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**I. Economics, Finances
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**NATIONAL, REGIONAL AND SUPRANATIONAL COORDINATION
OF THE REGIONAL INNOVATION POLICY IN THE EU COUNTRIES**

**KRAJOWA, REGIONALNA I PONADNARODOWA KOORDYNACJA
REGIONALNEJ POLITYKI INNOWACJI W KRAJACH UE**

**НАЦИОНАЛЬНАЯ, РЕГИОНАЛЬНАЯ И НАДНАЦИОНАЛЬНАЯ
КООРДИНАЦИЯ РЕГИОНАЛЬНОЙ ИННОВАЦИОННОЙ
ПОЛИТИКИ В СТРАНАХ ЕС**


Abstract

The initial prerequisites for the formation of regional innovation policies and mechanisms (strategies and instruments) for its coordination at the national, regional and supranational levels, mainly in the EU countries, are systematized and justified in the article. It is shown that at all three levels of coordination, mostly joint tools for coordination of industrial and innovation policies are used. The national and regional levels of coordination of industrial and innovation policies in France and South Korea, that have successfully reformed the coordination mechanisms of these policies, has been thoroughly explored. Mechanisms for coordination of the supranational regional industrial and innovation policies of the EU have also been systematically investigated.

Keywords: *national, regional and supranational levels of regional innovation policy; mechanisms (strategies and instruments) of regional innovation policy; regional innovative clusters; cluster strategies; poles of competitiveness; structural funds of the EU*

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Abesadze R., Burduli V. (2018) National, Regional and Supranational Coordination of the Regional Innovation Policy in the EU Countries. *International Journal of New Economics and Social Sciences*, 1 (7) 2018: 11-38

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Streszczenie

W artykule sformalizowano i uzasadniono wstępne warunki tworzenia regionalnych polityk i mechanizmów innowacji (strategie i instrumenty) w celu koordynacji na poziomie krajowym, regionalnym i ponadnarodowym, głównie w krajach UE. Wskazano, że na wszystkich trzech poziomach koordynacji wykorzystuje się głównie wspólne narzędzia koordynacji polityk przemysłowych i innowacyjnych. Przeprowadzono gruntowną analizę krajowego i regionalnego poziomu koordynacji polityki przemysłowej i innowacyjnej we Francji i Korei Południowej, zarówno w krajach, które z powodzeniem zreformowały mechanizmy koordynacji tych polityk. Prowadzono również systematyczne badania mechanizmów koordynacji ponadnarodowych regionalnych polityk przemysłowych i innowacyjnych UE.

Słowa kluczowe: krajowe, regionalne i ponadnarodowe poziomy regionalnej polityki innowacji, mechanizmy (strategie i instrumenty) regionalnej polityki innowacji, regionalne innowacyjne klastry, strategie klastrowe, bieguny konkurencyjności, fundusze strukturalne UE

Аннотация

В статье систематизированы и обоснованы исходные предпосылки формирования региональной инновационной политики и механизмов (стратегии и инструменты) ее координации на национальном, региональном и наднациональном уровнях преимущественно в странах ЕС. Показано, что на всех трех уровнях координации используются преимущественно совместные инструменты координации промышленной и инновационной политик. Подробно исследованы национальный и региональный уровень координации промышленной и инновационной политики во Франции и Южной Корее как в странах осуществивших успешное реформирование механизмов координации этих политик. Системно исследованы также механизмы координации наднациональной региональной промышленной и инновационной политик ЕС.

Ключевые слова: национальный, региональный и наднациональный уровни региональной инновационной политики, механизмы (стратегии и инструменты) региональной инновационной политики, региональные инновационные кластеры, кластерные стратегии, полюса конкурентоспособности, структурные фонды ЕС

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Coordination (strategy, regulatory instruments) of the regional innovation policy takes place at the national and regional and at the supranational levels. At the same time, this coordination is carried out in the

conditions of coordinated interaction of instruments of industrial (i.e., sectoral structural), social and innovation policies. However, coordination mechanisms at all levels become obsolete over time, and more or less successful reform of these mechanisms

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takes place. The scientific goal of the article was to systematically explore, based on the exemplary experience of reforming these coordination mechanisms in some countries and at the supranational level of the EU, modern mechanisms for coordinating regional innovation policy at the national, regional and supranational levels in the EU

countries and some other countries. Taking into account the practice of successful experience of developed countries in reforming the mechanisms of coordination of regional innovation policy at all its three levels will contribute to the formation of reliable mechanisms for such coordination in post-Soviet countries, including Georgia.

Analysis of the latest research in which the solution of the problem was initiated.

In this paper, an attempt is made to consider all three levels (national, regional and supranational) of regional coordination of innovation policy in a coherent way. For the first time such attempts were made by N. V. Shelyubskaya (Шелюбская Н., 2003, Шелюбская Н., 2010) and N. I. Bogdan (Богдан Н., 2006). However, there is no holistic picture in these works, especially since these works became obsolete, after the period of writing these works in the EU, the supranational coordination mechanisms have been repeatedly reformed, and in all developed countries there has been a reform and improvement of the corresponding levels of coordination of industrial, innovation and regional policies. A number of issues of national, regional and supranational innovation policy and mechanisms for its coordination were touched upon in the works of V. V. Borisov and D. V. Sokolov (Борисов

В., Соколов Д., 2012) and the fundamental works of P. S. Seleznev (Селезнев П., 2014) and E. N. Smirnov (Смирнов Е., 2016), but without the corresponding structuring in the context of the levels of policies. Separate development that relate to private aspects of innovation policy (innovation clusters, an innovative component of industrial policy, poles of competitiveness, etc.) and which we used to write the work are presented in the works of D. Abdurasulova (Абдурасулова Д., 2009), A. R. Akoryan (Акопян А., 2016), A. B. Gomboboev (Гомбоев А., 2015), E. B. Lenchuk and G. A. Vlasik (Ленчук Е., Власик Г., 2010), I. R. Lyapina and N. P. Vetrov (Ляпина И., Ветров Н., 2011), A. S. Saharjieva (Сахариева А., 2013), E. M. Chernoutsan (Черноуцан, 2010) and others listed in the bibliography works.

Aims of the paper.

The main goal of the paper is to structure and consider together in the interrelationship of the three levels (national, regional, supranational) of the regional innovation policy and mechanisms for its coordination at these levels. The main goal is realized in the form of three sub-goals: formulation and justification of the initial prerequisites for the formation of a regional innovation policy in terms of three levels of its coordi-

nation; consideration and structuring of coordination mechanisms at the national and regional levels of regional industrial and innovation policies in the two countries with successful experience in their reform, namely, in France and South Korea; consideration and structuring of mechanisms for coordination of regional innovation policy at the supranational level of the EU.

Exposition of main material of research. The initial prerequisites for the formation of a regional innovation policy and its mechanisms.

It is commonly known that the structural policy of the state is divided into sectoral structural (in other words, industrial) and regional policy. 15-20 years ago, in the developed countries, the closely related technological and innovation policies (Белов В., Баранова К., 2010) were separated from the sectoral structural policy in one way or another. In the same way, regional innovation policy began to be singled out in regional economic policy.

In order to develop an effective regional innovation policy for the country and to formulate effective mechanisms (elements of NIS, strategies, instruments) for implementing it, it is necessary to take into account a number of circumstances arising from the previous experience of developed countries (not only the EU countries, but also some others, where successful regional development strategies were developed).

1. In the EU countries, there are three levels of regional innovation policy and mechanisms for its implementation: the EU level (supranational level), the national (national) level and the actually regional level. So N. Shelyubskaya notes that in recent years three levels of formation of the regional innovation policy (policy implemented by the regions themselves, a regional component of the national (state) innovation policy and supranational policy of the EU) are increasingly intertwined (Шелюбская Н., 2003; Шелюбская Н., 2010, p. 60). Mechanisms of regional innovation development operate in the EU at the following levels: at the pan-European level - through Structural Funds, the Framework Programs for Scientific and Technological Development; at the national level - through the institutions of the innovation system; at the regional level, through

strengthening the influence of the authorities on the innovative development of the territories, including through the instruments of European politics (Богдан Н., 2006, p. 57). Moreover, the role of the state plays a leading role in the development of strategies and the use of instruments, the role of the EU is growing more and more (for example, in the area of financing and pan-European coordination of innovative activity in the regions), and regional governments themselves (with the exception of some federal countries, primarily the USA, Canada and Germany) there are no opportunities to contribute in any significant way (financially, tax preferences or creation of private-state partnerships) the implementation of strategies (which are being developed primarily at the national level) of regional innovation development. However, the elements of the NIS infrastructure are mainly formed at the regional level.

2. As it was noted in the regional policy 15-20 years ago, innovation policy was allocated. It happened on all three levels. It should be noted that the instruments of regional coordination at the EU level are more aimed at financing infrastructure projects with a focus on equalization of all regions development levels of European countries, but a growing attention is given to the innovative development of the regions (in particular in the European Regional Development Fund, every year a large share of funds are allocated to research and innovation). However, despite the fact that "the degree of internationalization of research and development is increasing under modern conditions, the innovative mechanism for the development of the EU economy remains essentially national" (Смирнов Е., 2016, p. 24). The main in the

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EU countries is the state (national) support (financial, fiscal preferences) of innovative development of regions in accordance with the strategies developed by the state (however, regional authorities participate in the development of innovation policy strategies). The possibilities of the regional governments themselves in developing and supporting the implementation of innovation policy are limited (with the exception of some federal states - the USA, Canada and Germany). In the EU, at all levels (the EU itself, the national state, regions), work is continuing to deepen the coordination of regional and innovation policies (see, eg (Фареев В., 2011).) This issue was successfully resolved in France on the basis of creating "poles of competitiveness". Although we certainly do not belong to the EU, we consider that it is necessary to cite its example, since it has developed a successful mechanism for coordinating regional, structural sector (industrial) and innovation policies based on the 4+ 9.

3. In recent years, the Euro-Atlantic model of NIS has been divided into four separate models (continental, Anglo-Saxon, North European and South European), which have already been explored in the economic literature. The most developed and competitive are the Nordic (Scandinavian countries) and the continental (France) NIS, the weakest is the South European (Italy). The effectiveness of NIS of the EU countries is determined not only by the indicators of their development at the level of a single country or the EU as a whole, but is also indicated by their participation in international innovative clusters (Смирнов В, 2016, p. 20).

4. Differences between the state innovation policy and the innovative policy of private business proper. So one of the last fundamental works in the field of the research of innovation policy P.S. Seleznev focuses mainly on state innovation policy

(Селезнев П., 2014). Naturally, the instruments of state innovation policy are applied to a large extent to private business, although innovative activities of medium and small enterprises are supported, "the transnational corporations of the EU countries continue to be the main participants in the innovation process and use EU funding for innovative purposes" (Смирнов В, 2016, pp. 9, 10).

In most countries, government and private business spending on research and development is approximately equal to 1/3 to 2/3. So in Finland in 2009, the state accounted for 25.4% of the cost, in Sweden - 30.0%, in France - 36.2% (Соснов Ф., 2011, p. 222). And if in most EU countries the share of private costs has increased from year to year, then in France, in which, according to the new classification, the continental model of NIS is developing, the share of state expenditures has increased to 49.9% (НАЦИОНАЛЬНЫЕ ..., 2015). At present TNCs are the main conductors of the innovation process at the level of the world economy, therefore, in the process of implementing the innovation policy of TNCs, the innovative filling of foreign direct investment (FDI) increases, international research is internationalized, international outsourcing of innovations and their implementation takes place in the global market (Смирнов В., 2016, p. 16). In addition, in modern conditions, private business (both TNCs and medium and small businesses), together with public sector and public-private enterprises, implements its innovation policy within clusters, technology parks and technopolises on the basis of development (with participation of representatives of state and regional administration) and the realization of so-called "Cluster strategies" (see, Смирнов В., 2016, p. 12).

5. The objectives of both regional policy in general and regional innovation policy re-

quire the systematization of territorial entities both within administrative boundaries and as clusters, technoparks and technopolises, whose geographical boundaries do not often coincide with that of the administrative regions of individual countries, while clusters can consist of even adjacent territories of two or three neighboring countries.

6. In order to manage regional policy programs and compare statistical indicators, the territory of Europe is divided into statistical units according to the classification which is known under the NUTS abbreviation (the general nomenclature of territorial units for statistics). The NUTS classification is hierarchical and divides each member state into three levels: NUTS of levels 1, 2 and 3. The NUTS of the first level must have a population of 3 to 7 million people, the second level - from 0.8 to 3 million people and the third level - from 0,15 to 0,8 million people. If the population in the territory of a particular Member State is generally below the minimum threshold for a given level of NUTS, the Member State itself is recognized as the territorial unit of the NUTS of this level.

For each EU member state, in accordance with the objectives of the regional policy, the levels of NUTS are identified that are the subject of regional policy, that is, those regions, districts and settlements that, according to the NUTS classification, fall within the scope of regional policy objectives (Структурные фонды ..., 2013).

7. In the recent period, regional innovation policy is most often implemented within the so-called regional innovation clusters, the importance of which in developed countries is increasing. So, the former US President Barack Obama in his first speech to the US Congress, noting the importance of implementing an innovative strategy for the prosperity of the nation, pointed to the need to

maintain the processes of dynamic interaction between large and small companies, universities, financial structures based on cluster strategies, implemented primarily at the regional level within the framework of regional innovative clusters. Similar steps are being taken in the countries of the European Union, where cluster strategies are also seen as an important tool for the innovative development of these countries (Ленчук Е, Власкин Г., 2010).

The relevant division of the European Commission (Directorate-General Enterprise and Industry) means a cluster of independent companies and related organizations that: first, compete and cooperate; secondly, geographically concentrated in one / several regions; thirdly, they specialize in specific areas of activity and are linked by common skills and technologies; fourth, are traditional or knowledge-based; fifth, they can be institutionalized (have a management body) or not (A Practical Guide ..., 2004; from: Акоюн А, 2016, pp. 57, 58).

Usually by the industrial cluster is meant a group of companies, research organizations and various support structures, targeting geographically limited area and have sufficient resources, including qualified staff for an effective specialized field of industrial development (Борисов В., Соколов Д., 2012, p. 105).

Unlike traditional industrial clusters, innovative clusters are a system of close interrelations not only between firms, their suppliers and customers, but also knowledge institutions, including large research centers and universities, which are generators of new knowledge and innovations, ensure a high educational level of the region (Ленчук Е, Власкин Г, 2010).

The founder of innovative clusters is the American Silicon Valley in California, on the territory of which there are about 87 thousand companies, 40 research centers and dozens of universities, the largest of

which is Stanford. About a third of US venture capital firms (180 companies), 47 investment banks and 700 commercial banks are servicing the cluster, which somehow finance the activities of companies (Ленчук Е., Власкин Г., 2010).

Recently, the term "regional innovation cluster" actually replaces the term "tech-park" or "science park". So, often the Silicon Valley was also called a science park (see, for example, Беляева Ю., Тимонин А., 2012). However, in several countries, both innovative clusters and smaller industrial parks or technoparks are still functioning simultaneously. The areas on which innovative clusters are located can cover part of the administrative region, completely the region or even the country. So, for example, in Denmark within the framework of the competitiveness program 16 clusters of national level and 13 regional are allocated. For each of them, in the course of a dialogue between firms that are part of clusters and authorities of different levels, specific support measures have been developed. Denmark as a country in itself according to the European classification of NUTS is a territorial unit of the first level. Large clusters of national level exist in Finland (which also applies to the territorial unit of the first level NUTS), for example, the telecommunications cluster. Unlike conventional horizontally organized clusters, this cluster is organized vertically. The structure of the vertically organized cluster is somewhat different. It is based on some basic production, which plays the role of the "core" of the cluster. The structure of the vertically organized cluster also includes organizations that provide the core with various factors of production, and these supporting industries in turn have the structure of technological chains (Агафонов В., 2015). Another important innovative cluster of national level in Finland is a cluster of industrial timber (Борисов В., Соколов Д.,

2012, p. 105, Ленчук Е., Власкин Г., 2010), but it is horizontally organized.

There are also interstate innovative clusters in Europe, for example, the mega cluster Oresund, which covers the territories of Zealand, Lolland-Falster, Myon and Bornholm in Denmark and Scania in Sweden. The region of Öresund is largely attractive to scientific research and business, and as a result, creates a favorable environment for innovation. In the region companies of various high-tech sectors of the economy are represented: information technologies, biotechnology technologies, logistics, construction and food industry, information technologies. The Information Technology and Telecommunications sector employs 104,000 people and 10,000 representative offices of IT companies, which represent the entire spectrum from newly emerging businesses to major international market players. The strong position of the region in the field of advanced IT-development is supported by the fact that many international information companies have located their research and development departments here, for example: Sony Ericsson, Nokia, Motorola, IBM, CSC, Siemens, GN Telecom, Teleca, TDC, Telia, Axis, Anoto, Tellabs. The main competitive specializations of the region are the development of software and semiconductor materials, telecommunications and photoelectronics (Антюшина Н., 2010; Захарова Н., 2010). The Japanese model of the regional innovation system assumes the construction of completely new cities called "technopolises", focusing research in the advanced industries and industrial production. At the same time, the construction of technopolis is mainly financed at the regional level (Беляева Ю., Тимонин А., 2012). Of course, these technopolises are in fact large regional innovation clusters.

8. Special attention should be paid to the role of the state in the formation of cluster

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strategies. If initially clusters were formed solely due to the "invisible hand of the market", primarily in the modernization of TNCs, recently governments of many countries began to provide tangible material and moral assistance to this process, for example, within the framework of public-private partnership (Ленчук Е., Власкин Г., 2010), etc. So, in the USA two types of innovative clusters were formed: 1) emerged spontaneously (on the initiative of individual organizations or individuals); 2) established by order of the government of the states of the country (there were 380 industrial parks and innovative clusters in the country in 2014 (it is 30% of their total in the world), employing 75,000 researchers and 200,000 workers) (Акопян А., 2016, pp. 57, 58). However, for the first case, i.e. formation with the help of the "invisible hand of the market" or "on the initiative of individual organizations or individuals", we have introduced in our works a term "business coordination" which is more acceptable under modern conditions (see, for example, (Бурдули В., 2017)). And the second case is solved on the basis of state coordination of the process of forming an innovative cluster (with the participation of national and regional governments). However, in both cases, regardless of who initiated the creation of the cluster, it should take into account the need for interaction between the state, science and business on the principle of a triple helix.

9. At the regional level, regional, innovation and sectoral structural (industrial) policies need to be harmonized, since the same tools are used for their implementation at all three levels of coordination under consideration. Some researchers believe that innovation policy is an integral part of industrial (more precisely, sectoral structural) policy (Калугина Е., 2010; Ляпина И., Вергов Н., 2010; Черноуцан Е., 2010; Акопян А.,

2016), and others talk about the intertwining of these policies with the ever increasing importance of innovation policy (Антюшина Н., 2010; Фатеев В., 2011). For example, N. Antiushina, examining the experience of Sweden, notes that an important condition for the transition to an innovative type of development is an increase in the status of innovation policy. In Sweden, the Council for Innovation Policy has a higher position than the sectoral Ministries of Education, Science and Culture or Industry, Employment and Communications, which are key to the implementation of industrial policy, R & D and innovation. This is an expression of recognition of the growing role of innovation, which allows us to achieve a new quality of innovation policy. It loses industry (sectoral) character and becomes an integration policy linking different spheres of the national economy: science, education and production, allowing to introduce new forms of their interaction in the service of economic growth and improving its quality, providing a transition to development. It is intertwined with all major directions of state economic policy, first of all, with industrial, regional, environmental, credit and financial, export policies, labor market policies, international cooperation, etc. (Антюшина Н., 2010). E. M. Chernoutsan, examining the experience of France, notes that in 2004, President J. Chirac declared the activation of industrial policy an important state priority. The main goal of this policy is to bring France to the forefront of the world in the new high-tech areas of the 21st century. The main tools for implementing this policy are the mobilization of the country's industrial and scientific and technological potential, stimulating the process of innovation (from creation to implementation) both at the national and regional levels. Much attention is paid to the development of various forms of partner-

ship between private and public entities, especially interaction between the spheres of science, education and business. The most important principles of the new industrial strategy of the state are: a course for the development of a large-scale innovation process that affects the entire country, and stimulation of interaction between the main participants of this process (enterprises, scientific laboratories, higher schools). The special regional clusters are being created in the country to solve this double task - the so-called poles of competitiveness, which are becoming a key instrument of the country's new industrial, innovation and regional policy (Чернуоцан Е., 2012, pp. 43, 44).

10. It is necessary to take into account that clusters, regardless of their territorial size, are formed mainly within a certain industry specialization. Even the innovative enterprises of the famous California Silicon Valley mostly specialize in the field of information technology (see, for example, (Борисов В., Соколов Д., 2012, p. 106)). Within the region of the first level NUTS, of course, there may be several clusters belonging to different industries, for example, in Finland, as noted above, there are at least two clusters of national level. However, most of the innovative clusters specialized in a certain type of activity in the EU countries (which already number more than 2 thousand) are formed within the territorial units of the lower level of NUTS. Here are a few examples of such clusters: IT technology - Sofia, Bulgaria; Financial Services - Cyprus; Food Industry - Southern Denmark; Footwear industry - Montebelluna (near Venice), Italy and Timisoara, Romania; Laser technologies - Vilnius, Lithuania, etc. At the same time, many clusters were formed and within the territories commensurate with the territorial units of the first level of NUTS and even surpassing it, for example: Food industry - Southern Denmark; Textile industry - Catalonia, Spain;

Floriculture - the Netherlands, etc. (Борисов В., Соколов Д., 2012, p. 105, 106).

11. In the construction of territorial innovation systems (regardless of what they were called - regional innovation clusters, technology parks, scientific parks, industrial parks, etc.), in some EU countries, they often focused on a formalized standard based on the full imitation of the US Silicon Valley: university with research and innovation-developing units inside and outside it, other elements of innovation infrastructure within or around the university (business incubators, organizations commercialization of innovation, technology transfer, etc.) and a number of innovative enterprises located in the given territory. In most EU countries, mainly in the first decade of the 21st century, many different scales of regional innovative clusters and technoparks have formed. For example, by 2003, Hungary had established a system of more than 150 clusters in the following areas: construction, textile production, thermal waters, optical mechanics, automotive, wood-working, food products, electronics, etc. More than 75 industrial parks, uniting 556 companies with a number of employed 60 thousand people. (Ленчук Е, Власкин Г., 2010). In our opinion, this is taken into account in the majority of countries, when creating regional innovative clusters or technology parks, in each separate regional innovative cluster or technopark all elements of the innovation infrastructure should not be present: some elements of this infrastructure can be found only in certain regions, but at the same time serving on its profile other regional innovative clusters of the country. Innovative enterprises can also be located in some regions, and organizations that develop innovations for them in others. The same applies to objects that finance innovative clusters. Thus, it was noted above that the US Silicon Valley

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serves a variety of American venture capital firms, investment and commercial banks, most of which, naturally, do not reside in the Silicon Valley.

12. The need for a prudent approach in the creation of innovative firms or divisions in companies and objects of innovation structure in clusters is also connected with the fact that monetary investments in innovations are of a risky nature. The probability of success of the implementation of a new idea in a new product reaches only 8.7%: out of every 12 original ideas, only one reaches the last stage of mass production and mass sales. In other words, the return on investment in the innovation process has very little in common with guaranteed repayment of loan interest on capital in a bank or dividend on shares. And because such a return can, with successful implementation of the innovation process, prove to be fabulously large, and because it can fail to be implemented at all, moreover, the invested capital (Государственная ...) will be lost. Successful functioning of the cluster is the result of a combination of effective interaction of participants, as well as the influence of subjective and objective institutional factors created by the project participants themselves. The opportunities for innovative development of clusters in most of their cases do not directly depend on the competitive advantages of specific companies, as well as on the possession of the newest technologies and spatial distribution of companies (Акопян А., 2016, p. 64). The actual effectiveness of cluster policy in practice is not very consistent with financial investments and expectations. So, many countries of the world could not realize their expectations and hopes, trying to repeat the success of "Silicon Valley" and copying the conditions of its functioning and development. Failures in the implementation of cluster policy significantly exceeded the number of those projects that

were successfully implemented. According to various estimates, currently in the world there are from 3 to 5 thousand different-profile clusters (including innovative ones). In this case, only single cases became widely known, and most of them, at best, ended with zero result. The result of implementation of many programs is estimated by experts as neutral, i.e. they did not give any positive effect (Акопян А., 2016, p. 64).

In this scenario, it is naturally inappropriate, following the "fashion", in each "declared" cluster to create a complete standard set of objects associated with innovation activities. A certain part of the objects should be tied only to the regions of the first level of the NUTS. And special attention should be paid to the creation of organizations that facilitate the borrowing of innovations: organizations that are exploring new promising foreign technologies; organizations that facilitate the transfer of technology (including assistance in the development of new production technologies acquired abroad by local personnel).

National and regional level of coordination of regional industrial and innovation policies in France and South Korea.

As can be seen from the above, regional innovation clusters currently play an important role in the implementation of regional innovation policies in developed countries. At the same time, it should be noted that it is impossible to separately coordinate the implementation of industrial, innovation and regional policies, since a common set of instruments is used to regulate these areas of economic policy. However, when developing and implementing a regional policy (cluster strategy), it is necessary to harmonize the instruments of state regulation and business coordination (and business coordination in any country plays a greater role in comparison with state coordination, primarily in terms of financing and organization of market entities, be it

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then a private or state enterprise). In addition, interregional and intercountry (although specialized, i.e., mono-branch) clusters are beginning to play an increasingly important role. A growing number of researchers come to an understanding of the variety of types of cluster formations and the forms of state and business coordination used in them (Акопян А., 2016, Гельвих М., 2016, Ленчук Е., Власкин Г., 2010; Ляпина И., Ветров Н., 2011; Селезнев П., 2014, etc.). For example, in a recent study, we read: "During the period of innovative transformations of the Russian economy, clustered education becomes an integral mechanism for the implementation of the new national industrial and scientific and technical policy. Clusters can be presented as an integrated mechanism for the development of the region, ensuring the growth of its competitiveness on the basis of innovations and synergies of territorial self-organization and partnership that ensure the formation of an innovative community as a territory development entity. In economic literature, several different types of clusters are distinguished: industrial, regional, innovative, transnational, and others. Also, different researchers differently define the main characteristics of clustered associations. Some consider territorial (geographical) concentration to be the main characteristic feature of clusters, others - industry affiliation, and third - an innovative component. In our opinion, the competitiveness of clusters is determined primarily by innovative orientation" (Гельвих М., 2016). Of course, in this quote, not everything is quite accurate, but it is very laconically reflected the variety of types and forms of coordinating the strategy of cluster formations.

Given this diversity, it is not surprising that in different developed countries approaches to clustering strategies and the understanding of clusters are identified in different ways. "Developed countries of the world

have different approaches to clustering strategies, which is determined, first, by different levels of socio-economic development and development of the business environment, institutional and cultural specifics and different systems of state regulation. Secondly, different countries apply different approaches to identifying clusters" (Акопян А., 2016, pp. 70, 71).

Since clusters in different countries are identified in different ways, they are formed in different ways. Where clusters are created formally, for the sake of "fashion", they do not become popular and disintegrate or continue to exist formally, for statistics. In addition, the word "cluster" or "innovation cluster" is not always used to designate such territorial entities in all countries. So in France the term "the pole of competitiveness" is used most often, and in South Korea in general - the "territorial unit". In these last two countries, when forming clusters, they do not confine themselves to the problems of implementing state and business coordination of only innovative development, but also take into account other industrial policy issues as well as issues of regional policy in general (at all levels of its formation). In these countries, when building clusters, all the above circumstances are taken into account and most of the cluster formations are not formal, but realistic and therefore beneficial. Therefore, in this subsection, we found it necessary to briefly describe the principles of the formation of such entities and the forms of coordination of economic activities in these two countries.

Pole of competitiveness in France.

In 2004, the intensification of industrial policy in France was declared the most important state priority. In this regard, the process of creating innovative and technological clusters, which have been called the poles of competitiveness, has begun in the

country and has become a key tool for carrying out industrial, innovation and regional policies. They were created on the basis of pre-existing specialized industrial clusters, local production systems and technology parks.

The pole of competitiveness is a large research and production complex that unites large, medium and small enterprises, research laboratories (public and private) and institutions of higher education on joint projects with a strong innovative component and a common development strategy. Other partners could be involved or participate, for example, government agencies, national and local, as well as service providers. This partnership is closely connected with the market, it is tied to a specific scientific and technological direction and is aimed at finding the critical mass that leads to competitiveness and international significance (Селезнев П., 2014, с. 166; Черноуцан Е., 2010, р. 44).

At present, 74 poles of competitiveness operate in France, 19 of them have international status, and the rest are poles of national or regional importance. Particular attention is paid to the following sectors; aeronautics, software development, medicine, biotechnology, nanotechnology. Priority also recognized complexes of enterprises of agriculture and food industry, railway transport construction and automotive industry, as well as the creation of new materials (Селезнев П., 2014, р. 166; from: Карта ...).

To obtain the status of a competitiveness pole, a development strategy (industrial, innovative), linked to the economic development plan for the Pole territory, should be presented in the application for the Pole, issues of international importance in industrial or technological terms, ways of partnership between the pole members, ability to joint action in the field research and de-

velopment, and thereby creating new benefits with high added value (Chernoutsan E., 2010, p.44). Before the poles of competitiveness, the following main tasks are set: the development of the competitiveness of the French economy on the basis of strengthening the innovation process, with special attention to breakthrough innovations; structural reorganization of the national industry with an emphasis on the development of new high-tech industries; creation in the territories of France of favorable conditions for the development of industrial activities with a strong technological component; stimulating partnership between enterprises, research centers and institutions of higher education on the basis of organization of territorial networks, an overall development strategy and joint innovation projects; the poles of competitiveness should show that not only competition, but also close cooperation between various economic agents is the most important engine of industrial and scientific and technological development; stimulating employment and economic growth, combating the process of moving industrial capacity to other countries, etc. (Черноуцан, 2010, р. 44).

The system of managing the poles of competitiveness, according to many experts, is quite effective and has not yet been bureaucratized. Its flexibility, in particular, is determined by such features as: double guardianship, i.e. coordination of activities at the national and regional levels; interministerial governance at the national level; evaluation of applications for status on the basis of independent expertise (all applications undergo a thorough tripartite examination - analysis at the regional level under the guidance of the regional prefect, technical expertise of the concerned ministries, evaluation of independent specialists); the basis of the relationship of the state with the participants of the poles - target contracts, and not

policy decisions; principle of voluntary association of participants; relative flexibility and democracy of the internal pole control system (Черноуцан Е., 2010, p. 45).

An important requirement for the pole is the registration of its status as a legal entity. Most poles of competitiveness choose an association regime. The administrative council of the Pole includes representatives of industry, science and higher education. And representatives of one organization (scientific center, industrial enterprise, institution of higher education) can enter the administrative council of different poles (Черноуцан Е., 2010, p. 46). An important factor of the state innovation policy is also the provision of direct administrative assistance: each competitor pole is assigned an official-curator (Селезнев, 2014, p. 167).

Contracts for achievement of results.

In the light of the measures taken to strengthen the policy for the organization of poles and their strategic management, in 2009 the government established special "contracts for performance", based on "strategic road maps". The poles of competitiveness are equipped with a development strategy for three to five years, which is documented as a "strategic road map." It clarifies the priority areas of development for the Pole, its technological goals, market orientation and development prospects. In addition, in order to strengthen the responsibility of the poles, these contracts are signed between the leadership of the poles, the state and local authorities. In addition to the program of actions of the pole and the timing of its implementation, contracts reflect the financial obligations of the state (Черноуцан Е., 2010, p. 46).

Tax preferences. For participants in the poles of a competitiveness in certain cases, there is a reduction in both state and local taxes (that is, at the national and territorial levels).

If an enterprise is engaged in a project that in one way or another is connected with scientific research and development of technology, and at the same time is a participant in a registered pole, then it is exempted from paying income tax for 3 years from its inception, and in the next 2 year will pay this tax in half. In addition, businesses for 5 years are exempt from property tax and some local taxes. Significant tax benefits apply to personnel who are involved in the implementation of innovative projects. Thus, for the identified categories of workers in the poles (researchers, managers, engineers, other specialists), the social tax rate is reduced, so that workers of small and medium-sized businesses can save up to 50%, and employees of large companies - up to 25% of normal social contributions for 6 years (Селезнев П., 2014, pp. 166, 167). But on the whole, the role of tax incentives in the poles of competitiveness is not very high, the stimulating effect of tax levers of influence, according to experts, is currently insignificant (Черноуцан Е., 2010, p. 48). A much larger role in France is played by direct government funding and preferential lending to the subjects of the poles of competitiveness.

Public funding comes from the following main sources: the Single Interministerial Fund (Fonds unique interministériel - FUI); National Agency for Scientific Research (Agence Nationale de Recherche - ANR); Agency for Industrial Innovations (AII); group OSEO; Loans on preferential terms for the purchase of equipment, half of which falls on the Ministry of Industry, Economics and Finance; The State Investment Bank of France, set up on December 31, 2012 and called together with the National Bank of France to stimulate economic growth and promote the development of innovative projects in the country (Селезнев П., 2014, pp. 167-169;

Черноуцан Е. 2010, р. 46, 47; Калугина Е., 2010).

A single inter-ministerial fund (FUI) was created in 2005 specifically to finance joint projects implemented within the poles of competitiveness. Most of the financial resources of this fund go to state laboratories - 56%, while large companies receive about 20% (Черноуцан Е., 2010, р. 47).

The National Agency for Scientific Research (ANR) mainly specializes in financing research conducted by both state institutions and enterprises. An important element of the current strategy of this agency is to stimulate cooperation between science and industry at the poles of competitiveness. ANR finances mainly the sector of state-owned IR, which takes more than 80% of its assistance. Industrial enterprises account for 12%, of which only 4% go to small and medium-sized enterprises. Among the projects on R & D priority is given to fundamental research (Черноуцан Е., 2010, р. 47, 48).

OSEO was established in 2005 through the merger of the Innovation Agency and the Bank for the Development of Small and Medium-sized Enterprises to support innovation in the implementation of regional and national policies. The main objective of OSEO is to provide financial support to small and medium-sized businesses, as well as venture capital firms at key stages of development: creation, growth, entering a new stage, selling a business. OSEO takes on some of the risks of small businesses and provides them with access to bank lending and investor funds. In OSEO activities, three areas can be distinguished: support and financing of those projects that are based on innovative solutions and have real commercial prospects; attraction of banks to financing and life cycle management of the innovation project; provision of guarantees for financing by banks or investors. OSEO partners are financial institutions,

banks, investors, universities, research laboratories, engineering schools, chambers of commerce, guilds, large companies, startup support networks, as well as private organizations and government agencies (Селезнев П., 2014, р. 168).

The largest (over 10 million euros) projects are under the patronage of the Agency of Industrial Innovations.

Initially, the project is screened within the competitiveness pole. The most current application selects the leadership of the pole. At the second stage, the application is approved by the financial commission of the region, which is responsible for this pole. At the third (and last) stage it is necessary to get approval from the relevant ministries and departments, after that the project participants get access to tax breaks, state subsidies and other preferences (Селезнев П., 2014, р. 168, 169).

In addition to the main sources of funding for projects within the poles of competitiveness, a role is also played by the assistance of territorial authorities (especially for poles of national and regional importance) (Черноуцан Е., 2010, р. 49).

In addition to the main sources of funding for projects within the poles of competitiveness, a role is also played by the assistance of territorial authorities (especially for poles of national and regional importance)

The share of financing of the participants of the poles by contracts through various European (ie, supranational level) programs (Eurika, IR Framework Programs, etc.), which differ in more complicated clearance procedures, varies greatly from year to year, but usually does not exceed 10 % of the total funding for all contracts concluded.

From the experience of France, we can draw the following conclusions:

1. The country has created a rational system of poles of competitiveness. Assignment to the territorial formation of the status of the

pole of competitiveness is carried out on the basis of a thoughtful selection after studying the documents submitted in the application for the pole, therefore the poles are real, not formal.

2. The system for controlling the activities of the poles, both external and internal, has a flexible and democratic character, with a rational combination of state and business coordination.

3. A successful mechanism that promotes effective activity of the participants in the poles is the conclusion of "contracts for the achievement of results," which reflect both the program of actions of the poles and the timing of its implementation, as well as the financial obligations of the state.

4. An effective system of tax preferences for the participants in the poles was created.

5. There is an effective complex system of financial support and incentives (direct financing, concessional lending) in which a number of national (national level) financial organizations are involved (FUI, ANR, AII, OSEO, the State Investment Bank of France, etc.).

6. Naturally, like in any other EU country, all three levels of coordination are involved in financing the poles, but the national (national) level plays a more important role than the supranational level (ie the EU level) and the regional levels.

Regional innovation clusters in South Korea.

In South Korea, the implementation of the program for regionalization and the creation of innovative clusters began in 1999, when a new industrial policy began to operate in the country. And it is obvious that the results of the implementation of this program were very successful. This is evidenced by the fact that the economy of this country was the fastest growing region of the 34 OECD countries: in the last decade, the real growth of the country's GDP did not fall below 4% per year (Сахариева А.,

2013, p. 181). Therefore, it seems advisable to get acquainted with the South Korean experience in creating and operating regional innovation clusters.


The general nature of industrial and innovation policies in South Korea.

