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## **INTELLECTUAL CAPITAL AND DEFICIT PROFESSIONS**

### **Abstract:**

At present more and more attention is paid to the development of intangible resources. In the literature there is a lot of evidence showing that these factors condition the development of contemporary economies and it is them that ensure competitiveness. But the key factor of the development is access to the personnel of the highest competences. Adequate education as well as proper competences and abilities can result in a success in the labour market through the classification to the group of workers who have no difficulty in getting , maintaining and changing the job, Just such workers do not have to be afraid of unemployment, as their performed profession belong to the scarce ones. Hence, the subject matter of the present paper are the problems that seem to be unusually important from the point of view of micro- or macro economic development.

### **Keywords:**

Intellectual capital, deficit professions

**JEL Classification:** A10, A11, A14

## Introduction:

As the years go by, a constant increase in requirements to be fulfilled by workers in the world labour market can be observed. Despite the fact that the value of intellectual capital grows, people not fulfilling the definite requirements are squeezed out of the labour market and fall to the group of unemployed or to the black economy. The increase in requirements imposed on workers is related to the transformation of industrial economy into economy driven by knowledge. "Knowledge economy" is the economy whose driving force of changes is intellectual capital, and qualified labour force in particular<sup>1</sup>. Nowadays knowledge is the only significant resource. Traditional factors of production did not disappear - the earth, work and capital, but they became something secondary. Whereas knowledge in its new meaning is comprehended as the usability, it is the means to achieve social and economic results<sup>2</sup>. The most important factor of changes in every enterprise is now the development of education and technological progress related to it, and depended on a human being. Human capital of the 21st century is the most important component of intellectual capital, because as the only one it affects all the remaining elements, whereas its source is education and research and development investments<sup>3</sup>. It turns out that traditional sources of a success i.e. the product, the technological process, access to financial resources lose popularity in favour of intangible resources of the enterprise<sup>4</sup>, which become decisive from the point of view of competitiveness.

Considering intellectual capital of the enterprise, the meaning of human capital should be emphasized and also the fact that the long-term aim of every (state) economy is an increase in outer investments and development of innovative enterprises for which the key factor of the development is access to the personnel of the highest competences. Adequate education as well as proper education, abilities and skills can result in a success in the labour market through the classification to the group of workers who have no difficulty in getting, maintaining and changing the job. Just such workers do not have to be afraid of unemployment, as their performed profession belong to the scarce ones.

### 1. The genesis of the concept of intellectual capital

At present a lot of theoreticians as well as experienced people in economic life undertake attempts to define this concept. There appear newer and newer attempts to describe the presented phenomenon. On the one hand they constitute certain conceptual space, which makes it possible to categorize this phenomenon, but on the other hand new imprecision and questions arise. The concept of human capital itself is not easy to define, as it includes both the phenomena and their relations and processes.

<sup>1</sup> W. Welfe, *Gospodarka oparta na wiedzy, (Knowledge economy)*. Published by Polskie Wydawnictwo Ekonomiczne, Warsaw 2007, p. 7.

<sup>2</sup> *Zarządzanie potencjałem ludzkim w organizacji XXI wieku, (Management of human potential in an organization)* ed. K. Piotrkowski, Published by WAT, Warszawa 2006, p. 106.

<sup>3</sup> R. Przybyszewski, *Kapitał ludzki w procesie kształtowania gospodarki opartej na wiedzy (Human capital in the process of knowledge-based economy)*, Published by Difin, Warsaw 2007, p. 9-12.

<sup>4</sup> Intangible resources of the enterprise are interchangeably called intangible assets, intellectual assets or intellectual resources.

As it is seen, the assessment of the phenomenon of the increase in the value caused by intangible resources of the economic entity of the region or the country is not so simple. However, in order to be able to make an attempt to measure the influence of intellectual capital its definition and the classification of the division should be indicated.

According to the source material the term intellectual capital was used for the first time in 1958 by two financial analysts who noticed that it was just this component of assets of informative enterprises that affects, to a significant degree, their value. In their opinion the high level of stock exchange quotation of informative firms can be defined as their "intellectual bonus"<sup>5</sup>.

