroughs of Biesiekierz and Mielno in all investigated boroughs the amount of jobless exceeded the amount of professionally active people, whereas in 2010 this situation remained in boroughs Świeszyno and Polanów. Nevertheless, in all investigated boroughs the amount of professionally active dropped even by 30% (Świeszyno). The increase of professionally passive people (the highest growth in boroughs Biesiekierz and Świeszyno, respectively 40% and 33%) can have a negative influence. The boroughs of Świeszyno and Biesiekierz noted down the highest growth of professionally passive and simultaneously

**Table 1. The dynamics of the local labor market in the years 2003 and 2010 (2003 base year). Selected characteristics**

*Tabela 1. Dynamika lokalnego rynku pracy w latach 2003 i 2010 (rok 2003 bazowy). Wybrane charakterystyki*

Community/ <i>Gmina</i>	Structure of the local labor market/ <i>Struktura lokalnego rynku pracy [%]</i>					population in the age 15-64/ <i>ludność w wieku 15-64 lata</i>
	ludność w wieku produkcyjnym/ <i>productive age population</i>	professionally active/ <i>aktywni zawodowo</i>			professionally passive/ <i>bierni zawodowo</i>	
		total/ <i>razem</i>	working/ <i>pracujący</i>	jobless/ <i>bezrobotni</i>		
Będzino	96.4	83.1	125.2	57.3	102.1	96.4
Biesiekierz	126.3	95.5	120.9	61.2	146.0	125.7
Manowo	107.3	97.4	141.2	62.1	109.7	106.1
Mielno	98.6	83.5	103.3	52.9	119.8	104.9
Świeszyno	120.1	72.7	101.7	60.5	133.9	114.7
Bobolice	103.9	87.5	127.0	63.0	113.8	103.1
Polanów	105.4	86.1	118.5	68.1	113.2	102.7
Sianów	108.2	79.3	116.6	53.3	124.2	108.3

Source: own study based own GUS data

*Źródło: opracowanie własne na podstawie danych GUS*

**Table 2. Selected labor market indicators for the rural district of Koszalin in the years 2003-2010**  
**Tabela 2. Wybrane wskaźniki rynku pracy dla gmin wiejskich powiatu koszalińskiego w latach 2003-2010**

Community/ Gmina	Selected labor market indicators/Wybrane wskaźniki rynku pracy							
	participation of people professionally active in number of people 15+/ udział osób aktywnych zawodowo w liczbie osób 15+		participation of working people in number 15+/ udział pracujących w liczbie osób 15+		participation of the jobless in number of professionally active people/udział bezrobotnych w liczbie osób aktywnych zawodowo		rate of unemployment/ wskaźnik bezrobocia	
	2003	2010	2003	2010	2003	2010	2003	2010
Będzino	30.2	26.1	11.5	14.9	62.0	42.7	20.6	12.3
Biesiekierz	40.2	30.5	23.1	22.2	42.6	27.3	19.0	9.2
Manowo	29.2	26.8	13.0	17.3	55.4	35.3	18.1	10.5
Mielno	41.0	32.6	24.9	24.5	39.3	24.9	17.8	9.5
Świeszyno	31.3	19.8	9.3	8.2	70.4	58.6	24.5	12.3
Bobolice	40.7	34.5	15.6	19.2	61.8	44.5	28.0	17.0
Polanów	38.6	32.4	13.8	15.9	64.2	50.8	27.9	18.0
Sianów	35.4	25.9	14.5	15.6	58.9	39.6	23.0	11.4

Source: see tab. 1

Źródło: jak w tab. 1

the highest growth of people at the productive age. Analyzing the structure of population at the age of 15 and older it was noticed that amongst investigated boroughs the biggest amount of people at this age range has the borough of Sianów, the least numerous are the boroughs of Mielno and Świeszyno. Analyzing the processes of transformation in amount of residents it was noticed that within the years 2003-2010 apart from the borough of Będzino there was a growth in amount of people in this age range. Observed phenomenon has been arising within rural areas throughout last years, what has already been underlined in other investigations. Comparing selected characteristics for the local labor market within the years 2003-2010 it was stated that participation of professionally active people in amount of those at the productive age within all boroughs dropped during investigated period and is shaped at the lower level than on average for Poland. The slight growth of working people in amount of those at the productive age was noticed, excluding the boroughs of Biesiekierz, Mielno, Świeszyno, in which in terms of year 2003 the participation of professionally active decreased. The drop in rate of unemployment was observed in all boroughs from which the biggest one occurred in the borough of Świeszyno (12.2%), Sianów and Bobolice (respectively 11.5% and 11%) and the drop of the number of jobless in amount of professionally active people. The highest drop was noticed in the borough of Manowo (around 20%), Sianów (around 19%) and Bobolice (over 17%). The table 2 includes the details.