In South Korea, since the early 60s of the last century, the formation and implementation of innovation policies have been carried out on the basis of a combination of public and private sector efforts. The South Korean authorities initially relied on the creation of large monopolies under their patronage, capable of making an innovative breakthrough at the expense of their privileged position (Корейское ..., 2008). The processes of concentration and centralization of capital in the country's economy led to the creation of large financial and industrial groups (chaebols) that arose on the basis of large trading companies and turned into multi-sectoral conglomerates. A little later, the active development of medium and small businesses began. About fifty chaebols (Hyundai, Samsung, Daewoo, LG, etc.) play a key role in the country's economy. Their experience shows how successful investments can be in high-tech innovative production: they have turned into diversified export-oriented holdings (at first they did not have their own banking structures and received financing from state-owned banks, but later they also included private banks) (Корейское ..., 2008; Селезнев П., 2014).

In the process of innovative modernization in the 60-80s of the last century, the foreign factor played a major role. The breakthrough program was initially built on the creative copying of foreign technologies. And there were a lot of such forms of borrowing: turnkey contracts, licensing, consulting services. The decisive role was played by the creation of joint venture innovation companies with Japanese partners.

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Later, our own innovative production technologies also began to develop (Селезнев П., 2014, pp. 289, 290; Справка ..., 2011), **but to the present time "the Korean innovation model still largely remains catching up and is based on import of technologies and their improvement"** (Сахариева А., 2013, p. 182). "The high-tech industries of the Korean economy, whose industrial giants are building up their innovation and technological base, are also no exception, according to the following scheme: 1 step. Preparation - matching knowledge, skills, business contacts and firms to new technologies; 2 step. Introduction - the acquisition of technology, its adaptation and improvement; 3 step. Distribution - financing the development of appropriate infrastructure and product development to encourage firms to adopt imported and adapted technology; 4 step. Maturity - formation of the sectoral structure, opportunities for further R & D and innovation " (Сахариева А., 2013, p. 182; from: Mathews, 2001).

System of regions (territories) and sectors of specialization.

The crisis of the late 1990s. forced the leadership of South Korea (as well as the leadership of the EU countries) to accelerate the innovation course, and, as noted, a special program aimed at accelerating development and innovative breakthroughs was developed and implemented. Within the framework of this program, a project known as the "4 + 9" scheme (4 - starting entities, 9 - territories that joined the project later) is being implemented in the context of the regions. The main idea of the "4 + 9" initiative was the formation of a number of regional economic clusters, although officially they are not called clusters, but are designated as provinces or cities. Unlike most European clusters, which are mainly

formed within a single specialization industry (however, in each region there may be several clusters in different sectors, and in the country as a whole there may also be a number of specialized clusters of national importance), South Korean regional clusters may contain several specialization. For example, the major cities and province included in the first four specialized in the following types of activities: Daegu - textile industry, mechatronics (robotics), mobile and nano-devices, bio-production; port Busan - visual computer technologies, footwear production, auto parts production, tourism, port logistics; Gwangju - optical electronics, production of auto parts, design and culture, consumer electronics; Kengsan-Namdo Province - intellectual engineering, production of biomaterials, intelligent household instrumentation, mechatronics (robotics) (Гомбоев А., 2015, pp. 264, 265). In Seoul joined three years later (in 2002) to this project - intellectual computer technologies, bio-production, digital components, financial and business services, etc .; Incheon - intelligent computer technology, automotive, engineering and metallurgy, logistics; Dejon - information technology, bio-production, production of high-tech parts and materials, mechatronics (robotics); Gangwon Province - production of medical equipment, bio-production, production of new types of materials and prevention of natural disasters, tourism ... (Гомбоев А., 2015, p. 264, 265).

Council on regional innovations, strategy and program of measures.

South Korea's new industrial strategy was finalized in 2004. It relies on the "4 + 9" project and is closely linked to its results. According to this strategy, the Council for Regional Innovations was formed, which included representatives of enterprises, research institutes, universities and non-governmental non-profit organizations from

each province. The Council has the responsibility to develop a strategy and program of activities, taking into account regional specificities (Абдурасулова Д., 2009; Селезнев П., 2014).

On the basis of the formulated tasks of reforming the economy, the leadership of the Republic of Korea defined the strategy of the new industrial development of the country (Абдурасулова Д., 2009), which primarily provides for the formation of the foundations for innovative development of the national economy on the basis of structuring the production and technical base, mechanisms and investment climate for innovative development. Within this framework, the following activities are implemented: the creation of an innovation system at the regional level, primarily on the basis of industries concentrated in a given territory, and by encouraging the interaction of enterprises and research organizations for R & D, as well as through the formation of institutional foundations and favorable environment for the development of innovations at the local level (thereby creating the necessary conditions for the emergence at the local level of "growth points" - technology parks, technological innovations and regional research centers); strengthening network contacts between industrial enterprises □ universities, research institutes as the main participants of the innovation process; development of innovative clusters in the field through the implementation of pilot projects (Абдурасулова Д., 2009; Селезнев П., 2014).

State stimulation of the development of science and technology.

The state encourages private sector research and development through the provision of discounts, financial subsidies, long-term development loans at low interest, guarantees of state supplies, by exempting imported production technologies from import duties, tax preferences, etc. (Гомбоев

А., 2015, p. 264, Seleznev P., 214). For example, in the framework of the new industrial policy, total investments in 2007 reached \$ 33.6 billion, or 3.47% of GDP (Гомбоев А., 2015, p.266), and the structure of investment for a number of years 1999-2008) is approximately as follows: the development of innovative infrastructure - up to 50%, R & D - up to 37%, technical support of corporations - up to 12% (calculated according to Gomboev A., 2015, p.266). In spite of all this, The cost of R & D is in the private sector - 75.4% of total R & D expenditure, and government spending and university expenditure amounted to 13.5 and 11.1% respectively (Гомбоев А., 2015, p. 267).

Rapid growth in the number of venture companies.

In an industrial innovation breakthrough in the 1960s and 1970s, an important role was played by the development of joint venture enterprises with Japanese partners (Селезнев П., 2014, Справка ..., 2011). Significantly, one of the results of the "4 + 9" clustering project was the emergence and rapid growth of the number of venture companies. Since 1997, the number of venture enterprises has increased more than 13 times and amounted to 27 thousand enterprises in 2012. At present, about 700 thousand employees or 5% of the total employed population work at venture enterprises, and the sales volume has approached to 164 billion US dollars, which is 15% of GDP (Сахариева А., 2013, p. 182).

From the experience of South Korea, we can draw the following conclusions:

1. Both the developed countries of Europe and Japan, and South Korea in the international market of manufacturing products began to crowd rapidly developing China, India, Turkey and some other countries, which forced the South Korean leadership to accelerate the innovation course: a special program was developed, even a little

earlier, than in France, aimed at accelerating development and innovative breakthroughs, which is carried out by structuring at the regional level (the "4 + 9" project) the production, technical and innovation base and the investment climate for innovation development in the conditions of prevailing state coordination tools.

2. The economy of the South Korea after the implementation of the program, unlike most other countries, developed without failures, with high rates of growth and a constant increase in the volume of export of innovative products, which indicates the correctness of the activities carried out during the clustering process.

3. There is a certain state dirigisme, which manifests itself in the development of strategies for innovative development. Regional strategies are developed on the basis of close interaction of business representatives, research institutes, universities and non-state non-profit organizations from each province under the auspices of the Council for Regional Innovations.

4. Unlike most countries, cluster entities in the South Korea are multi-sectoral, that is, each territorial unit included in the "4 + 9" project has several specialization sectors, however, in these conditions, a reliably functioning interrelated mechanism for national and regional coordination of industrial and innovative development.

5. No country, even a relatively large one, cannot do without borrowing innovations, let alone a small one, where borrowed new technologies play a dominant role, and in South Korea an excellent system of continuous improvement of borrowed both production and food technologies was created.

6. In most European countries, innovative venture enterprises with a positive impact are created with great difficulty, the availability of which is absolutely necessary for an innovative industrial breakthrough. In this sense, it is necessary to pay attention to

the long-term experience of the South Korea in which innovative joint ventures (primarily venture capital) with Japanese partners played a decisive role in the exit of the SK to the advanced industrial boundaries in the 60-70s of the last century, and modern experience when, within the framework of the project "4 + 9", the number of venture enterprises (up to 27 thousand), which now yields up to 15% of GDP, has rapidly increased (by 13 times).

Supranational Regional Innovation Policy of the EU

The supranational regional innovation policy of the EU is regulated by a set of documents, most of which reflect not the actual regional component of the EU innovation policy, but the innovation policy in general. In addition, in a number of other documents of an economic or social nature, the innovative component is also more or less affected. Coordination of policies is carried out by relevant supranational bodies, including institutions and analytical centers. And constantly there is a reforming and perfection of systems of coordination reflected in documents.

However, even to this day, "regional economic policies funded from the EU budget do not fully take into account the objectives of innovation development, since it is not coordinated with the main directions of advancement of research and development."

Also at the supranational level, powers in the implementation of innovation policy are distributed among several divisions and directors which determined the specifics and variety of budget mechanisms for financing innovations and leads to the subadditivity of innovation management "(Smirnov V., 2016, p. 9). However, "the coordination and interaction of national innovation policies at the level of the EU, its countries, regions of these countries and individual clusters is increasingly pronounced (Смирнов Е., 2016, p. 10).

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From the EU documents related to innovation policy in general (i.e. at the supranational, national and regional levels), we note the document "For the revival of European industry" (For a European ..., 2014), but the most important EU document reflecting directly the regional innovation policy, is the "European cluster memorandum. Promoting innovation in Europe through clusters" (European ...). Also documents will be considered that will provide financial support for innovations from the EU, mainly at the regional level - EU Structural and Investment Funds (ESIF) (Котова Н., Павлова П., 2014, Структурные ..., 2013, Региональная политика ..., 2015), and in general at the national level (and, naturally, in the regions) - the 8th Framework Program of the European Union for Scientific Research and Innovation "Horizon 2020" (2014-2020) (Клавдиенко В., 2018; Рамочные ..., 2018).

In subsection 3.1. *Stimulating investment in innovation and new technologies* of Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions "For a European Industrial Renaissance", in particular, tasks and coordination mechanisms (including financial support from the EU and coordination of public and private sectors) of the innovative and technological development of the EU countries (including associate members) and their regions are outlined. Here are the excerpts from this subsection, which to some extent reflect the support of supranational (ie, from the EU) level of coordination of regional innovation policies.

"The Commission has put an increasing share of its policy, regulatory and financial levers at the disposal of Member States, regions and industry to foster investment in innovation. The **Horizon 2020 Program**,

in particular through its industrial leadership pillar, will provide close to EUR 80 billion for research and innovation. ... In addition, with the adoption of the new multiannual financial framework 2014-2020 at least EUR 100 billion of European Structural and Investment Funds (ESIF) are available to Member States to finance investment in innovation, in line with industrial policy priorities" (For a European ..., 2014).

"As Member States increasingly look to stimulate investment in strategic industrial areas, the Commission is **modernising the State Aid Framework for R&D&I** and **reforming public procurement rules** to create a critical mass on the demand side and improve efficiency in the allocation of resources in full respect of competition and internal market rules. The need to speed up investment in breakthrough technologies in fast-growing areas was the main reason the Commission decided to identify in the 2012 Industrial Policy Communication the six areas in which investment should be encouraged. These strategic, cross-cutting areas are: advanced manufacturing, key enabling technologies, clean vehicles and transport, bio-based products, construction and raw materials and smart grids" (For a European ..., 2014).

"The Commission proposes to Member States to combine regional and industrial policy tools to create Smart Specialisation Platforms to help regions roll out smart specialization programs by facilitating contacts between firms and clusters, enabling access to the innovative technologies and market opportunities" (For a European ..., 2014).

In 2007, 'a high-level' group on European cluster policy together with the European cluster alliance and a number of other interested national and regional agencies prepared a document entitled "European Mem-

orandum on Clusters. Support for innovation in Europe through clusters" (Европейский ...), whose recommendations were further taken into account in the preparation of documents at the regional, national and supranational levels of coordinating innovation development. The document says: "Innovation is the factor that will shape the European vision for future growth and prosperity. Clusters can be powerful catalysts for this process and should function as interconnected territorial centers. Clusters are regional concentration centers for specialized companies and organizations that are linked together through numerous channels that create an enabling environment for innovation. In the conditions of modern competition, all clusters should be oriented towards innovative development" (Европейский ...). The document clearly fixes the tasks of improving the policy of coordinating the development of innovative clusters at all three levels. In particular, it was noted that "the policy of the government at the national and regional levels is decisive for improving the existing business environment; cluster initiatives and the focus on clusters as a mechanism for ensuring innovation and economic growth can significantly improve the effectiveness of national regional innovation policies, "and policies affirmed at the European level have a major impact on the emergence of clusters and their international links." Policy at the European level also has an impact on the business environment in Europe as a whole. This applies to those regions where activities to improve the business environment require the coordination of efforts of different countries. In addition to these activities, to which all European structures directly influence, European policy also has an important indirect influence, which is expressed in providing the necessary knowledge and support for optimizing

policies at the national and regional levels" (Европейский ...).

Changes in cluster policy require action at all three levels of coordination. At the supranational level, in particular, it was suggested that "European structures, especially the European Commission, the Committee for Regional Affairs and the European Investment Bank: optimize their support for the development of clusters through various programs aimed at more effective application of existing tools; to review the impact of policy measures on clusters and structural changes with a view to a more efficient geographical distribution of economic activity in Europe; strengthen support for targeted transnational cooperation between clusters, for example, in areas such as financing and developing competencies, with the help of new policy instruments and taking into account relations between neighboring states, as well as the individual needs of the relevant clusters" (Европейский ...).

It should be noted that the recommendations in this document for the supranational level have been taken into account in all of the above and below considered documents or EU regulations.

In December 2013, the European Council approved a multi-year funding framework for the EU for the period 2014-2020. In particular, the expenses for the new (eighth) EU Framework Program for Research and Innovation for the period 2014-2020, named 'Horizon-2020', as well as structural policy, policy of rallying (leveling the levels of social and economic development of regions) and joint agrarian policy.

The budget of the 'Horizon-2020' program is set at 79 billion euros, which is 25 billion euros higher than the budget of the previous (seventh) EU Framework Program for Research and Technological Development. One of the main tasks of 'Horizon 2020' is

the elimination of the existing inconsistency between the national financial institutions of the member countries of the European Union and its previous framework scientific and technological programs and projects of the European Institute of Innovation and Technology. In this regard, 'Horizon 2020' combines three independent financial sources of the EU: a framework program for research and technological development, a framework program on competitiveness and innovation, and the European Institute of Innovation and Technology (EIIT). Another important goal of 'Horizon 2020' is to increase the participation in research and innovation of certain categories of organizations, including small and medium-sized enterprises, as well as certain groups of researchers (for example, scientists from third countries) in order to achieve coherence in funding at all stages of work - from the emergence of the idea to its commercialization, which in the long run will also promote the integration of research and innovation and the acceleration of economic growth (Клавдиенко В., 2018; Рамочные ..., 2018).

The activities of the program are aimed at achieving the objectives of the Lisbon Strategy aimed at making the European Union a knowledge-based competitive and dynamic economy in the world, as well as fulfilling the tasks of the European Development Strategy until 2020, Europe 2020 Strategy, which is a plan development and economic growth of the European Union for the long-term perspective, in which education, science and innovation will play a major role in the fulfillment of the tasks set. "(Framework ..., 2018).

Structurally, the program "Horizon-2020" consists of three main sections (blocks of subprograms), named: "Social Challenges", "Advanced Science", "Industrial Leadership". Most of the funding from the budget

"Horizon 2020" is distributed on a competitive basis for the implementation of projects within these three sections of the program (Клавдиенко В., 2018; Рамочные ..., 2018).

Social Challenges (Societal Challenges, 31.7 billion euros) - solving social problems in response to the challenges of modern times, based on the pooling of resources and knowledge in various fields, including in the social and human sciences, and including all stages of innovation - from obtaining research results prior to their commercialization - will increase the effectiveness of research and innovation in the following areas: health, demographic change and welfare; food safety, agriculture, ecosystems and bioeconomics; safe, clean and efficient energy; environmentally friendly intellectual transport; climate impact, resource efficiency, raw materials; Progressive social order in the countries of Europe, providing freedom, security and equal opportunities for all.

Advanced Science (Excellent Science 24.6 billion euros) - generating advanced knowledge to strengthen the position of the European Union among the world's leading scientific powers - provides support for: the most talented scientists in carrying out basic scientific research through the European Research Council; joint research in promising areas and development of radically new technologies of the future (Future and Emerging Technologies); improvement of human resources in the framework of the program. Maria Skłodowska-Curie (Marie Skłodowska-Curie Actions); the development of European research infrastructures, the strengthening of their innovation potential and human capital, and the promotion of the European policy in the field of improving research infrastructures and international cooperation.

Industrial Leadership (17.9 billion euros) - achieving industrial leadership and supporting business, including small and medium-sized enterprises and innovation - will help to invest in research and innovation in key emerging and industrial technologies, taking into account their interdisciplinary nature, such as: information and communication technology, micro and nanoelectronics, photonics; nanotechnology; new materials; biotechnology; efficient production processes; space.

In addition, the program budget includes funding for the Joint Research Center, the only service of the European Commission responsible for providing scientific and technical support in the development and monitoring of policies; European Institute for Innovation and Technology (EIT), as well as studies conducted under the Euratom Agreement.

Within the framework of the 'Horizon 2020' program, the regional orientation of the EU budget allocations is not specified, since the projects are of a regional, inter-regional, country and intercountry nature, but there are also so-called EU structural funds that directly finance the European Union's regional policy (Региональная ..., 2015; Структурные ..., 2013; Котова Н., Павлова П., 2014). Based on these works, we will characterize these funds.

The European Union's regional policy (often referred to as cohesion policy) is a system of measures aimed at improving the welfare of the EU regions and reducing the inter-regional economic gap. To overcome the economic and social backwardness, support for territories with problems in industry and agriculture is used from a third of the EU budget. The regional policy goal is to increase the competitiveness of the regions by favoring economic growth and employment, supporting programs in the field of environmental protection and energy security.

The number of funds from which regional policy funding is financed has been reduced from 6 to 3: the European Regional Development Fund, the European Social Fund and the Cohesion Fund.

According to the budget for 2014-2020, the cohesion policy will receive 325 billion euros in 2011 prices (366.8 billion at current prices). They will be aimed at increasing economic growth and creating new jobs, combating climate change, energy dependence and social problems. Investments will be sent to all regions of the EU, but taking into account the level of their development. Countries are divided into three groups: the least developed (GDP less than 75% of the average); Transitional (GDP between 75% and 90% of the average for the union); Developed (GDP more than 90%).

The activities of the European Regional Development Fund focus on 4 priorities: innovation and research, the development of digital technologies, support for small and medium-sized enterprises and a low-carbon economy (an economy with low greenhouse gas emissions). Resources from this fund need not be used only for these four purposes. But in the group of developed countries at least 80% of the allocated funds must be spent on at least 2 of the above priorities out of 4, in the transition regions at least 60%, and in the underdeveloped regions not less than 50%. Also, a minimum percentage of funds that must be invested in the development of a low-carbon economy is established.

The priority of the Cohesion Fund is the development of trans-European transport networks and environmental projects in the fields of energy, energy efficiency, use of renewable energy sources and transport (it is used only in states where GDP per capita is less than 90% of the Union average). In the budget of 2014-2020 the fund received about 75 billion euros.

In the period 2014-2020 the activities of the European Social Fund will focus on four thematic goals: promoting employment and supporting labor mobility; promote social integration and fight poverty; investing in education, skills acquisition and lifelong learning; increase institutional capacity and effectiveness of public administration. The ESF can be used in any EU country, depending on the needs of a particular state. For the period 2014-2020, this fund was allocated 74 billion euros.

Poland will receive the most (82.27 billion euros), followed by Italy (33.08 billion) and Spain (28.31 billion euros).

In addition, there is also the European Fund for Guarantees and Management of Agriculture (EAGGF), which operates under the Common Agricultural Policy of the European Union (EAP). The goal is to finance the modernization of agricultural structures and the development of rural regions, namely: financing the development and structural reorganization of agriculture; increase the efficiency of the structure of production, processing and marketing of agricultural and forest products.

Conclusions.

Within the framework of the first sub-goal of the study, "formulation and substantiation of the initial prerequisites for the formation of a regional innovation policy in terms of three levels of its coordination", a number of circumstances have been identified that need to be taken into account when forming mechanisms for coordinating regional innovation policy: 1. In developing strategies and applying coordination tools for regional innovation the role of the state plays a leading role, the role of the EU is increasingly strengthened (for example, in the area of finance and European coordination of innovation activity in the regions), for regional authorities themselves (with the exception of some federal countries: USA, Germany, Canada) it is not possible to sufficiently weighty contribute (financial, tax preferences, or the creation of public-private partnerships) the implementation of appropriate strategies. 2. Distinguish the state innovation policy and the innovation policy of private business. In most countries, government and private business spending on research and development is approximately equal to 1/3 to 2/3. 3. In the

recent period, regional innovation policy is most often implemented within the so-called regional innovation clusters. Clusters arise either spontaneously in the process of business coordination, or at the direction of national or regional governments. However, in both cases, regardless of who initiated the creation of the cluster, it should take into account the need for interaction between the state, science and business on the basis of the "triple helix" principle. 4. At the regional level, it is necessary to harmonize the regional, sectoral structural (industrial) and innovation policies, since the same tools are used for their implementation at all three levels of coordination. 5. It is necessary to take into account that clusters, regardless of their territorial size, are formed mainly within a certain branch of specialization. However, there is also a successful practice of multi-industry (3-4 industry) clusters. 6. A careful and perfectly thought-out approach is needed in the organization of clusters, as experience shows that failures in the implementation of cluster policy significantly exceed the number

of projects that have been successfully implemented.

Within the framework of the second sub-goal, "consideration and structuring of coordination mechanisms at the national and regional levels of regional industrial and innovation policies in two countries with successful experience in their reform, namely in France and South Korea", it is necessary to take into account the following circumstances that will contribute to the purposeful formation of appropriate systems in the post-Soviet countries: it is necessary to pay attention to the general system (mechanism) of coordination of formation and activity of poles of competitiveness in France, and to such things as poles of competitiveness management system, contracts for the achievement of results, tax preferences, the system of public funding; from the experience of South Korea, attention should be paid to the management system in which the Council for Regional Innovation provides clear coordination of national and regional governance, as well as the state of science and business, through the joint development of a strategy and program of activities on innovation policy. An important circumstance is that no country, even a relatively large one, cannot do without borrowing innovations and new technologies, and in South Korea an excellent system of continuous improvement of borrowed pro-

duction and food technologies has been created. Strictly speaking, the South Korean technological breakthrough was based on borrowed technologies as early as the 60-70s of the last century, and the mechanisms of borrowing are described in more detail in the work: (Бурдули В, Абесадзе Р., 2017). Within the framework of the third sub-goal, "consideration and structuring of mechanisms for coordination of regional innovation policy at the supranational level of the EU" in post-communist countries, we should take into account the opportunities for financing regional innovation development that we have identified through the European programs and funds reviewed. The regional orientation of the EU budget allocations is not specified concretely in the "Horizon 2020" project, but the projects are both regional and, most often, country, interregional and intercountry, and individual scientists and developers, their groups, private firms, public and state organizations from regions, as well as regional innovation clusters can participate in these projects. And in all the documents from which the regional policy is funded (the European Regional Development Fund, the Cohesion Fund, the European Social Fund), along with other objectives of regional industrial and social policy, the objectives concerning innovation policy are clearly specified, which are the main priorities of these funds.

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THE METHODS OF MEASURING THE EFFICIENCY OF THE PUBLIC FINANCE SECTOR

METODY POMIARU EFEKTYWNOŚCI SEKTORA FINANSÓW PUBLICZNYCH

МЕТОДЫ ИЗМЕРЕНИЯ ЭФФЕКТИВНОСТИ ГОСУДАРСТВЕННОГО ФИНАНСОВОГО СЕКТОРА

Abstract

The article analyzes the issues of efficiency, with special emphasis on measuring it in public sector units. The reason behind establishing units of the public finance sector is to satisfy the needs of the society, whereas the expenses paid to satisfy those needs are financed from public means. The measurement of the efficiency of such units is an important element used for assessing the degree of accomplishment of public tasks. The article offers a review of the issue and attempts at characterizing selected efficiency measures used in the units of the public finance sector.


Keywords: public sector, efficiency, efficiency in public sector

Streszczenie

Artykuł analizuje kwestie skuteczności, ze szczególnym naciskiem na pomiar w jednostkach sektora publicznego. Powodem ustanowienia jednostki sektora finansów publicznych jest zaspokajanie potrzeb społeczeństwa, a koszty do zaspokojenia tych potrzeb są finansowane ze środków publicznych. Pomiar skuteczności takich jednostek jest ważnym elementem służącym do oceny stopnia realizacji zadań publicznych. Artykuł zawiera przegląd zagadnienia i próby scharakteryzowania wybranych mierników stosowanych w jednostkach sektora finansów publicznych.

Słowa kluczowe: sektor publiczny, efektywność, skuteczność w sektorze publicznym

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Аннотация

В статье анализируются вопросы эффективности с акцентом на измерения в единицах государственного сектора. Причиной создания отделов в секторе государственных финансов является удовлетворение потребности общества, а расходы, уплачиваемые для удовлетворения этих потребностей, финансируются за счет государственных средств. Измерение эффективности таких единиц является важным элементом, используемым для оценки степени выполнения общественных задач. В статье содержится обзор вопроса и попыток охарактеризовать выбранные меры эффективности, используемые в единицах финансового общественного сектора.

Ключевые слова: *государственный сектор, эффективность, эффективность в государственном секторе*

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Over the past decades Poland has been experiencing a period of huge transformation from the communist system to the democratic one. These changes have naturally brought about the necessity to build a system of public finance tailored to conditions of free market economy. The central axis in creating the new system of public finance was, and still is, as the adjustment process has not been completed, the problem of allocating financial responsibility for satisfying the basic needs of citizens between the state budget (public finance) and household budgets (private finance) (Owsiak S., 2006, p.378).

Public funds should be carefully supervised, not only to check if they are properly spent, but also to ensure the best effects related with their allocation for specific tasks. Public finance, due to its limited nature, should be spent as “effectively” as possible. Efficiency is defined as a relation between the achieved results and the incurred expenses (Nogalski B., 2002, p.83). Each evaluation of efficiency of some actions should focus on comparing the relation between the achieved effects and the data concerning expenditure.

Aims of paper. Methods.

The problem lies in finding the criteria for assessing efficiency, especially in the public sector, which is related to the specifics of this area. The assessment should be made in line with the adopted and agreed

criteria. The biggest problem always concerns the measures of the assessment, since the outcome largely depends on the adopted solution in this area. Also the selection of a specific assessment parameter

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should determine the choice of a corresponding measure.

By measures we understand economic categories (profit, costs, productivity, turnover) reflecting the events or operations concerning managing, which took place in the unit and its surroundings, presented in appropriate units of measure. The purpose of using a measure is to determine the phenomenon on the basis of which we assess an economic unit and take economic decisions. In order to accomplish these tasks

the measure should have a simple and transparent form (for example natural and value measures) and it should allow us to determine precisely the volume and decision making (Lichtarski J., 1995, p.167).

The aim of the article is to present the essence and significance of efficiency, especially taking into consideration new solutions applied by units of the public finance sector.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Efficiency is one of the basic, commonly used categories for assessing actions. It is used not only in economics but also in many other areas of human activity (Ziębicki B., 2013, p.20).

The subject literature offers a wide spectrum of defining and interpreting efficiency. We should emphasize the multi-dimensional nature of the discussed concept. Research is dominated by organizational and economic efficiency, based on the indicator, parameter and non-parameter approaches. Researchers are also paying more attention to the ecological efficiency due to the popularity of the sustainable development concept. However, the content and scope of each type of efficiency evolves in time, adjusting itself to the development of theory and practice and to changing expectations of value systems of the society (Rutkowska A., 2013, p.439).

P. Samuelson and W. Nordhaus defined efficiency as the most productive use of the society resources in the process of satisfying people's needs and eliminating their deficits (Samuelson P.A., Nordhaus W.D., 1999, p.478).

Economic efficiency is an action aimed at achieving a particular effect while using the smallest amount of available resources or at achieving the best result while using a


specified quantity of available resources. This concept refers both to individual entities and to larger aggregates, for example to the whole country economy.

The research concerning the economic efficiency is mainly connected with optimizing the allocation of resources. This issue is the subject of studies in the classic school of economics. It was A. Smith who was the first to analyze the issue in his studies. He claimed that effective allocation of resources occurs in conditions of total freedom of managing and is related to the influence of the natural, self-regulation mechanism, known as the famous "invisible hand of the market".

Contemporary economists express this thought more precisely, assuming that market forces push the economy automatically in ideal competition conditions to states of balance in markets of particular products and production factors and to balance on all markets in the same time, which, assuming that there are no external effects and public goods, means the optimal use of economic resources and also maximum level of social welfare available in particular conditions (Milewski R., Kwiatkowski E., 2012, p.208).

V. Pareto conducted some more detailed research on efficiency. According to him

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efficiency occurs when it is not possible to organize production to ensure that everyone is in a better situation without worsening the situation of anyone – the so-called Pareto optimality (Ziębicki B., 2013, p.21). This means that balance in Pareto optimality is achieved when the marginal cost of production of a particular good equals the marginal benefit associated with its consumption (Begg D.K.H., Fischer S., Dornbusch R., 2003, p.437).

Formulated in this way, Pareto optimality arouses numerous doubts expressed also in the subject literature. There might be many optimal states defined in this way and they are not comparable to each other. When assessing the proportion of sharing global income among members of the society, we also need to take into account non-economic criteria, such as moral and ethical ones (Milewski R., Kwiatkowski E., 2012, p.208).

Transferring research on Pareto optimality onto the level of single production units, economist T.C. Koopmans presented a theorem according to which a single production system is effective only if it is possible to minimize the result or the expense by decreasing another result or increasing another expense. Efficiency in this meaning is connected with use of technical production capacities and is defined as technical efficiency (Ziębicki B., 2013, p.21). We can generally distinguish two approaches to analyze efficiency, differing in time horizon (Kozuń-Cieślak G., 2013, p.17):

- dynamic efficiency, connected with the ability to grow and develop in the long-term perspective,
- static efficiency, which concentrates on avoiding waste of the possessed (constant in a particular period) resources and their best allocation.

The static efficiency means optimal production and distribution of limited re-

sources, its goal is to run the system towards achieving the production capacities curve. The static approach to efficiency is connected with the concept of Pareto's optimality. Pareto efficiency is ensured exclusively in conditions of ideal competition – the market structure assuming perfect access to information, homogeneity of goods and services, which make it a hardly realistic structure.

The aim of the dynamic efficiency, on the other hand, is not to strive at achieving the production capacities curve, but to move it constantly to the right. From the dynamic perspective the aim of the activity is not to avoid wasting resources, but to discover and set new goals and resources all the time. The dynamic presentation of efficiency is closely related to the concept of entrepreneurship and questions the legitimacy of assumptions concerning given (fixed) resources. It is practically impossible to achieve the economic efficiency in a perfectly competitive market, since the long term non-profit companies with do not have funds for innovations. Monopolies and oligopolies, though ineffective in achieving static production and allocation efficiency, are good at implementing dynamic efficiency (Kozuń-Cieślak G., 2013, p.18).

Efficiency is analyzed on the level of economy from the perspectives of production, allocation, innovation and distribution. The production efficiency is achieved when we maximize production under given constraints of supply and demand. Allocation efficiency is connected with the allocation of resources in production zones, which society appreciates. Innovation efficiency means that the applied technologies allow us to obtain the highest possible productivity of economic resources. Distribution efficiency is when none of the entities tries to change the existing structure of division of the manufactured product.

In social perspective, efficiency is not always identical with economic efficiency. In economics we mainly consider production efficiency, which depends on allocation and innovation efficiency. Distribution efficiency is less important. However, distribution efficiency plays a dominant role from the social perspective. In the social perspective we additionally consider the so-called social costs of conducting economic activity. These are: environment pollution, depreciation of the assets' value and depletion of natural resources.

Experts often point at social effects of managing, related to improvement of working conditions and safety, employees healthcare, increased staff satisfaction, meeting the society expectations, using space and natural environment protection. This is social efficiency from a narrow perspective. An attempt at combining economic and social efficiency is made in the concept of corporate social responsibility (CSR), which tries to encourage enterprise managers to take actions which are not only not against social interests, but also pro-social ones (Zieliński M., 2013, p.140-141).

In its broader aspect, social efficiency is analyzed taking into account all dimensions of effects and expenses related to the management process (that is taking into consideration social, not private costs and benefits). This is the broadest possible approach to efficiency, since it is the measure of management rationality from the perspective of the welfare of the whole society.

Ecological efficiency, which is also a relation of effects to expenses, is presented as an element of social efficiency. However, in case of ecological efficiency, what really matters is the degree to which the adopted goals have been accomplished. The expenses they entail are of secondary im-

portance, which does not mean the resources spent on them can be wasted (Kryk B., 2003, p.97). It is assumed that within the framework of ecological and social efficiency two rules are applied:

- the accomplishment of the priority goal is superior to the resources spent on it,
- on the other hand, we must observe the rule that resources must not be wasted.

The effects in the area of environment protection rarely appear as the only effects of actions. Thus, it is necessary to consider them along with other effects of a technical or energetic nature.

Measuring economic efficiency

In the theory of economics and in business practice we use various measures of economic efficiency. They may express the ratio of achieved effects (production, value added, national product, profit, etc.) to incurred expenses (employment, fixed assets, investment, used resources and materials, energy, fuel, etc.). Depending on what we take as an effect and what as an expense, we obtain various efficiency relations. The main efficiency relations are presented below:

- growth rate,
- work productivity,
- fixed assets productivity,
- consumption of materials,
- consumption of energy.

Improvements in economic efficiency are manifested in the increase of the first three relations and the decrease of the other two (economic calculation).

Gross Domestic Product is a measure of economic development and welfare of a country. Gross Domestic Product is a synthetic measure of the value of production manufactured in the economy within a year. GDP measures pure production, or added value, generated in the economy (Begg D.K.H., Fischer S., Dornbusch R., 2003, p.312). GDP measures the value of

production manufactured in the economy of a given country in a year, however, there are also companies with foreign capital that operate in the economy and the profits generated by such companies partly belong to their foreign co-owners and may flow abroad. Therefore the category of Gross National Product was introduced, which corrects the size of GDP, subtracting the value of the above-mentioned income flows. On the other hand, national income is another production measure which takes into account net investments (the difference between GNP and depreciation). Since they refer to the whole economy, categories of national product and income are not very useful in assessing the level of economic development of a given country and average living standards of its population. Here we should apply the categories of GDP or national income per 1 inhabitant. And even though these indicators are commonly used to determine the living standards (welfare) of the population, we need to be aware that they are not fully relevant measures of welfare. First of all, they do not take into account production which is either illegal or legal but not registered (used on one's own to satisfy the household's needs). Moreover, GDP indicators do not reflect the rest, which is of vital importance for the wellbeing of individuals. Additionally, these measures do not include "external effects" of production, concerning its side effects for the natural environment (Milewski R., Kwiatkowski E., 2012, p.243-245). Treating GDP as a welfare measure may result in taking wrong political decisions.

This was also emphasized by Nobel Prize winners: Stiglitz, Sen and Fitoussi, who were commissioned by Nicolas Sarkozy to develop a report titled: "Measurement Error. Why GDP is not enough." (Stiglitz J., Sen A., Fitoussi J.P., 2013, p.14).

"Measurement Error" presents numerous recommendations concerning better measures of economic development, ranging from simple to more technical ones. Although the publication does not provide us with definite answers to the questions and reservations made in it, it reminds contemporary researchers of the limitations and bias of the current measures, which should spur more intense work on this issue.

The authors emphasized that wellbeing is multidimensional and we should take into account (Stiglitz J., Sen A., Fitoussi J.P., 2013, p.14):

- the material living standards (income, consumption and estate) – income and consumption should be considered jointly with estate;
- health – it is the most important area which affects the length and quality of our life, therefore good measures of life expectancy and quality should be developed;
- education – it is strongly correlated with the evaluation of the quality of life even if it does not affect income or productivity;
- occupations of an individual (including work) – we need to consider the services that households provide for themselves and incorporate non-market activity into measures, it is also important to know how people spend their free time;
- political voice and influence on political decisions – they constitute an integral dimension of the quality of life;
- social ties and relations – people who have more social contacts consider their life to be better;
- natural environment (current and future conditions) – the state of natural environment affects people's health;

– uncertainties of economic and material nature – personal safety is of vital importance, related to the crime rate and accidents, also material security is important, linked with the risk of unemployment, illnesses or old age.

According to the authors, it is necessary to develop questionnaire surveys which would help us assess relations between various areas of life of each person and the information from such survey should be used when developing social policy in various fields (Stiglitz J., Sen A., Fitoussi J.P., 2013, p.92).

In the authors' opinion, people responsible for economy should stop behaving like a driver who has only a speedometer in his car.

Efficiency and methods of measuring it in units of the public finance sector

In units of the public finance sector efficiency is often viewed in the context of the amount of the spent public funds. However, we should also take into account the purposefulness of the expenditure and the effects achieved thanks to it in the area of public utility, understood as current and continuous satisfaction of the collective needs of the population (Jastrzębska M., 2016, p.44).

It should be emphasized that the main reason for establishing units of the public finance sector is the necessity to satisfy public needs of the society, including, inter alia, the need of safety, healthcare or education. The above needs are satisfied by entities of the public finance sector, which perform particular public tasks, while the expenses they incur to provide such services are reimbursed from public funds (Kaczyńska A., 2017, p.84).