According to other authors the term intellectual capital was used for the first time in 1969 by J. Kenneth Galbraith in his letter to Michał Kalecki, where he wrote, "I'm wondering if you can realize how much we, all over the world, owe the contribution of your *intellectual capital* during the last decades"<sup>6</sup>. The author used this concept to describe, in a wider meaning of this word, not only the pure intellect, treating it as a degree of intellectual activities. In this meaning this capital is not only static intangible resource but the process<sup>7</sup>. This term referred to the assessment of the potential of a person's intellect, and not of the enterprise, region or the country.

As it is seen the first remarks on intellectual capital can be found in the 60s and 70s of the last century, however, the first interest in this issue was aroused at the beginning of the 80s. Then it was W. Wriston, the president of the largest bank in the United States, the Citicorp, who said that the true potential of his bank, as well as of other entities was intellectual capital. It is worth noticing that exactly at the same time H. Itami studying the financial results of Japanese enterprises observed that appearing differences resulted from the fact that some entities knowingly used intangible assets. In relation to this he stated that the increase in the value of a firm results from the interaction of different kinds of intangible assets. He did not say that the occurrence of these assets led to the competitive advantage, but their simultaneous use could result in its appearance. The effects of his studies are included in his work entitled, *Mobilising Invisible Assets*, which was published in Japan.

The first successive attempts to define intellectual capital can be found in the works by Karl Erik Sveiby. Sveiby along with a group of acquaintances, the so called Konrad's Group bought out the declining publishing house Affärsvärlden and within fifteen years on its basis he created a buoyantly functioning publishing enterprise Ekonomi+Teknik Forlag. In his book *The New Organizational Wealth*, he writes that the success of the enterprise was achieved by shifting the gravity centre from traditional methods of management towards a completely new approach which

<sup>5</sup> A. Pietruszka-Otryl, *Kapitał intelektualny wyznacznikiem poziomu zasobów niematerialnych przedsiębiorstwa*, (*Intellectual capital as the determinant of the level of intangible resources of the enterprise*) in: *Przedsiębiorstwa jako świątynie wiedzy*, (*Enterprises as the temples of education*), ed. W. Cieśliński, Published by WWSZiP, Wałbrzych 2002, t. 2, p. 79.

<sup>6</sup> J.W. Hudson, *Intellectual Capital. How to Build It, Enhance It, Use It*, Wiley & Sons, New York 1993, s. 15; M. Strojny, *Zarządzanie kapitałem intelektualnym*. (*Management of intellectual capital*) *Ogólny zarys koncepcji*, (*Broad outline of the conception*), „Przegląd Organizacji” 2000, nr 7-8, p.16.

<sup>7</sup> T. Dudycz, *Zarządzanie wartością przedsiębiorstwa*, (*Management of the enterprise value*). Published by PWE, Warsaw 2005, p. 221-213.

constituted the origin of a new conception of management, namely, management of intellectual capital in the organization<sup>8</sup>.

However, the first publication in which the presented term was used emphasising its business character was the article by T.A. Stewart of June 1991 entitled „Brain Power – How Intellectual Capital Is Becoming America’s Most Valuable Assets”<sup>9</sup>. The author of the publication wrote that intellectual capital is the sum of everything that is known by everyone in the enterprise which makes it possible to achieve advantage in the market. Stewart defined it as the so called "intellectual batch" in the form education, intellectual information, which can be processed into tangible richness.

Intellectual capital defined as "the wealth of the organization" or also "the treasure of the organization" is regarded as the main factor driving global economy of the future and at the same time as the key to success of the 21st century.

## **2. A survey of definitions and components of intellectual capital - a multifaceted character of the concept**

The term intellectual capital has many meanings and is often used interchangeably with the term "intellectual property", "intangible assets" or "knowledge assets"<sup>10</sup>. In the literature other terms like "non-financial assets", "hidden assets", "invisible assets" can be found<sup>11</sup>. The applied terminology is here multifarious and the term used for the description depends on the branch in which the described phenomenon is used. Unfortunately, in this way terminological chaos is created, which is difficult to be put in order. For example, the term intellectual capital is most frequently used by specialists in management, knowledge assets by economists, whereas intangible values are the domain of people dealing with accountancy<sup>12</sup>. It is worth remembering that the concept of intellectual capital should not be identified with the concept of "knowledge capital" or with the concept of "intellectual property", as they constitute one element of intellectual capital..

Some definitions of intellectual capital sometimes include all the intangible resources of the enterprise or are limited to only certain components.