The human capital concept in the economy area means mainly the source of knowledge and skills measured with the level and quality of possessed education [Szafranec 2006]. In this narrow concept the effort of determining relationship

between a dynamics of a number of working people and their education level in investigated rural boroughs was made. The Pearson correlation and regression coefficients were utilized for this purpose. The obtained results were presented in the table 3.

Analyzing correlation between working people and the education level of rural boroughs' population of Koszalin county, it was stated that there is the existence of a positive relationship between working people dynamics and a higher, post-secondary and vocational education. Based on obtained calculation it might be assumed that

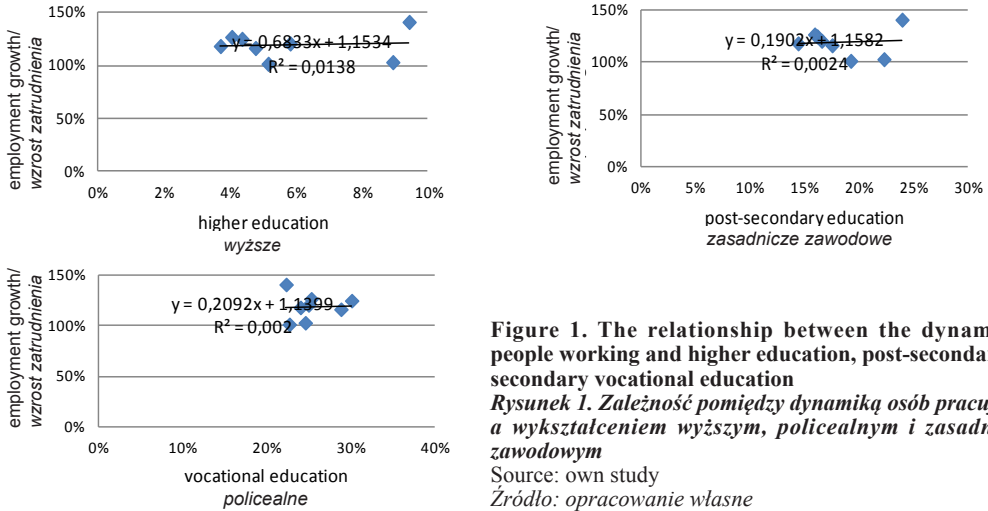
**Table 3. The relationship between education and employment dynamics in rural population of Koszalin district**

**Tabela 3. Związek pomiędzy wykształceniem a dynamiką zatrudnienia ludności w gminach wiejskich powiatu koszalińskiego**

Education/ Poziom wykształcenia	The correlation coefficient/ Współczynnik korelacji	The Regression coefficient/ Współczynnik regresji
Higher /Wyższe	0.117362689	0.683339015
Post-secondary/Policealne	0.049455047	0.190223182
Medium/Średnie	-0.151154088	-1.421215994
Vocational/Zasadnicze zawodowe	0.045225525	0.209191984
Primary/Podstawowe ukończone	-0.025922274	-0.064182731
Less than primary/ Podstawowe nieukończone	-0.015662801	-0.106788462

Source: see tab. 1

Źródło: jak w tab. 1



**Figure 1. The relationship between the dynamics of people working and higher education, post-secondary and secondary vocational education**

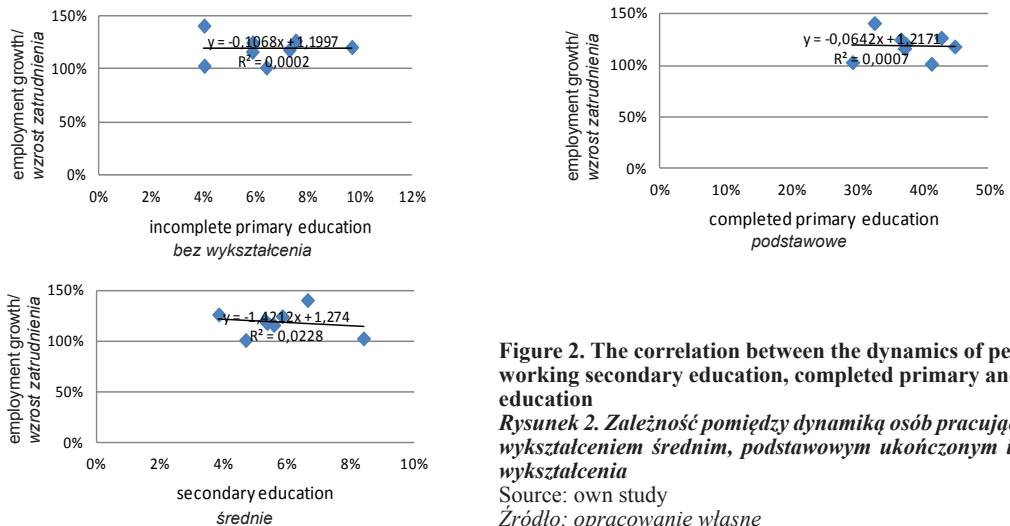
*Rysunek 1. Zależność pomiędzy dynamiką osób pracujących a wykształceniem wyższym, policealnym i zasadniczym zawodowym*