M. Jastrzębska points out that the methods of analyzing the efficiency in the private sector cannot always be applied to measure the efficiency in the public finance sector, where it is not always possible to precisely

determine the expenses and effects, while goals are often of qualitative nature and it is difficult to quantify them. It should also be stressed that the valuation of the effects related to public expenses is not based on market prices. Even if fees are collected for using public utilities, such fees usually do not reflect the costs of creating a particular public utility (Jastrzębska M., 2016, p.45). M. Ziolo also points at difficulties in measuring the efficiency of the public sector while analyzing the Performance Paradox phenomenon consisting in a weak relationship between measures of effects and the measured object itself (Ziolo M., 2013, p.29-32).

Scientific literature concerning research on the efficiency of units in the public finance sector distinguishes the following categories (Kaczyńska A., 2017, p.83-84):

- 1) efficiency in its organizational aspect, understood as:
 - achieving efficiency of management,
 - performing tasks maximizing usefulness for the local community,
 - the functioning of an organization in line with the purpose of its manager,
 - achieving effects which are positively viewed,
 - strategic ability of an organization to adjust to changes in the environment and to use the resources at its disposal in a productive and economical way, directed at accomplishing the set goals,
- 2) efficiency in its financial aspect, understood as:
 - the ratio of the results of actions taken to the expenses incurred while performing actions,
 - the accuracy of the selected instruments of fiscal policy used for implementing processes of sharing and exchanging public goods and services rendered by entities in the public finance sector,

- the evaluation of the results of the spent public funds, measured with changes in the direct surroundings of the entities of the public finance sector.

The need to measure the efficiency of the units operating in the public finance sector is also emphasized by the model of public management called New Public Management – NPM. This model is based on the theory of public choice, according to which voters pursue their own economic interests while politicians offer voters such services which will secure them their support and votes. NPM is a form of implementing the principles of managerialism, which is manifested in the constant strive for improving the efficiency of the actions taken and is based on the principle of indirect control, that is management based on proper stimuli and values assuming continuous quality improvement (Kaczyńska A., 2017, p.84). The analysis of the subject literature allows us to distinguish the method of evaluating efficiency, based on the following approaches (Owsiak K., 2014, p.147-148):

- indicator approach, consisting in constructing relations between various quantities,
- parameter approach, based on econometric methods and introducing the production function to the evaluation of efficiency,
- non-parameter approach, which uses procedures of linear programming.

The evaluation of the efficiency achieved by the units of the public finance sector may be conducted on a microeconomic level, where we mainly determine whether the expenditure of public funds was rational and consistent with the adopted goals, or on a macroeconomic level. In the latter case we can apply one of four commonly used methods for measuring the efficiency of public finance sector units, namely: PSP (Public Sector Performance), PSE (Public Sector Efficiency), DEA


(Data Envelopment Analysis) and FDH (Free Disposal Hull) (Owsiak K., 2014, p.147-148).

PSP is an indicator of public sector performance, which is the average of seven sub-indicators. The first four sub-indicators concern: administration, education, health and public infrastructure. The other three determine the influence of the government policy on market situations and these are indexes of: distribution, stability and economic results. The PSP indicator is the base for calculating the PSE indicator which is the quotient of the PSP indicator and the relation of public expenses to gross domestic product (Kaczyńska A., 2017, p.90). The combination of these indicators allows us to create a ranking of countries according to the efficiency of their public sector (Wojciechowski E., Podgórnjak-Krzykacz A., 2008, p.23).

The global research on efficiency, also as far as the public sector is concerned, is dominated by the non-parameter method of measuring efficiency, the so called method of analyzing envelopment data – DEA method. In Data Envelopment Analysis we analyze mainly technical efficiency. The method allows us to take into account both many expenses and products typical for the activity of the analyzed entities (Kaczyńska A., 2017, p.91-94). One of the advantages of the DEA method is the possibility of using variables (expenses and effects) expressed in heterogeneous measures, which is of vital importance when measuring the efficiency of the non-market production due to the lack of market prices of these variables.

In spite of difficulties appearing while measuring the efficiency of the public finance sector, it should be underlined that people who take financial decisions should be aware of the consequences of implementing them, both in the short and in the long time. Such people should also analyze

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the reasons that led to taking specific financial decisions (Jastrzębska M., 2016, p.49). B. Guziejewska points at ways of improving the efficiency of the public sector finance. Such ways, inter alia, include the following postulates (Guziejewska E., 2008, p.85):

- more direct inclusion of local politicians' preferences in the financial policy of territorial self-government units,
- perceiving relations between the scope of provided public goods and public and law burdens imposed in order to finance them,

- taking into account the process of globalization in setting new goals of compensation transfers,
- stronger identification of local taxpayers with the territorial unit where they work and pay taxes, which is aimed at building the civil society,
- aiming at the widest possible decentralization of public finance, which allows more flexible finance management.

Taking the above into account, it would be advisable to consider the introduction of uniform methodology for measuring efficiency in the public sector, whose goal would be to normalize solutions on the national or EU level.

Conclusions.

The public sector, often called the government sector, is the section of economy which concerns transactions performed by the government. Using the income obtained from taxes and other sources of income, the government finances its expenses, affecting the economy and investment decisions (Pas Ch., Lowes B., Davies., 2000, p.439-440). The above definition, however, has become a little outdated. More and more expenditure on healthcare or education is being financed on commercial terms, following the growing scope of privatization of entities operating in these areas (Karpiński A., Paradysz S., 2005, p.59-60).

An important issue which appears in discussions concerning the purposefulness and rationality of the amounts spent is the concept of their effective spending and accounting.

The degree of development, the role of the public sector and its efficiency can be measured by means of various measures, including (Karpiński A., Paradysz S., 2005, p.62-63):

- 1) the share of public sector in the whole employment in the country economy (OECD),
- 2) the share of expenditure on the public sector in the Gross Domestic Product (GDP),
- 3) the share of the public sector in fixed assets of the economy,
- 4) the level of satisfying the needs for public services in particular categories of service users (for example the unemployed, the retired, children),
- 5) the share of public funds in financing particular types of services (healthcare, education, cultural activity),
- 6) the results of the public opinion survey evaluating the degree of satisfying the needs for public services,
- 7) the efficiency of funds spent on public services,
- 8) qualitative indicators evaluating the public sector operations.

The above indicators and their cognitive values are, however, commonly criticized. Therefore we should consider developing and adopting uniform criteria for evaluating the ways of spending public funds. This

is by no means an easy task, since the public sector is not homogenous, whereas tasks performed by public sector units are numerous and varied.


The development of uniform sector indicators in the context of groups of entities (for example healthcare units, education units, etc.) could become a tool for rationalizing tasks performed by the public sector.

the expended funds as well as the criterion of evaluating not only the correctness of their expenditure but also evaluating the achieved effects. Uniform indicators would also ensure comparability, needed so much when evaluating planning resources allocated for

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EXPERIENCE OF ECONOMIC REFORMS' IMPLEMENTATION IN POLAND AND UKRAINE

DOŚWIADCZENIE REALIZACJI REFORM GOSPODARCZYCH W POLSCE I NA UKRAINIE

ОПЫТ РЕАЛИЗАЦИИ ЭКОНОМИЧЕСКИХ РЕФОРМ В ПОЛЬШЕ И УКРАИНЕ

Abstract

The article combines the research of a system of indicators and own thoughts of authors elaborated on the basis of material. The authors suggest that study of Poland's economic reforms will give the opportunity to adopt a positive experience for further development of Ukraine's economy. By using different approaches to governance, two countries could achieve different results. Today, the gap in the rates of economic development of Ukraine and Poland is increasing. The acceleration of the economic growth of Poland was facilitated by its accession to the EU and the systemic structural reforms in the country until 2004. Ukraine for a long time failed to implement effective reforms, which led to the backlog of the national economy from the economies of neighboring countries.

Keywords: *reforms, economy, crisis, GDP, subsidies, investments*

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Streszczenie

Artykuł łączy w sobie badania systemu wskaźników i własnych opinii autorów opracowanych na podstawie niniejszego materiału. Autorzy uważają, że badanie polskich reform gospodarczych umożliwi akceptację pozytywnego doświadczenia w celu ciągłego rozwoju ukraińskiej gospodarki. Wykorzystując różne podejścia do zarządzania, dwa państwa mogą osiągnąć różnych wyników. Obecnie zwiększa się luka w poziomie rozwoju gospodarczego Ukrainy i Polski. Przyspieszenie wzrostu gospodarczego Polski wspierało jej przystąpienie do UE i systemowe reformy strukturalne w kraju przed rokiem 2004. Ukraina przez długi czas nie realizowała skutecznych reform, co spowodowało niedorozwój gospodarki narodowej w porównaniu z gospodarkami sąsiednich państw.

Słowa kluczowe: reformy, gospodarka, kryzys, PKB, dotacje, inwestycje

Аннотация

Статья сочетает в себе исследование системы показателей и собственных размышлений авторов, разработанных на основе материала. Авторы полагают, что исследование экономических реформ в Польше даст возможность применить положительный опыт для дальнейшего развития экономики Украины. Используя разные подходы к управлению, две страны достигли разных результатов. Ускорению экономического роста Польши способствовало ее присоединение к ЕС и системные структурные реформы в стране до 2004 года. Сегодня разрыв в темпах экономического развития Украины и Польши растет. Украина долгое время не осуществляла эффективных реформ, что спровоцировало отставание национальной экономики от экономик соседних стран.

Ключевые слова: реформы, экономика, кризис, ВВП, субсидии, инвестиции

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The Polish reforms experience is indicative for Ukraine. Poland is a successful example of adapting the post-socialist economy to the EU requirements. Poland managed to implement systemic market reforms by the time of accession to the European Community (2004). The state's integration into the EU is correlated with a significant improvement of the indicators absolute majority of its socio-economic development.

Since the beginning of the 1990's, after the Soviet system's decay, independent Poland

and Ukraine started the economy formation on a market basis. At the same time, Poland clearly adhered to the course on European integration, while Ukraine declared multi-directional and desire for integration simultaneously in the eastern and western directions. Accordingly, the two countries have reached different economic results.

From this point of view, the scientific interest is the experience and transformational conversions of the Poland's Republic, which, like Ukraine, in the early 90's began

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to rebuild its statehood and social-economic system on a market basis, but was able to mobilize the population, survived through the difficult years of liberal reforms and over the 13 years of EU membership, which has shown sustained economic growth and its GDP exceeds the average

European level. It should be noted that with similar starting positions, today the gap in the development of Ukraine and Poland, unfortunately, is increasing. Growth stability is the main difference between the Polish and Ukrainian economy.

Exposition of main material of research with complete substantiation of obtained scientific results. Aims of paper. Methods. Analysis of latest research where the solution of the problem was initiated.

At the time of gaining independence in 1991, Ukraine possessed a numerical human potential (52 million people), more than 60% of which had full secondary or secondary special education (primary higher education), about 20% higher education (full, basic or incomplete). The state had significant achievements in the field of exact sciences; the largest chernozem agricultural land and reserves of titanium, uranium, manganese, mercury and other ores, shale gas and coal in Europe; profitable geographic and transit position. Ukraine took the second place in Europe for the power of the gas transmission system and nuclear power plants and ranked third place in the world for nuclear power, unique aerospace and other industrial technologies.

At the same time, Ukraine inherited a considerable military-industrial complex, which needed restructuring. The industry was tightly linked to supply-distribution networks with other countries companies of the former Soviet Union. Ukraine did not have its own currency, banking system, skilled managerial staff etc. Private property was also practically absent. The country was slowly entering into the first economic crisis: the inflation level was 390% per annum in 1991. In 1992, inflation was already 2100% per annum.

At the same time, Poland has already got on the way of an exit from the economic crisis, in which the state was in 1989. Exactly the Baltserovich Plan was adopted in 1989,

which provided for the implementation of effective system (albeit unpopular among the population) reforms for the Poland transition from an economy, based on state ownership and centralized planning, to a market economy type.


The main radical steps of the Baltserovich-Mazowiecki government were:

- didn't prevent the bankruptcy of non-profit state-owned companies;
- liquidation of the state banking system;
- don't release the exchange rate of the national currency, despite of the galloping inflation and to introduce a fixed rate of zloty to the dollar;
- the implementation of a decentralization reform based on the subsidiarity principle;
- policy transfer of the state communal sphere into the homeowners administration.

As a result of reforms, in 1992 in Poland growth of GDP was 2.6%, and in 1995 - 7%. Annual inflation didn't exceed 3% against 639.6% in 1989.

According to the World Bank, in the early 1990s in Ukraine and Poland standard of living was approximately the same. In 1991 Ukraine's GDP amounted to 77.46 billion dollars, and in Poland - 83.86 billion dollars. At the same time, GDP per capita was USD 1,570 in Ukraine, while in Poland - USD 1,700. That is, Poland and Ukraine had similar starting conditions: almost the same GDP per capita and country amounts,

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as well as the share of the agricultural sector, industry and services in GDP (Table 1).

Table 1. The major macroeconomic indicators of Ukraine and Poland in 1991-2016

Indexes	1991		1995		2005		2015		2016	
	Ukraine	Poland	Ukraine	Poland	Ukraine	Poland	Ukraine	Poland	Ukraine	Poland
GDP (USD billion)	77,46	83,86	48,21	139,41	86,1	306,1	90,61	456,8	93,3	469,5
GDP per capita (USD thousand)	1,57	1,7	0,94	3,61	1,37	12,5	2,12	12,5	2,1	12,5
Agrarian production share in GDP (%)	22,8	X	15,4	5,29	10,9	3,0	14,0	2,78	14,0	2,5
Industry share in GDP (%)	50,5	X	47,5	37,4	32,9	32,4	25,9	33,5	27,0	33,5
Services share in GDP (%)	26,7	X	41,9	57,3	57,2	63,9	58,7	63,7	59,5	64,0

Source: World Bank <http://wdi.worldbank.org/table/4.2>

After the rebirth of independence and accession to the EU in 2004 Poland carried out progressive structural reforms, which allowed it to reduce the agricultural production share, industry and service sector in GDP to the indicators of the developed Europe industrialized countries. Since the Poland accession to the European community, the country's economic growth

has accelerated significantly, and the GDP growth rate has exceeded the average European indicator, which has made it possible to reduce the economic development gap level between of Poland and the EU. The gap in the GDP volume of Ukraine and Poland increased steadily from year to year (Fig. 1).

Figure1. GDP dynamics of Poland and Ukraine in 1990-2016, USD billions



Source: Elaborated by the authors on the basis of World Bank <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=DE-UA-PL-EU&start=1989&end=2015>

At the time of accession to the EU in 2004, Poland's GDP was 4 times larger in comparison with Ukraine's GDP - 253.53 billion dollars against 64.86 billion dollars in accordance. In Poland GDP per capita was almost 6 times higher than in Ukraine. After Poland's accession to the EU, the gap in the above indicators has only increased.

At the beginning of 2005, Poland's GDP was USD 306.1 billion and increased 3.65 times compared to 1991. The agricultural sector share in Poland's GDP in 2005 fall to 3.0% (for comparison - in Germany this indicator was about 1%), and this dynamics continues. At the same time Ukraine's agricultural sector share in GDP remained constant high and ranged from 22.8% (1991) to 14.0% (2016). But the industry share in GDP decreased for the period of 1991-2016 by 23.5 pp. and in 2016 it was 27.0% versus 50.5% in 1991. Thus, the multi-vector trends took place in the economy structure of the two states; the Polish economy structure acquired the features of the industrial economy, and Ukraine became increasingly agrarian.

At the beginning of 2016, Poland's GDP was USD 469.5 billion, which exceeded amount of GDP in 2005 by USD 163.4 billion (or 153.4%). For comparison: Ukraine's GDP in 2016 was USD 93.3 billion and increased from 2005 on USD 7.2 billion (or 108.4%). At the same time, the GDP of Poland in 2016 exceeded Ukraine's GDP on USD 376.2 billion or in 5 times. As for GDP per capita, in 2016 it was 12,500 dollars in Poland, and only 2,100 dollars in Ukraine.

That is, the extremely ineffective Ukrainian government's policy and unspecified system of economic governance have led to a significant break in the rates of economic development of Ukraine and Poland. And if in Poland, the reforms of "shock therapy" have been realizing since 1989 and their first positive results were felt in the early

90's, while in Ukraine effective reform of the economy began to act only over a decade later.

The average annual growth of Ukraine's economy amounted to 2.3% during 2000-2008 and was provided by a cycle of high market conditions for raw, in particular ore and metallurgical products. When this cycle was over, the Ukrainian monotonous economy was in a protracted crisis. That is, the export model of the economy's growth has exhausted itself and at the time of the Ukrainian economy's new model formation based on objective world trends and national strategic priorities.

The Polish economy is the fastest growing in the European Union in 2017 (according to the Central Bank of Poland and the European Statistical Office (Eurostat)). In early July 2017, the country's Central Bank (Narodowy Bank Polski (NBP)) raised its GDP growth forecast from 4.0% to 4.7% by 2017, while inflation was expected to decline to 2.3% per annum (10). At the same time, Ukraine hasn't shown significant economic success. The population welfare remained extremely low: economic growth in 2017 was 2%, inflation in 2017 rose to 13.7% against 12.4% in 2016 (Ministry of Finance. The Inflation Indexes, 2017).

The positive dynamics of Poland's economic growth contributes to the formation of the country in the European and world community and allows developing effectively in all directions.

First of all, joining the EU has promoted to the development of Polish export. According to the World Bank, the volume of export during 2005-2016 has increased from USD 89.437 million to USD 202.522 million (or on 2.26 times) (World Bank [15]), which explains positive structural transformations of production and export towards high-tech products. The export growth and its excess over import was a determining

factor in the steady growth of the Polish economy after the 2008-2009 crises.

During the same period (2005-2016), Ukraine's export grew up from USD 34.228 million to USD 36.364 million (or in 1.06 times) (World Bank [15]).

The low growth rates of Ukrainian export are primarily explained to the preservation of the commodity nature of production, while the main factor in the growth of Polish export is the engagement of foreign investment's significant volumes, which contributed to the modernization of the production base of industry. However, in recent years the structure of Ukrainian export has seen positive developments: the demand for high-value Ukrainian products is increasing in the EU, while metallurgy goods, agro-food, light and chemical industries are increasingly coming to the EU in their finished form rather than as raw materials. Another positive trend is the implementation of Ukrainian high-tech services on the EU market.

A significant reason for the small volumes of Ukrainian export's finished products is its discrepancy with European quality requirements. Unfortunately, Ukrainian producers are not actively engaged in improving product quality management. In Ukraine for USD 1 billion GDP has 3 certificates of ISO 9001, and in Poland - 12. As a result, export opportunities of Ukrainian enterprises are not as favorable as of Polish enterprises.

Military conflict and related risks have worsened the investment climate of Ukraine. Today, according to the level of investments into the economy, Ukraine is still returning to the pre-war indicators, although there is a slight positive dynamics. Thus, according to the State Statistics Service, the volume of direct foreign investments in the economy of Ukraine (share capital of non-residents) as of October 1, 2017 amounted to USD 39.719 billion,

which is 5.9% higher than at the beginning of the year. Foreign capital investment in Ukraine is about 3% of the total volume of all investments and doesn't significantly affect the development of the economy.

At the same time, positive trends are continuing in Poland's investment field. In the early 1990's a foreign investment law was passed in Poland, which abolished the restrictions on the share of foreign citizens in the enterprises' share capital and also granted tax incentives to foreign investors (in regions with high unemployment benefits were more substantial).

According to a study by Ernst & Young (Attractiveness survey Europe, May 2017), Poland was among the top five most popular destinations among global foreign investors for the first time in the last nine years. It occurred due to a large number of implemented projects (256), which exceeded the 2016 indicator by 21%. The implementation of such large-scale investments in Poland will create at least 22 thousand new jobs (an increase of 12% relative to 2016), which is the second result in Europe after the UK. Foreign investors implemented an average of 142 projects a year in 2003-2004 in Poland, and in 2014-2016 this number exceeded 200 units.

In addition, Ernst & Young experts suggest that not Ukraine, but the Czech Republic will be the strongest competitor in Poland in the fight for investment. The reason is the high position of this country in the 2017 Readiness for Change Indicator, compiled by the KPMG Audit Company (Change Readiness Index, July 2017). This indicator measures the ability of the country to respond to shock situations and advanced trends assesses the degree of readiness for abrupt global changes, and studies the political and economic factors and risks of different countries, which is especially relevant in the era of global change in technological structure (Industry 4.0; block chain

technology). The Czech Republic became the leader in the 2017 Indicator among the CEE countries, having gained 25th place (Poland has 28th place, and Ukraine is on the 95th place due to the weakness of state institutions) (Mirror of the Week, 2017) .

Domestic sources of investment in Ukraine are rather limited - the level of domestic savings is extremely low compared to neighboring countries - only 13.3% of GDP, whereas in Poland - 23.3%, the Czech Republic - 33.1%, Belarus - 31.0%. The primary reason for the low level of savings of Ukrainians is the low income of the vast majority of households - the average wage in Poland is 970 euro, and in Ukraine - 173 euro. Due to the high level of risk Ukrainians are afraid to invest in the banking system or business development, which negatively affects the activities of the banking system and the state of the economy as a whole.

At the beginning of the reforms, Poland, unlike Ukraine, took bold steps that laid the foundation for further modernization of the financial sector, created a reserve of flexibility, deprived of its administrative levers of influence, and reduced unjustified public expenditures. The financial policy of the Polish government in the period of "shock therapy" provided for tight budget constraints and a budget deficit.

In early 1989, nine regional banks were allocated from the National Bank of Poland, which created the basis for the formation of a two-tier banking system. Regional banks have assumed the functions of direct servicing of economic agents, which is characteristic of commercial banks. There are also cooperative banks operating in Poland, which began to recover actively from the second half of the twentieth century. In the first years of reforms in Poland, the number of banks grew, but their capitalization was low. Since 1996, the processes of privatization and reforming of the banking sector

have accelerated significantly; consolidating and merging banks have intensified. Foreign banks began to come in the banking sector of Poland, the main condition for the passage for which was the participation in the reorganization and restructuring of Polish banks. Thus, the Polish Central Bank tried to help solve the problem of restructuring the national banking system, and foreign capital became one of the main sources of financing its development.

In 2017 there were 68 banks in Poland, in particular one state-owned Bank Gospodarstwa Krajowego (BGK). At present, Polish banking system is financially sustainable, and the national electronic banking system is recognized as one of the most developed and safe in Europe.

At the end of 2017 there were 86 banks in the banking system of Ukraine, 38 of which are banks with foreign capital, in particular 18 banks with 100% foreign capital. The share of the state in the banking sector accounts for 56% of net assets and 62% of deposits of the population. However, the capitalization of Ukrainian banks is lower in comparison with the Polish ones.

In 2017 the Ukrainian banking system provided UAH 1 007 131 million of loans, which exceeded the volume of loans granted to the Ukrainian economy in 2016 (UAH 998 681 million) by 100.8%. It should be noted that bank loans in Ukraine for most companies are inaccessible due to their high cost – 18-20%. High lending rates are primarily due to high credit and deposit risks. Banks of Ukraine attract deposits under 10-17%, and because of this credit resources cannot be cheaper. Despite the slow pace of the loan, there is a steady growing dynamics in the provision of credit facilities to legal and natural persons in the Ukrainian banking market.

In 2017 the NBU set the discount rate at 12.5% (in October it rose to 14%), which became the lowest indicator since 2015, but

the cost of resources for the economy remained high. The main credit support of the Ukrainian economy is the credit resources of the state banks, which most actively lend to corporations of agro industrial complex and food industry.

Comparing the credit policies of Poland and Ukraine, we see different approaches: if the Poles stimulate lending in every way, then in Ukraine in recent years, bank lending is actually restrained by the actions of the central bank. By implementing the inflation targeting approach, to keep inflation and the hryvnia exchange rate, the NBU limits the growth of money supply and removes hryvnia from circulation by selling government bonds to banks. Given the high liquidity and the lack of reliable borrowers, banks are willing to buy these government securities that guarantee them zero risk returns. The volume of placed government bonds as of mid-2017 reached UAH 50-60 billion, which exceeded the amount of loans granted to enterprises in Ukraine by ten times (Korablin S., 2017). In fact, these are funds that could be used as loans to the real sector and contribute to economic growth. Unlike Ukraine, Poland's special attention is given to providing access to financial lending to small and medium-sized businesses (SMEs), which create about 70% of GDP. SMEs are most actively developing in the field of agriculture, construction, trade, food, and jurisprudence. In Poland, SMEs are funded primarily by small banking institutions, namely: cooperative banks that specialize mainly in lending to medium and small enterprises and at the expense of international assistance programs. Such institutions meet the needs of business entities in providing a variety of services, including lending, leasing, financial advisory, investment, etc.

Various clubs of local initiatives and business incubators, whose activities are aimed at providing advisory assistance to start-up

entrepreneurs, play an important role in the development of Polish SMEs. The most promising projects, subject to the transfer of 15% of the shares of the new incubator, may receive investment from a business incubator in the amount of PLN 100,000, which is approximately USD 32.000 (14).

Ukrainians failed to form an attractive business environment - this applies to both small and large businesses. However, a number of effective steps towards deregulation have been made in 2014-2017, but still many problems need to be addressed (first of all, trust in the judicial system). In Poland, considerable attention is paid to issues of registration of property rights, issuing loans, protecting investments, trade policy, providing contracts and conducting a bankruptcy procedure, which promotes the attractiveness of its business environment.

There are no restrictions on foreign exchange operations in Poland. In addition, companies registered in Poland can receive funding from sources located outside the country. Sources of funding may include structural funds and the EU Solidarity Fund, programs of international financial organizations and commercial structures (Association of Ukrainian Business in Poland, 2017).

The reflection of the characteristic features of the national economy, its structure, is the securities market. The Ukrainian securities market is in a recession since the financial and economic crisis of 2008-2009. However, it should have played a leading role in attracting investment and transforming the economy, contributing to its systemic modernization. The daily volume of trading in shares in the Ukrainian Stock Exchange in 2011-2016 amounted to USD 15-50 million, while on the Warsaw Stock Exchange - USD 300-400 million.

That is, the Ukrainian securities market is institutionally incapable of performing its

functions. This is due to significant regulatory restrictions for foreign investors in the domestic financial market, the impossibility of liberalizing the currency legislation of Ukraine, the insecurity of minority shareholders' rights, the current state of corruption and the shadowing of the Ukrainian economy and the financial services market. Therefore, foreign and domestic investors refrain from investing in instruments of the financial market of Ukraine in recent years. The particular attention in the Polish economy deserves public-private partnership (PPP), which is formed by the consolidation of efforts of the government, local authorities and businesses.

The development of PPP in Poland began from the generalization of the EU countries' experience and the common definition of terms and legal framework of Poland's concession legislation. In 2003, the Rules for a successful PPP, which summarizes the provisions of UNCITRAL, adapted to EU legislation, were adopted. PPP Green Paper adopted in 2004, summarized the preceding documents on various EU directives and the countries' experience that are members of the European Community (Bakhurinskaya M., 2017).

There are a number of obstacles for the successful implementation of PPP projects in Ukraine: the lack of trust and cooperation between partners; complex and controversial legislation on PPP; lack of available financial resources; lack of professionalism of public training partner for PPP projects. For successful functioning, public-private partnership needs a strong public sector that is able to adapt to new roles and develop new competencies (Karyy O. et al., 2015). In Poland, innovation activities, to which the government pays considerable attention, belongs to the priority directions of development. If the company carries out research or develops intellectual property products for the production of qualitatively

new products or provision of innovative services, the state will reimburse up to 50% of the costs for this activity. By 2020 it is planned to allocate up to 3% of the total GDP for innovation projects in Poland.

The instruments for promoting entrepreneurship in Poland include the operation of special economic zones (hereinafter referred to as SEZs), which were created within the framework of the Government program "Entrepreneurship in the first place". There are 14 SEZs in Poland. The main objective of the SEZ is the accelerated and even development of regions by attracting new investors and creating new jobs. During 1995-2001 15 SEZs were created, 14 of which still work. According to the results of 2015 SEZ attracted 34 billion dollars investments (on the average rate 1995-2015).

Companies with work permits in the Polish SEZs receive substantial privileges, including tax benefits. The size of the tax exemption for covering new investment and job creation is 50% of capital investment for large enterprises, 60% for medium-sized enterprises and 70% for small enterprises. Another advantage of work in the SEZ is the opportunity to receive cash assistance from the state when starting up a business. For example, in addition to the 6 SEZs in the Lublin Voivodship, there are also 2 science and technology parks and several academic incubators of entrepreneurship. Science and technology parks, as partner institutions of regional and local authorities, educational institutions and research organizations, as well as companies and institutions that support entrepreneurship development, are a successful example of the harmonization of the work of educational institutions, science, government and business.

Unfortunately, it must be noted that Ukraine, which has experience in the functioning of the SEZs, could not use them to

successfully solve socio-economic problems. In 1992-2005, 12 SEZs were created in Ukraine, but only about UAH 1.2 billion of direct foreign investment was attracted. According to a group of reputable scholars, "special economic zones", as an economic phenomenon, completely discredited themselves in Ukraine, due to significant losses of budget revenues, along with corruption and false entrepreneurial activity (Höllzler H. et al., 2015).

Of course, the magnitude and dynamics of the macroeconomic indicators of the development of Ukraine and Poland affects their social indicators, first of all, on the welfare of the population. And for Poland, and for Ukraine, the only tendency in recent years, which is only growing, is the growth of migration flows from both countries to the west. Since joining the EU in 2004, more than 2 million Poles left Poland, primarily

to Britain and Germany, where the working conditions and salaries are better. Enterprises and utilities in Poland experienced a severe shortage of labor. Earners from Ukraine significantly softened the problem of the wage. At the same time, the fact that more and more citizens from Ukraine go to the West has already been acknowledged by scientists as the biggest problem with which the economy will collide soon.

Money remittances of migrant workers are an additional source of funds for their homeland. The share of labor migrants' transfers in Ukraine's GDP increased from 0.01% in 1996 to 6.61% in 2015. Similar situation was in Poland, but the country managed to improve the economic situation, broke a negative trend: at the end of 2015, the contribution Polish labor migrants accounted for 1.5% of GDP, while in 2006 this figure was 2.5%.

Discussion questions.


As we see, with favorable start-up preferences in 1991 among other post-Soviet countries, Ukraine has evolved from the most promising country of the socialist camp into a country with weak market institutions, marked deindustrialization, uncompetitive enterprises, corruption, and the impoverished population. However, despite current problems in the country since 2014, systemic reforms are ongoing. Scientists point to "institutional traps" that are hampering the implementation of reforms. Such "traps" are the rootedness of the shadow economy, the stagnation of the oligarchic model of relations of power and business, the paternalistic model of social protection, etc.

According to the 2016-2019, approved by the Cabinet of Ministers of Ukraine, the Forecast of Economic and Social Development of Ukraine for 2017-2019 provides for "a radical change both for Ukraine's economy itself and for its functioning." In fact,

a radically new Ukrainian economy is being formed on a fundamentally different basis, the main of which is the scourge of the very system of economic relations, which was built on corruption and the oligarchic financial and industrial elements of the structure. There is a gradual diversification of the priorities of economic growth. The external attitude towards Ukraine and even the foreign economic environment is changing" (Ministry of Economic Development and Trade of Ukraine, 2017).

According to former Deputy Minister of Economy A. Maksyuta, "Today Ukraine is a potentially "profitable asset", brought to a loss due to poor governance." The geographical location of Ukraine, the Association Agreement with the EU, the establishment of a free trade zone and visa-free regime has already made our state a part of the European space. However, Ukraine's welfare needs to be done a lot, patience,

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wisdom and perseverance in order to meet European standards of doing business.

Conclusions.

Two neighboring countries with similar resource, labor and economic potential with different approaches to managing it can achieve uneven results. It has to be noted that the gap in the rates of economic development of Ukraine and Poland is increasing. Poland's accession to the EU contributed to accelerating economic growth, but before 2004, systemic structural reforms took place in the country. The reforms of the "shock therapy" era laid the foundation for further economic development, and EU membership only strengthened it.

The biggest problem in Ukraine is the low potential of economic growth. Other issues, such as unfavorable investment climate, de-industrialization, inefficient state sector of the economy, lack of competition in many


sectors of the economy and underdevelopment of financial and commodity markets, weak state institutions, corruption and inequality of income distribution in Ukrainian society are the main factors of this fundamental problem.

We believe that Poland, in the light of its experience of transformation, can support Ukraine in three areas: creating conditions for the development of small and medium-sized enterprises (SMEs), local self-government reform and the creation of a holistic anti-corruption system. As the Polish experts point out, even in the dramatic conditions of the war that is being continued in eastern Ukraine, the Ukrainian economy can make a breakthrough.

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THE REQUIRED RESERVE RATIO AND ITS INFLUENCE ON MACROECONOMIC INDICATORS

WARTOŚĆ STOPY REZERWY OBOWIĄZKOWEJ I JEJ WPŁYW NA MAKROEKONOMICZNE WSKAŹNIKI

ЗНАЧЕНИЕ НОРМАТИВОВ ОБЯЗАТЕЛЬНОГО РЕЗЕРВИРОВАНИЯ И ИХ ВЛИЯНИЕ НА МАКРОЭКОНОМИЧЕСКИЕ ПОКАЗАТЕЛИ

Abstract

The world practice of using such a tool of monetary policy as the regulation of required reserve ratio by central banks has been researched and analyzed. The influence of regulation of required reserve ratio on macroeconomic indicators has been identified. The hypothesis of the possibility of using the long-term money supply law for monetary regulation of the economy and the effectiveness of the instrument for regulating required reserve ratio for achieving the monetary policy objectives of the central banks is proved.

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Keywords: central bank, monetary policy, required reserve ratio, impact, macroeconomic indicators

Streszczenie

Została zbadana i przeanalizowana światowa praktyka stosowania przez banki centralne takiego narzędzia polityki pieniężnej, jak regulacja stopy rezerwy obowiązkowej. Stwierdzono wpływ regulacji stopy rezerwy obowiązkowej na wskaźniki makroekonomiczne. Została potwierdzona hipoteza stosowania prawa długotrwałej podaży pieniądza do pieniężnej regulacji gospodarki i efektywności stosowania instrumentów regulacji stopy rezerwy obowiązkowej do osiągnięcia celów polityki pieniężnej banków centralnych.

Słowa kluczowe: bank centralny, polityka pieniężna, stopa rezerwy obowiązkowej, wpływ, wskaźniki makroekonomiczne

Аннотация

Исследована и проанализирована мировая практика использования центральными банками такого инструмента монетарной политики как регулирование нормативов обязательных резервов. Идентифицировано влияние регулирования нормативов обязательного резервирования на макроэкономические показатели. Доказана гипотеза возможности применения закона долгосрочной денежного предложения для монетарного регулирования экономики и эффективность применения инструмента регулирования нормативов обязательного резервирования для достижения целей монетарной политики центральных банков. **Ключевые слова:** центральный банк, монетарная политика, нормативы обязательного резервирования, влияние, макроэкономические показатели

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Introduction.

One of the most important tools of monetary policy is a regulatory treatment of the required reserve ratios, which is established for financial corporations at the time of fund raising and its allocation (forming a credit portfolio and making investment decisions). The regulation of required reserve


ratios refers to a group of economic monetary policy tools of indirect influence. It is considered that such a tool is one of the most effective and fastest in application. At the same time, it is also the most stringent, since it significantly affects the financial results of depository corporations.

Analysis of recent research and publications.

The main studies in the field of application of monetary policy tools, in particular, the regulation of required reserve ratio, was carried out by V.S. Stelmakh (Stelmakh V., 2009), B.I. Pshyk (Pshyk B., 2017), A. Y.

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Boyko, A. A. Kokovikhi (Boyko D., Kokovokhi A., 2010), K.L. Larionova, G.I. Kapinos (Larionova K., Kapinos G., 2010), N.I. Demchuk, A.N. Koval (Demchuk N., Koval A., 2017), I. Y. Perkonos, A. N. Kostina (Perkonos I., Kostina A., 2016), V. V. Seliverstov (Seliverstov V., 2014) and other academic economists.

K. L. Larionova and G. I. Kapinos studied the current state of monetary policy (Larionova K., Kapinos G., 2010, pp. 136-141). N. A. Tushnitsky considered the methodology of monetary tools in his writings (Tushnitsky, 2000, pp. 58-59); N.I. Demchuk, A.M. Koval dealt with the general principles of required reserve ratio and money supply (Demchuk N., Koval A., 2017, pp. 86-88); and D.I. Boyko and A.A. Kokovikhi investigated the specifics of the application of the required reserve ratio for Ukrainian banks and concluded that the liquidity of banks and their creditworthiness is significantly influenced by this tool of monetary policy (Boyko D., Kokovokhi A., 2010). I.E. Perkonos and A. N. Kostina analyzed the advantages and disadvantages of the application of the required reserve ratios as a tool of monetary policy, and also proved the impact of the change in the required reserve ratios on GDP (Perkonos I., Kostina A., 2016, pp. 43-49).

V.S. Stelmakh believes that the best solution for effective regulation of the monetary

market is the moderation and deliberateness in the use by deposit corporations of such a tool of monetary policy as the required reserve ratio (Stelmakh V., 2009, p. 120). T.A. Krichevskaya expresses the same opinion, stressing the need for a liberal monetary policy and the use of an adjustment mechanism for required reserve ratio (Krichevskaya T., 2014, pp. 42-47). But B.I. Pshik argues that it is advisable to use the required reserve ratio to regulate the liquidity of the banking system and to increase the impact of a change in the key interest rate on interest rates on the interbank market (Pshik B., 2017, p. 17).

The foreign researchers S. Demiralp and D. Farley believe that lower standards of required reserve ratio are needed for the stabilization of the dollar in the global financial market (Demiralp S., Farley D., 2005). But A. Abakumenko and T. Dorosh note the need to increase reserve requirements for banking activities (Abakumenko A., Dorosh T., 2016, p. 117).