It should be noted that lack of an accepted uniform definition gives rise to many problems, both of cognitive, measurement nature and of a disputable character. At the same time it should be underlined that it constitutes infinite research space as many experience workers and theoreticians put forward new ideas and attempts to assess the impact of intellectual capital on different fields of life.

Definitions and indicated advantages of intellectual capital can be multiplied by citing statements of successive specialists dealing with aspects of management: Itami, Hall, Sveiby, Sullivan, Petrash, Brooking, Roos, Kaplan and Norton and many

<sup>8</sup> K.E. Sveiby, *The New Organizational Wealth. Managing & Measuring Knowledge – Based Assets*, Published by Berrett-Koehler Publishers, San Francisco 1997.

<sup>9</sup> J. Kardas, *Kapitał intelektualny podstawą konkurencyjności przedsiębiorstwa, (Intellectual capital, the basis of enterprise competitiveness)* Published by Akademii Podlaskiej, Siedlce 2008.

<sup>10</sup> D. Dobija, *Pomiar i sprawozdawczość kapitału intelektualnego w organizacjach działających w „nowej gospodarce, (Measurement and reporting of intellectual capital in rganizations functioning in new economy)* „Organizacja i Kierowanie” 2004, nr 1(115).

<sup>11</sup> L. Edvinsson, M.S. Malone, *Kapitał intelektualny, (Intellectual capital)*. Published by PWN, Warszawa, 2001, p. 18.

<sup>12</sup> D. Dobija, *Pomiar i sprawozdawczość kapitału intelektualnego przedsiębiorstwa, (Measurement and reporting of intellectual capital of the enterprise)* Published by WSPiZ, Warsaw 2003, p. 38.

others. Primary definitions of intellectual capital have waited till their development. Successive authors provided them with details or directed on development of specific problems. Moreover, the authors included in their definitions various factors depending on the branch in which this term was used, and phenomena which they tried to describe. In relation to this the definition of intellectual capital is not unambiguous and needs putting the issues in order according to the accepted direction of research.

Intellectual capital of the enterprise is made up of "hidden assets" which are not included in financial balance reporting of the firm. They embrace knowledge, abilities, skills and innovativeness of individual workers of the enterprise required for competent realization of the tasks, they also include values of the enterprise, organizational culture and philosophy. Everything that is the capacity of the enterprise and supports productivity of the worker can also be classified as intellectual capital.<sup>13</sup> However, it should be emphasised that in this case the problem of property becomes a disputable question. There are elements which are the property of the enterprise, e.g. the trademark, licenses, patents. There are also such ones which are available only to the enterprise, namely competences, loyalty of the workers etc.<sup>14</sup>

Whereas, providing details to the aforementioned reasoning it should be pointed out that intellectual capital can be individual, subordinate to a single social unit or also to a given economic entity. In the first case it constitutes knowledge, skills, abilities, inclination to creativity and innovativeness of a single human being or a group of people. Potential of the capital also stems from individual cultural and psychological conditions, including sociological ones.

It seems to be difficult but not impossible to show which of the components have the strongest impact on the growth of value added at different levels of consideration. In relation to this in further chapters of the paper, discussion will be presented in order to thoroughly illustrate the above mentioned issue.

**Table 1. The definitions of intellectual capital.**

The author of the definition	The definitions
L. Edvinsson, M. Malone	Intellectual capital is the difference between the market value and the value of the organization, i.e. the sum of hidden assets not included in the balance of the firm. Thus, intellectual capital is non-financial capital reflecting the gap between the market value and the book value.
L. Edvinsson,	Intellectual capital is knowledge, experience, technology, relations with the customer, professional skills, which give the organization a competitive advantage on the market.
T. Steward	Intellectual capital is the sum of everything that everyone in the enterprise knows and that decides about the competitive advantage.
J. G. Roos, N.C. Roos, N.C. Dragonetti, L. Edvinsson	Intellectual capital is the sum of structural capital and human capital, the assets of "the thinking ones" and "the not thinking ones".
A. Brooking	Intellectual capital includes 4 areas: - market force – outlets, customers' loyalty

<sup>13</sup> A. Sopińska, P. Wachowiak, *Jak mierzyć kapitał intelektualny w przedsiębiorstwie?*, (*How to measure intellectual capital in the enterprise*) „E-mentor” 2004, nr 2 (4).