Source: own study  
Źródło: opracowanie własne

the bigger number of people with this level of education the reasonably higher the employment dynamics in investigated rural boroughs is. The growth in number of people with higher education level by 1 p.p. is related with the growth of employment dynamics by on average 0.683 p.p. in case of people possessing post-secondary and vocational level of education, the dynamics growth will arise by on average 0.19 p.p. and 0.209 p.p. Investigated correlations are presented in the figure 1.

The situation with reference to people with medium and primary level of education and those without education is shaped differently. Conducted effort of determining the correlation between dynamics of working people and given level of education indicates that there is negative correlation between researched characteristics. The Pearson correlation coefficient is negative which suggests that the growth in number of people with medium level of education by 1 percent point is connected with the drop of employment dynamics on average by 14 p.p. Whereas with reference to people with primary level of education and without such education the dynamics drop equals relatively around 0.06 and 0.1 p.p. (Fig. 2).

The strongest correlation was assumed for the higher level of education. It was stated that amongst other investigated correlations with negative characteristics the strongest relationship is seen for people with medium level of education.



**Figure 2. The correlation between the dynamics of people working secondary education, completed primary and no education**

*Rysunek 2. Zależność pomiędzy dynamiką osób pracujących wykształceniem średnim, podstawowym ukończonym i bez wykształcenia*

Source: own study  
Źródło: opracowanie własne

## Conclusions

Disproportions in the level of human capital between the country and the city have slightly decreased, however the rural areas are still characterized by the lowest level of employment. Assessing changes arising within the Polish country from the local perspective, it is necessary to assume that in spite of general quality improvement and utilization of human capital [Czapiński, Panek 2011] the effects resulted in the improvement of work effectiveness have still been poorly seen.

Presented data indicates that in spite of clear drop in unemployment rate, simultaneous growth of employment and professional activity of residents of investigated boroughs is not seen. Dramatically low professional activity of the population has been remaining for years, in spite of constant growth of education level of the society. Assessing the impact of education, understood in narrow meaning as the human capital, on the labor market situation, it was assumed that the growth in education level has caused the growth of employment dynamics during investigated period. Nevertheless these outcomes should be assumed with a great deal of caution.

In order to assure a constant development of human capital within the rural areas that is capable to adapt dynamic surrounding conditions, the development of civilization skills is necessary. This factor is essential in a highly developed country in order to secure competitiveness in this sector of economy [Czapiński, Panek 2011]. Pursuit of education level and continual education growth as well are the vital condition in this process, but not the sufficient one. All the activities undertaken with the thought of rural area activation should concern widely understood investments into human capital, in order to become a propulsion power of native rural areas, alike in other countries, which was documented in researches of many authors.

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## Streszczenie

*Problematyka podjęta w artykule nawiązuje do kapitału ludzkiego obszarów wiejskich w Polsce i jego wpływu na sytuację na lokalnym rynku pracy. Celem badań było przedstawienie wybranych charakterystyk rynku pracy oraz zbadanie zależności pomiędzy poziomem wykształcenia a dynamiką zatrudnienia w gminach wiejskich powiatu koszalińskiego. Przyjęto tezę, iż wykształcenie jest jednym z kluczowych czynników determinujących jakość kapitału ludzkiego i w konsekwencji wpływa na funkcjonowanie i rozwój gospodarek. Czy w stosunku do zmian, które zachodzą na obszarach wiejskich w Polsce jest to warunek wystarczający? W tym kontekście, w świetle teorii kapitału ludzkiego i rozwoju regionów, warto podjąć dyskusję na ten temat.*

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