Since the regulation of required reserve ratio has played a sizable role in the academic writings of many scientists, and the impact of changes in required reserve ratio on macroeconomic indicators is always significant, therefore, the research is of high relevance.

The purpose and objectives of the research.

The purpose of the research is to analyze and identify the impact of measures on the economic development to regulate required reserve ratio, as a tool for monetary policy of central banks. The following objectives of the study were set to achieve the goal of the research:

- to investigate and analyze the dynamics of the required reserve ratios that was

established by the National Bank of Ukraine (NBU) and other central banks;

- to consider and evaluate the relationship between the dynamics of required reserve ratios and key macroeconomic indicator.

Analysis of the practice of applying the required reserve ratio: world experience.

The value of required reserve ratio is established in each country on an individual basis by the decision of the central bank (depending on the economic state of national economies and objectives of monetary policy). We shall study the dynamics of the

values of the required reserve ratio in different countries. The dynamics of the required reserve ratio in Ukraine during 2004-2017 is given in Table 1.

Table 1. Values of the required reserve ratio in Ukraine during 2004-2017.

Date	With funds on current accounts and deposits at the request of non-financial corporations and households, %		On fixed-term deposits of non-financial corporations and households, %		
	in national currency	in foreign currency	in national currency	in foreign currency	
				Short-term	Long-term
01.10.2004-24.12.2004	8	8	7	7	
25.12.2004-31.08.2005	7	7	6	6	
01.09.2005-09.05.2006	8	8	6	6	
10.05.2006-31.07.2006	6	6	4	4	
01.08.2006-30.09.2006	3	5	2	3	
01.10.2006-04.12.2008	1	5	0,5	4	
05.12.2008-04.01.2009	0	5	0	3	
05.01.2009-31.01.2009	0	7	0	4	
01.02.2009-30.06.2011	0	7	0	4	
01.07.2011-29.11.2011	0	8	0	6	2
30.11.2012-30.03.2012	0	8	0	7,5	2
31.03.2012-29.06.2012	0	8,5	0	9	2
30.06.2012-30.06.2013	0	10	0	9	3
01.07.2013-29.09.2013	0	10 and 15 respectively	0	10	5
30.09.2013-30.12.2014	0	15	0	10	7
c 31.12.2014 – until now	6,5		3		

Source: formed by the authors according to the data (Official website of the National Bank of Ukraine).

The NBU actively uses the regulation of required reserve ratio as an instrument of monetary policy. The ratio estimated as per current account balances and deposits at the request of non-financial corporations and households as of 01.07.2004 and 01.07.2011: in national currency - 8% and 0%, in foreign - 8% in both cases; as per term deposits of non-financial corporations and households: in the national currency - 7% and 0%, in foreign - 7% in 2004 and 6% and 2% for short- and long-term deposits respectively. On November 30, 2012, the required reserve ratio remained unchanged as per funds on current accounts, while as per term/short-term deposits it increased from 6% to 7.5%. On March 31, 2012, the NBU set a new normative ratio in foreign

currency as per current accounts - 8.5%, as per time deposits, changes occurred only in short-term deposits from 7.5% to 9%. During the period of 30.06.2012-29.09.2013 the ratio continued to change in such categories as per current accounts in foreign currency and short-term / long-term deposits in foreign currency.

According to the resolutions of the NBU Board of 16.06.2012 No. 248 and No. 371 of 19.09.2013 "On Certain Issues of Regulation of the Monetary Market", the required reserve ratio in 2014 as per current accounts and deposits at the request of non-financial corporations and households in national currency is set at 0%, and in foreign currency - at 15%. As per time deposits

its of non-financial corporations and households in 2014, the rate of such a tool of monetary policy in national currency was 0%, and in foreign - 10% and 7% in short- and long-term deposits (Resolution, 2012; Resolution, 2013).

In 2014, the NBU set a new goal - to simplify the procedure for the formation and maintaining of legal reserve requirements by depository corporations, as well as to increase the level of integration of domestic banking legislation with the European legal system. The NBU Board adopted Resolution No. 820 of December 18, 2014 "On changing the procedure for the formation and maintaining of legal reserve requirements," according to which, as of December 31, 2014, changes were made in the procedure for the formation and maintaining of legal reserve requirements, namely: by means of legal and private entities in national and foreign currencies on demand and as per funds on current accounts - 6.5%; as per fixed assets and deposits of legal and private entities in national and foreign currency - 3% (Resolution, 2014). Starting from 2015 and up to today, the required reserve ratio has not changed.

The NBU formed a positive base for banks to raise funds in foreign currency on time deposits of non-financial corporations and households by lowering the required reserve ratio for short (from 10% to 3%) and long-term (from 7% to 3%) deposits. This led to a change in the goals of depository corporations to raise funds in foreign currency, rather than in the national one.

During all the period under review, the reduction in the amount of the required reserve ratio in Ukraine was observed, as well

as the simplification of the calculating procedure for the amount of required reserves, as there was a decrease in the groups of deposits for which different rates for reserving funds were established. This dynamic of required reserve ratios indicates the liberalization of monetary policy and the promotion of transparency, as well as the NBU's focus on economic development, providing it with sufficient money - that is, implementing a cheap money policy.

However, such a dynamic of the required reserve ratio cannot be justified during all the periods of economic development, as there were at least 2 financial crises (in 2008 and 2013-2014) during the analyzed period, when the NBU was advisable to limit the money supply, slow its growth, impose additional limitations for depository corporations in order to keep a lid on the monetary sphere. Therefore, it is arguable that the use of regulation of the required reserve ratio as a tool of monetary policy was not a priority for the NBU in times of crisis development in the monetary sphere and the financial system as a whole.

Since the methods for establishing the required reserve ratios in each country are different and may differ significantly, it is advisable to investigate the dynamics of the values of such norms.

We shall analyze the amount of the required reserve ratios that are applied by the central banks of the Russian Federation, Georgia, the Republic of Belarus, the Republic of Poland and the European Central Bank.

There are unequal rates of the required reserve ratios for individuals, legal entities and other credit institutions in the Russian Federation (Table 2-3).

Table 2. The required reserve ratios in the Russian Federation for legal entities and individuals in 2017

Date	The required reserve ratios by means of non-resident legal entities,%				The required reserve ratios by means of individuals, %	
	With the exception of fixed deposits		on fixed deposits			
	in rubles	in foreign currency	in rubles	in foreign currency	in rubles	in foreign currency
01.01.17-30.11.17	5	7	5	7	5	6
01.12.17	for banks with a general license, for non-bank lending institution					
	5	7	5	7	5	6
	for banks with a standard license					
	5	7	5	7	1	6

Source: formed by the authors according to the data (Official website of the Central Bank of the Russian Federation).

Table 3. The required reserve ratios in the Russian Federation for other credit institutions in 2017

Expiration date	The required reserve ratios, %			
	With the exception of fixed deposits		on fixed deposits	
	in rubles	in foreign currency	in rubles	in foreign currency
01.01.17-30.11.17	5	7	5	7
01.12.17	for banks with a general license, for non-bank lending institution			
	5	7	5	7
	for banks with a standard license			
	1	7	1	7

Source: formed by the authors according to the data (Official website of the Central Bank of the Russian Federation).

Since March 1, 2013, the Central Bank of the Russian Federation has changed the rate of the required reserve ratio in rubles and foreign currency for non-resident individuals from 5.5% to 4.25%, for individuals and other credit organizations - from 4% to 4.25%. These rates of ratios were unchanged until 01.08.2016, but in August 2016 the Central Bank of the Russian Federation changed the regulation of the monetary policy to establish the required reserve ratios, the rates of which have not changed to the present (see Table 2-3) (Official site of the Central Bank of the Russian Federation). As we can see, in 2017 the Central Bank of the Russian Federation implemented a stringent cheap money policy, which is justified in a down economy that takes place in the territory of the Russian Federation. The use of the required reserves ratio by the Central Bank of the Russian Federation is both legitimate and necessary, which makes it possible to accomplish identified goals of monetary policy related to curbing inflation.

The situation in the Republic of Poland is slightly different: in 2014-2017 the required reserve ratio was 3.5% for individuals and legal entities (that is, it was applied for all liabilities), except funds received from repo transactions and transactions with purchase and sale contract. The rate of the ratio for them was 0% (Official website of the Bank of Poland). Depository corporations, credit unions and the National Credit Unions Association are required to maintain a certain amount of funds in the accounts for servicing the reserves for a certain period at a level not lower than the required reserve, since the Central Bank of the Republic of Poland is convinced that such a monetary policy tool stabilizes the level of short-term interest rates. As we can see, the required reserve ratio is higher in Ukraine and in the Russian Federation, therefore it can be argued that, these countries implement a stringent monetary policy as compared to Poland.

The minimum reserve requirements are determined by the Monetary Policy Committee in Georgia for funds raised in national and foreign currencies. The calculation of the required reserves is carried out within 14 days. In 2017, the required reserve ratio was 7% of funds raised in national currency and 20% of loans in foreign currency (Official website of the National Bank of Georgia). In the context of changes in reserve requirements, the National Bank of Georgia can have a rapid impact on lending volumes and the dynamics of interest rates of depository corporations, namely: the reserve demand for funds attracted in foreign cur-

rency can be used as an opportunity to influence interest rates on loans in this currency. Liabilities with a maturity of more than 1 year in national currency and more than 2 years in foreign currency are free from required reserve. As we see, the required reserves on credits are much higher in Georgia than in Ukraine or the Republic of Poland, although the greatest problems in the monetary sphere and the economy are observed in Ukraine rather than anywhere else.

The National Bank of the Republic of Belarus actively uses the policy of regulating the required reserves, changing their rates on average 2-3 times a year (Table 4).

Table 4. The rate of required reserve ratios in the Republic of Belarus for 2014-2018.

The effective date of the ratio	On attracted funds in national currency, %		On attracted funds in foreign currency, %
	by means of legal entities	by means of private entities	
01.02.2014	9	0	13
01.01.2015	9	0	12,5
01.02.2015	9	0	10
01.03.2015	9	0	9
01.07.2015	7	7	7
01.09.2015	8	8	8
01.04.2016	7,5	7,5	7,5
01.02.2017	4	4	11
01.07.2017	4	4	15
01.01.2018	4	4	17

Source: was compiled by the authors according to the data (Official website of the National Bank of the Republic of Belarus).

Analyzing the required reserve ratios established by the National Bank of the Republic of Belarus, we can conclude that the basis for regulation and stringent monetary policy is the regulation of attracting deposits in foreign currency, which indicates a desire to restrict foreign currency transactions and stimulate the use of the national currency. The changes in the reserves for deposits of individuals are due to the need for growth in their volume and maintain the liquidity of the banking system. That is, we can conclude that the National Bank of the Republic of Belarus uses the required reserve ratio to regulate the structure of the money supply in terms of currencies, and not in terms

of attracting deposits or entities (in particular, starting from 01.02.2017).

The European Central Bank may require that credit institutions operating in the member states of the European Union maintain minimum reserves in the accounts of the European Central Bank and national central banks in order to achieve the objectives of monetary policy according to Article 2 of the Protocol on the Statute of the European System of Central Banks and the European Central Bank [27]. The values of the required reserve ratios established by the European Central Bank in 2014-2017 are given in Table 5.



Table 5. The required reserve ratios of the European Central Bank for 2014-2017.

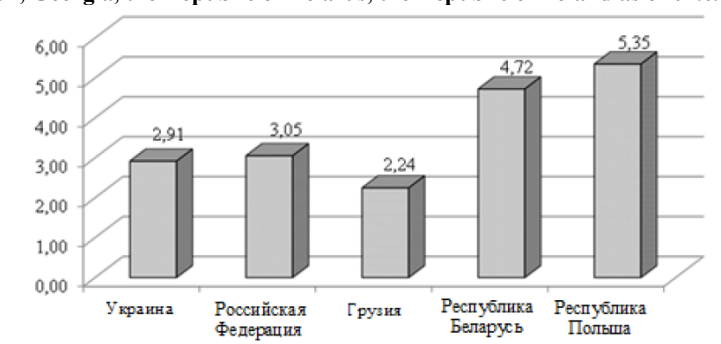
Year	2014	2015	2016	2017
Reserve ratio, %	0,05	0,05	0	0

Source: Created by the authors according to the data (Official website of the European Central Bank).

The European Central Bank since 2016 does not use such a tool of monetary policy as the regulation of required reserve ratios. The reason for this is that the high level of development of the monetary sphere and financial markets, which makes it possible to use other, less stringent, economic instruments of monetary policy with greater efficiency to achieve the development goals. The NBU uses the required reserve ratio as one of the tools of monetary policy to control the volume of the money supply through an increase or decrease in the money multiplier. The money multiplier increased from 2.87 to 2.96 in 2015-2016 with a reduction in the required reserve ratio. The results of the performed calculations reflect that the actual value of the

money multiplier was about 3 (as of 01.09.2017 - 2.91) during the analyzed period in Ukraine, that is, each hryvnia issued in circulation turns into 3 hryvnias. The permissible conversion can be more than 15 times. That is, the effect of the money multiplier is used by no more than 20%, and accordingly the change in the reserve requirements does not have a significant (decisive) impact on the change in the money supply. And in comparison, we will analyze the actual levels of monetary multipliers in Ukraine, the Russian Federation, Georgia, the Republic of Belarus, and the Republic of Poland as of September 1, 2017 (Figure 1).

Figure 1. The values of actual monetary multipliers in Ukraine, the Russian Federation, Georgia, the Republic of Belarus, the Republic of Poland as of 01.09.2017



Source: calculated and constructed by the authors according to the data (Official website of the International Monetary Fund: statistical data).

As you can see, the actual money multiplier isn't equal to the normative one in any of the considered countries. The only exception is the Republic of Belarus in the context of the formation of reserves for raised funds in foreign currency (the normative value of the money multiplier is 5.88 with the actual value at 5.35), which is due to the peculiarities of the monetary policy of this country.

The efficiency of using a money multiplier in all the other countries under consideration, like for Ukraine, is about 20% of the normatively possible effect. Therefore, we can conclude that the use of required reserve ratios as a tool of monetary policy is possible, but does not lead to a significant immediate impact on the change in the supply of money.

Identification of the impact of regulation of required reserve ratios on macroeconomic performance.

Impact assessment of the application of required reserve ratios by central banks as a tool for monetary regulation on the development of the economy will be assessed on the basis of M. Fridman's rule of forming a long-term money supply (Ilchuk P. & Ors., 2016, p. 226). The results of the calculations were made according to the data of the central banks of Ukraine, the Russian Federation, Georgia, the Republic of Belarus, the Republic of Poland. The research will

formulate and verified the hypothesis of the possibility of applying M. Fridman's rule of long-term money supply for monetary regulation of the economies of the countries under study.

Let us consider the main macroeconomic indicators in Ukraine, namely, the level of inflation, real and nominal GDPs (Table 6) in order to analyze the effectiveness of the use of regulation of reserve requirements as a tool for monetary policy.

Table 6. The main macroeconomic performance in Ukraine for the period 2014-2017.

Indicators	Indicator values over the years			
	2014	2015	2016	2017
Inflation index.%	124.9	143.3	112.4	113.7
Real GDP, mln. UAH	1365123,0	1430290,0	203430,0	2085290,7*
Nominal GDP, mln. UAH	1586915,0	1988544,0	2383182,0	2777419,8*

* - it is indicated the findings predicted by the authors according to the data from the Official Website of the Ministry of Finance of Ukraine.

Source: Official Website of the National Bank of Ukraine. Monetary Policy Tools.; Official Website of the Ministry of Finance of Ukraine; Official Website of the State Statistics Service of Ukraine).

Since the data related to nominal and real GDP was not available at the end of 2017 at the time of writing the article at official sites, then the data in the Table 8 is based on the actual values of 2016 and forecasts made by the Ministry of Finance of Ukraine for GDP growth in 2017 (Official website of the Ministry of Finance of Ukraine).

In general, reserve requirements are used by central banks to address long-term macroeconomic objectives regarding the stabilization of monetary turnover and control over the volumes of money supply. Comparing the relationship between the required reserve ratios and the level of inflation, we can see that with the increase of required reserve ratio (on funds in current accounts and deposits on demand of non-fi-

ancial corporations and households in foreign currency from 0% to 6.5%, on time deposits of non-financial corporations and of households from 0% to 3%) in 2015 compared to 2014, inflation will increase from 124.9% to 143.3%, that is, by 18.4%. A similar situation exists in 2016-2017, where there was a tendency to increase inflation from 112.4% to 113.7%, respectively. So, we can conclude that there is a certain time lag of the influence of such a tool of monetary policy on inflation processes. The NBU uses the required reserve ratio along with other monetary policy instruments to implement anti-inflationary regulation of the economy.

We shall analyze the dynamics of macroeconomic indicators for Ukraine for 2015-2017 (Table 7).

Table 7. Indicators of the dynamics of macroeconomic performance

Year	Indicators							
	Money supply, mln. UAH	Monetary base, mln. UAH	Nominal GDP, mln. UAH	Inflation, %	Money supply, mln. UAH	Monetary base, mln. UAH	Nominal GDP, mln. UAH	Inflation, %
Absolute change in the indicator								
basic				chain				
2015	37334.3	2806	401629	18.4	37334.3	2806	401629	18.4
2016	145972.5	48381	796267	-12.5	108638.2	45575	394638	-30.9
2017	147893.3	45815	1190504.8	-11.2	1920.8	-2566	394238	1.3
The growth rate of the indicator,%								
basic				chain				
2015	3.9	0.8	25.3	73.9	3.9	0.8	25.3	73.9
2016	15.3	14.5	50.2	-50.2	10.9	13.6	19.8	-71.4
2017	15.5	13.8	75.0	-45.0	0.17	-0.67	16.5	10.5

Source: calculated by the authors according to the data from the Official website of the National Bank of Ukraine, Monetary Policy Tools.: Official Website of the Ministry of Finance of Ukraine, Official Website of the State Statistics Service of Ukraine).

In general, the money supply, the monetary base and nominal GDP have undergone a positive increasing tendency, while inflation does not have a stable trend to change - there is a decrease in inflation in the basic dimension for 2014-2017, but the chain rates of growth have shown, that in 2017 there is an increase in inflation compared with 2016. It has a negative impact for the economy of Ukraine and indicates a lack of effectiveness of monetary policy.

Despite the significant inflation rates, there is a tendency to increase the value of not only nominal but also real GDP during the analyzed period 2014-2017. The dynamics of real GDP characterizes the stability of economic development in conditions of a reduction in the required reserve ratio in 2015. That is, we get contradictory values of the two key indicators of economic development in comparison with the change in the required reserve ratios and GDP. We will perform calculations of the long-term money supply equation according M. Friedman (Ilchuk P. et al., 2016, p. 226) :

$$\Delta M = \Delta P + \Delta Y, \tag{1}$$

where ΔM – the average annual growth rate of money supply, %;
 ΔP – the average annual rate of expected inflation, triggered by economic factors, %;

ΔY – average annual growth rate for nominal GDP, %.

We will express and test the hypothesis that the rule of M. Friedman's long-term money supply works for the economy of Ukraine. We will calculate the magnitude of inflation triggered by economic factors having data on GDP growth and growth of the money supply:

$$0,17 = \Delta P + 16,5,$$

$$\Delta P = 0,17 - 16,5 = -16,37\%.$$

That is, as long as the rule for the formation of a long-term money supply is fulfilled in Ukraine in 2017, there should be deflation at the level of 16.37%, which stays in line with the NBU's goal - stabilizing the purchasing power of the hryvnia. In fact, we had inflation at the level of 13.7% in 2017, therefore it can be affirmed that in Ukraine the currency's stability is determined by speculative factors and therefore the restriction of the growth in the supply of money is the basis for ensuring the stability of the hryvnia. Therefore, the policy of the NBU to establish the required reserve requirements is justified.

We will perform a similar study of the implementation of the rule of long-term money supply for Ukraine, the Russian

Federation, Georgia, the Republic of Belarus and the Republic of Poland in 2016 (Table 8).

Table 8. Results of the study of the law of long-term money supply for M. Fridman for Ukraine, the Russian Federation, Georgia, the Republic of Belarus, the Republic of Poland for 2016.

Countries	The growth rate of money supply, %	GDP growth rate, %	Inflation, provoked by economic factors, % (calculated by the formula (1))	Actual inflation, %
Ukraine	10,93	19,85	-8,92	12,40
Russian Federation	9,20	3,38	5,83	7,05
Georgia	20,24	6,82	13,42	2,13
Republic of Belarus	3,80	4,91	-1,11	11,84
Republic of Poland	9,57	2,88	6,68	-0,61

Source: calculated by the authors according to the data (Official website of the International Monetary Fund: statistical data).

The results of calculations showed that the influence of speculative factors is the basis of inflation in Ukraine and the Republic of Belarus, but it is a source of stabilization of the national currency in Georgia and the Republic of Poland.

Therefore, it is advisable for an effective monetary policy of the NBU to take the economy out of the shadow, to apply the simplest and most understandable tools of the monetary policy for the population, which will reduce the influence of speculative factors on the price level in the country and stabilize the purchasing power of the

hryvnia. It should be noted that the NBU applies the regulation of required reserve ratios as a tool for implementing anti-inflationary policy and preventing the impact of negative consequences of the cyclical nature of the economy. The relationship between required reserve requirements and the volume of money supply and monetary base in the country is obvious and allows to have an impact on the depositary corporations, money and capital market conditions, price level and, as a consequence, GDP dynamics when changing the required reserve ratios.

Conclusions.

Summarizing, it can be concluded that central banks of different countries set the required reserve ratios in accordance with the purposes and types of monetary policy and the available tools. There is no single level of required reserve requirements available, as well as a clear definition of the conditions in which its application can be effective. The main task is the compatible results of the simultaneous application of various instruments of monetary policy and the achievement of the monetary goals. The central bank as an entity performing the administrative, control and supervisory role for commercial banks influences the level


of interest rates on the interbank market, using its financial instruments, by means of which it regulates the amount of money in the national economic. (Prokopowicz D., Gwoździewicz S. 2018 p. 215-232).

So, the central bank must apply measures to reduce the required reserve ratios to stimulate the development of the economy, while the increase in required reserve ratios leads to a reduction in inflationary pressures when changing the basic macroeconomic indicators. Insignificant changes in the values of required reserve ratios cause substantial changes in the volume of deposit investments and, as a result, in the volume of investment in the economy.

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**DIRECTIONS, SENSE AND PURPOSE OF PERSONAL INCOME
TAXATION HARMONIZATION PROCESS ACROSS EUROPEAN
UNION MEMBER STATES**

**KIERUNKI, SENS I CELOWOŚĆ HARMONIZACJI
OPODATKOWANIA DOCHODÓW OSÓB FIZYCZNYCH
W KRAJACH UNII EUROPEJSKIEJ**

**НАПРАВЛЕНИЯ, СМЫСЛ И ЗАДАЧИ СОГЛАСОВАНИЯ
НАЛОГООБЛОЖЕНИЯ ДОХОДОВ ФИЗИЧЕСКИХ ЛЕСОВ
В СТРАНАХ ЕВРОПЕЙСКОГО СОЮЗА**

Abstract


The current taxation of personal incomes is a very complex phenomenon which should be analysed not only from the legal point of view, but also taking into account its social, cultural, economic, political and system aspects. We cannot isolate the economic sphere from the tax sphere, as income taxes directly affect the taxpayers function as well as their purchasing power; moreover, they determine labour costs for entrepreneurs and thus significantly influence the GDP growth rate. The issues of harmonizing taxation of incomes obtained by individuals who do not act as economic operators are practically absent in scientific literature. The only analysed issues are related to taxation of incomes from savings, transfers, capital gains, mergers and divisions. This is so because it is required by the nature of conducting economic operations within the common market.

Keywords: *personal income taxation, harmonization process, common market*

Streszczenie

Mimo, iż opodatkowanie dochodów osobistych leży w kompetencji każdego z państw członkowskich, w wielu sytuacjach potrzebna jest koordynacja na poziomie unijnym regulacji podatkowych, mająca na celu zapewnienie swobód określonych w Traktacie ustanawiającym Wspólnotę Europejską oraz wyeliminowanie barier podatkowych w ponadgranicznej działalności obywateli państw – członków UE. W szczególności niedopuszczalne jest stosowanie – bezpośredniej, czy pośredniej - dyskryminacji ze względu na narodowość ani też żadnych nieuzasadnionych ograniczeń czterech swobód Rynku Wewnętrzznego. Brak wymogów harmonizacyjnych (z wyjątkiem opodatkowania dochodów z

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oszczędności) oznacza, iż konstrukcja PIT w krajach członkowskich jest silnie zróżnicowana z uwagi na odmienne uwarunkowania społeczne, polityczne i ekonomiczne. Z drugiej strony pojawia się pytanie, czy harmonizacja tej formy opodatkowania jest w ogóle możliwa, a przy tym celowa? Niewątpliwie zróżnicowany poziom wynagrodzeń, różnice w kształtowaniu podstawy opodatkowania i wysokości podatku, i często odmienne zadania nakładane na podatek dochodowy utrudniają jego ujednoczenie i harmonizację. Wydaje się, więc, że wszelkie próby związane z harmonizacją ww. obciążeń fiskalnych należy rozpocząć od zdefiniowania i ujednoczenia w ramach Unii Europejskiej pojęcia dochodu podatkowego (podstawy opodatkowania).

Słowa kluczowe: podatek dochodowy od osób fizycznych, proces harmonizacji, wspólny rynek

Аннотация

Хотя налогообложение личных доходов относится к компетенции каждого государства-члена, во многих ситуациях необходимо координировать налоговые правила на уровне ЕС, направленные на обеспечение свобод, установленных в Договоре об учреждении Европейского сообщества и устранении налоговых барьеров при трансграничной деятельности граждан ЕС. В частности, неприемлемо применять прямую или косвенную дискриминацию по признаку гражданства или любых необоснованных ограничений на четыре свободы внутреннего рынка. Отсутствие требований гармонизации (за исключением налогообложения доходов от сбережений) означает, что строительство ПНД в государствах-членах сильно диверсифицировано из-за различных социальных, политических и экономических условий. С другой стороны, возникает вопрос, возможна ли гармонизация этой формы налогообложения вообще и в то же время она преднамеренная? Несомненно, различный уровень вознаграждения, различия в формировании налоговой базы и суммы налога и часто разные задачи, связанные с подоходным налогом, затрудняют согласование и согласование. Поэтому представляется, что все попытки, связанные с согласованием вышеупомянутого Фискальное бремя должно начинаться с определения и согласования в рамках Европейского Союза концепции налоговых поступлений (налоговой базы).

Ключевые слова: подоходный налог с населения, процесс согласования, общий рынок

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Statement of the problem in general outlook and its relations to important scientific and practical tasks.

Personal income tax (hereinafter referred to as PIT) has a short history, as it appeared in tax systems of EU countries at the end of the 18th century. As a specific universal construction it performs two economic

functions: providing financial means for covering some public expenses (fiscal function), leveling off – through its construction – inequalities in population incomes (redistribution function) and implements social

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functions of taxation through various tax reliefs and exemptions or the construction of the tax scale. Contemporary personal income tax in European countries has been shaped by many years of evolution. This process is continuing, taking into account the process of European integration and the processes of standardizing and harmonizing tax systems in the European Union countries. Most EU states only sporadically implement major reforms of personal income taxation. The scope of such changes is usually limited and determined by current fiscal needs or the need to stimulate a particular behaviour of taxpayers (European Tax Handbook, 1998-2017).

As for the legal solutions in tax law, the doctrine commonly accepts the view that taxes and the whole tax system should be neutral and should perform only the fiscal function of taxation. It means that taxes should be built in a way that does not interfere with the existence and activities of taxpayers and they shouldn't contain any preferences for selected groups of taxpayers. Favouring tax neutrality does not determine the negative attitude to achieving non-fiscal goals of the state through tax preferences. For example, using various forms of tax preferences may be a consequence of subjectively understood tax equity. Such equity requires noticing different material, family and social situation of each taxpayer. Non-fiscal functions of taxation are best realized by income taxes due to their specific construction (for example P.A. Samuelson, W.D. Nordhaus). Non-fiscal aspects of taxes gained popularity under the influence of J.M. Keynes theories. In classical economics, taxes were treated exclusively as a source of means for covering necessary public expenditure. The criterion for assessing financial policy should be its effectiveness in achieving the assumed goals, such as: high but stable economic growth, full employment, low inflation.(Szybowski

D. 2018 p.181-216) In Keynes' theory, taxes became a major instrument used by the state to influence the economic cycle. Stability of the economy within the countercyclical policy, along with the need to stimulate global demand, has led to the growth and stability of the redistribution of tax functions. A result of such approach to the use of taxes in fiscal policy was an increase in the budget deficit and public debt and the growing level of the tax burden. This led to popularity of neo-liberal theories, the most popular of them being the supply side economics. It claims that high tax burden generates low level of savings, high inflation and low productivity and innovativeness of the economy (C.R. Mc Connell, 1987, N. Acocella, 2002).

Although personal income tax is commonly used to achieve various economic and social goals, its fiscal function is still considered as the most important one. We should also observe that the doctrine quite commonly tries to promote the thesis of tax neutrality as a specific panacea for weakened economic growth of EU countries and deteriorating competitiveness of European economies. The belief in tax neutrality stems from the fiscal function of taxes. According to some representatives of the doctrine, we should not use taxes to achieve various social goals, often contradictory to fiscal requirements of the state. It is difficult to agree with the concept of tax neutrality, because in practice it is impossible to separate tax legislation from the influence of widely understood policies. Moreover, the thesis of tax neutrality was easy to defend when taxes constituted below 20% of GDP share. In many countries these days tax revenues reach or even exceed half of their GDP. Therefore, such a large-scale redistribution leads to serious economic and social consequences (P.M. Gaudamet, J. Molinier, 2000).

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Harmonization of taxes in the European Union is very closely tied with the concept of the common market. If this concept makes sense, we must, above all, fulfil the requirement of equal rights for each market participant, that is, each entity from any member state. Due to the fact that companies compete mainly in price, the factors affecting it should be the same in all member states (harmonization of indirect taxes). Tax harmonization is a process leading to standardization of tax systems in various countries. The process aims to achieve a state in which tax issues do not affect the flow of goods, services and production resources between countries. Harmonization is necessary when the differences in tax systems between particular countries account for the fact that decisions made by one or a few countries bring particular effects to other countries. Thus, it comes down to the harmonization of tax systems of different countries and ensures their functioning in accordance with the objectives of the economic union. Tax harmonization is a necessary element of economic integration; it is closely related to the degree of integration level (K.C. Messere, 1998 and 2001).

The problems of tax harmonization, so important for the current European Union, are not a new issue. One may even say that it has extensive historical background. The work of Carsten Pallas: *Tax Harmonization: The Case of Germany At the Beginning of the Nineteenth Century Lessons for the Twenty First Century?* (C. Pallas, 2005) should be quoted as an example of this type of research work. The paper concerns tax harmonization problems in the process of unification of the German state at the beginning of the 19th century. As the author states, at the end of the 18th century there were 324 tax regimes in the German territory and of which there only 41 remained after the Vienna Congress in 1815. According to the author, during the period of 1790-

1815, the tax harmonization process was forced by the French occupation. In 1815-1871, the tax harmonization process continued, but it was slower. After the unification of Germany in 1871 under the leadership of Prussia, the tax administration (mainly indirect) was transferred to the central government which, due to the huge budgetary requirements, increased them quickly, although tax competition between individual parts of Germany still prevailed. Tax harmonization took place mainly through adjusting to the level of Prussia which had lower level of tax rates than other states of Germany. However, a further increase in taxes in Prussia forced tax progression also in other German states. The author emphasises the decisive role of external forces in tax harmonization: French occupation during the Napoleonic times and, currently – the wish to avoid a war in Europe. In the conclusion of his article the author points out the lesson which may be learnt by the EU from the harmonization in Germany in the 19th century: avoid the convergence of tax rates forced from grass-roots through the tax harmonization undertaken voluntarily and harmonization in other areas of economy (C. Pallas). Pallas's article illustrates the deep conviction of numerous authors that the grass-roots convergence of taxes has negative effects, and that there is a need for close coordination of fiscal policy in the face of growing public expenditure requirements. D. Mitchell from the Cato Institute indicates in his paper (D. Mitchell, 2000) that tax competition forces governments to adopt tax solutions which are beneficial for the taxpayer. According to his research various tax rates distort the optimal allocation of resources, including capital. The weakness of this theory is the adoption of assumptions about the full mobility of all resources. As the author claims, paradoxically, tax competition is the best way to reduce tax harmonization. C.

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Blackordy and C. Brutt in their paper (C. Blackordy, C. Brutt, 1999) turned attention to the distribution effects of tax harmonization. Those effects may affect the flow of goods between countries and may influence the government revenue generated. If there is no mechanism to neutralise those effects, additional flexibility of tax systems may be required in order to maintain balance both in the state budget and in the balance of payments. The authors thesis may be understood in the way that losses on harmonization e.g. of indirect taxes may be compensated by increasing competitiveness of indirect taxes. R.E. Baldwin and P. Krugmann in their work entitled *Agglomeration, Integration and Tax Harmonization* (R.E. Baldwin, P. Krugmann, 2002) state that simple tax harmonization, understood as the adoption of a common tax rate; it always harms at least one country in the model developed by them. It seems that the adoption of a rate between the two initial rates in both countries may be disadvantageous for both countries. As for examinations of harmonization costs, it is worth mentioning the paper of E. Mendoza (E. Mendoza, 2001). The author estimated the potential attempt to harmonize the taxation policy of capital gains in the member states of the European Union. The author developed a dynamic model of general equilibrium of two countries in order to assess the potential effects of the harmonization of taxes on capital gains in Europe using the previously assessed effective tax rates: for UK - 47%, France, Germany and Italy – almost 28% in 1996.

The need for harmonization of direct taxes, including taxes on personal and corporate income taxes and taxes on property income, was not clearly specified in the Treaty establishing the European Economic Community. The legal base for initiatives in harmonization processes was Article 100 of the Treaty, stipulating harmonization of

those regulations that directly affect the creation and operation of internal common market. The process of direct taxes harmonization covered different income tax regulations which limited the freedom of income flow in form of dividends, interests, license fees and capital between Community members (this will be discussed in a separate analysis of the principles of capital income taxation).

We should remember that the principles of income taxation in EU countries do not constitute such an important area of harmonization as indirect taxes. It is assumed that the differences found in direct taxations are less dangerous for the functioning of the common market. Moreover, harmonization of these taxes is much more difficult than indirect taxes from the political, technical and legislative points of view. Only some elements of corporate income tax are being harmonized, as they relate to international aspects of company operations that could cause potential discrimination in treatment of home and foreign companies and which refer to avoiding double taxation. Probably further elements of corporate income tax will be harmonized next – tax rates and taxation base. There are following areas of PIT harmonization: taxation of incomes from savings paid out in form of interests and mutual administrative assistance in tax issues. The main element differentiating direct taxation is its slight degree of normative harmonization. It is commonly believed that direct taxes exert less destructive influence on the functioning of common market; therefore work on their harmonization started later, lasted longer and did not go as far as in case of indirect taxes. Direct tax regulations in the European Union are left at the discretion of the member states (except for the need to observe the areas presented in the table). Particular member states enjoy significant freedom in shaping their home solutions in this area. However,

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they are obliged to treat home and foreign operators equally as far as taxation is concerned (E. Aksman, 2002).

Competition between tax systems forces certain solutions in national tax systems, aimed at bringing closer constructions of certain taxes in order to ensure optimal functioning of the common market. Thus “quiet harmonization” is a consequence of progressing competition among national tax systems in particular taxation forms (T. Wołowiec, 2011). The effect of quiet harmonization is bringing closer construction solutions in personal income tax in European Union states and it leads to find out the main reference points for transformation of an individual’s taxation system in European Union countries has been limited to personal income of individuals who do not conduct any form of business activity and it reflects the short and long-term run (I. Joumard, 2002).

Referring to PIT it was emphasized that the tax should remain at discretion of member states. The only harmonization activities should concern removing barriers to four economic freedoms and providing uniformity of taxation.

Similarities in the personal income tax in Community states concern the following

areas (A. Krajewska, 2004, T. Wołowiec 2008, Taxation Trend in the European Union, 2002-2017):

- The tax is related to total (global) income of a taxpayer,
- Scales are progressive with various numbers of ranges and minimum and maximum tax rate values,
- Most countries use tax-free amounts,
- Tax burdens are usually adjusted to inflation rate through the system of automatic or semi-automatic indexation of changes to tax thresholds,
- Personal income tax reflects the principle of taxpayer’s payment capacity through its varied system of tax reliefs and exemptions;
- Different rules are used for taxation of family incomes, revenues from selling property and movable assets and capital incomes,
- There is a varied system of costs of obtaining revenues, related to the way in which revenue is gained,
- It does not differentiate tax burden due to sources of revenues from which it is obtained and its allocation,
- Income tax contains tax preferences related to the way the income is spent.

Analysis of latest research where the solution of the problem was initiated.