<sup>14</sup> T. Bał-Woźniak, *Kapitał intelektualny w gospodarce opartej na wiedzy*, (*Intellectual capital in the knowledge economy*) w:  
[http://mikroekonomia.net/system/publication\\_files/899/original/6.pdf?1315223800](http://mikroekonomia.net/system/publication_files/899/original/6.pdf?1315223800), 15.04.2014.

	<ul style="list-style-type: none"> <li>- intellectual properties such as patents, brand value</li> <li>- inner aspects such as corporative culture, management, processes, systems, JIT and others.</li> <li>- properties which stem from the workers of of the firm such as competences related to work know how, knowledge, abilities, relations.</li> </ul>
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The source: L. Edvinsson, *Developing a Model for Managing Intellectual Capital at Skandia*, "Long Range Planning", vol. 3 nr 3, p. 368; T. Stewart, *Intellectual Capital, The New Wealth of Organizations*, Nicolas Brealey, London 1997; J.G. Roos, N.C. Roos, N.C. Dragonetti, L. Edvinsson, *Intellectual Capital: Navigating the New Business Landscape*, Macmillan Press, London 1999, p. 1.

In the presented conceptions of intellectual capital three groups of its components can be distinguished. Elements linked to the human factor can be classified as the first group. The second group refers to functioning of the organization and the last one concerns the set of factors responsible for the relations with customers. The above mentioned elements of intellectual capital often undergo many modifications and then they are decomposed into smaller elements and grouped in various ways. However, it is worth noting that all the authors recognized the human factor as the basic component of intellectual capital.

**Table 2. The main dynamics of the development of the research on intellectual capital in a holistic and statistical depiction**

The author of the conception and the year of its submission	The elements of the intellectual capital structure	
	Basic	Detailed
T. Stewart (1991, 1997)	Human capital	skills, experience
	Structural capital	patents, technology, processes
	Capital related to cutsomers	information on consumers and suppliers
K.Sveiby (1997)	Human capital	education, experience, skills (competences), attitude towards the organization, vitality
	inner structural capital	patents, licenses, know-how, trademarks, management, culture, processes, organizational systems, information technology
	outer structural capital	image, trademark, relations with suppliers, relations with consumers
J. Warschat, K. Wagner, J. Hauss (1999)	Human capital	competences, attitudes, leadership, development
	Organizational capital	processes, infrastructure, culture, management
	Market capital	relations with customers, relations with suppliers, market competences, other relations
	Innovation capital	improvement of processes, products and services, technologies
	Innovative capital	improvement of the processes, products and services, technologies
	Impersonal intellectual capital	regulations, organizational structure, formulas, patents, licenses, know-how, databases, copyrights, trademarks, brand names and others
The author's conception	Human capital	competences, attitudes, leadership, values, relations

	organizational capital	processes, infrastructure, culture, management
	Market capital	customers' database, relations with customers, relations with suppliers, market kompetnces, other relations
	Innovative capital	improvement of the processes, products and services, technologies

The source: M. Mroziewski, *Kapitał intelektualny współczesnego przedsiębiorstwa* .(*Intellectual capital of a contemporary enterprise*) *Koncepcje, metody wartościowania i warunki jego rozwoju* (*Conceptions, methods of evaluation and conditions of its development*). Published by Difin, Warszawa 2008, p. 32-33.

### 3. Intellectual capital and deficit professions

Linking intellectual capital with the situation on the labour market is an unarguable measure. Thus, it is worth presenting the definition of deficit and surplus professions found in the Polish legislation. The term surplus professions refers to the professions the demand for which on the labour market is smaller than the number of people searching for the job in this profession, i.e. there are more people willing to work than workplaces in this profession. Whereas the deficit profession refers to the profession for which the demand on the labour market is higher than the number of people looking for a job in this profession. In order to calculate the deficit (surplus) of supply of the labour force in profession "k" the following formula is used <sup>15</sup>:

$$N^k = B^k - O^k$$

where:

*B* - the number of registered unemployed in profession *k* in the 1st half of a given year,

*O* - the number of submitted labour offers in the profession *k* in the 1st half of a given year,

In the scale of the country, comparison of the submitted offers with the number of registered unemployed workers shows that there is a surplus of labour force, and the situation indicates large differentiation both territorial and with regard to professions.