A feature of direct taxes is that there is a clear connection between the taxpayer’s situation (income, property) and tax burden. From the psychological point of view indirect taxes are the most hated sacrifice to be made by the taxpayer. Direct taxes may demotivate the taxed entities. Excessive tax burden may slow down income activity of entities, which may result in not only slower economic growth, but in its disappearance as well. That is why not only the size of tax burden in a particular country matters, but also the structure of the whole

tax system and the construction of particular taxes. The tax scales are vital in case of direct taxes. In a theoretical presentation, tax as an economic category is subject of numerous analyses, both referring to individual taxpayers, their groups and the whole economy. This concerns both indirect and direct taxes. Despite impressive theories of economics, theories of public finance, hundreds of years of experience, tax issues are still a controversial topic, which is evident in a discussion on line tax. The deficit of theories and polarization of opin-


ions concerns the role of tax in micro-economics, where it would seem easy to determine the relationship between tax burden, tax scale and an economic situation of a taxpayer and the decision made by him. This results from the fact that the taxpayer's situation is affected by a number of other factors, therefore it is difficult to isolate the tax factor, if we do not take into account abstract analyses. The situation is further complicated when the subject of our analysis is the influence of a particular tax on the whole group of taxpayers or the whole tax system on economy (for example the theory of automatic stabilizers in business cycle). The difficulty of tax analysis regarding the tax impact on the subjects and the economy will increase if we go beyond the state with such analysis. Tax relations are further complicated and tax effects are even more difficult to assess or quantify. This is an important statement, as it partly explains the source of controversies concerning opposite tax doctrines – tax harmonization versus tax competition (S. James Ch. Nobes, 1998, Inventory of Taxes in the Member States of the European Union, 2002-2015). We will use the phenomenon of transferring direct taxes in order to exemplify the difficulties. Direct taxes may concern: income from work – income from economic activities, income from property and property rights, income from capital and from money savings. The subject of direct taxes is then the resources of work, land, physical capital, and financial capital – essential factors (basis) of economic activity. Therefore of fundamental significance is how particular factors react to imposed taxes and changes. Also the flexibility of various factors to tax changes is vital (marginal analysis).

The theoretical analysis of the effects of taxation differentiation may be conducted on various levels. Below you will find some

of these levels (Kesti, 2002-2015, T. Wołowiec, 2011):

- tax influence on labour costs. High taxes increase labour costs, as income after taxation (disposable income) is low, which is a natural basis for employees' pay demands from employers, which implicates the position of the enterprise on competitive market and company profitability. It is understood that differentiation of tax conditions between countries (regions) exerts considerable influence on conditions of conducting business activity;
- changes in direct taxes always bring about changes in marginal production costs;
- taxes always constitute a burden on a given entity, therefore there is a defense reaction of a taxpayer who tries to transfer this burden onto other subjects. Hundreds of years of observations of taxpayers' reactions allow us to state that it is easier in case of indirect taxes and more difficult with direct taxes. Income taxes are not transferrable and the taxpayer's reaction may only consist in limiting income activities. This is especially visible in progressive tax scales, whose use increases marginal taxation and decreases marginal income. The final decision of a taxpayer in this matter implicates the income usefulness curve;
- the issue of direct tax transferability looks different in case of taxing an employer than an employee. The employer will try to transfer the increase of tax rates into manufacturing costs and then into prices. His possibilities depend on the type of taxed goods and the state of the market (competition), which is manifested in price flexibility of demand. The chances of transferring increased tax burden grow with lower price flexibility of demand. The second possibility consists in transferring the tax effects on employees by reducing their salaries. This constitutes the so-called retro-

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transferability, which is usually ineffective, as employees oppose such practices. The degree of transferability of increasing taxes on employees depends on the state of the labor market, unemployment rate, labour market flexibility and openness;

- measuring the phenomenon of tax transferability is difficult even in case of a closed economy, as the effects of growing taxes may be distributed, for example, into prices, non-pay manufacturing costs, entrepreneur's profit margin. These difficulties are multiplied in an open economy, as the mechanism of tax transferability affects the society (economy) of another country. In its theoretical meaning, tax (fiscal) dumping means that redistribution of social income takes place between countries through taxes. This is especially visible when countries belong to a uniform economic association, which has a mutual fund – budget, which also serves as a source of income for member states' budgets. The use of tax dumping means that part of income is transferred in an open or hidden way (transfer prices) to countries with lower taxes. An effect of this is further increase of taxes in countries which do not use tax dumping, as the budget increases its revenue deficit, or limiting expenditure, or increasing public debt. It should come as no surprise then that after admission of 10 new countries to the EU, France and Germany threatened to stop their payments to EU budget due to considerably lower corporate income tax rates in such countries as: Slovakia, Poland, Czech Republic and the Baltic states, where entrepreneurs began to move their economic activity. We should add today that it happened with closed labor markets.


In times of internationalization of economic relations and economic integration, the mechanism of tax transferability is becoming international. This concerns both taxation of income from work as well as income on economic activity, interests, capital

gains, etc. Personal decisions concerning taking up work – assuming that there are formal restrictions in flow of labour between countries – are determined by salaries and taxes. Therefore we experience a natural phenomenon of work migrations to places where pay and tax conditions are more favourable. While in case of taxation on incomes from work, possible change of place (country) of work is easier, in case of entrepreneurs it is a more daunting venture, as it requires complying with the legislation of the country where the activity or its part (establishing dependent companies) is transferred. The mobility of labour and capital implicates the issues of tax harmonization. From the economic point of view harmonization of direct taxes and tax competition force us to consider further theoretical and legal aspects, such as (W. M. Gentry, G. Hubbard, 2002):

- effects of harmonization of direct taxes on state budget, imbalance in public finance,
- allowed scope of realizing tax economic rent by international corporations (N. Jensen, 2007, N. Geaten, 2007),
- mechanism of reallocation of public debt between countries due to the above-mentioned rent,
- limiting the possibility of lowering taxation of personal incomes and consumption taxes when harmonization of direct taxes leads to lower public revenues,
- effects of labour mobility on home economy due to differentiated tax conditions,
- changes in the structure of tax system in relation: indirect taxes – direct taxes, as to how these relations attract foreign investment,
- motivating national investors to invest,
- scope of using tax credit.

These issues look different in conditions of small, open economies of the countries which suffer from foreign capital deficit. The situation of developing countries undergoing the systemic transformation is

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Wołowicz T. (2018) Directions, Sense And Purpose Of Personal Income Taxation Harmonization Process Across European Union Member States. *International Journal of New Economics and Social Sciences*, 1(7)2018: 77-99

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different in countries with established strong position within a given economic system or global economy. Considerations take into account the element of tax equity, in its international aspect and find out the main reference points for transformation of an individual's taxation system

in European Union countries has been limited to personal income of individuals who do not conduct any form of business activity and it reflects the short and long-term run.

Purpose of the article. Methods.

The purpose of the article is to determine whether harmonization of personal income taxation in the European Union countries is possible and desirable. The assessment of the possibility and desirability of harmonizing this form of taxation has been limited to personal income of individuals who do not conduct any form of business activity and it reflects the short and long-term run. The purpose of this article is formulated in such a way that it requires a comparative analysis of the personal tax revenues of systems in the countries of the European Union, taking into account the specifics, commonalities and differences in tax structures in the countries studied, as well as the areas, possibilities and possible directions for harmonizing this form of taxation. Within the conducted analysis we attempted at verifying the following research hypothesis: *there are economic, political and social reasons for harmonization of income taxation of individuals who do not conduct any business activity in the European Union countries.* It has been assumed that the verification of the adopted research hypothesis which is not more than a speculation or a guess made provisionally determines the necessity of obtaining answers to the following research questions:

1. Does large differentiation of personal income taxation systems in the European Union countries constitute a threat to the common market?

2. Does harmonization of personal income taxation of individuals who do not conduct any business activity make sense?

3. What benefits will we obtain thanks to harmonization of the analyzed taxation form and what costs do we bear as a result of its lack?

4. What and how did various economic and social conditions determine the heterogeneity of personal income taxation in the European Union countries?

5. What sources of similarities can be found in personal income taxation in tax systems of the European Union countries, taking into account the so-called "quiet harmonization" and the role of the European Court of Justice?

The main method of the research was induction. It consists in developing general conclusions or determining some regularity on the basis of empirically stated phenomena or processes. It is the kind of reasoning on the basis of details on general properties of a phenomenon or an object. The application of this method requires an assumption that only facts may constitute the basis for scientific reasoning. These facts are situations (economic, social, legal, and organizational) that actually took place. Induction methods cover various legal acts, analyses, experts' opinions, statistical data and scientific documents used in social research. Moreover, the paper uses two general research methods, namely analytic and synthetic methods, characterized by detailed presentation of the reality research. The analysis treats reality as a set of

single, specific features and events. Following this research method, we break down the subject of our research (personal income taxation) into parts (elements of tax technique) and examining each separately or we detect the elements of this object (the possibility and desirability of personal income harmonization). A downside of the analytic method is excessive exposure of details (technical details), which sometimes may lead to losing sight of the whole subject of our investigation. This hinders full and objective acquaintance with reality, which admittedly is a set of independent elements but also a set of parts closely related into an organic whole. The synthetic method consists in juxtaposing and presenting the tools and forms of personal income taxation in the holistic, final model of effective and efficient instrument not only fiscal but also social policy. This method treats reality as a combination of features. It is based on joining various notions (models, forms, tools) into one, and particular elements into the whole. Therefore its implementation consists in looking for common features of various phenomena and events and then putting them together into a homogeneous whole. Thus the synthetic method surveys and determines the whole subject of research. Using the complex (hybrid) research approach, we also used the so-called triangulation of data sources, that is comparison of information on personal income taxation from various tax systems, and theoretical triangulation – consisting in analysing obtained data from the point of view of various theoretical concepts of tax policy, but also of social policy.

The analysis and evaluation of the possibilities of harmonizing personal income taxation in the European Union countries will be conducted taking into account four basic criteria. These are:

1) evaluation of economic and social importance (weight) of personal income tax, taking into account its influence

on consumption, mobility of workforce, labour supply and starting business activity.

2) evaluation of the influence of direct taxation on economic growth, labour market and economic (macro-economic) policy of the government.

3) scope of originality and individuality of personal income taxation solutions in the European Union countries.

4) evaluation of the influence of ‘quiet harmonization’ being the result of competition among national tax systems and decisions of the European Court of Justice on unifying construction solutions for personal income taxation.

The basic tools for conducting a wide-ranging analysis and evaluation of the possibility of harmonizing personal income taxation in the European Union countries will be the following research methods:

a) comparative analysis of the specificity of personal income taxation in the European Union countries, with particular emphasis paid to construction elements of this taxation form;

b) functional analysis, applied in order to determine the cause and effect relationships of the examined phenomena and processes influencing the construction of the system personal income tax burden and the possibilities of harmonizing this form of direct taxation;

c) research method in dynamic presentation, essential both for the holistic look at personal income taxation systems as well as for the evaluation of the speed of progressing ‘quiet harmonization’ and for presenting the appearing development tendencies of this tax in the context of evolution of tax systems in the European Union countries;

d) methods of statistical analysis of the examined problems and relationships.

Explanation of main material of research with complete substantiation of obtained scientific results. Discussion.


The theoretical laws, scientific conclusions, practical proposals and recommendations made by the author in this dissertation all aim at the conclusion that although harmonization of personal income taxation is possible from a legal point of view in the long run, from the economic and social perspective it is unjustified to harmonize this form of taxation. Thus, proving the thesis that we can find out the main reference points for transformation of an individual's taxation system in European Union countries and there is no goal and sense in harmonizing and standardizing PIT constructions. (Tax revenue in EU Member States: Trends, level and structure 1995-2003, Tax and Economy a Comparative Assessment of OECD Countries, OECD Revenue Statistics 1965-2013).

In their pure form, income taxes do not stimulate inclination for investment and savings. Income tax is a burden on the saved and spent part of income. In order to stimulate saving and/or investing, it is necessary to introduce some reliefs and exemptions to the tax construction, granted for creating (developing) investment. The author conducted his own research on the relationship between the level of fiscalism (relation of PIT tax revenues and social insurance contributions to average annual GDP growth rate, calculated with purchasing power parity per capita) and the structure of tax system, and economic growth speed for 27 EU countries in 1991-2017. The research shows that in the short period of time it is difficult to prove the relationship between reduction of tax rates and GDP growth rate. Negative correlation means that the higher the level of marginal tax rates, the lower the GDP growth. The obtained correlation coefficients are statistically insignificant, that is so small that

there are no grounds for rejecting the hypothesis of the existence of a relationship between the levels of marginal tax rates in the short period of time. These results do not allow us to confirm the theoretical postulates of the supply side school of economics. Its advocates claim that reduction of marginal tax rates in income tax leads to lowering labour costs, stimulating consumption and production, and in consequence to shifting the global supply curve so that the balance point between demand and supply indicates higher level of GDP and prices. This activity is supposed to lead to economic growth and lower inflation. An effect of these activities may be increased trade deficit caused by growing demand for consumption and investment goods and increased capital surplus due to increased inflow of foreign capital and decreased outflow of national capital abroad.

Apart from the influence of the level of fiscalism on economic growth, we also analysed and researched the structure of budget tax revenues (including quasi-taxes). It allowed us to answer how particular types of fiscal revenues affect the GDP growth dynamics. The analysis covered three tax groups. The first one comprises income taxes (PIT, CIT and taxes on capital gains), the second one – social insurance contributions and their derivatives, the third one – incomes from work (jointly PIT and social insurance contributions and their derivatives). Distinguishing the fourth group was justified by the fact that social performance can be financed with general taxes or with premiums outside the budget, as burden classified as social insurance.

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Analysing the influence of the share of income taxes in fiscal revenues on GDP growth rate we obtain the coefficient of Pearson's linear correlation $r_{xy} = 0.13$. The obtained value of the coefficient means that there is no statistically significant relationship between the share of income taxes in fiscal revenues and average annual GDP growth rate. Similar results were obtained when considering the discussed relations annually in certain years (with the exception of the Netherlands). Analysing the power and direction of the correlation between PIT and CIT separately and average annual economic growth rate, we also obtain statistically insignificant relationships. The obtained coefficients of correlation are respectively $r_{xy} = 0.039$ and $r_{xy} = 0.38$. Therefore the share of income taxes in the structure of budget fiscal revenues does not significantly affect the economic growth dynamics (either in the short or in the long term).

Determining the power and direction of the relationship between the share of social insurance contributions in total fiscal revenues and average annual GDP growth rate per capita we obtain the coefficient of correlation $r_{xy} = -0.42$. This result proves the existence of negative relationship between the analysed variables. The power of this relationship does not allow us to treat it as statistically significant, therefore the thesis of negative influence of high level of burden related to social insurance premiums on economic growth cannot be fully proved.

Combining in one group personal income tax and social insurance contributions, we obtain a category of incomes placing bur-

den on work. These performance are complementary and determine the so-called tax wedge, that is labour costs (difference between labour costs – pay cost for the employer, and net pay – pay income), extremely important for the willingness of employers to create new jobs. Moreover, these terms are often used interchangeably. Examining the span between the share of particular fiscal tributes in the EU countries with their highest and lowest level, we can notice that in the EU countries the span of the PIT share indicator in total fiscal revenues was around 37% in 2012, while in case of social insurance contributions – 35%. In case of total burden of income from work, the span amounted to 22%, therefore it is justified to examine the joint influence of tributes placing burden on labour costs on economic growth.

On the basis of the above data we obtained the coefficient of correlation $r_{xy} = -0.54$, which denotes the existence of statistically significant, negative relationship between the share of burden on income from work in fiscal revenues and the GDP growth rate. The coefficient of correlation calculated on this basis informs us that the average GDP growth rate in the analysed years is explained in 27% by the share of burden placed on income from work in total fiscal revenues. The obtained results allow us to state that an increase of average share of burden on salaries in total fiscal revenues by 1% accounts for a decline in GDP per capita of 0.10%. Thus we can state that high level of burden on income from work negatively affects economic growth. High labour costs weaken the competitiveness of national economy, increase the tendency to

escape into shadow economy and increase unemployment and, in consequence, hamper economic growth.

Examining the relationship (for years 1991-2017) between average annual level of unemployment (dependent variable) and average share of tributes placing burden on income from work, we will notice a strong relationship, assuming a three-year delayed reaction of the unemployment rate. With this assumption, the coefficient of correlation is $r_{xy} = 0.91$. An increase of average share of burden on pay (PIT and contributions) in total fiscal revenues of EU countries causes, assuming a three-year delay, an increase in unemployment rate of 1.44%. The research also shows that each increase of tax and quasi-tax burden may translate into decline in economic growth rate. The research demonstrates that the most negative influence on economic growth, especially on unemployment level, is exerted by fiscal burden which determines the so-called labour costs. It is interesting that, contrary to generally accepted beliefs, the study does not prove the existence of any correlation between the influence of the burden on the economy on income taxes and economic growth.

The obtained results of the research do not allow us without first conducting detailed microeconomic analyses (household prosperity level, structure of household expenses, price flexibility of demand, etc.) to propose a thesis that it is more beneficial for the social and economic prosperity to increase revenues from indirect taxation in the structure of budget tax revenues. Lowering the burden placed by income taxes re-

quires offsetting the lost revenues with increased indirect taxes in order to maintain neutrality of revenues.

In their pure form, income taxes do not influence the choice of socially beneficial structure of production and choice of production factors or on using technologies saving natural environment. Achieving these goals also requires application of the system of tax reliefs and exemptions.

Income taxes do not affect the socially beneficial structure of consumption. We can talk of appropriate structure of consumption only in case of personal income taxpayers. It does not seem possible to introduce reliefs and exemptions into the structure of this tax that would allow us to steer household expenses. Income taxes are of little use for such influence (these statements are vital both for understanding the specificity of income taxes and from the point of view of the analysis of the purpose and nature of preferences used in income taxes. Knowing the specific structure of these taxation forms, reliefs and exemptions – often given contradictory evaluations – may be justified by the implementation of socially or economically important goals).

Tax systems in the European Union countries are a product of long evolution and feature a lot of similarities. Similarities of Community states tax systems are the effect of the same factors affecting a particular tax policy and features of legal solutions in taxes. These factors include: degree of economic development, social and economic systems and doctrines of economic policy, similar social, demographic and economic problems, Integration of the European

economy, globalization of the world economy and principles of cooperation with international organizations. These factors are a result of similar economic and social structures, determined by similar cultural, historical, sociological and political factors. In practice, the shape of the tax system reflects the necessity to take into consideration interests of various social groups and a consequence of frequent changes in legal solutions, being an effect of political plays. As a result, the functioning tax systems are determined both by model and actual (mostly political) factors. The economic structure of the European Union countries is characterized by high level of exchange, combined with a certain tax system, whose features include: high level of tax burden, similar structure of tax systems (the core are personal and corporate income taxes and universal consumption and excise taxes), significant role of accounting and minor role of inheritance and donations tax and taxes on taxpayer's assets and real estate (Tax Guide to Europe, 2010, S. Cnossen, 2001).

The tax doctrine formulates guidelines on what rational and effective tax policy the

state should run. These postulates are determined in various ways, depending on adopted criteria concerning goals to be achieved thanks to tax policy. First we should ask about the functions of tax policy and then about norms and ways of their implementation. The primary goals of tax policy are presented as: efficiency in implementing the income function, efficiency in implementation of non-fiscal functions, equitable distribution of tax burden and low costs of tax collection. Tax policy often quotes the doctrine, but in reality it may differ from it considerably.

Personal income taxes, due to their significance in national fiscal policy should not be harmonized, due to their role in fiscal policy, as automatic stabilizers of business cycle. Using income taxes, we can affect taxpayers' behaviour in various ways, through tax reliefs and exemptions as well as shape and structure of tax scale. It is necessary to realize national tax policy, whose specificity and economic, historical and social idiosyncrasies require freedom in constructing PIT.

Conclusions.

The idea of a single economic and currency area is based on enabling the free flow of goods, capital and people (labour) while subject to a single currency regime. The idea deals effectively with currency risk, trade barriers, assures easy access to the labour market and provides opportunities for investing in all member states. Full economic integration requires consideration of taxes as an important factor in the furthering of integration processes, since EU

member states are tax nations, e.g. countries where budgetary incomes come primarily from taxation. EU member state tax systems are strongly diversified, due to individual developmental paths shaped by national history of various lengths, civilization development, culture, value systems, social and economic policy, which also define the state's current financial needs. Even in a single state, taxes cannot remain

neutral towards economic and social processes. Therefore, the challenge faced by EU creators was not the outright neutralization of the impact that taxes had on the integration process, rather they worked towards limiting the negative consequences of overly diversified national tax systems. Gradual, long-term harmonisation emerged as a continent-wide process. During the development of the Treaty of Rome it was decided that, to assure a common market, it was enough to harmonise indirect taxes and remove trade barriers as they were the prime inhibitors to the flow of goods and services. The harmonisation of direct (income) taxes was not considered as they were seen as not significantly affecting the single internal market. Problems tied to direct taxation became visible as integration proceeded, the EU grew, its citizens began to migrate, multinational enterprises increased in size and scope and their financial flows (capital and profit transfers between headquarters and subsidiaries in different EU countries) became seriously affected. It should be noted two main questions about European integration: trade union entrepreneurs suggested that income taxes would be neutral to integration processes and natural convergence of the tax systems of nations belonging to the economic and monetary union would occur.

It is a fact that the high and increasing international mobility of capital is not only a European but also a global phenomenon, associated with the ongoing globalization process. Thus, the current tax competition issue in Europe is part of a wider question of economic policy in a constantly changing and integrating world economy. However, in view of EMU and EU enlargement, there is a question of how the present applied regulations in the field of EU taxation could be further developed so as to, on the one hand, face the increasing pressure of globalization and tax competition, and, on

the other hand, remove another obstacle to free cross-border activity in the SEM (completing thus the integration of the market) and foster economic integration in Europe. A satisfactory reply presupposes the examination of at least two issues, namely: whether globalization and European economic integration are in some sense complementary or rival to each other, and whether tax competition in Europe subserves the integration or disintegration among EU states (T. Wołowiec, 2011, T. Wołowiec, M. Duszyński, 2009).

Although it may seem that globalization – as a process of global economic integration – includes European integration, the latter is a process of regional economic integration with objectives such as the avoidance of the "adverse effects" of globalization and international competition for members via the enlarged and more favorable economic space (which is institutionally assured), and the continuous deepening of economic integration, co-operation and socio-economic cohesion among member countries. It is obvious that, on the one hand, economic integration in Europe exhibits a much higher degree of integration and moves towards a deeper and more complete form of economic integration than the globalization process induces, and on the other hand, that the objectives of those two integration processes are quite different for a number of issues.

Particularly, it means that tax competition is not a problem for the globalization process itself, where the integration among the world's economies is much weaker. By contrast, within the European Union fiscal externalities arising from intra-EU tax competition are more significant. Furthermore, tax competition among EU states is in contrast with the objectives of European economic integration as indicated by official EU documents and treaties. The tax competition

phenomenon and the recent trend of undercutting corporate tax rates in the EU have not been induced by the requirements of the European economic integration process. It is rather the result of the general trend of falling corporate taxation in the world economy.

From the preceding discussion it should become clear that the current EU tax system – for both indirect and direct taxation – constitutes a temporary solution and it is at transitional stage. In fact, the different tax systems in the SEM create a diverse and chaotic picture in the field of EU taxation, which cannot be in accordance with the current state of integration. On the other hand, the response to increasing economic integration and tax competition in Europe cannot be simply tax harmonization. As emphasized by the literature, in certain cases such a development would have negative welfare effects for some members and does not fully address the fiscal aspects of the integration process.

Personal income taxes are strongly differentiated in EU member states in terms of setting the size of tax brackets and taxable income level, where the differentiation focuses on different perceptions of what should constitute the basis of taxation, different tax scales, tax credits and allowable deductions. This process destroys the tax base. Most nations have a tax-free income that represents the expenditure for minimal biological survival. Tax credits and allowable deductions are not only differentiated country by country but also are subject to fluctuations due to a changing social and economic national environment, the preferences of ruling political parties, phase of the business cycle.

EU member states have to consider the taxpayer's ability to pay (occurring jointly, separately or as selected elements) when creating different components of Personal

Income Tax (PIT) policies, which may include (T. Wołowiec, A. Suseł, 2009):

- Setting a tax-free level of income that is offered to an unemployed spouse (e.g. in Slovakia), offered for each child being supported by the parents (e.g. Belgium, Czech Republic, Estonia, Holland, Germany, France, Greece, Slovenia, Lithuania).
- Joint taxation of married couples (e.g. in Ireland, where we can find separate tax scales for single taxpayers and married couples).
- Specific and unique taxation of family income (France operates family quotient taxation that considers the number of children in the family).
- Constructions that permit the deduction of certain costs incurred while bringing up children (e.g. France) or even when supporting the family (e.g. Germany).
- Size and breadth of tax brackets.
- Systems defining the permissible and deductible expenses.
- Systems of preferences depending on the family's situation.

When analysing tax credits and allowable deductions present in EU member states (as subject-specific credits, deductions from tax and tax base), four main categories can be identified (T. Wołowiec, A. Suseł, 2009):

1. Compensation-type preferences: equivalency and compensation pay-outs for used tools, clothing, travel costs, refunding travel-to-work expenditures, etc.
2. Social-type preferences: deductions for social support for foster families, support for foster families, war veterans, victims of crime, handicapped, elderly, etc.
3. Stimulation-type (economic) preferences: aimed at stimulating the taxpayer to engage in specific activities or modi-

fyng his behaviour. We can include deductions for housing (development and renovation), preferential treatment of savings, purchasing of stocks and bonds, educating children, professional development, health expenditures and retirement fund investments.

4. Differentiated incomes, for example gambling wins, research grants, rewards for scientific activity, scholarships, contributions towards professional associations, etc.

So we should expect rational individuals to pursue tax-benefit-seeking mobility of labour force. In reality the extensiveness of this mobility would be dependent not only on "tax wedge" levels (share that PIT and national insurance consume from gross income) but also on level of wages, gross income levels, the nature of the labour market, quality of public services and infrastructure. Such rent-seeking tax migration would lead to increasing the supply of qualified labour in the market of the accepting country (with a competitive tax system and good labour market) while worsening the labour market situation in the country from which a worker has departed. As a result, countries keen to gain valuable workers could consider setting competitive tax rates to lure in new employees who would migrate and stay, contributing to national economic growth and pay their taxes in the accepting state. In this context harmonisation would be seen as a process of equalisation of life and employment conditions that would reduce the need for "tax wedge" oriented analyses by workers.

Income taxes are characterised by a clear link between the taxpayer's situation (income, wealth) and the tax burden placed upon him. As such, income taxes can have a negative impact, be de-motivating, as the tax will inhibit income-generating and investment activity and that will negatively impact the speed of economic. This means

that not only the sheer size of the tax burden is important, but also we have to consider the entire structure of the tax system, each tax and the definition of tax scales/brackets. Inadequacies of tax theories combined with a polarisation of opinion maker positions concerning personal income taxes impact even the microeconomic approach, where it should be easy to establish a causal link between the tax burden, tax scale and the taxpayer's economic situation and resulting decisions. This is a result of multiple interacting factors affecting the taxpayer; therefore isolation of the tax factor is difficult, if we bypass highly abstract analyses. The situation will be more complex, if the subject of analysis becomes the impact of a given tax on a specific group of taxpayers or of a specific tax on the entire economy (e.g. automatic stabilizer theory). We have to add the fact that income taxes are only part of a wider burden, since they are combined with national security contributions (social insurance) and often it is those social security contributions that are modified to increase governmental revenues, while maintaining an illusion of tax rate stability.

A theoretical analysis of the effects of tax differentiation can occur on several axes, including:

- 1) Impact of PIT on costs of labour. High taxes increase labour costs since after-tax income (disposable) is low and thus causes pay-increase demands from the workers and this in turn complicates the company's competitive standing and affects its profitability (when compared to companies operating in other, more beneficial tax environments).

- 2) Taxes as a burden. They force a defensive response from the taxpayer in the form of seeking opportunities to transfer the burden onto other entities. Centuries-long observation of taxpayer reactions to tax burdens shows that, even if desirable, burden

shifting is much easier in the case of indirect taxes than direct ones (in this case the most common technique involves limiting economic activity).


3) Tax burden transferability is different for employees and employers. Increased labour costs will affect production costs and this affects final product/service prices. Opportunities open to the employer will depend on the type of the good/service under taxation and the state of the market (competition), which is defined through elasticity of demand. Inelasticity of demand for a good will assure easier transfer of tax burdens by the employer onto the client. A second possible reaction is to transfer the burden onto the employees by lowering their wages. Opportunities here will be defined by the current state of the labour market, its openness, the level of unemployment and elasticity of labour supply.

4) Measuring the transferability of the tax burden. The process is difficult even in the case of a closed economy because the effects of increasing taxes can be hidden in prices, non-wage production costs, producer profitability. These difficulties are multiplied in an open economy where the mechanism of transferring the tax burden affects the society and economy of a different nation. In a theoretical sense, “tax dumping” (The term “tax dumping” was popularised by Chancellor Gerhard Schroeder in 2004, when he challenged new EU member states and their tax reforms that were aimed, as Schroeder claimed, at affecting fair competition policies in the Union by offering good operating conditions for companies from the “old” Europe) leads to a redistribution of income between different societies as it assures that part of the income is transferred to nations with lower taxes through transfer pricing or through the transfer of company operations to locations with favourable tax

regimes. The impact on nations not operating “tax dumping” policies is a need to increase tax rates to maintain governmental revenues (for those taxpayers that remain) or reduce governmental expenditures (politically difficult) or increase national debt (finding lenders willing to fund continued expenditures) (On 26th May 2004, Ministers of Finance from Germany and France, worried that their countries would suffer the most from tax-benefit-seeking company migration, proposed the first unification of corporate (CIT) tax rates: minimal rates, formalising the methods of calculating incomes, profits, defining expenses).

In the era of internationalization of economic relations and integration, the tax burden transfer mechanism becomes international, in terms of taxation on incomes, labour, economic activity, interest, capital returns, etc. Personal decisions regarding where to undertake paid employment (with the assumption that there are no restrictions on the movement of labour) will be affected by offered wages and required taxes. Income migration therefore becomes natural as people gravitate towards locations where incomes and taxes are the most beneficial. Of course, changing the location of activity is much easier for an employee than for an employer and entrepreneur as the latter two have to adapt to the requirements of the host country to where their activity is being transferred (for entire company or its part, subsidiary). Both labour and capital would therefore benefit from tax harmonisation as it would simplify operations and create a more balanced environment that would reduce the need for mobility oriented purely on seeking tax benefits (J. Gałuszka, 2002). Economic aims of tax harmonisation may be unachievable due to legal reasons, since a tax is not only an economic category but also a legal one, and its legal side is affected by:

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1) Relationship between national and Community law, and when considering the supremacy of EU law over national rules, many issues emerge (e.g. conflicting regulations, different interpretations).

2) Problems of applying (and in what measures) unlimited tax duty (Unlimited tax duty applies to those residing in a country for more than 183 days of a tax year, while limited tax duty is applied to those who spend less than 183 days) in one country compared to applying unlimited tax duty in one country with a limited duty in the second country and, finally, how to apply unlimited tax duties in both countries (R. Gordon, M. Dietz, 2006).

3) How to formulate and agree upon treaties on avoiding double taxation (not only achieving consensus between nations but also following local political patterns, taxation trends).

4) Problems in whether to collect the tax in country of residence or non-residence and in what proportions.

Harmonization of income taxes is much more difficult than harmonization of indirect taxes from the practical, technical and legal perspective and is a result of:

- When creating the Treaty of Rome it was decided that direct taxes would not have a notable impact on the operations of the internal market, and that approach led to a lack of appropriate regulations, especially in the area of personal income taxes.
- Income taxes, as forms of direct taxation are an important tool for fiscal policy that affects social and economic activities and it is difficult for politicians to abandon this tool for managing national policies.
- Directives requiring the formulation of direct tax harmonisation must be agreed upon with a majority vote in the national Assemblies (Parliaments), which leads to a lack of consensus on desired aims, costs and benefits, procedures.

- Progress in direct tax harmonisation creates an aura of challenges to the tax independence of nations and leads to entrenchment of state and elite positions.

- EU member states have different rules for remunerating employees, setting incomes from retirement funds and affecting the structure of income-generating costs and expenditures that reduce the tax base.

Despite the lack of Directives to regulate the rules of taxing personal income, the rules are emerging spontaneously and tax burdens are slowly equalising. This process is the result of competition between EU member state tax systems—nations extensively are utilising the construction of the personal income tax to utilise the stimulating functions of the tax system, which in turn impacts the possibilities open to spontaneous PIT harmonisation. Due to the effects of “quiet” paralegal harmonisation, several common PIT characteristics can be found in the EU:

1. Placing subjectivity on the principle of residence. Rules on limited (<183 days), and unlimited (>183 days) tax duty.
2. The dominant concept is of a global tax. Joint taxation of all incomes obtained by the taxpayer from different sources (only the rules regarding capital interests are exempt from being combined with other incomes).
3. The tax is progressive and specific solutions concern different tax rates, types of scales, rules regarding progression and the size of the minimal and maximum rates.
4. Tax burdens are designed to follow inflation through a system of automatic or semi-automatic indexation or through the change of tax brackets.
5. Different regulations are applied to a family income, sale of real estate, assets and investment incomes.

6. In every construction there exists a sum free from taxation and, in varying degrees, considers the minimal level of (biological) existence and costs of obtaining an income.
7. Tax burdens are considerable of, in varying degrees, state of the family and capabilities to pay through a system of rebates and deductions.
8. Multiple rebates and deductions exist that are of a simulative and social character (investment, building and renovation, health, donations).

The analysis of Union laws indicates that personal income tax harmonisation is extremely difficult due to historical, political, social and technical factors. Decisions by the European Court of Justice (ECJ) concern mostly tax deductions by individuals who are not Union residents and the deductions of contributions made to retirement funds operating outside the EU. The ECJ decisions cannot affect the rules for harmonising personal income taxes because they concern the taxing of income from savings and the exchange of tax information, while the progressing “quiet” harmonisation is rather a result of international competitiveness and not of any formal ECJ rulings.

Alongside minimal law-making at the European level, minimal progress of harmonization is a result of (Wołowiec):

- Political factors: PIT payers are the largest group in any nation. Politicians are unwilling to abandon PIT techniques in pursuing regulatory and stimulatory tax functions that are of a political nature, e.g. any activity in this area will have an impact on the political balance of the nation. PIT setting is an important and valuable tool in maintaining relations with voters.
- PIT harmonization is not an important factor in the evolution of the Common Market. It is neutral to internal trade and does not affect intra-EU competition and

as such will not become a European priority for some time.

- PIT taxes mainly incomes from work and retirement and the level of taxation does not increase intra-EU migration (although in the long-run this may change).
- In EU member states, social support systems are funded from different sources: taxpayer contributions, direct funding from the state budget (social security contributions are then contained within standard taxes, e.g. Denmark) and as they form part of the total “tax wedge”, their harmonisation will be even more difficult (while exerting sizeable influence on the PIT system).
- EU member states possess different systems of labour remuneration and shaping of citizen income levels, different methodologies of designing tax progression. Therefore even creating a holistic and long-term understanding of existing complexities will be difficult.

Harmonisation in general is a difficult challenge, and any debate about harmonising PIT systems brings out major counterarguments:

- Further loss of sovereignty in national financial policies, which will inhibit the state’s ability to affect economic processes and (especially) social ones. Harmonisation of the rules for calculating the basis for taxation and the acceptance of unified rates would mean the transfer of tax-setting prerogatives to a trans-national institution: the EU. In such a situation, each nation must conduct its own analysis of costs and benefits (of transferring those competencies versus their retention).
- Different social models and retirement systems, when combined with varied degrees of PIT integration with retirement contributions, determine various financial

needs of the state, therefore harmonisation would have to reach far beyond “mere” PIT systems.

- Historical, cultural, social factors that have shaped national tax systems enforce claims that path-dependent process will be difficult to reverse.
- Competitive inequality between taxpayers who operate in one market and those that function in multiple EU member states. Depending on their primary country of residence it can be an advantage to pay taxes elsewhere (when the other nation's tax regime is friendlier, e.g. for Poles employed and taxed in the UK) or a disadvantage (when British taxpayers operating in Poland or Poles earning in the UK are subject to Polish taxation).

In the field of taxation and cross-border workers at the Community level, there are no rules concerning the definition of cross-border workers, the separation of tax rights between member states or the applicable tax rules. Neighbouring Member States with many persons crossing borders to work often agree special rules for cross-border workers in their bilateral double taxation conventions. Since these rules reflect the special situation between two Member States and are the result of negotiations between them, it follows that these rules vary from one double taxation convention to another. This applies both to the definition and the division of taxing rights between the Member States concerned. Normally any special rules for cross-border workers are limited to people who live and work close to the border and are employed. They may even be limited to persons employed in the private sector (as opposed to the public sector). Income earned by a cross-border worker may be taxed in one or both of the Member States concerned, depending on the tax arrangements. In the latter case, tax paid in the Member State where the work is carried out would normally be taken into

account when determining the tax liability in the Member State of residence, in order to avoid double taxation. There are no rules which guarantee the cross-border worker the right to the most favourable of the tax regimes of the Member States involved (see the Gilly case, para 46. C-336/96).

The EC Treaty freedoms and the non-discrimination principle mean that the cross-border worker may not be discriminated against in his State of residence, because he works in another Member State. To the extent that he/she is taxed in the State of residence on income from employment or self-employment exercised in another Member State, he/she should therefore normally have the same right to deduction for work-related costs or costs of a personal kind in the State of residence as if the work had been carried out there. This may be the case for instance as regards costs for travelling to and from work, social security contributions paid in the Member State of employment/self-employment, child-care fees, pension contributions etc.

In terms of employment status, a cross-border worker refers to a broad category of non-resident workers, which means that they have their tax residence in another place. According to Article 39 EC and Article 7 of Regulation 1612/68, non-resident workers shall enjoy the same tax advantages as national workers. This rule applies for tax advantages related to the personal and family situation as long as the situation of a non-resident worker is comparable with the situation of a resident worker. The Court of Justice has constantly held that residents and non-residents are not generally in the same situation. Thus, differences in taxation between residents and non-residents may not necessarily constitute discrimination. However, where a non-resident worker - including a cross-border worker - is virtually in the same situation as a resident worker (for instance because

he/she earns all or almost all of his/her income in that State), the non-resident worker may not be subject to less favourable tax rules in the State of employment than residents of that State. National rules denying

the deduction of costs and expenses from a taxable income are not allowed if the costs and expenses are directly linked to the economic activity which generated the taxable income (A.J. Auerbach, 2006).

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SOCIAL INNOVATIONS IN THE ASPECT OF THE SOCIAL ECONOMY

INNOWACJE SPOŁECZNE W ASPEKTCIE GOSPODARKI SPOŁECZNEJ

СОЦИАЛЬНЫЕ ИННОВАЦИИ В КОНТЕКСТЕ СОЦИАЛЬНОЙ ЭКОНОМИКИ

Abstract

The article points to the processes of change in the economy that seek to take account of human subjectivity and its needs in economic, social and civic terms. As part of these changes, social innovations are used as innovations aimed at improving the quality of people's lives in organizational and relational terms. Opposing the systemic approach of prosociality comes the concept of the social economy as a segment of social market economy that pursues social objectives within the framework of economic activity. Social enterprises are a component of the social economy. The aim of the article is to point to social innovation in the context of social enterprises. The phenomenon of innovation, social innovation and social enterprises has been described. Social enterprises constitute an important element of the landscape of the economy, in terms of the socio-economic order, taking into account the factor of social innovation.

Keywords: *Innovation, social innovation, social economy, social enterprises*

Streszczenie

Artykuł wskazuje na procesy zmian w gospodarce dążące do uwzględnienia podmiotowości człowieka i jego potrzeb w ujęciu ekonomicznym, społecznym, obywatelskim. W ramach tych zmian zastosowanie mają innowacje społeczne jako innowacje ukierunkowane na podniesienie jakości życia ludzi w ujęciu organizacyjnym i relacyjnym. Naprzeciw systemowemu ujęciu prospołeczności wychodzi koncepcja gospodarki społecznej jako segment społecznej gospodarki rynkowej (Społeczna gospodarka rynkowa, oparta na teorii

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ordoliberalizmu, stanowi przyczynę dynamicznego i szybkiego rozwoju Republiki Federalnej Niemiec w latach 50. i 60. XX wieku, a następnie od połowy pierwszej dekady XXI wieku – mimo wielu trudności i kontrowersji wokół realizacji i ewolucji tej koncepcji (Dahl M., 2015, s. 61), który realizuje cele społeczne w ramach działalności gospodarczej. Elementem składowym gospodarki społecznej są przedsiębiorstwa społeczne. Celem artykułu jest wskazanie na innowacje społeczne w kontekście przedsiębiorstw społecznych. Zostało opisane zjawisko innowacji, innowacji społecznych i przedsiębiorstw społecznych. Jak wynika z artykułu przedsiębiorstwa społeczne stanowią ważny element krajobrazu gospodarki w ujęciu kształtowanego ładu społeczno-gospodarczego uwzględniającego czynnik innowacji społecznych.

Słowa kluczowe: Innowacje, innowacje społeczne, gospodarka społeczna, przedsiębiorstwa społeczne

Аннотация

В статье рассматриваются процессы изменений в экономике, направленные на учет человеческой субъективности и ее потребностей в экономической, социальной и гражданской перспективе. В рамках этих изменений социальные инновации применяются как инновации, направленные на повышение качества жизни людей в организационных и реляционных отношениях. Концепция социальной экономики как сегмента социальной рыночной экономики, которая преследует социальные цели в рамках предпринимательской деятельности, идет вразрез с системным подходом к процветанию. Социальные предприятия являются составной частью социальной экономики. Цель статьи - указать на социальные инновации в контексте социальных предприятий. Был описан феномен инноваций, социальных инноваций и социальных предприятий. Согласно статье, социальные предприятия являются важным элементом ландшафта экономики с точки зрения формирования социально-экономического порядка с учетом фактора социальных инноваций.

Ключевые слова: Социальное предпринимательство, социальные инновации, социальная экономика

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The aim of the article is to point to social innovations in the context of the social economy and social enterprises, and what is more to distinguish the new non-economic roles that can be played by the business entities in society. Over the last decades, we have witnessed the ongoing changes in the

business environment. The changing conditions are characterized by the complexity of processes in the market, public and social space, as well as on the borderline between these spheres. These changes are characterized in particular by tendencies such as the build-up of changes

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in lifestyles and market needs resulting from the aging process, shortening of working time, diversification of its forms, extension of qualification time, diversification of professional specializations, professional mobility, diversification of social values, growing number of individual choices when making consumer decisions, as well as individualization of market, public and social services. The mentioned processes indicate the need to take into account market subjectivity of human subjectivity and its needs in economic, social and civic perspective. The concept of the social economy as a segment of the economy that fulfills social goals as part of economic activity comes out against this approach. In order to achieve these assumptions, innovative activities are necessary today that will combine social needs, market opportunities as well as the diversity of institutional relationships. That is why social innovations, meaning innovations aimed at solving problems in the socio-economic sphere of organization of people's lives, are becoming more and more important. The search for such segments of activity in business entities proves the progressing changes in the neo-liberal paradigm shifting to the area of humanistic economy, in which the social economy and social enterprises play a key role in the social market economy, and thus also social innovations as an element of creative implementation of economic activities in to change the quality of life in economic and social terms. Economic order is a stable form and framework conditions for the course of the management process, defining the applicable rules of the economic game within which the state, enterprises, households and individuals make decisions and implement economic activities (Pysz P., 2008, p. 37). A social enterprise is an entity of the social economy, which should

not be equated with the social market economy. More on this topic in the article: "Social enterprise" by (Florczak E., 2009, p. 36). or in the article: "A social enterprise as an opportunity to solve problems of regions" by (Gardziński T., 2016a, p. 27). The sequence of topics discussed in this study is based on the separation of the social economy and social enterprises as a new economic area that takes into account social objectives as part of economic activities. Next, the term of innovation as well as social innovation was defined as a separate scope of innovations directed at direct actions related to the quality of human life in the socio-economic space. The key topic of the study is the juxtaposition of social enterprises with social innovations and, consequently, the new and innovative area they occupy in the economy and roles they play in the socio-economic space. The research method of analyzing the problem of the social economy, social enterprises, social innovations based on Polish and foreign literature, business practice of enterprises as well as a proposition of theoretical themes in order to distinguish the issue of social innovations within the social economy and social enterprises operating in within the framework of the ordoliberal social order of the market economy. The authors assume that the optimal basis at the macroeconomic level for a social enterprise is the ordoliberal order of the social market economy. The Ordoliberal order of the social market model of a market economy supplemented with a social enterprise is, therefore, an optimal, natural and complementary socio-economic solution to the problems of the modern economy (Gardziński T., 2016b, p. 275). The social economy, apart from the social system of the market economy, does not relieve it and vice versa, it is complementary to the ordoliberal economic order, where in both

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cases the first place is in human economy and therefore actions in these areas should be taken above political divisions (Gardziński T., 2016a, p. 34).

Analysis of latest research where the solution of the problem was initiated. Aims of paper. Methods.

The research method of analyzing the problem of the social economy, social enterprises, social innovations based on Polish literature (Brdulak J., Florczak E., 2015, 2016, Hausner J., 2008, Leś E. 2008) and foreign (Defourney J 2009), business

practice of enterprises, as well as a copyright statement of theoretical threads to distinguish the issue of social innovation within the social economy and social enterprises functioning within the framework of the ordoliberal social order market economies.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.


Social economy and social enterprise

The social economy is one of the ways to define an economic activity that combines social and economic goals. The development of the social economy is a consequence of the transformation of social systems in the second half of the 20th century, the occurrence of market imperfections, the so-called crisis the welfare state, the development of alternative employment programs, cooperation and interdependence between social and economic partners as well as the public as well as the increase in the demand for social and individualized services. The social economy indicates the subjectivity of a person in economic processes, which is why it is associated with economic activity that takes up social goals such as (Ściborska I., Mikucka-Kowalczyk A., 2016, pp. 9-27): counteracting social exclusion, providing innovative services and socially useful products, social and professional activation, job creation, integration of social groups and society as a whole, stimulating local development and strengthening social and economic cohesion, shaping awareness of economic participation and social change. From the macroeconomic approach of the

social economy, it is necessary to move to the subjective elements that make up social enterprises. The very concept of an enterprise means the form of an organization conducting business activity and pursuing the adopted goals. In building the definition of a social enterprise, the starting point is embedding it as an entity in the structures of the economy, and in turn what distinguishes it from entities with only commercial activity is a priority orientation for social activity. The definition approach to social enterprises can be divided into formal and institutional (referring to specific legal forms) and normative - referring to the very essence of functioning of the activity. (More on this topic in: (Brdulak J., Florczak E., 2011.), (Brdulak J., Florczak E., 2012), (Brdulak J., Florczak E., 2016), (Florczak E., 2016), (Florczak E., 2015), (Hausner J., 2008). In this study a broad definition of a social enterprise is built, not limited to a formal definition, but for the purposes of the enterprise, its motives for the creation and realization of social goals inside and outside the enterprise.

Social entrepreneurship is directly related to the concept of social economy and social enterprise. The "social entrepreneurship"

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presented in the literature is understood as a mechanism for creating social enterprises and as a direct method of production of goods and services by associations and foundations and other forms of the social economy. (Leś E., 2008, p. 40).

Social innovations

Analyzing the problems of social enterprises and their social mission, one should refer to the subject of social innovations, which as a phenomenon ultimately fulfill a similar function in socio-economic life. The authors use the deductive method of selected scientific publications and comparative studies to answer a research question or social innovations are, at the present time, an essential factor determining the activity of a social enterprise pursuing a social goal while remaining in conditions of competition with market enterprises?

Generally, innovations are according to the Oslo 2005 Manual implementation of a new or significantly improved product (product or service) or process, a new marketing method or a new organizational method in business practice, workplace organization or relations with the environment. Therefore, innovations may refer in the sphere of socio-economic life to such forms as: new services, new products, new processes, new platforms, new organizational forms, new rules, new financial instruments and models, new legal solutions, as well as the combinations and interdependencies of these forms.

By narrowing the significance of these solutions to the directly articulated social goals that they serve and in what circumstances they arise, we can distinguish the concept of social innovation. According to the definitions of social innovations available in the literature, the dominating statement is that social innovation is the development and implementation of new ideas (products,


services, models) in order to meet social needs and create social relations and cooperation, increasing the ability of society to act. (Wyrwa J., 2014, p. 45). Social innovations are introduced into those areas of problems that will not be solved by either the public or the market (Fostering Innovation ..., 2011, p. 21). Therefore, referring to the attributes characteristic of social innovations, one can mention (Lubimow-Burzyńska I., 2014, p.77): intersectorial context, openness and cooperation, presumption and co-production, mutualism, creating new roles and social relations, better use of resources and resources, developing resources and capabilities.

The mentioned elements refer to human subjectivity, cooperation, innovation in the sphere of relations and involvement in social impact. It should be recalled here the claim of J. Schumpeter, who emphasized that the real goal of development is not to maximize profits, but to innovate by introducing new solutions and methods in the production process. J. Schumpeter defines entrepreneurs as individuals who initiate "new combinations" in the production process. Referring to the concept of an entrepreneur introduced by J. Schumpeter (Schumpeter J., 1960, p. 50) as an innovator, J. Defourny emphasizes that nowadays one can speak of a new social enterprise. Its solutions may concern (Defourny J., 2009, pp. 4-7): marketing a new product or new product quality, introduction of alternative organization and / or production methods, creation of new market spaces, getting a new source of raw materials or renewing an organization's industry, new relations with the market, also consisting of new system solutions and a set of partnerships with representatives of various environments.

Therefore, it is reasonable to compare social innovations with social enterprises

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due to the innovative way of undertaking activities as well as the social and social impact of social enterprises in the environment.

In the literature, different types of innovations are taken into account depending on the results of changes in the socio-economic environment. According to this criterion, transformative, real and incremental can be distinguished (Makarewicz-Marcinkiewicz A., 2013, pp.110-111). Transformational innovations are those that introduce irreversible changes in the systems of production of goods. Transformational innovation can create new markets, and the special feature of its functioning is the overcoming of competition, through the "depreciation" of existing products on the market and the introduction of a new utility value. The main creators of transformation innovations are markets that gather elements of new corporations, such as: technologies, capital and human capital. In this context, the social economy introduces transformational innovations in the area of institutional dependencies and in the scope of forms of managing economic, human and relational resources for social purposes. In this approach, the social economy and social enterprises can be regarded as a transformational innovation in the consideration of human subjectivity in economics, in contrast to the classic assumptions of the neoliberal economy of unambiguous profit maximization regardless of non-market effects. This is particularly evident in the countries of economic transformation, if the state can not cope with equalizing social issues or introducing social market economy into life (Dahl M., 2015a), grassroots local civic initiatives build social economy by establishing social enterprises.

Another type is real innovation, which is somehow the second generation of

transformation innovations - these are products or systems that follow pioneer, transformational innovation. These innovations change the market reality, but not to the extent of their source, ie transformational innovations.

Actual innovations provide the company with a competitive advantage only for a certain period of time.

Social entrepreneurship in terms of real innovation consists in the establishment of already proven forms of enterprises with social goals in new spheres of the market and social environment (eg franchise social enterprises or service social cooperatives). On the macroeconomic level, this is a departure from low labor costs as a competitive advantage of the economy for real innovation (Prokopowicz, 2015a), which should be supported at the stage of shaping the social order of the market economy both in the case of market and social enterprises.

In addition, incremental innovations can be distinguished, the implementation of which does not require large expenditures. Incremental innovations boil down to improving the resources already possessed and their effectiveness. They are called red blood cells of the economy - without them, they would not survive the enterprise. (Makarewicz-Marcinkiewicz A., 2013, pp. 110-111) Incremental innovations in social enterprises rely on the development of internal functioning and relations with the market and social environment in the attempt to intensify the form of resources possessed. At the macroeconomic level, it is necessary for the state to support and finance research supporting the economy (R & D - research and development) and to strengthen cooperation between science and business (Prokopowicz D., 2016b), which should translate into incremental innovations in entrepreneurship, including social. In summary, according to the

literature, two criteria have to be met for social innovation, its process or result. The first is new: although innovations do not have to be original, they must be new to the user, context or application. The second criterion is improvement and improvement. To be considered innovative, the process or result must be more effective or more efficient than the existing alternatives. (Phills J.A., Deiglmeier K., Miller T. , 2008, pp. 34-43).

Social innovations in the policy of the European Union

Stimulating innovative activities is important because it was introduced into the program assumptions of the European Union's policy. In Europe, the trend of supporting and promoting social innovation is becoming more and more pronounced. The European Commission has published the Social Innovation Guide, which discusses the methods and directions of support for public authorities for social innovation. The guide presents a model aimed at promoting social innovation and helping regions in such problems as youth employment, migrations, social inequalities and poverty. As the report shows: social entrepreneurship is associated with social innovations, public institutions play an important role in stimulating and developing social innovation.

The European Union has included social innovations in creating a comprehensive development strategy. Social innovations supported by the ESF (*European Social Fund*) are actions aimed at finding new ways of solving social problems that have not been used so far on a wider scale. Innovative solutions to problems in areas important to public life arise to effectively respond to such problems as: high unemployment rate, maladjustment of the educational offer to the needs of the labor market, or low adaptability of employees of small and medium-sized enterprises (Ćmiel

S., p. 558). The effect of an innovative project implemented under the ESF is a new, original, previously unused model, whose innovation can be seen in three dimensions (penetrating each other and being able to occur simultaneously or independently of each other): participant of the project - focus on supporting new; atypical groups; problem - solution to a problem that until now has not been sufficiently taken into account in the state policy; forms of support - the use of new tools in solving the existing problems, it is also possible to adapt solutions tested in other countries, regions or other contexts, as well as to develop, modify the instruments used so far to increase adequacy, effectiveness and efficiency (Wendel I., 2014, pp. 10-11). Taking into account the potential of social innovations, in 2014-2020, social innovations are included under a special priority axis in the Operational Program Knowledge Education Development (POWER). In this case, social innovations in accordance with the assumptions are implemented in two conventions. The first of them is the so-called microinnovations, it is essential to promote the attitude of social innovators and individual enterprises.

The second is macroinnovations, the aim of which will be to establish boundary conditions for introducing innovative activities by entities and institutions with a broader scope of public and social competences. (Wendel I., 2014, p.11). To support the implementation of new ideas that will help solve ESF problems, it identifies four main areas: 1. transition from the education system to professional activity, 2. professional integration of people distant from the labor market, 3. lifelong learning of adults, 4. care services for dependent persons.

Social innovations in the context of social enterprises

The results of changes are a determinant of social innovations and may refer to the impact of innovation both within the enterprise and in its environment. They are the result of the activities of individuals, human teams and the entire organization and, above all, take into account intentional, deliberate changes in social structures, customs, and lifestyles created by the society itself or with its participation. They may also appear as unintentional social changes, being an additional result of technological or organizational innovation (Olejniczuk-Merta A., 2012, pp. 20-21). Based on this aspect, it is possible to distinguish soft social innovations aimed at improving the quality of life (mainly it concerns organizational and relational innovations) and hard social innovations

(technical and technological), also ultimately implementing the range of social innovations. In addition, social innovations are distinguished with a direct innovative effect and with the effect arising in the long innovation process (Olejniczuk-Merta A., 2012, pp. 19-25). In the case of social enterprises, social innovations are implemented mainly in the form of soft innovations related to the motives of starting a business, building a team of employees, using human, social and intellectual resources. In addition, the process of social innovation in the case of social enterprises can be seen in all stages of innovation, that is, from identifying the problem and needs, to implementing the effects of the manufactured products or services and in the long process of dissemination of effects and indirect effects.

Table 1. Types of innovations due to the breakdown criteria:

Criterion for the division of innovations	Types of innovations
Causes of innovation	- supply - demand
Place of applying innovation	- inside the enterprise - in the market environment of the company
New solutions for markets	- regional - national - international - global
Originality of solutions, size of changes	- radical (pioneer) - imitative (adaptive)
Origin associated with ownership of innovation	- from the company - outside the enterprise - the result of the company's cooperation in the innovation process
The way of developing and implementing innovations	- system implemented according to the developed procedure - individual
Subject - innovation contractor	- one person - a team of employees - enterprise - a company cooperating with each other within a network organization
The result of carrying out specific activities of the innovation process	- an idea for a new solution - the concept of an innovative solution - development of innovation - innovation implemented in the company, sold as a product on the market

Source: compiled on the basis of (Dolińska M., 2010), (Mazur-Wierzbicka E., 2015, pp. 100-101)

The criteria for the division of innovations listed in Table 1 should be referred to the activities of social enterprises:

a) Causes of social innovation

In the case of social innovations in social enterprises, the demand side is conditioned by the occurrence of social problems related to unemployment or other social exclusion. An example are enterprises that are established in order to implement a specific social mission in the context of the socio-economic problems of the region. Due to the fact that the social problem is an element determining the creation and functioning of social enterprises, it can be considered that they are by definition a manifestation of social innovation in the context of the entire economy.

Due to the fact that the process of stimulating supply innovation is external to the economy and is a derivative of discoveries and ideas stimulated by the development of human science, technology and thought, social enterprises function by creating new innovative forms serving the community (an example could be Greemee Bank and micro-loans for poor people, or Benetech from Silicon Valley. The company pursues social goals using the latest technological thought, acting for education, human rights, adaptation of disabled people, civic life and the natural environment. In Poland, an example is a company from Biała Podlaska that implements social objectives in the region in the field of vocational education and local development.)

b) Place of applying innovation

Social enterprises in the context of applying innovations inside the enterprise can demonstrate an innovative organizational formula of democratic management, employee participation or involving a wide spectrum in the decision-making and management structure stakeholders. This category of innovation was used in the draft Polish law on social entrepreneurship (<http://www.pozytek.gov.pl/Projekty,ustawy,o,przedsiobiorstwie,socjalnym,3861.html>)

A social enterprise has a consulting and advisory body, which includes:

1) representatives of: employees; other employed persons; volunteers providing services to a social enterprise;

2) may include representatives: regular recipients of goods or services of a social enterprise; local competent territorial units; non-governmental organizations, if the subject of activity of a social enterprise remains in direct relation to the subject of their statutory activity

Social innovation in the market environment of the enterprise in terms of social enterprises is related to their impact and measuring this impact not only in economic but also in social terms. This approach has been applied in the methodology of measuring social added value (Głowacki J., Jelonek M., 2013), in which the components such as the level of social and professional activation of the environment, social capital involvement, implementation of deficit services and local products were subjected to quantification.

c) New solutions for markets

Social enterprises are characterized by local and regional rooting. Therefore, the issue of

the territorial activity of social entrepreneurship and its innovativeness in this context boils down to endogenous local and regional development. It should be pointed out the innovative use of local resources: social, human, cultural, landscape - for example, social enterprises operating under the project "Social Economy on the Amber Road" In the area of southern Poland, five social enterprises were created within the framework of the project. These enterprises were established by local non-governmental organizations - associations and foundations. Their characteristic feature is the nature of business activity. They deal with the creation and sale of tourist offers based on the natural and cultural values of the regions located on the Amber Greenways Route and the Green Bicycle Route and direct them to the innovative heritage tourism market.

d) Originality of solutions, size of changes

Social enterprises building their competitive advantage on the market show pioneer solutions on a national scale, as well as activities that are not taken into account by the market - an example is the social enterprise in Bałtów, which created one of the largest recreational and tourist parks in Poland. The pioneering nature of social enterprises primarily has an idea for an economic activity related to the innovative use of resources, the opening of a new market or the organizational structure of an enterprise.

Innovative adaptability of social enterprises reflects the establishment of entities with social goals as a result of borrowing

solutions in another region or environment. An example is promoting successful activities of social enterprises, which can be an inspiration for other communities (organization of Barka in Poznań, or Social Service and Trade and Production Cooperative in Byczyna, Social Cooperative "OPOKA" in Klucze).

e) Origin related to ownership of innovations

Due to the dynamics of social enterprise development in the last decade and increased interest in the social economy, social innovation comes both from the internal structure of the enterprise (an innovative form of catering, care, maintenance and cleaning services) and from outside the enterprise. External innovations are distinguished when external incentives, new emerging opportunities and demand and supply opportunities are an impulse to undertake a specific form of activity (eg FADO social cooperative, which advises companies and institutions, how to adapt their products, services and space to the needs of people with disabilities and also offers products and services for the deaf, which allow them to communicate better with the world). External ownership of innovations may also occur as a result of the company's cooperation in the innovation process (eg social enterprises in the Silicon Valley cooperating to create innovative technological solutions serving the implementation of social objectives in the global dimension - especially through Internet applications).

f) The method of developing and implementing innovations

Social innovativeness is implemented systemically according to the developed procedure primarily through legal solutions in the scope of establishing social cooperatives of natural persons or legal persons, as well as through the use of social clauses in public procurement

Article 29 para. 4 of the Act on Public Procurement

"The contracting authority may specify in the description of the subject of the order requirements related to the performance of the contract, which may include economic, environmental, social aspects related to innovation or employment, in particular concerning employment:

1) unemployed persons within the meaning of the Act of 20 April 2004 on employment promotion and labor market institutions;

2) juveniles referred to in the labor law regulations for the purpose of vocational training;

3) disabled persons within the meaning of the Act of 27 August 1997 on vocational and social rehabilitation and employment of disabled persons;

4) persons other than those referred to in points 1, 2 or 3, referred to in the Act of 13 June 2003 on social employment (Journal of Laws of 2011, item 225 and 1211 and 2015, item. 1220 and 1567) or in the relevant regulations of the Member States of the European Union or the European Economic Area. "

System solutions of social innovations may also refer to the standardization of social enterprises and the granting of social certification to social enterprises, for example, the Znak Gospodarczy Ekonomii Społecznej ("Znak [eS]") by the

Foundation for Social and Economic Initiatives. System solutions on a national scale are included in the National Program for the Development of Social Economy (mainly action IV.3 - self-organization of the social economy, task 5) (National Program ...). Poland in the context of European Union countries is at the stage of creating institutional assumptions, formal solutions and most importantly, introducing into the social practice documented standards (European Commission, 2014).

The individual way of implementing social innovations can be implemented by formally commercial enterprises that, as part of their activities, pursue social goals in an unregulated manner. An example may be American hybrid enterprises combining economic and economic activities as well as Polish commercial enterprises whose mission is to achieve social goals in their region.

g) Object - innovation contractor

In terms of the contractor, social innovations in a social enterprise can be implemented by one person who is a charismatic leader introducing change in the social environment. Such a process of social innovation development most often leads to gaining institutional partners and people supporting a given idea.

The team of employees in a social enterprise is an important element of the company's construction due to the submission of participation and democratic decision-making, which is a manifestation of the socialization of the organizational structure and employee involvement. Building favorable relationships, employing people at risk of social exclusion

is a form of social innovation in the field of social and professional integration and extends the company's goals beyond the neoclassical approach to economics.

Analyzing the subject of innovations of social enterprises one should refer to the building of cross-subject and intersectoral partnerships, which are an element of networking and creation of structures (between social, public and commercial entities) in the form of social-public, socio-private and socio-private-public partnerships.

To sum up, the role of social innovation from the point of view of socially involved entrepreneurship lies, *inter alia*, in (Matuszek J., 2015, 183-184):

- creating companies that are friendly to parents and families. A family-friendly company should create a consciousness that a company caring for employees - parents binds them with the company by understanding family problems of the employee,
- creating the opportunity to work at home,
- building the right atmosphere at the workplace. Opening up of enterprises to excluded citizens,
- development by enterprises of activities related to intellectual and creative contribution to the production being carried out,


Conclusions.

The development of social innovations and social entrepreneurship is directly related to the need for an interdisciplinary view of socio-economic processes. This is connected with the importance of explaining the role and function of the

institution and the impact of the institutional environment on the economy, and, consequently, taking into account new roles and the new significance of economic entities in the socio-economic space. Neoclassical economics did not take into

- creating attitudes with public institutions in creating public-private partnerships. However, referring also to the literature, factors that hinder the development and dissemination of activities supporting social innovation are primarily (Lubimow-Burzyńska I., 2014, pp. 72-91):
- limited financial support and insufficient technical skills that could help in the development and implementation of social innovations,
- insufficient knowledge about the needs and possibilities of civil society organizations and social enterprises,
- dispersal of activities and resources,
- lack of durability of networking,
- lack of the ability to combine the market niche with market opportunities,
- lack of proper marketing of social enterprises in the context of competitiveness,
- lack of a proper image of social enterprises,
- low level of involvement of citizens and enterprises,
- low popularity and dissemination of good practices,
- lack of proven methods for assessing the effects of actions and strategies,
- passivity and lack of creative problem solving,
- low level of public openness to change.

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account institutional aspects and non-market factors as well as the consequences of management. These problems are captured by the institutional economy, which indicated the importance of institutional innovations in the order and economic development in the modern world. Changes taking place in the economy should also be seen through the prism of institutional changes, taking into account the business environment (Siekierski J., Śliwa R., 2015, p. 140). The ordoliberal theory of economic order shows signs of complementarity with the trends of institutional economics, both in terms of the research program and analytical apparatus, which entitles them to combine them in the research process (Moszyński M., 2016, p. 18), hence the social order of the market economy at the level of the state determines the framework and innovativeness of individual sub-units with the social economy sector, and the social enterprise in it. Social innovations concern those added values that shape a new quality of social and institutional links. In the whole issue of social innovation, four separate elements of innovation must be distinguished: first, the innovation process or the generation of a new product or solution that involves technical, social and economic factors. Second, a product or invention - a result that we call the 'innovation'. Thirdly, the diffusion or adoption of innovation, thanks to which the given idea begins to function in real society.


Fourth, the ultimate value created by innovation. This reasoning points to our basic definition of social innovation: a new solution to a social problem that is more effective, efficient, sustainable or just than existing solutions. (Phills J.A., Deiglmeier K., Miller T., 2008, pp. 34-43). The key changes alongside technical and organizational changes include innovative actions that take into account the social factor. The response to these challenges is the crystallizing sector of social enterprises. social enterprises, especially in the field of diffusion of social innovations, refer to both formal and informal institutions. It should be pointed out here that institutional regulations and institutions support and objectives and innovative tasks (directives, EU and national regulations). In the context of non-formal institutions, the impact on social innovations in social enterprises is the reactions of entrepreneurs to social problems and innovative use of resources in order to improve the quality of people's lives in economic and social terms. Social enterprises are an important element of the landscape of the economy in terms of the shaped social order of the market economy, taking into account the social innovation factor.

Therefore, answering the research question and taking into account all the above conditions, social innovations should be considered as a key factor in the functioning of a social enterprise on the market.

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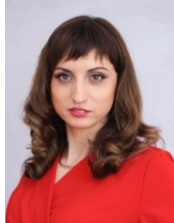
II. Management in Security and Ecology



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ECONOMIC SECURITY OF DEVELOPMENT OF RURAL TERRITORIES IN UKRAINE

BEZPIECZEŃSTWO GOSPODARCZE ROZWOJU OBSZARÓW WIEJSKICH NA UKRAINIE

ЭКОНОМИЧЕСКАЯ БЕЗОПАСНОСТЬ РАЗВИТИЯ СЕЛЬСКИХ ТЕРРИТОРИЙ В УКРАИНЕ

Abstract


The article illustrates various approaches to the essence of such categories as “economic security”, “economic security of the state” and “development of rural territories”. The views of scientists on the definition of economic security levels are systematized. The interaction of the “economic security” and “development of rural territories” concepts is substantiated. The modern tendencies of development of rural territories in Ukraine are researched. The Concept of the Development of Rural Territories in Ukraine is considered. It was found that ensuring the economic security of rural development should be based on the principles of unity and integrity, taking into account the process of decentralization, which is carried out through the formation of communities taking into account the geographic, economic, ecological, ethnic and demographic characteristics of each rural area entity.

Key words: economic security, economic security of the state, rural territories, development of rural territories, decentralization, territorial communities

Streszczenie

W artykule wyjaśniono różne podejścia do istnienia definicji takich jak bezpieczeństwo gospodarcze, bezpieczeństwo gospodarcze państwa i rozwój obszarów wiejskich. Podaje się usystematyzowane poglądy naukowców co do określenia poziomów bezpieczeństwa

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gospodarczego. Uzasadniono interakcję pojęć bezpieczeństwo gospodarcze i rozwój obszarów wiejskich. Zbadano współczesne tendencje rozwoju obszarów wiejskich na Ukrainie. Poddano rozważeniom Koncepcję rozwoju obszarów wiejskich na Ukrainie. Ustalono, że zapewnienie gospodarczego bezpieczeństwa rozwoju terenów wiejskich winno realizować się na zasadach jedności a integralności, z uwzględnieniem procesu decentralizacyjnego który realizuje się w sposób kształtowania się społeczności wiejskich, szczególnie biorąc pod uwagę geograficzną, gospodarczą, ekologiczną, etniczną oraz demograficzną charakterystykę każdej jednostki społeczności wiejskich.

Słowa kluczowe: bezpieczeństwo gospodarcze, bezpieczeństwo gospodarcze państwa, rozwój obszarów wiejskich, społeczność wiejska, jednostka społeczności wiejskich, rozwój obszarów wiejskich, decentralizacja, proces decentralizacyjny, społeczność terytorialna

Аннотация

В статье освещены различные подходы к сущности категорий “экономическая безопасность”, “экономическая безопасность государства” и “развитие сельских территорий”. Систематизированы взгляды ученых по определению уровней экономической безопасности. Обоснованно взаимодействие понятий “экономическая безопасность” и “развитие сельских территорий”. Исследованы современные тенденции развития сельских территорий в Украине. Рассмотрена Концепция развития сельских территорий в Украине. Определено, что обеспечение экономической безопасности развития сельских территорий должно основываться на принципах единства и целостности, учете процесса децентрализации, который осуществляется путем формирования общин, с обязательным учетом географических, экономических, экологических, этнических и демографических особенностей каждого сельского территориального образования.

Ключевые слова: экономическая безопасность, экономическая безопасность государства, сельские территории, развитие сельских территорий, децентрализация, территориальные общины

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Problems of the development of rural territories in Ukraine were always relevant, because about a third of the country population lives there. The current situation of the development of rural territories is deteriorating, despite the measures implemented in the framework of state

policy in this field. Rural territories are given one of the leading roles in shaping the country's economy as a whole, which necessitates the study of the economic security of rural development. Most often the definition of rural territories is associated with the agricultural activity of

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their population. This view is justified, but at the present time it cannot be assumed that most of rural areas' population is engaged in agriculture. Rural territories – is not only a place of human activity and spatial production base, but also natural environment. After all, the development of rural territories is influenced by natural conditions and natural resources, geographical location, population's ethnic composition, state of the economy, etc.

Therefore, for the development of theoretical and practical principles of economic security of the development of rural territories, it is necessary to have a clear definition of the conceptual-categorical apparatus. Although the concept of “economic security” and “development of rural territories” in the scientific literature is used long ago, but there is still no common approach to defining these categories.

Analysis of latest research where the solution of the problem was initiated.

Theoretical and applied aspects of economic security are considered in the works of such scientists as S. Lekar (Lekar S., 2012), O. Vlasiuk (Vlasiuk O., 2008, p. 45), L. Shevchenko, O. Hrytsenko, S. Makukha (Shevchenko L., Hrytsenko O., Makukha S. et al., 2009, p. 11), I. Mishyna (Mishyna I., 2007, p. 5), V. V. Kuzmenko (Kuzmenko V., 2007, p. 5), T. Sak (Sak T., 2013), V. Predborskyi (Predborskyi V., 2005, p. 16), Kh. Mandzinovska (Mandzinovska Kh., 2016), O. Konarivska, T. Paniuk (Konarivska O., Paniuk T., 2017), V. Heiets (Heiets V., 1999, p. 5), H. Pasternak-Taranushenko

(Pasternak-Taranushenko H., 2003, p. 29) and others.

Important contributions to the research on the rural areas development were made by national specialists such as M. Malik, V. Pulim (Malik M., Pulim V., 2007), S. Korobka, T. Pentsak (Korobka S., Pentsak T., 2017). O. Hutorova O. (Hutorova O., 2016), V. Onehina, L. Batiuk (Onehina V., Batiuk L., 2016) and others.

Despite the numerous scientific and practical developments on the subject, the issues of determining the essence of economic security of the development of rural territories in Ukraine are still underdeveloped.

Aims of paper. Methods.

The study used conventional methods of economical science: monographic, systemic and structural (in determining the theoretical and methodological aspects of economic security of development of rural territories); economic and statistical methods (in the study of modern trends in the development of rural areas in Ukraine); methods of scientific generalization and synthesis (to substantiate the essence of the concept

of “economic security of development of rural territories”).

The information base of the study was legislative and regulatory acts of the Verkhovna Rada of Ukraine, the Cabinet of Ministers of Ukraine, official materials of the State Statistics Service of Ukraine; scientific works of national and foreign authors and the results of own research.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Taking into account the global experience, one of the preconditions for the harmonious economic development of any state including its rural territories and society is a high level of economic security of the regions and the country as a whole.

Due to the introduction of decentralization process in Ukraine in 2014, which stipulates the transfer of powers to the local authorities, essential significance is acquired by regions, regional development, including that of rural territories, and ensuring regional economic security.

Although the concept of “economic security” has been used in scientific literature for a long time, there is still no

single approach to the definition of this category.

ICRC defines economic security as the ability of individuals as well as households and communities to satisfy their basic needs in a stable and dignified manner (International committee of the Red Cross, 2015). Another definition can also be found in scientific literature: economic security means access to resources, finances and markets necessary for maintaining the acceptable level of well-being and state power (Buzan B., 1991).

Table 1 shows systematized approaches to defining the essence of the concept of “economic security”.

Table 1. Approaches to defining the essence of the concept of “economic security”

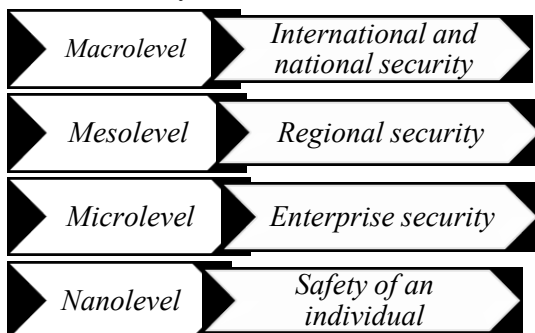
Author(s)	Definition of the concept
S. I. Lekar	a complex socio-economic concept which includes a wide range of constantly changing conditions of material production, external and internal threats to the economy (Lekar S., 2012).
O. S. Vlasiuk	a complex polystructural science which, by analogy with the security of ecological, biological, technical systems etc., is the science that studies security of socio-economic systems of different levels of hierarchy (an individual, a household, a branch of industry, a region, economy sector, national economy, the world economy) (Vlasiuk O., 2008, p. 45).
L. S. Shevchenko and others	the most important qualitative characteristic of the economic system that determines its ability of maintaining consistent implementation of national state interests, sustainable capacity of economic entities, normal living conditions of the population (Shevchenko L., Hrytsenko O., Makukha S. et al., 2009, p. 11).
I. H. Mishyna	economic relations aimed at achieving such a level of economic development which provides effective satisfaction of needs and guaranteed protection of the interests of all economic entities even under the unfavorable internal and external conditions (Mishyna I., 2007, p. 5).

Source: generalized by the authors.

Therefore, economic security is a complex socio-economic concept which determines the ability of an economic system to maintain effective satisfaction of the needs of all economic entities, even under unfavorable conditions of the internal and external environment.

V. V. Kuzmenko systematized the views of scholars on the definition of economic security at different levels and identified macrolevel, mesolevel, microlevel and nanolevel (Fig. 1) (Kuzmenko V., 2007, p. 5).