The fact that there is a dozen or so percentage unemployment causes that it seems to be important to emphasise that not long ago in Poland higher education diploma practically guaranteed to find a job. At present the situation of people with higher education is different: every ninth unemployed person has graduated from a higher education institution, but possession of such education has lost its significance, as studies are common now. The number of people with higher education has nearly doubled during the last decade. The data collected during General National Censuses by GUS (Central Statistical Office of Poland) in Poland in 2002 and 2011 show that 10 years ago there were less than 10% of Poles with higher education - nowadays nearly 18%. It must be underlined that during the last 20 years not only has the structure of education of the Polish society changed, but also the labour market and its requirements have changed. Being directed by "lemming-like rush" young people choose the most popular directions of studies (or vocational schools, technical schools or post secondary institutions), completely forgetting to think whether they will have a

<sup>15</sup> *Zawody deficytowe i nadwyżkowe w I półroczu 2013 roku* (*Deficit and surplus professions in the 1st half of 2013*), Published by Ministerstwo Pracy i Polityki Społecznej, Departament Rynku Pracy, Warsaw 2014, p. 13.

chance to find a job in the chosen profession. Many young people do not think, either, what professional prospects are related to the choice of a definite vocation or direction of studies and they do not check if, by chance, the graduates of the given direction do not join the group of the unemployed every year. Thus, they choose the direction of their studies unreflectively, thinking that the diploma itself will ensure a job. Unfortunately - the mere diploma is not enough to find an interesting, financially attractive job. It does not guarantee getting any job, either.

People who decide at present to study, for example, rehabilitation, pedagogy, sociology, philosophy or even management have to be aware that it will be difficult to find the job, and just these directions are particularly popular with them. The websites of provincial or regional job centres should be browsed, and a list of scarce specialists in surplus professions searched for by employers will be found there.

#### 4. Deficit professions in Poland

In a modern enterprise, as it is known, the centre of attention is the human being (the basis for the creation of human capital). Only from his/her aspiration, will, needs is knowledge generated, which is then processed, transformed and popularized through interpersonal contacts within the frames of the organization. Therefore, the effectiveness of an intelligent firm building stable grounds for knowledge management depends on the readiness of the workers for learning and acquiring new qualifications, rejecting old habits and procedures, sharing and exchanging the possessed knowledge, skills and information with other workers. The question should be considered if upper secondary schools and tertiary institutions educate in proper directions and what should be done to adjust the study directions to the requirements of the present and future labour market so that the number of the unemployed in statistics will not exceed the number of surplus professions.

The labour market needs mutual adjustment of the demand for work and the supply of human resources to achieve the state of equilibrium. Lack of such adjustment leads to deficit or surplus which is defined by means of the profession surplus (deficit) intensity index measured by the ratio of the monthly mean number of submitted offers of work in a given profession during the examined period to the monthly mean number of the registered unemployed in a given profession in the examined period.

Table 3 shows ranking of deficit professions in Poland worked out by Ministry of Labour and Social Policy. The analysis of the newest data shows that, like in the previous years, also in the discussed period i.e. 2013, in the first place, with regard to the level of labour force deficit, is the profession of an economic worker, the profession that does not require too high skills.

The profession of a welder who uses the MAG-welding method, the method requiring knowledge of modern technologies, was among deficit professions. On the other hand, the professions of a gas welder or arc welder, e.i. hand welders, the professions requiring lesser skills were in the group of surplus professions. In the ranking of the highest level of the deficit index, 9 professions from the large group: service workers and sellers, 6 professions from the large group: workers for simple jobs and 5 professions in each large group: technicians and other middle level personnel and office workers.

#### **Table 3. Ranking of 30 professions according to deficit of labour force supply in the 1st half of 2013**



<b>Name of the profession</b>	<b>Index of labour force supply deficit</b>
Economic worker	-35,789
Technician of office work <sup>s</sup>	-11 800
Telemarketer	-3 671
Sales representative	-3 416
Physical security worker without license	-2 904
Senior care assistant <sup>s</sup>	-2 445
customer assistant	-2 092
Office worker	-2 061
Kitchen assistant	-1 964
Call centre worker	-1 699
Physical security worker of 1st degree	-1 695
MAG-welding welder	-1 272
Insurance agent	-1 146
Kindergarten teacher assistant	-1 076
Secretary	-1 068
Financial adviser	-1 028
restorer-conservator	-1 012
Office cleaner	-875
Worker preparing fast food	-790
Baby-sitter <sup>s</sup>	-789
Truck trailer driver	-780
Accountant assistant	-752
Assistant worker at green zones maintenance	-705
Field assistant worker	-696
Direct selling consultant/agent	-651
Room selling	-648
Grocery shop assistant	-647
Meet shop assistant	-585
Forwarding agent	-579
Building insulation installer	-576