Fig. 1 Levels of economic security



Source: compiled by the authors.

Table 2 shows systematized approaches to defining the essence of the concept of “economic security of a state”.

Table 2. Approaches to defining the essence of the concept of “economic security of a state”

T. V. Sak	the state of being protected against possible threats that forms economic independence, stability and long-term development (Sak T., 2013).
L. S. Shevchenko and others	protection of all levels of a country’s economy against dangerous actions caused either by the deliberate influence of any factor, or by the spontaneous impact of market forces (Shevchenko L., Hrytsenko., Makukha S. et al., 2009, p. 11).
V. A. Predborskyi	it is not only the protection of national interests, but also the readiness and capacity of the institutions of power to create the mechanisms of implementation and protection of national interests in the domestic economy development, maintenance of the society’s socio-political stability (Predborskyi V., 2005, p. 16).
Kh. O. Mandzinovska	the basis of ensuring its sovereignty, competitiveness, defense capacity, maintaining social harmony in society, the country’s organic entry into the world economy (Mandzinovska Kh., 2016).
O. B. Konarivska, T. P. Paniuk	the state of protection of the vital interests of a state as a whole, from the risk of the effects of internal and external factors to ensure the stability of the national economy, which will lead to the effective functioning of enterprises (Konarivska O., Paniuk T., 2017).
V. M. Heiets	capacity of the national economy to ensure its free independent development and to maintain the stability of civil society and its institutions, as well as the sufficient defence potential of the country under all kinds of adverse conditions and scenarios, and the ability of a state to protect national economic interests from internal and external threats (Heiets V., 1999, p. 5).
H. A. Pasternak-Taranushenko	the condition of a state that ensures the possibility of creating and developing conditions for productive life of its population, prosperous development of its economy in the future and the growth of its residents’ welfare (Pasternak-Taranushenko H., 2003, p. 29).

Source: generalized by the authors.

Consequently, economic security of a country is the state of security at all levels of the country’s economy against unfavorable conditions of internal or external environment.

The legal basis for the definition of “security” in Ukraine is the Constitution, the Law of Ukraine “On the Fundamentals of National Security of Ukraine” and other Ukrainian laws, international treaties, the consent of which is binding on the

Verkhovna Rada of Ukraine, as well as other normative legal acts issued in compliance with the laws (Verkhovna Rada Ukrainy, 2003).

In accordance with “Methods of Calculation of the Economic Security Level of Ukraine” approved by the Ukrainian Ministry of Economic Development and Trade the components of economic security are as follows: industrial, demographic, power engineering, foreign economic, investment

and innovation, macroeconomic, food, social, financial (banking; that of non-bank financial market; debt; budgetary; currency; monetary) security (Ministerstvo ekonomichnoho rozvytku i torhivli Ukrainy, 2013).

Synthesis of the concepts of “development” and “economic security” requires the substantiation of their interaction. Y. S. Pogorelov notes that development as a general scientific category is considered in the three inseparably connected aspects – as a law, as a principle and as a phenomenon, through the prism of quantitative and qualitative changes, the accumulation of which causes the transition of the system from a certain state to a qualitatively different one (Pohorielov Iu., 2012).

V. A. Predborskyi regards development as one of the components of economic security. If the economy does not develop, its possibilities of survival, resistance power, and the ability to adapt to internal and external threats sharply decrease. The violation of proportions and links among various components of the system leads to its destabilization, and is a signal of the transition of the economy from the state of

safety to that of unsafety (Predborskyi V., 2005, p. 16).

At present, most of rural territories are characterized by a low socio-economic development as the main sphere of the rural population employment is agriculture, whose specific feature is seasonal nature of production. Therefore, rural territories feature high unemployment rate, unfavorable demographic situation, high rate of rural population migration, low access to medical care and educational facilities. Unlike other countries, where the policy of development of rural territories is being actively improved, in Ukraine it is still at the stage of formation (Khomiuk N., 2018).

The issue of rural areas development is not sufficiently investigated not only in Ukraine but also in the world. Very often the development of rural territories is identified with rural or agrarian development, and, as a result, the accent in the socio-economic development of rural territories is made on agriculture. The developed countries of the world direct their resources and efforts to the integrated development of rural territories.

Table 3 shows systematized approaches to defining the essence of the concept of “development of rural territories”.


Table 3. Approaches to defining the essence of the concept of “development of rural territories”

M. Y. Malik, V. A. Pulim	it is not only the development of material base, housing, social infrastructure in the countryside, but also the improvement of the quality of life in villages which is connected with the spiritual and social needs of a person (Malik M., Pulim V., 2007).
S. V. Korobka, T. H.Pentsak	set of actions (socio-economic, political and legal) aimed at ensuring stable irreversible changes in the industrial, social and environmental spheres (Korobka S., Pentsak T., 2017).
O.O.Hutorova	stable development of a rural community that ensures: the increase in rural economy efficiency; stable reproduction of rural population; regulation of engineering and technical, sanitary and hygienic norms of the territory; providing the rural population employment and average income rate; raising the living standards of rural population; preserving culture and traditions; development of social infrastructure; rational and ecologically safe use of resources (Hutorova O., 2016).
V. M. Onehina, L. A. Batiuk	it is such an increase in agrarian production, in which its benefits are more or less evenly distributed among all participants in the process, and the reduction of employment in agriculture is accompanied by the creation of new jobs outside the agrarian sector in the countryside (Onehina V., Batiuk L., 2016).

Source: generalized by the authors.

Consequently, the development of rural process of expanded reproduction of rural territories should be considered as the areas, which ensures the harmonious

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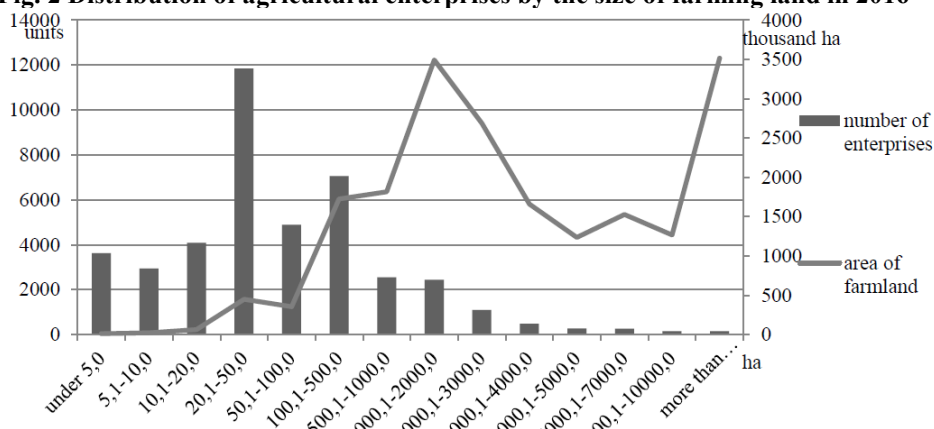
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growth of the economic, social, demographic, ethnic and environmental spheres (Khomiuk N., 2017).

The main problem of rural residents is that their financial situation is more complicated than that of the urban population. The low standard of life of the rural residents of Ukraine is evidenced by such index-number as the share of the population with per capita monthly equivalent cash income lower than statutory minimum subsistence level: in 2016 it was 10.2 % in total in Ukraine, and in rural areas – 13.8 %. In 2016, the total share of the Ukrainian population with per capita monthly equivalent cash income lower than the actual minimum subsistence

level was 65,0 % nationwide, and in rural areas it was 73,6 % (Verner I., 2017, p. 83). Significant aggravation of the economic crisis can be seen in the field of agriculture which is the main production sphere in rural areas. Large agricultural holdings are mainly engaged in growing cereals and industrial crops using advanced technologies, so arable farming has been practically monopolized. The largest area of farmland (3515.1 thousand hectares) is concentrated in enterprises that owned and used more than 10,000 hectares. The distribution of agricultural enterprises in terms of the size of their farming land in 2016 is shown in Fig. 2.

Fig. 2 Distribution of agricultural enterprises by the size of farming land in 2016



Source: composed by the author on the basis of Statistical Yearbook of Ukraine in 2016 (Verner I., 2017, p. 295).

As a result, processing of agricultural raw materials and the sale of commodity products have been actually monopolized by the enterprises. Monopolization of commercial lands leads to the decline of farming, small and medium-sized businesses in the rural areas (Pavlikha N., Khomiuk N., 2016).

According to statistics agricultural products which were grown in Ukraine in 2016 are estimated at 254640.5 million UAH.

Agricultural enterprises produced 57 % (crop products – 44.5 % and livestock products – 12.5 %) of the total volume. In the households, the volume of production is 43 % of the total: plant products – 28.1 % (mainly potatoes, vegetable and fruit crops) and livestock products (wool, milk) – 14.9 % (Verner I., 2017, p. 290).

Taking into account the EU experience, a positive fact for Ukraine is the adoption in 2015 the Concept of Rural Development

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(Kabinet Ministriv Ukrainy, 2015), which is aimed at creating necessary organizational, legal and financial prerequisites for rural development through: diversification of economic activity; increasing the level of real incomes from agricultural and non-agricultural activities in the rural areas; achievement of guaranteed social standards and improvement of living conditions of rural population; environmental protection, conservation and restoration of natural resources in rural areas; preserving rural population as the bearer of Ukrainian identity, culture and spiritual values; creating conditions for the expansion of the opportunities of territorial communities of villages and settlements to help them solve the existing problems; bringing the legislation regulating rural development in conformity with the EU standards. The implementation of this Concept will make it possible to shift the focus of the state's agrarian policy from the support of the agrarian sector of economy to the support of rural territories –improvement of the quality of life and economic welfare of the rural population (Pavlikha N., Khomiuk N., 2018).

As scientists admit, the development of rural areas is important for Ukraine not only in view of the need to solve their socio-economic problems, but also for the sake of preserving the customs of the Ukrainian people, their historical and ethnic peculiarities. After all, it is a village community that is the key bearer and the center of the development of cultural traditions (Vasylytsiv T., Boiko V., 2016, p.10-11.). Therefore, the united territorial communities (UTCs) play a significant role in the system of economic security of a region and the country as a whole, being its most important elements.

According to Article 1 of the Law of Ukraine “On the Local Government in

Ukraine” a territorial community is defined as residents, united by permanent residence within the limits of a village, a town or a city, which are independent administrative-territorial units, or a voluntary association of inhabitants of several villages having a single administrative center (Verkhovna Rada Ukrainy, 1997).

In the framework of this study, attention should be paid specifically to village and township territorial communities.

One of the results of reforming local self-government and the territorial organization of power is the establishment of united territorial communities, the number of which as of May,10 2018 totaled to 731 (Decentralization, 2018). Zhytomyr, Khmelnytsky, Dnipropetrovsk, Zaporizhzhya and Volyn oblasts showed the best results in the overall rating of regions concerning the formation of UTCs, while the lowest ones were shown by Luhansk, Cherkasy, Kyiv, Vinnytsya and Zakarpattia oblasts.

As A. Tkachuk notes, the reform has reached the point of irreversibility, but this does not mean that there are no risks for its further course, the main of which are as follows (Tkachuk A., 2017):

1. The formation of UTCs in the regions leads to the weakening of the economic and managerial capacity of the district (rayon), and therefore to conflicts between the district-level management and the heads of UTCs.
2. The lack of jurisdiction of local self-government bodies on the territories outside settlements, particularly in such spheres as planning and improving the area, preserving the environment, leads to squandering and pollution of these territories.
3. The local bodies of self-government have sufficient powers and necessary resources, but the supervision over the decisions of lo-

cal self-government bodies as to their compliance with the Constitution and laws has not yet been imposed.

4. Budgetary income alignment can lead to faster growth of the asymmetry of development among different communities, which is unacceptable for the unity of the state.

Association of communities allowed to increase the general fund revenues of local budgets per 1 resident for January-March 2016 – 2018 from 783.5 UAH to 1330.9 UAH (+547.4 UAH) (Decentralization, 2018).

Due to the increased level of UTC financial autonomy the bodies of regional and local self-government have the possibility to develop and implement the territories development programs, which will bring real economic results in the future. In addition, at the national level decentralization creates conditions for the competition among territorial communities for resources (Onyshchenko V., Bondarevska O., 2018). In 2018 the state support for regional and local development increased by a factor of 39, as compared to 2014.

According to V. D. Zalizko, due to the fact that economic security of rural areas depends on the availability of a qualitative set of conditions and factors, both material and intangible, in which a sustainable socio-economic development of these territories is possible, while the economic system will be able either to effectively avoid conflicts or to settle them, as well as to withstand in-

ternal and external threats, it can be structured by subtypes. Thus, in the structure of economic security of rural territories, the scientist identified the following components: food; financial; ethno-cultural; informational; scientific-intellectual; transport; ecological; social; administrative; business, etc. (Zalizko V., (2013).

However, the definition of the concept of “economic security of rural territories”, according to V. V. Boiko, is a little debatable. Therefore, it is more expedient in the process of the development of methodological apparatus for the research to use the notion “economic security of development of rural territories”, whose priority is to assess the level of safety of conditions and the inter-determination between the development of rural areas and the level of economic security of the state. The peculiarity of the economic security of the rural territories development is its two-dimensional interdependence (regional and sectoral) with the economic security of the state through the intermediate hierarchical levels of its provision system (Boiko V., 2016).

Ensuring economic security of the development of rural territories should be based on the principles of unity and integrity, taking into account the process of decentralization, which is carried out through the formation of communities, with due consideration of geographical, economic, ecological, ethnic and demographic characteristics of each rural area entity.

Conclusions.

Therefore, ensuring economic security at the level of rural and settlement territorial communities as a key element of regional economic security will allow not only to improve the system of regional development management, but also to increase the level of protection of economic

interests of rural residents and the state as a whole.

In our opinion, the economic security of development of rural territories is a state of protection of all economy levels of rural areas from unfavorable conditions of the internal or external environment, in which

the process of expanded reproduction of rural areas is being developed, which ensures the harmonious growth of the economic, social, demographic, ethnic and environmental spheres.

It should be noted that the lack of a unified understanding of the essence of the


economic security of development of rural territories in the scientific literature and in the legal and regulatory framework determines the relevance of further scientific developments in this field.

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ECOLOGO-HYGIENIC AUDIT OF DRINKING WATER QUALITY FROM WELLS AND DAMMING OF RIVNE REGION

EKOLOGICZNA I HIGIENICZNA OCENA JAKOŚCI WODY PITNEJ W STUDNIACH I ŹRÓDŁACH W REGIONIE RÓWNE

ЭКОЛОГО-ГИГИЕНИЧЕСКАЯ ОЦЕНКА КАЧЕСТВА ПИТЬЕВОЙ ВОДЫ ИЗ КРИНИЦ И ИСТОЧНИКОВ РОВЕНЩИНЫ

Abstract

The article presents the results of ecological sanitary audit of drinking water quality from sources of decentralized water supply in Rivne region in Ukraine during 2004-2015, analyzes the dynamics of discrepancies of drinking water samples from sources of decentralized water supply according to sanitary-chemical and microbiological indicators in the context of Rivne region's districts.


Keywords: *drinking water, decentralized water supply, sanitary-chemical, microbiological indicators, water quality*

Streszczenie

W artykule przedstawiono wyniki oceny ekologicznej i higienicznej jakości wody pitnej ze źródeł zdecentralizowanego zaopatrzenia w wodę w Równem na Ukrainie w latach 2004-

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2015, przeanalizowano dynamikę rozbieżności próbek wody pitnej ze źródeł zdecentralizowanego zaopatrzenia w wodę za pomocą wskaźników sanitarno-chemicznych i mikrobiologicznych w kontekście regionów Równego.

Słowa kluczowe: woda pitna, zdecentralizowane zaopatrzenie w wodę, wskaźniki jakości wody

Аннотация

В статье представлены результаты эколого-гигиенической оценки качества питьевой воды из источников децентрализованного водоснабжения Ровенской течение 2004-2015 годов, проанализирована динамика несоответствия проб питьевой воды из источников децентрализованного водоснабжения по санитарно-химическим и микробиологическим показателям в разрезе районов Ровенской области.

Ключевые слова: питьевая вода, децентрализованное водоснабжение, санитарно-химические, микробиологические показатели, качество воды

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JEL Classification: Q250

Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The most important task of modern times is the rational use and protection of natural resources, including the provision of population with pathogen-free drinking water. Water is the most important element of the habitat of a person, without which the very existence of highly organized forms of life is impossible. Since water provides the passage of all processes in a living cell. Today, fresh water is the greatest wealth on the planet. Predictions of scientists are pessimistic: pure drinking water is already scarce for many countries, including Ukraine, and it will soon become so throughout the world [1].

According to WHO, about 80% of people's illnesses are associated with poor drinking water. Therefore, the problem of providing people with quality drinking water is relevant and extremely vivid. The world community at the beginning of the 21st century recognized the right to water and sanitation as a fundamental human right. According to


WHO, about 800 million people in the world do not have access to water of adequate quality and more than 3000 children die every day from diarrheal diseases, and around 2.5 million people die every year in the world, half of them children under 5 years old [1].

The deterioration of socioeconomic conditions, the environmental situation and, in fact, the lack of proper systemic social and sanitary monitoring of the live environment factors are real threats to the life and health of the population at the individual and population levels.

In Ukraine, the problem of water belongs to the most vivid, since the stock of local water resources (at the rate of 1 thousand m³ per inhabitant), our state belongs to the poorly watered countries of the world, it is in 15 times lower than the norm defined by The United Nations Economic Commission for Europe. Nevertheless, the use of natural water in Ukraine, as compared to advanced

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countries, is very inefficient due to the neglected technical state of the water industry and the obsolete technologies of water use and water purification, lack of a water monitoring system, effective state control over water resources protection, and imperfect water legislation.

According to experts, the current intensity of water consumption in Ukraine has

reached levels that are significantly higher than the ecological capacity of the water resources potential of Ukraine.

Therefore, in the context of developing a system of public health protection in Ukraine, the issue of providing the population with safe drinking water is extremely important for our state [2].

Analysis of latest research where the solution of the problem was initiated.

Among the specialists who studied the subject on this topic are the following scientists: A.K. Ahadzhanov, AV Vasilyuk, VA Kopilevich, N.O. Volgin, VV Medvedovsky and others. In addition, the technological aspect of purifying drinking water is highlighted in the works of O.O. Khyzhniaka, N.V. Makarova, V.V. Honcharuk, A.V. Mamchenko, N.V. Tulakina, V.F. Demchenko and others. The scientific work on environmental aspects of the assessment of drinking water have been devoted to such researches as A.V. Tulakin,

M.H. Prodanchuk, V.O. Prokopov and others, the status of water supply and drainage systems was studied by such scientists: G.M. Semchuk, M.A. Somov, A.K. Zapol'sky, V.S. Kravchenko, A.M. Tugay and others. In Poland this perspective was studied by Halicki W., Waręzak T., Jędrzejowska S., Karowicz-Bilińska A., Wiśniewska K., Kurowska E., Okręglińska K. and others. In the US, J. Braun, A. Truitt, T. Harkins made a significant contribution to the study of water use problems and relationships in the field of water management in this area.

Aims of paper.

The aim of the work is to assess the ecological and sanitary status of the drinking water quality from sources of decentralized water

supply in the Rivne region (mainly from the wells) during 2004-2015.

Materials and methods.

The data of laboratory research on sanitary-chemical, microbiological, parasitological and radiological indices of f.18 "Report on environmental factors affecting the health of the population" in the context of the region's districts for 2004-2015 [3] were used

in this work. Systematization, processing and analysis of research materials were carried out using descriptive, dynamic and comparative methods.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Rivne region is one of the parts of Ukraine, where the water supply of the population with potable water is carried out exclusively from underground water levels. In

this region the number of sources of decentralized water supply decreased by 197 units, including wells from 1347 to 1147 (-

200), damming from 10 to 8 (-2) and artesian water wells from 2 to 7 (+5) from 2004 to 2015. The decrease was mainly due to the decommissioning of wells for public use. The average region indicator of non-conformity of drinking water from sources of decentralized water supply by sanitary and chemical indicators, over the period under investigation, increased more than in 2.5

times from 14.5% in 2004 to 40.0% in 2015. It should be noted that a fast growth in the percentage of non-conformity of samples over the past 2 years from 21.2% in 2013 to 40.0% in 2015 (Fig. 1). Above the average region's this indicator was in Volodymyrets, Hoshcha, Zdolbuniv, Korets, Kostopil and Radyvyliv districts (Table 1).

Table 1. Percentage of non-conformity of drinking water samples from sources of decentralized water

№	Name of districts (cities)	% of non-conformity											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Berezne	20,8	24,28	17,8	8,6	8,5	25	26,4	54,8	37,7	70	26,1	1,9
2	Volodymyrets	20,6	24	35,6	19	16,8	31	31,0	68,1	65,2	51,7	40,9	43,8
3	Hoshcha	10,3	5,4	3,03	1,9	5,8	7,1	30,4	33,3	46,9	38,9	53,8	62,7
4	Dubno	11,2	31,2	38,2	13,6	30,8	28	3,4	35,1	33,5	35,8	34,8	27,1
5	Dubrovytsia	15,7	25	61,02	31,7	16,1	72,9	48,9	28,7	26,1	13,6	20,3	22,6
6	Zarichne	15,6	23,3	12,5	9,2	7,3	16,7	4,6	2,3	3,3	3,2	14,4	4,4
7	Zdolbuniv	12,9	11,4	16,5	35,4	9,8	15,1	24,0	21,1	34,1	18,2	0	77,8
8	Korets	9,9	8,87	9,5	11,7	10,5	3,1	17,6	14,8	7,9	2,1	49,8	68,1
9	Kostopil	22,0	16	42,42	61,5	38,2	45,5	42,4	45,4	42,4	9,3	15,8	41,3
10	Mlyniv	18,5	20	14,4	14,9	14,7	15	16,0	0	10,4	5,9	7,3	25,5
11	Ostroh	7,3	3,57	13,6	6,6	7,5	9,4	21,2	24	13,5	33,3	22,1	29,5
12	Radyvyliv	6,5	12,3	11,7	13,6	16	12,2	31,1	28,8	17,5	33,3	27,3	58,1
13	Rivne	43,7	65	26,9	45	20	26,1	38,5	42,5	31,2	100	-	-
14	Rokytne	3,9	8,33	4,8	7,4	6,5	7,7	7,1	16,7	10,2	1,5	24,7	23,3
15	Samy	23,8	56,25	28,6	61	40,8	19,2	16,8	23,9	21,8	24,2	24,8	30,3
	Total	14,5	19,8	19,98	20,5	14,3	20,3	25	28,9	26	21,2	31,4	40,0

The excess was mainly due to the content of iron, turbidity and nitrates. Analyzing the dynamics of non-conformity of drinking water samples from sources of decentralized water supply by sanitary-chemical indicators in the area of the districts, it is established that:

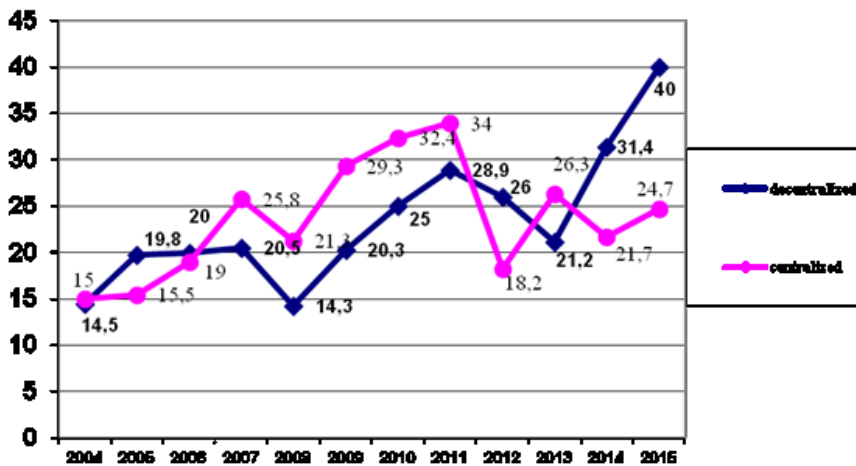
- In Berezne district the percentage of non-conformity dropped sharply to 26.1% and 1.9% in accordance, during 2014 and 2015. In general, in the course of 12 years, a decrease is observed in the percentage of non-conformity of drinking water samples from sources of decentralized water supply by sanitary- chemical indicators from 20.8% in 2004 to 1.9% in 2015.

- In Volodymyrets district for the entire period of study, the percentage of non-conformity was higher than the average region indicator (with the exception of 2007). From 2004 to 2015, the indicator increased in 2.1 times from 20.6% in 2004 to 43.8% in 2015.
- In Goshcha district from 2004 to 2015, the percentage of non-conformity increased in 6 times from 10.3% to 62.7%, in accordance. Starting from 2010 there is a deterioration of drinking water samples from sources of decentralized water supply by sanitary-chemical indicators.
- In Dubno district, over 12 years, the percentage of non-conformity has grown in 2.5 times, from 11.2% in 2004 to 27.1% in 2015. It should be noted that in 2015, the percentage of mismatch of samples was significantly lower than the average.
- In Dubrovytsia district, in general, for 12 years the percentage of non-conformity increased in 1.5 times from 15.7% in 2004 to 22.6% in 2015. However, in recent years there has been a positive trend towards a decrease in this indicator in comparison to the average region value.
- In Zarichne district from 2004 to 2015, the percentage of non-conformity of samples is reduced from 15.7% in 2004 to 4.4% in 2015, ie more than in 3 times. Since 2006, the percentage of non-conformity did not exceed the average regional indicator.
- In Zdolbuniv district over the past year, the percentage of non-conformity has sharply increased and amounted to 77.8%, which is almost in 2 times higher than the average regional indicator. At the same time, in 2014 the non-conformity of water samples with established norms was not documented.
- In the Korets district, for the entire period of study, the percentage of sample non-conformity increased in 7 times from 9.9% in 2004 to 68.1% in 2015. In the past two years, the indicator has increased dramatically, reaching 49.8% in 2014 and 68.1% in 2015, with an average value of 31.4% and 40% in accordance.
- In Kostopil district, over 12 years, the percentage of non-conformity increased almost in 2 times from 22.0% in 2004 to 41.3% in 2015. It should be noted that the percentage of samples non-conformity in the Kostopil district was almost every year higher than the average region (except for 2005, 2013-2014).
- In Mlyniv district from 2004 to 2015, the percentage of non-conformity increased in 1.3 times from 18.5% to 25.5%. Since 2009, this indicator has not exceeded the average value.
- In Ostroh district over the past 12 years, the percentage of non-conformity only once was higher than the regional average (33.3% in 2013, with an average regional 21.2%). However, it should be noted that in the dynamics the indicator has increased almost in 4 times from 7.3% in 2004 to 29.5% in 2015.
- In Radyvyliv district for 12 years, the percentage of non-conformity has grown in almost 9 times from 6.5% in 2004 to 58.1% in 2015. It should be noted that from year to year there is a significant fluctuation of this indicator.
- In Rivne district, the percentage of non-conformity each year exceeded the average region indicator. It should be noted that for 2014-2015, no researches were conducted on drinking water samples from sources of decentralized water supply by sanitary-chemical indicators.
- In Rokytno district, since 2004, the percentage of non-conformity has risen from 3.9% to 23.3% in 2015, almost in 6 times. Along with this, Rokytno district is the only one in the area where the percentage of non-conformity in the past 12 years has never exceeded the average region indicator.

• In Sarny district, the percentage of non-conformity increased in 1.3 times from 23.8% in 2004 to 30.3% in 2015 for the entire period. When comparing the quality of drinking water from artesian boreholes of the centralized water supply systems and wells, the

excess of the average region indicator of non-conformity from the sources of centralized water supply over the indicator of wells in the period of 2006-2011 and 2013 is noted (Fig. 1).

Fig. 1 Average region indicator of drinking water non-conformity (in %) from sources of decentralized and centralized water supply for sanitary-chemical indicators in the period from 2004 till 2015.



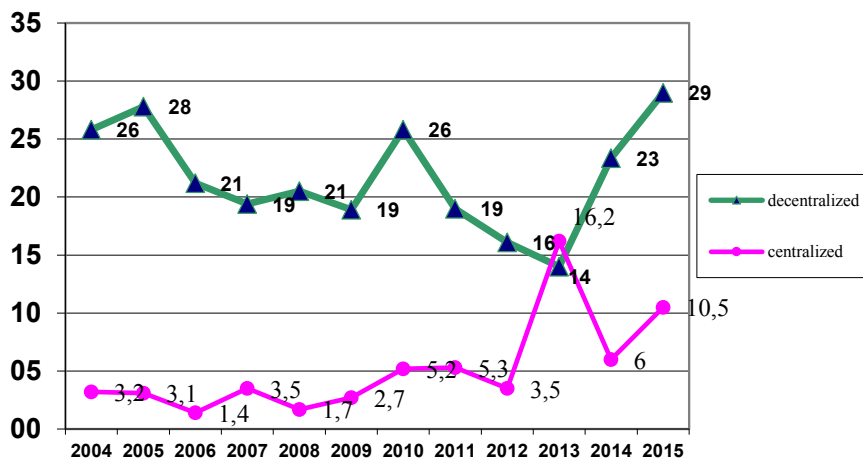
According to our research, it has been established that the non-conformity of drinking water quality with the regulatory requirements for sanitary-chemical indicators is mainly due to the excess of iron content (as a result of considerable turbidity) and nitrates. It should be noted that if the indicators of natural iron content are not critical from the point of view of toxicological effects, then excess of nitrate content is harmful, especially for children of the first years of life. Nitrates do not belong to methemoglobin producers, but reaching the stomach with water under the influence of the gut microflora are restored to nitrites with the subsequent formation of methemoglobin, which in turn blocks the ability to transfer

oxygen to the body. Methemoglobin is more stable than oxyhemoglobin for the degree of dissociation in 300, and according to some data, 500 times. If the amount of methemoglobin exceeds 50% of the total hemoglobin, the body may die from CNS hypoxia. Normally, in middle-aged children, the concentration of methemoglobin in the blood should not exceed 1-2%. The excess of nitrate content of more than 45 mg per 1 liter can cause water-nitrate methemoglobinemia, especially among children whose clinical implications is acrocyanosis (nasal, upper lip, so-called triangle, ear swab, fingertips cyanosis, tachycardia, dyspnea, cyanosis of the mucous membranes, inflammation, convulsions) [4-7].

At the same time, as recent scientific studies have shown, prolonged intake of low concentrations can cause asymptomatic methemoglobinemia among children, which is dangerous for their health, as it causes hemic and histotoxic hypoxia [8]. It should also be noted that, in combination with the combined action of other environmental pollutants, nitrate-containing compounds can cause a negative immune effect on a living organism [9].

When systematizing and analyzing data from drinking water research from sources of decentralized water supply according to microbiological indicators, it has been established that the average region indicator of non-conformity over the abovementioned period increased on 3.2% and amounted in 2015 29.0% at 25.8% in 2004 [3]. It should be noted a fast growth of the percentage of non-conformity samples in the last 2 years from 14.0% in 2013 to 29.0% in 2015 (Fig. 2).

Fig.2. Average region indicator of drinking water non-conformity (in%) from sources of decentralized and centralized water supply according to microbiological indicators in the period from 2004 till 2015.



Above the average region percentage of non-conformity of drinking water from sources of decentralized water supply according to microbiological indicators was in Volodymyrets, Goshcha, Zdolbuniv, Kostopil, Ostroh, Sarny districts and in Rivne (Table 2).

Table 2. Non-conformity percentage of drinking water samples of from sources of decentralized water supply according to microbiological indicators in dynamics for 2004-2015.

№3/n	Name of districts (cities)	% of non-conformity											
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	Berezne	7.1	14.95	16.8	12.9	11,6	14,3	3,4	1,4	6,9	7,4	15	0
2	Volodymyrets	39,2	42,5	48,9	36,9	40,0	42,9	56,9	41,3	32,2	53,3	51,4	53,8
3	Hoshcha	43,3	47,2	9,4	38,9	34,5	16,4	84,1	12,1	28,6	30	44,4	58,3
4	Dubno	36,5	31,3	12,9	2,04	23,5	38	31,2	21,4	34,1	25,6	36,6	20
5	Dubrovysia	14,2	52,08	27,8	27,8	13,4	15,7	12,7	7,2	3,9	14,3	3,4	4,5
6	Zarichne	16,1	27,2	12,5	24	1,2	3,9	14,3	3,6	9,4	3	7,5	13,3
7	Zdolbuniv	48,3	74,6	46,7	43,1	53,5	44,4	26,8	42,4	37	37,5	-	62,5
8	Korets	13,2	14,3	10,2	8,9	13,3	8,96	7,6	7,6	8,2	18,3	18,7	11,1
9	Kostopil	21,5	38,2	55,9	53,8	46,0	39,4	45,4	56,2	12,1	30,8	69	83,3
10	Mlyniv	40,9	9,4	5,9	4,9	5,1	6,4	3,6	26,5	31,7	20,8	44,4	18,2
11	Ostroh	13,5	6,66	17,5	13,9	26,4	8,3	20,0	13,2	14,5	24,4	46	33,9
12	Radyvyliv	15,1	20	14,7	17,8	10,4	12,6	13,4	11,8	10	16,7	14,3	6,7
13	Rivne	22,9	42,8	39,6	26,9	34,0	38,1	40,7	45,4	53,8	81,8	-	-
14	Rokytno	36,0	26,0	16,6	19,7	17,7	17,1	14,6	11,4	4,1	0,8	11,1	8,3
15	Samy	25,4	47,6	24,1	15,6	21,8	-	62,5	22,5	19,5	5,7	30,9	66,7
	Total	25,8	27,8	21,2	19,4	20,5	18,9	25,8	19,0	16,1	14	23,4	29,0

Below there is the situation in the context of districts for non-conformity of drinking water samples from sources of decentralized water supply according to microbiological indicators:

- In Berezne district, comparing the indicators in 2004 and 2014, the percentage of non-conformity sample increased in 2 times from 7.1% to 15%, in accordance. It should be noted that in this district, the only one in the region, during the period of studying, the specified indicator did not exceed the average region indicator. In 2015, non-conformity of drinking water samples were not recorded.
- In Volodymyrets district, the percentage of non-conformity for 12 years grew in 1.2 times from 39.2% in 2004 to 53.8% in 2015. The percentage of non-conformity

each year exceeded the average region indicator.

- In Goshcha district, the percentage of non-conformity increased by 15% from 43.3% in 2004 to 58.3% in 2015.
- In Dubno district, the percentage of non-conformity varies within 30 (+ - 10)%, except for 2006-2007. As of 2015, the percentage of non-conformity decreased by 1.7 times in comparison to 2004, from 36.5% in 2004 to 20% in 2015.
- In Dubrovysia district, in recent years, the percentage of non-conformity has dropped from 14.2% in 2004 to 4.5 in 2015.
- In Zarichne district, the percentage of non-conformity declined by 2.1% from 16.1% in 2004 to 13.3% in 2015.
- In Zdolbuniv district, the percentage of non-conformity increased in 1.2 times, from

48.3% in 2004 to 62.5% in 2015. Each year this indicator exceeded the average region value.

- In Korets district, during the study period, the percentage of non-conformity decreased by 2.1% from 13.2% in 2004 to 11.1% in 2015.

- In Kostopil district, over 12 years, the percentage of non-conformity has grown almost in 4 times from 21.5% in 2004 to 83.3% in 2015.

- In Mlyniv district, sharp fluctuations in the percentage of non-conformity of drinking water samples from sources of decentralized water supply according to microbiological indicators are recorded from year to year. During the period under research, this indicator has decreased more than in 2 times from 40.9% in 2004 to 18.2% in 2015.

- In the Ostroh district, during the whole study period, the percentage of non-conformity increased in 2 times from 13.5% in 2004 to 33.9% in 2015. In the past 3 years, the percentage of non-conformity significantly exceeded the average regional indicator.

- In Radyvyliv district, the percentage of non-conformity of samples for the entire study period did not exceed 20%. Since 2004, the percentage of non-conformity has decreased by 2.5 times, from 15.2% in 2004 to 6.7% in 2015.

- In Rivne district since 2004, the percentage of non-conformity in the indicators increased in 3.8 times, from 22.9% in 2004 to 81% in 2013. This indicator exceeds the average regional value each year. In 2014-2015, no research was conducted on samples of drinking water from sources of decentralized water supply according to microbiological indicators.

- In Rokytne district, the annual percentage reduction of non-conformity is observed. During the period under investigation, the percentage of non-conformity decreased

more than in 4 times from 36.0% in 2004 to 8.3% in 2015.

- In Sarny district, this indicator increased more than in 2 times from 25.4% in 2004 to 66.7% in 2015.

- In Rivne, the research of drinking water samples from sources of decentralized water supply based on microbiological indicators was carried out only in 2014. The percentage of non-conformity was 93.7%.

- In Kuznetsovsk (now - Varash), research on samples of drinking water from sources of decentralized water supply according to microbiological indicators was carried out only in 2013. The percentage of non-conformity was 4.1%.

When comparing the average region percentage of water quality non-conformity from artesian boreholes of centralized water pipes and wells, according to microbiological indicators, there is a significant excess of its from wells than from sources of centralized water supply during the investigated period (Fig. 2).

During the investigated period in Rivne region there was no recorded radiological and parasitic contamination of drinking water, as well as epidemics outbreaks of infectious diseases with an aqueous transfer factor.