*s – profession included in the school system training*

*The source: The MP and PS survey on the basis of the appendix No. 3 to the report on the labour market MP and PS-01, Deficit and surplus professions in the 1st half of 2013 roku. Published by Ministry of Labour and Social Policy, Department of Labour Market, Warsaw 2014, p. 14.*

Analysing the above Table it should be emphasised that the presented deficit professions in different parts of Poland differ from the presented data. Statistics of the deficit and surplus professions presented by the Ministry of Labour and Social Policy show only the unemployed registered in the job centres, People unemployed out of choice are not included in the MP and PS (Ministry of Labour and Social Policy) reports, like a large zone of the black economy. It frequently happens that mainly the enterprises searching for qualified workers (often for work abroad) or office and administrative workers of a lower level submit their offers to the job centres. Job offers for higher rank positions or positions requiring specialist knowledge pass rather through the career offices or commercial advertisement portals, and these are not included in the statistics. There are large differences in regard deficit and surplus professions in individual provinces. On the Internet sites of provincial and district labour centres current data regarding the situation in the local labour market can be

found. Employers not always look for workers through agencies. People who are interested in finding a job do not always use job agencies, either.

It must be added that the situation in the labour market changes quickly, a deficit profession now, after three or four year studies cannot ensure many workplaces. The labour market can simply change during this time. The IT branch or professions related to esthetic medicine certainly give more chances in the labour market, as they develop dynamically and the demand for human capital in these branches grows. In the hidden labour market there are also representatives of these professions in which, apart from formal education and skills, the most important and essential feature is creativity. Also workers of high rank - directors, managers, executives are not searched for through job centres. However psychologists think that if young people do not work in the profession to which they are not convinced or do not have heart in it, only because it was a deficit one, they will not be satisfied and will not be willing to develop further.

The report prepared on the basis of the offers submitted to the job centres shows that the employers most frequently search for economic workers. This profession has been for some years in the first place in the category of deficit professions (-35789 according to the index of labour force supply deficit). It can stem from the fact that it is not usually a well paid position requiring vast expenditure of effort.

In the second place is the technician of office work, the telemarketer is the third and then the security worker and senior care assistant. It is interesting, the technician of office work and senior care assistant are two of the three professions which are in the first thirty deficit professions included in the school education system.

Among the thirty surplus professions mentioned in the report there are already nineteen professions that are included in school education. It shows that the system of vocational education far from the requirements of the labour market. Instead of educating successive locksmiths vocational schools could prepare security workers, MAG welding welders or building conservators who are successively in the fifth, twelfth and seventeenth places on the list of deficit professions.

Among deficit professions there are also: customer assistant, office worker, Kindergarten teacher assistant and secretary. It turns out that last year more job offers were directed to workers of lower or middle level. Whereas, up to the end of June 2012 there was an increase by 20.5% in the number of unemployed in the group of representatives of public authorities, office workers of higher rank and executives.

Successively seller, locksmith, technician economist, bricklayer and technician mechanic are professions, the representatives of which are too many in the labour market. At the same time the sellers, who are in the first place, can breathe with relief - the surplus index is lower in comparison with the previous year.

Economist, pedagogue, specialist in public administration are also professions not easily available in the labour market. The Ministry of Labour pays attention in its report to the fact that specialists qualified in a narrow branch and prepared to work using the newest technologies handle the search for a job better than others.

The report prepared on the basis of the statistics carried out by the job centres considers only the offers which are included there. Whereas many employers resign from submitting to the job centres, directing the rather to commercial advertisement services. They say that the procedure of submitting the offers to the job centres is complicated and time-consuming. The firms often begin with inner recruitment: they

shift someone who already works in the firm, to the vacant position or ask their workers to inform acquaintances about the vacancy. It is often enough

As regards the level of the index of labour force supply the leading positions are occupied (invariably during the period of the last seven years ) by the following professions: seller, locksmith, technician economist, bricklayer and technician mechanic .

Ranking of 30 professions of the highest level of the surplus, i.e. the advantage of the number of unemployed over the number of submitted vacant workplaces is presented in table 4.

**Table 4. Ranking of 30 professions according to the index of labour force supply deficit / advantage of unemployed over the vacant workplaces/ in the 1st half of 2013**

Name of profession	Index of labour force supply
seller <sup>s</sup>	63 542
locksmith <sup>s</sup>	25 064
Technician economist <sup>s</sup>	22 356
Bricklayer <sup>s</sup>	17 555
Technician mechanic <sup>s</sup>	15 990
Construction Worker	14 077
Tailor <sup>s</sup>	13 481
Motor vehicle mechanic <sup>s</sup>	12 558
Cook <sup>s</sup>	11 166
Small gastronomy cook <sup>s</sup>	10 252
Economist	9 982
Carpenter <sup>s</sup>	9 982
Baker <sup>s</sup>	8 973
Hair-dresser <sup>s</sup>	8 643
Car mechanic	8 332
Pedagogue	8 269
Assistan worker in processing industry	8 232
Construction technician <sup>s</sup>	7 792
Nutrition and household technician <sup>s</sup>	7 529
Confectioner <sup>s</sup>	7 294
Turner in metal	6 656
Public administration specialist	6 569
Seamstress	6 329
Technician farmer <sup>s</sup>	6 139
Salesman technician <sup>s</sup>	5 712
Information technician <sup>s</sup>	5 611
Store-keeper	5 109
Construction painter	4 898
Plant electrician	4 160
Farmer <sup>s</sup>	4 041

*The source: The MP and PS survey on the basis of the appendix No. 3 to the report on the labour market MP and PS-01, Deficit and surplus professions in the 1st half of 2013, Published by Ministry of Labour and Social Policy, Department of Labour Market, Warsaw 2014, p. 14.*

It should be noted that many of the professions mentioned in the ranking have remained deficit ones for years, in most of them the surplus index increased in comparison to the 1st half of 2012, among others in the profession of locksmith, bricklayer, motor vehicle mechanic or technician economist. Whereas in the most

surplus profession i.e. in the profession of a seller, at the same time there was a decrease in the surplus index.

Out of the professions requiring higher education the professions of economist, pedagogue and public administration specialist have invariably remained surplus for years, which certainly is related to the fact that the education structure is not adjusted to the demands of the labour market. In these professions in the first half of 2013 with reference to the 1st half of 2012, the index labour force surplus changed, in the profession of pedagogue most.

Out of 2601 professions included in the classification of professions and specializations nearly  $\frac{3}{4}$  constituted surplus professions.

### **Summary:**

In all the local labour markets in Poland the situation remains difficult and the advantage of the surplus professions over deficit ones keeps on. Among the surplus professions, first of all the technicians should be mentioned, particularly economist technicians, clothing technology technicians, nutrition and household technicians, farmer technicians, hotel trade technicians or technician mechanics. Among surplus professions there also were economists, political scientists, pedagogues, engineers of different branches (e.g. engineer of agriculture), teachers (teacher of physical education), historians, sociologists or legislators.

As regards deficit professions a more differentiated situation occurred in the 1st half of 2013. Out of deficit professions occurring several times in provincial reports the following professions should be mentioned: building insulation installer, librarian assistant, office worker, senior care assistant, MIG, TIG and TAG welding welders, , town cleaning worker, physical security worker of the 1st degree, canvasser, tax collector, worker preparing fast food, call centre worker, kindergarten teacher assistant, teacher of English.

Therefore it should be emphasised that the aim of each capital is multiplying, bringing the effect in a form of income. Human capital is also linked with benefits, both economic and not related directly to economy. The latter ones, such as health improvement, longer life span and larger probability of involvement in community life. However, in order that intellectual capital can exist and bring enterprises benefits, there should be thorough and strong cooperation between the system of post secondary and higher education and enterprises. Education, and in relation to this the possession of adequate qualifications and skills can cause that a given profession will be the profession searched for by employers and even though its possessor is somehow registered as unemployed in a job centre, there is a very large chance to get another job, because this profession is classified as the deficit one.

Apart from a better adjustment of the educational offer, it is important to promote of permanent training among people searching for a job. It is significant to stimulate their educational activity towards completing or even entirely changing the already possessed qualifications, as the mere completion of the professional skills in occupations performed earlier can turn out to be insufficient. Changes within the structure of demand for products and services, new technologies, the increased requirements as regards productivity and effectiveness of work cause sometimes that only new professional competences allow people to return to activity in the labour market.

A remedy for people looking for a job in professions classified as surplus ones could be support of their activity towards self-employment.

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