According to the results of monitoring the quality of drinking water from sources of decentralized water supply for sanitary-chemical and microbiological indicators, it should be noted the main issues that may, in one way or another, affect the state and quality of the drinking water provision to the population, in particular:

- 1) the imperfection of the legal framework, which regulates the normative and legal bases of activity in the field of drinking water supply and the effectiveness of the control mechanism over their implementation is insufficient;
- 2) unsatisfactory sanitary and ecological state of surface watercourse, which is con-

nected with the discharging of insufficiently treated waste water, contamination of coastal strips with waste, conducting anthropogenic activities in designated water area, exploitation of insufficiently protected aquifers;

3) application of imperfect technologies at water treatment plants;

4) insufficient provision of information through citizens on the quality of drinking water, recommendations and methods for its cleansing or decontamination.

In connection with this, there is a need to continue monitoring the quality of drinking water. Currently the research center "Ecology of human and public health protection" of the National University of Ostroh Academy together with specialists of the State Institution "Institute of Public Health named after O. M. Marseev National Academy of Medical Sciences of Ukraine » works on studying the correlation between the quality of drinking water and the morbidity of urban and rural population of the Rivne region.

Conclusions.

- over the last decades, the number of sources of decentralized water supply in the region has decreased by - 12%;

- the average region indicator of the non-conformity of drinking water samples from sources of decentralized water supply for sanitary-chemical characteristics over 12 years has increased more than in 2.5 times from 14.5% in 2004 to 40.0% in 2015.

- the quality of drinking water due to sanitary-chemical indicators deteriorates in sources of decentralized water supply, mainly due to high iron content, turbidity and nitrates;

- Water pollution with nitrates, which can cause water-nitrate methemoglobinemia, is especially dangerous. Above average region this indicator was in Volodymyrets, Goshcha, Zdolbuniv, Korets, Kostopil and Radyvyliv districts;

- the average region indicator of non-conformity of drinking water samples from sources of decentralized water supply according to the microbiological indicators for the period under investigation slightly

increased and amounted to 29.0% in 2015 at 25.8% in 2004;

- higher than the average region percentage of water supply non-conformity from sources of decentralized water supply according to microbiological indicators was in Volodymyrets, Goshcha, Zdolbuniv, Kostopil, Ostroh, Sarny districts and in Rivne;


- prevention of the occurrence and spread of infectious diseases, protopoiesis in the population is possible only with complex measures, which will include, in addition to sanitary-hygienic monitoring of the quality of drinking water, the state of the wells and the alertness of the population and medical staff of the health care centers in relation to diagnosis, treatment and prevention;

- in the context of the development of the public health system in Ukraine, further work is needed to determine the correlation between quality of drinking water and the state of illness of the population of the region.

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**III. International Relations,
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**PASSENGER CARS TESTED AT THE MOTOR TRANSPORT
INSTITUTE IN THE 1950s OF THE 20th CENTURY
– THE PROTOTYPE OF THE FSO SYRENA**

**SAMOCZODY OSOBOWE BADANE W INSTYTUCIE TRANSPORTU
SAMOCZODOWEGO W LATACH 50. XX W.
- PROTOTYP FSO SYRENA**

**ПАССАЖИРСКИЕ АВТОМОБИЛИ, ПОЛУЧЕННЫЕ В ИНСТИТУТЕ
ОСЕННЕГО ТРАНСПОРТА В 50-Е ГОДЫ XX В.
- ПРОТОТИП FSO SYRENA**

Abstract


The article presents and characterizes the results of road tests that the prototype of the FSO Syrena passenger car underwent at the Motor Transport Institute (ITS) in Warsaw in 1955. The final report from the tests carried out at MTI, kept in the archives, was subject to a detailed analysis and the conclusions have been presented in this article. The road tests carried out at MTI in 1955 served the FSO engineers in designing the series-production version of the Syrena car, whose production started in 1957. The FSO Syrena, over almost 30 years, was the first popular car for hundreds of thousands of Polish families, and today it has become a legendary vehicle, synonymous with the motoring of the PPR's day.

Keywords: *passenger cars, popular car, prototype, Passenger Automobile Factory, FSO Syrena, road tests*

Streszczenie

W artykule zaprezentowano i scharakteryzowano wyniki badań drogowych, które przeszedł w 1955 roku w Instytucie Transportu Samochodowego (ITS) w Warszawie, prototyp samochodu osobowego marki FSO Syrena. Przechowywane w archiwum sprawozdanie końcowe z przeprowadzonych w ITS badań poddano szczegółowej analizie, a wnioski zaprezentowano w artykule. Badania drogowe przeprowadzone w ITS 1955 r. posłużyły inżynierom z FSO przy projektowaniu seryjnej wersji samochodu Syrena, którą rozpoczęto produkować w 1957 r. FSO Syrena, na przestrzeni niemal 30 lat, była pierwszym samochodem popularnym dla setek tysięcy polskich rodzin, a dziś stała się pojazdem legendarnym, synonimem motoryzacji doby PRL.

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Słowa kluczowe: *samochody osobowe, samochód popularny, prototyp, Fabryka Samochodów Osobowych, FSO Syrena, badania drogowe*

Аннотация

В статье представлены и характеризуются результаты дорожных испытаний, прошедших в Институте автомобильного транспорта (ИТС) в Варшаве, прототипе пассажирского автомобиля FSO Syrena в 1955 году. Был подробно проанализирован окончательный отчет исследований, проведенных в ИТС, хранящихся в архивах, и выводы были представлены в статье. Дорожные испытания, проведенные в ИТС 1955, служили инженерам FSO при разработке серийной версии автомобиля Syrena, который был запущен в 1958 году. FSO Syrena, почти 30 лет назад, был первым автомобилем, популярным для сотен тысяч польских семей, и сегодня он стал транспортным средством легендарным, синонимичным с автомобилем в день Польской Народной Республики.

Ключевые слова: *легковые автомобили, популярный автомобиль, прототип, Fabryka Samochodów Osobowych, FSO Syrena, дорожные испытания*

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The statement of the problem in general outlook and its connection with important scientific and practical tasks.

Work on the first Polish prototypes of cars after the Second World War began quite late, because it started in the early 1950s. Until that time, the Polish roads were dominated by post-military, often still war, American, Soviet and German cars. At the end of 1951, the production of Warszawa M-20 cars (or rather Gaz M20 Pobjeda) began under a Soviet license. However, the Warszawa car was intended for public officers or taxi companies- it was a large and a "gas-guzzling" car. The development of individual motorization was not assumed, partly for ideological reasons (the car was synonymous with bourgeois luxury), and secondly for economic reasons (Polish industry was only just rebuilding after the Second World War hecatomb). Over time, however, when the first Warszawa M-20 cars were already going on Polish roads, the idea of a popular car for the masses with a small engine appeared.

The designs of the prototype were started to be prepared. The first of these prototypes were constructed using the trial and error method, often adapting solutions from other already existing foreign vehicles (DKW, IFA-F8, Aero). The method of adaptation made the first Polish prototypes of passenger cars very imperfect and with many defects. The first two of these prototypes were called "Gad 500" and "Pionier" and were powered by engines designed by engineer Stefan Gajęcki (Berkan J. 2007; Zakrzewski B., Pawlak P. 2014; Zakrzewski B. 2010). While the Gad was a car designed as a convertible, the Pioneer was supposed to be a whole family of cars, including the commercial and ambulance versions. Ultimately, however, only prototypes of the vehicles not introduced to serial production were developed (Zakrzewski B., Pawlak P. 2014).

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In July 1953, a few months after the death of USSR leader Józef Stalin, using, among others, experience from road tests carried out with the Gad and Pionier, a team of designers composed of Kazimierz Studziński, Jerzy Werner, Stanisław Panczakiewicz, Karol Pionnier, Kazimierz Dębski and Fryderyk Blumke presented the official construction designs of the new popular car. In these designs, the new popular car was to be a four-passenger vehicle of the 2+2 scheme (and therefore a family car) with a two-stroke engine of about 22 hp. By the way, the designers were to achieve the lowest possible production costs, maximum economic efficiency in operation and the greatest possible unification of parts with the Warszawa M20 car. As in the case of the Gad and Pionier, the engineering team drew a lot of inspiration from the German IFA F8 and F9 cars or the DKW car (Górski M. 2009).

At the end of 1953 the first prototype units were made in two bodywork versions: the first one consisted of a wooden frame covered with fibreboards (design by S. Panczakiewicz, with, e.g., the P70 as a pattern), the second one was made of steel with a large number of elements from the Warszawa M20 (S. Łukasiewicz). The prototypes were named "Syrena" and premiered on the New Year's Eve in 1953 and 1954. Throughout 1954, road tests of the prototypes were carried out and several more prototypes were manufactured. In the end, the more prospective version was the steel sheet version of the car. The first public presentation of an already refined car took place in July 1955 at the 14th Poznań International Fair (Podbielski Z. 2013). The small-sized FSO Syrena was supposed to be cheap and efficient. However, serial production started only in 1957 and private

persons could buy it only in 1958. (Szczerbicki T. 2016).

Before starting the car production, the prototype of the FSO Syrena passenger car underwent road tests at the Motor Transport Institute in Warsaw (Zakrzewski B. 2017). Such road tests, including those under road conditions, were extremely important. At that time, the Institute was the only institution capable of conducting full road tests (Zakrzewski B. 2012). Only the Institute had suitably qualified staff and high-quality instruments and equipment to carry out such tests. Their results were therefore of great importance for the then notables mainly from the Ministry of Road and Air Transport. They decided which vehicles can be driven on Polish roads, which vehicles and how could be produced. The opinions of the MTI experts were therefore overwhelmingly in line with subsequent decisions concerning entry into service or the production of vehicles tested in the MTI. A well-assessed car was roadworthy and in the case of foreign cars the green light for the import of these vehicles into Poland was lit. Bad test results and then unfavourable opinions of the MTI experts resulted in making decisions on further works on prototypes of Polish popular vehicles (Warszawa M-20, Syrena) or prototypes were approved (EMW340, P-70, Wolga M-21 Skoda 440) or the idea of importing the tested foreign constructions to Poland was abandoned (Standard Delivery Van) (Zakrzewski B. 2012). The article presents and discusses for the first time the results of tests of the FSO Syrena passenger car prototype, found in the MTI archive. This article is related to the author's other research that has been conducted for several years now, concerning the development of the Polish post-war motor industry (Krysiuk C., Zakrzewski B., et al. 2012).

The analysis of the latest research when the problem solution was initiated.

The idea of the popular FSO Syrena car was very often discussed in the Polish automotive press at the time when the MTI tests were underway, thus in 1955, e.g. in the only then opinion-forming automotive weekly titled "Motor". (Dehnel J.R. 1958). It describes in detail, amongst others, the experimental rally of the Syrena prototypes. Most of the book studies that have been published so far, concerning the history of the Syrena car, are of a popular scientific nature. In recent years, books on this subject have been published by Tomasz Szczerbicki (Szczerbicki T., 2016). Karol Mórąski's book (Mórąski J.K. 2005) is another work on the Syrena car. The Polish automotive industry in the era of the People's Republic of Poland, including the Syrena in the form of short characteristics, is discussed in books by Włodzimierz Bukowski (Bukowski W. 2009), Adam Zakrzewski (Zakrzewski A. 2009), and Stanisław Szelichowski (Szelichowski S. 2012). Many interesting books on the history of Polish post-war automotive industry, including the Syrena, were also written by Zdzisław Podbielski (Podbielski Z. 2013) and Andrzej Zieliński (Zieliński A. 1985; Zieliński A. 2008). All the authors mentioned above are not graduated from


history studies and most often are journalists or engineers who took part in the works of scientific institutions related to the automotive industry (PIMOT, OBRSM in Bielsko-Biała). Their publications do not have an extensive critical review apart from the selective bibliography and are based mainly on their own memoirs, chaotically acquired photographs and illustrations, partly only on reviewed archives. They are therefore incomplete and not strictly scientific. On the other hand, the papers of former researchers of the motorization history, such as Witold Rychter (Rychter W. 1987), Aleksander Marian Rostocki (Rostock A. M. 1981), Kazimierz Groniowski (Groniowski K. 1963) are largely outdated today. The author of this article also wrote about cars in the years 1945-1990, including the Syrena, but quite generally (Zakrzewski B. 2012; Wiechczyński K., Zakrzewski B. 2017). It will soon be 30 years since the fall of communism, i.e. since 1989, and this is a good time for the first summaries of the Polish automotive industry role in the national economy, including the history of the FSO Syrena car. This article fills a gap in the scope of the beginnings of the Polish post-war motorization history and the creation of the FSO Syrena car.

Aims of the paper. Methods.

The aim of the article is to present how the road tests of the FSO Syrena car prototype were carried out at the MTI and what the results were. Furthermore, whether and how this research contributed to the repair of the prototype and to the commencement of serial production of the FSO Syrena passenger car. For this purpose, an analysis of a prototype of the FSO Syrena passenger car, performed in the MTI, was conducted

for the first time. Based on the analysis, appropriate conclusions were reached. **The basis** for the analyses was a search carried out by the author in the archives of the Motor Transport Institute in Warsaw, a literature research in the MTI Library, as well as information, including statistics, collected from available sources, literature and reports. The main **research method** is observation, analysis and reasoning.

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Exposition of main research materials with complete substantiation of obtained scientific results. Discussion.

In the archives of the Motor Transport Institute in Warsaw two papers concerning the research of the Syrena prototype have been preserved. In mid-1955, a prototype test of the Syrena car was carried out at the Motor Transport Institute in Warsaw and it ended with an experimental rally. The research started on 20 July 1955 and ended on 31 August 1955. It was conducted by Aleksander Rummel, PhD, and Andrzej Cichowski, PhD, at the Traction Testing Laboratory of the MTI Vehicle Research Institute (Rummel A., Cichowski A., 1955). The test was controlled by the Head of the Vehicle Research Department, Aleksander Rummel M.Eng and accepted by Lesław Bochniewicz M.Eng, the then (first) MTI Director. The work was carried out for the Technical Department of the Ministry of Road and Airports. According to the distribution list, the final report from the completed works was sent to, inter alia, the Department of Technology of the Ministry of Road and Air Transport, FSO, BKPMot., WSM No. in Bielsko-Biała, as well as the Cracow University of Technology.

The subject of the research was a prototype of the small passenger Syrena car with an S15 engine, with an engine number: 00011, a chassis number: 00006, delivered for research to the MTI by the FSO on 20 July 1955. The aim of the research was a preliminary assessment of the design solutions of individual units, the quality of workmanship, and the vehicle's movement and operational properties. The scope of the research included: exploitation tests at the MTI over a distance of 2 500 km, participation in an experimental rally organised by the FSO from 14 to 31 August 1955, and a preliminary analysis of the structure made on the basis of the conducted observations and measurements.

The car was accepted for tests with 7 000 km mileage. According to the test agenda approved by the Commission for Car Type Assessment, the tests included the stage of development of the technical characteristics made by the FSO. Initial research was carried out at the Institute and an experimental rally was organized (Rummel A., Cichowski A., 1955). The experimental rally organised by the FSO took place between 14th and 31st August 1955. In addition to the 5 FSO Syrena cars, the rally was also attended by an imported Renault 4CVs, Panhard Dyna, DKW SM and Goliath GP 700Fs. The rally took place on the Warsaw-Rzeszów-Bielsko-Kłodzko-Koszalin-Warsaw route with a total length of 5 500 km. The route of the rally included various types of roads, including those leading through mountainous areas.

During the rally a number of damages and deficiencies of the FSO Syrena prototype were found. After the end of the rally the total mileage of the Syrena prototype was 15463 km. At the Institute technicians dismantled the engine and found damages to the pistons, cracking of piston rings, grooves in the piston rod of the second cylinder made by the piston pin (due to the loss of the safety ring), cracking of the crankcase seals, significant wear of the main bearings of the crankshaft and excessive wear of cylinder bearing surface. In addition, cracks in the suspension springs of the clutch centre plate were found.

The engine power of 23.4 hp was too low in relation to the vehicle weight of 860 kg. The characteristics of the engine showed a breakdown of power in the area of the most frequently used engine speeds, which had a negative impact on the dynamic properties of the car. Average fuel consumption before the rally was 9.3 dm³ per 100 km but

during the rally it increased by 1 dm³ to 10.3 dm³ per 100 km. This consumption was too high - it should be about 7.5-8 dm³ per 100 km. The poor quality of the piston and piston ring designs and the insufficient durability of the crankshaft bearings were confirmed. During the rally there was an excessive wear of the cylinder bearing surface - the maximum/minimum wear of the cylinders in the area of the highest piston speeds was caused by mechanical impurities on the bearing surface. After 9 000 km, a radiator leak also occurred due to inadequate attachment of the radiator to the body and an overly rigid rubber hose which, during engine movements, created excessive stress at the point where the connection pipe was soldered to the water jointer. It was also found that the suspension springs of the clutch centre plate cracked due to their low quality and the clutch cable pulled out significantly.

During the rally, an inappropriate selection of gears in the gearbox was found. The MTI experts considered it advisable to concentrate the lower gears, especially the 3rd and 4th gears, in order to increase the speed of the 3rd gear by a positive amount. The suspension of the front wheels was too rigid. To sum up, the Syrena car was too heavy, but it could be "slimmed down" by at least 40 kg. However, for the dynamic properties to be appropriate, the motor should have at least 30 hp at 4000 rpm. This two-stroke Syrena engine should have a displacement volume of approx. 900 cm³ and a three-cylinder engine has been suggested. If the S15 engine is left in place, it should be refined to ensure maximum durability and low engine wear. In addition to the need to carry out further work to reduce the vehicle weight and to make changes to the engine or suspension, the following activities were suggested:

- use the external opening of the tailgate,

- use a less rigid line to connect the radiator to the engine and install the "flexible" line to the radiator,
- install the double fastener of the engine bonnet,
- slide the brake and clutch pedals away from each other,
- bend the backrest tube more so that the seated person does not lean against it,
- install the rests under the elbows in the rear seat,
- analyse the arrangement of the grease nipples of steering arms in the direction of their possible lubrication without an articulated coupling.

In mid-1955, the Motor Transport Institute in Warsaw carried out further prototype tests of the Syrena car. The research work, which began on 20 July 1955 and ended on 7 August 1956, lasted more than a year. The research was conducted by Aleksander Rummel, MA, and Andrzej Cichowski, MA, in the Traction Testing Laboratory of the MTI Vehicle Research Institute (Rummel A., Cichowski A., 1956). The work was accepted by Lesław Bochniewicz, MA, then (the first) MTI Director. The work was carried out for the FSO in Warsaw. According to the chapter, the final report in the completed works, as in the case of the first work, was sent to, among others, the Department of Technology of the Ministry of Road and Air Transport, FSO, BKPMot., WSM No. in Bielsko-Biała, as well as the Cracow University of Technology. Jerzy Kowal, Adam Kleczkowski MSc Eng. and Jan Zrobek, MSc Eng, from the Cracow University of Technology (design analysis), Jerzy Brożyna, MSc Eng, and Bogdan Bojski, MSc Eng, from the MTI (engine research) and Józef Karney, a technician from the MTI (motion measurement) were also participated in the tests.

The aim of the research was the final assessment of the constructional solutions

and the operational and exploitation properties of the Syrena car prototype. The subject of the tests was a prototype of a small passenger car "Syrena" with a S15 engine, of an engine number: 00004, a chassis number: 00006, delivered for research to the MTI by the FSO on 20 July 1955 (after the completion of the experimental rally another engine was installed into the prototype). The research was carried out in three stages: The first stage included dynamometric tests of the engine with the development of universal characteristics, the second stage included movement and static tests, the third stage - construction analysis for which disassembly and additional measurements of individual components were carried out. Maintenance and installation issues were also examined as part of this work. Long-term tests were carried out as part of the movement tests, including observation of the behaviour of individual components and assemblies. Dynamic tests, braking and fuel consumption curves were carried out on the Łomianka-Kazuń road. The suspension tests were carried out on selected sections of the Żoliborz-Wawrzyszew-Bielany road, while other consumption tests were carried out on the city route and on the Warsaw-Wyszków-Pułtusk-Warsaw inter-urban road. The following apparatus and devices were used during the tests:

1. Heonan-Froude DP water brake x 2,
2. Muhlner electric flow meter for fuel consumption measurements,
3. 5 Hassler wheel,
4. 5 Peiseler wheel,
5. Self-recording Askania Accelerometer.
6. Muhlner steering wheel force measurement device,
7. Muhlner pedal force measurement device,
8. Radiometer sound intensity measurement device,

The scope of the research also included: technical description, engine tests on a dynamometric stand, static car tests, economic car tests, motor tests, development of a universal traction diagram, structural analysis and conclusions.

The prototype of the FSO Syrena car tested at the MTI was of: length: 4050 mm, width: 1540 mm, height: 1510 mm, wheelbase: 2300 mm, front and rear track width: 1200 mm, mass: 962 kg, mass with full load: 1302 kg. The prototype of the Syrena had a WSM 1 Bielsko-Biała S15 engine with the number 0004, a two-stroke engine with two cylinders arranged in a row. The diameter of the cylinder was 76 mm and the piston stroke- 82 mm. The engine's displacement was 743.5 cm³, the actual compression ratio was 5.2 and the maximum power was 27.8 hp. The elastic coefficient was 1.21 and the coefficient of rotation was 0.526. The prototype had a Solex 30 UAHD and Jikov POH carburetor. The engine was cooled by a 6 dm³ self-circulating liquid and was lubricated with a 25:1 fuel-oil mixture, and it also had battery ignition, two coils and two breakers with automatic acceleration of the ignition torque. Spark plugs- 14 mm, Bosh W 175 T1 type. The weight of the motor and its accessories was 67 kg.

The prototype of the Syrena had a longitudinal welded frame with a rectangular closed section. The clutch was dry, single disc, with vibration damping. The gearbox was locked with motor, 4-speed without synchronisation, 3rd and 4th gear quiet with freewheel. The gear lever system was under the steering wheel and switched by a coupling link and a cable. The diameter of the steering wheel was 440 mm.

The wheel alignment for the unladen vehicle was 3.0 mm, the smallest turning radius was: right-5.5 m, left- 4.95 m; the smallest turning radius when turning back: right: 5.75 m, to the left: 5.40 m

The prototype Syrena had a hydraulic four-wheel brake system. The diameter of brake drums was 280 mm, total lining surface: 600 cm². Brake piston dimensions: ¾ inch. The parking brake: mechanical (cable), for rear wheels. The Syrena prototype had a suspension: forward-independent, semi-elliptical traverse leaf spring at the top, triangular swingarm mounted in the shock absorber at the bottom, rear - semi-elliptical traverse spring highly mounted, rigid axis, shock absorbers: hydraulic, two-sided, two on the front, one rear mounted in the middle of the axis. Steel wheels, pressed from sheet metal, dimensions: 3.25 D x 16; tyres: size 5.00 x 16; air pressure: front 1.8 atm, rear 1.7 atm. The electrical installation and equipment consisted of:

- generator: adjustable voltage and current, 130 W, 12 V;
- starter: can be electromagnetically switched by pressing a button on the dashboard;
- battery: lead, 12 V and 60 Ah;
- control instruments: speedometer with odometer, ammeter, cooling water thermometer, clock, indicator control lights and lamps control lights;
- ignition system: two ignition coils (M42-04 type) and two breakers, separate for each cylinder. Central automatic ignition acceleration mechanism;
- electric wiper with two blades with two speeds of movement.

The body of the Syrena prototype is a two-door saloon. The body had a mixed structure: its lower part was covered with metal sheet, and its upper part with a wooden frame was covered with artificial leather-dermatoid. Metallic framed seats were made of microporous rubber. Front seats had the ability to adjust the angle of the backrest and to move away from the pedals. The backrests of the front seats could be folded out. The interior and windscreen could have been heated by the warm air blast from the radiator via the motor fan. The luggage compartment was located at the rear of the bodywork and was accessible when the backrest of the rear seat tilted. The spare wheel was placed under the boot and accessible when the tailgate was opened, which was released from the inside of the body.

Capacities were: fuel tank - 35 dm³, cooling system - 6 dm³, oil in drive systems - 1.5 dm³, capacity of front shock absorbers - 0.47 dm³, rear shock absorber - 0.145 dm³, brake system - 0.4 dm³.

After getting acquainted with the car, the speedometer and distance counter were scaled up and indicative measurements of accelerations were taken. The prototype covered 2 584 km, including 79% on good roads, 12% on bad roads and 9% on city roads. The fuel consumption was 241 dm³ (petrol-oil mixture) which gave an average consumption of 9.3 dm³/100 km. The speedometer was calibrated in accordance with NM 06001 which is shown in the table below.

Table 1. Results of the FSO Syrena prototype speedometer scaling at the MTI

Speed acc. to the speedometer	Actual speed	Error
20 km/h	21 km/h	% - 5
30 km/h	29 km/h	% + 3
40 km/h	40 km/h	0
50 km/h	51 km/h	% - 2
60 km/h	62 km/h	% - 3
70 km/h	74 km/h	% - 6
80 km/h	86 km/h	% - 7

Source: compiled by the author based on the report (Rummel A., Cichowski A., 1956).

In order to estimate the dynamic properties, acceleration measurements were carried out in 3rd and 4th gears and during acceleration by gears. The measurements were made by measuring with a stop watch the time after which the assumed speed was reached. The atmospheric conditions during the measurements were as follows: side wind speed 0.5-0.7 m/s, temperature +28°C, dry roadway. The measurements were made on the concrete roadway of Łomianka-Kazuń with the load of two passengers.

A test for short operational characteristics of the prototype was also carried out. The results of measurements were performed with two passengers in the car. In the test, the error of the speedometer display was: at 50 km/h - 2 %, at 90 km/h - 8 %. The error of the distance meter readings was 4 %. The braking measurements at 45 km/h were:

Average deceleration:

47% g (4.61 m/s²) with 40 kg pedal pressure

67% g (6.57 m/s²) with 70 kg pedal pressure,

74% g (7.26 m/s²) with 100 kg pedal pressure.

The MTI experts also measured the maximum speed that the prototype could develop. The maximum speed (1 km from the flying start) when the average of the four measurements was 97.4 km/h. The best result of the maximum speed was 102.9 km/h. The minimum and maximum speeds in each gear were as follows: 1st gear- from 5.5 to 28.0 km/h, 2nd gear- from 9.0 to 45.0 km/h, 3rd gear- from 16.0 to 64.0 km/h, 4th gear- from 25.0 to 97.4 km/h. Gear acceleration times were: from 0 to 48 km/h - 13.5 s, from 0 to 65 km/h - 22.0 s, from 0 to 80 km/h - 41.5 s.

The fuel consumption of the prototype FSO Syrena tested at the MTI under urban driving conditions with two passengers was as follows: at an average speed of 30 km/h: 9.6 – 10.15 dm³/100 km; with 4 passengers, at speeds: 25 - 30 km/h was from 10.4 to 12.4 dm³/100 km.

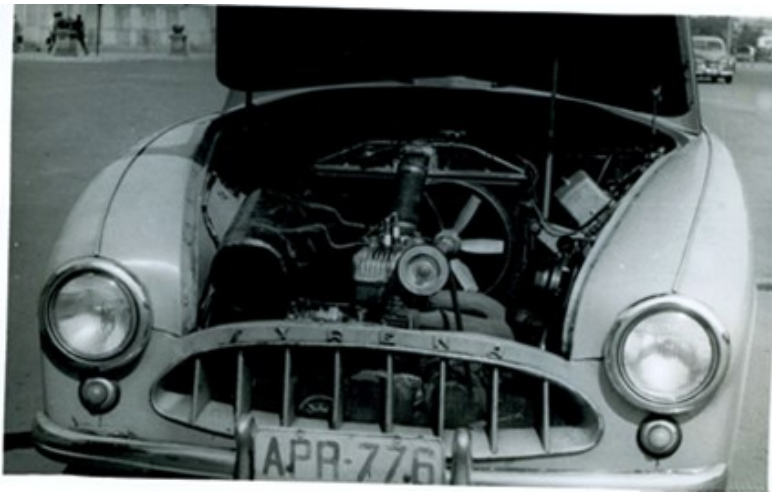
The prototype of the FSO Syrena car, tested by the Motor Transport Institute, is presented in the pictures below published for the first time (Fig. 1, 2, 3).

Fig. 1 The prototype of the FSO Syrena car tested at the MTI at Bank Square in Warsaw.



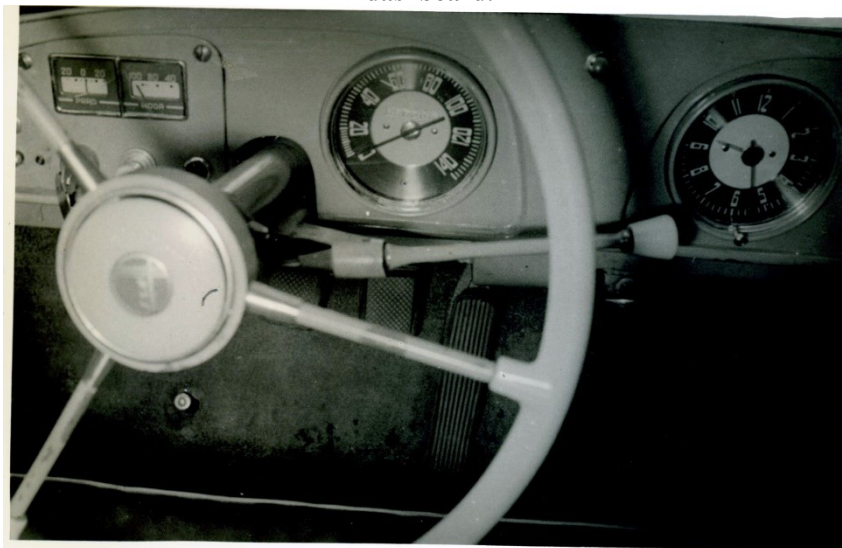
Source: Archive of the Motor Transport Institute

Fig. 2 The prototype of the FSO Syrena car tested at the MTI –view at S15 engine.



Source: Archive of the Motor Transport Institute

Fig. 3 The prototype of the FSO Syrena car tested at the MTI – view at the whole dashboard.



Source: Archive of the Motor Transport Institute

Fig. 4 The prototype of the FSO Syrena car tested at the MTI at Bank Square in Warsaw– the vehicle rear.



Summarizing the research conducted at the MTI, it should be noted that the concept of production of the FSO Syrena car based on

the elements of the FSO Warszawa car (M20 Pobieda) in the existing conditions and reality of the mid-1950s, for those

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times and considering the conditions of the Polish automotive industry development, was right. The efforts of the designers who developed the car should also be assessed positively. As a result of the research, excessive weight of the prototype was found, which resulted from its constructional connection with a much larger FSO Warszawa car and small production scale, so that a significant weight reduction was not possible under these conditions and was accepted as a necessary evil.

The choice of a two-stroke engine, with the technological possibilities of the time and until the launch of the production of appropriate four-stroke engines, was right, although it could be a three-cylinder engine with a higher capacity and power of e.g. 34 hp, which would bring the FSO Syrena car closer to other modern small-sized cars. In the reality of Poland in 1955, the prototype of the Syrena car had an undoubted utility value and was further developed in terms of its design and technology - many of the car modifications were created. Works on its construction were carried out as far as possible until the mass production of the car, popular for average Poles, was fully launched. In 1955, experts from the MTI suggested that, apart from the launch of a test series, the possibility of undertaking construction works on the following should be considered as soon as possible:

1. a three-cylinder two-stroke or two-cylinder four-stroke air-cooled engine.
2. improvement of front wheel suspension kinematics and suspension,
3. improvement of the braking system,
4. body improvement.

The MTI experts for the test car series "Syrena" would suggest:

- using a Jikov carburettor and continuing to improve engine performance,
- reducing the third gear ratio so that the attainment speed in this gear is approx. 70 km/h at 4200 rpm. Changing the main gearbox at the moment is not considered advisable as it will cause further lowering of the already low dynamic ratios of the car,
- changing the clutch in terms of design and technology, as the current clutches prevent normal vehicle operation,
- changing the gear-shifting mechanism design by using the longitudinal gear stick system,
- reducing the suspension in the first row by reducing the damping effect of the dampers,
- using 5.50 x 15 tyres (move to a 13-inch rim in the future if necessary),
- using the external opening of the boot,
- installing the double fastener of the engine bonnet,
- installing the rests under the elbows in the rear seat,
- changing the arrangement for the grease nipples of steering arms for easy lubrication.
- strengthening the handlebar stem for easy lubrication,
- strengthening the handlebar stem,
- improving the attachment of the radiator,
- improving the heating system to increase its performance.

Many of these amendments were applied already two years later, when the serial production of this vehicle began.

Conclusions.

Over half a million Syrena cars produced in various versions (Syrena 100, 101, 102,

102 S, 103, 103 S, 104, 105, 105L, R-20, 105 Bosto) have made the history of the

Polish automotive industry. The structural changes in the subsequent types were introduced on an ongoing basis and were often mixed in the previous model and its successor model. This does not change the fact that the construction of the familiar Syrena was obsolete already in the 1950s. In addition, the quality of implementation was poor and the FSO's specific actions for its improvement were minimal (Demiński J. 2004). In 1964, the production of the Syrena 104 began with a new three-cylinder S-31 engine, which improved its performance, but this performance began to exceed the capabilities of the chassis, which highlighted the archaism of the structure, e.g. suspension. In 1967, for the first time there were plans at ministerial level to discontinue production of the Syrena car. The reasons for this were: outdated design, poor quality, uselessness in state institutions and enterprises, finally a license agreement signed with Italy for the production of the Fiat 125 car (Podbielski Z. 2009), and then the Fiat 126. However, the Fiat 125 was a much more expensive car than the Syrena car and could not constitute a valuable competition for the domestic popular car. In 1972, production of the Syrena was transferred to Bielsko-Biała. From the mid-1970s until the end of its production, the Syrena car became a typical village and small-town vehicle. In the country it was a relatively cheap but structurally simple vehicle. All this meant that in view of the weak saturation of the Polish market with cars, for which we had to wait for years, the production of the


Syrena lasted until 1983. The last Syrena was assembled on 30 June 1983. (Podbielski Z. 2013).

The prototype of the FSO Syrena passenger car presented in the article was examined in the Motor Transport Institute in 1955 by outstanding experts such as: engineer Aleksander Rummel (Piłatowicz J., Zakrzewski B. 2011) (creator of the pre-war Lux Sport car) (Zakrzewski B. 2012) and engineer Andrzej Cichowski. The results of these studies stored in the MTI archives in the form of a final report provide unique photographs and tables, published for the first time in this article. The results of research on the prototype of the Syrena FSO passenger car carried out in the MTI showed many defects of this car and had a significant impact on the improvements made to it before starting serial production. In 2011, there was a decision to reactivate the Syrena car. There was money from the EU funding from the Innovative Economy Program. The value of the project amounted to PLN 7.44 million, of which the EU support amounted to PLN 4.5 million. The result is a driving prototype of the Syrena powered by an engine from General Motors. The new prototype of the Syrena (which was also tested in the MTI) participated even in the road collision in 2016. Unfortunately, the new Syrena, the production of which was to be started in 2016 (the FSO's cooperation with AMZ company from Kutno), has not reached the consumer. Perhaps it will be produced in an electric car version.

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ASSESSMENT OF THE CAPABILITY TO IMPLEMENT KNOWLEDGE DEVELOPMENT BY REGIONS OF UKRAINE

OCENA MOŻLIWOŚCI REALIZACJI ROZWOJU WIEDZY PRZEZ REGIONY UKRAINY

ОЦЕНКА СПОСОБНОСТИ К ЗНАНИЕВОМУ РАЗВИТИЮ РЕГИОНОВ УКРАИНЫ

Abstract

The paper studies potentiality in innovation and knowledge state with regions of Ukraine that contributes to their knowledge development and formation of economics of knowledge on regional and national level. It determines the list of indices allowing the status assessment in innovation activity among economic players in a region, and that of research and scientific-technical works. Regions of Ukraine are grouped in accordance with the development level state in science and innovation activity. The article generalizes the potentiality assessment for the knowledge development of regions of Ukraine on the ground of the criteria of power of educational field, distribution of information and communication services, and potential in the sphere of science and innovations.

Keywords: *knowledge economy, regions, assessment, grouping, innovation, science, education*

Streszczenie

Przeanalizowano potencjalne możliwości statusu innowacyjno-naukowego regionów Ukrainy, które promują ich wiedzę i rozwój gospodarki opartej na wiedzy na poziomie regionalnym i krajowym. Określono skład wskaźników, który pozwala ocenić stan aktywności innowacyjnej podmiotów gospodarczych w regionie oraz prac i badań naukowych i technicznych. Regiony Ukrainy są pogrupowane według stopnia rozwoju stanu nauki i działalności innowacyjnej. Oceniane jest oszacowanie potencjału świadomego rozwoju regionów Ukrainy na podstawie kryteriów siły przestrzeni edukacyjnej, upowszechniania informacji i usług komunikacyjnych, potencjału w dziedzinie nauki i innowacji.


Słowa kluczowe: *gospodarka oparta na wiedzy, regiony, ocena, grupowanie, innowacje, nauka, edukacja*

Аннотация

Исследованы потенциальные возможности инновационно-научного состояния регионов Украины, которые способствуют их знаниемому развитию и формированию экономики знаний на региональном и национальном уровнях.

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Определен состав показателей, позволяющих оценить состояние инновационной деятельности, научно-технических работ и исследований субъектов хозяйствования в регионе. Сгруппированы регионы Украины по степени развития состояния науки и инновационной деятельности. Систематизирована оценка потенциала знанневого развития регионов Украины на основе критериев мощности образовательного пространства, распространения информационно-коммуникационных услуг, потенциала в сфере науки и инноваций.

Ключевые слова: экономика знаний, регионы, оценка, группирование, инновации, наука, образование

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Provision of competitiveness and innovation, acquisition of the knowledge development signs in regional economy, and achieving economic growth tendencies could become possible for Ukraine provided strategic priorities are directed to economics of knowledge (EK) formation. That is why the choice of vectors for the regional economy development shall be based on determination and substantiation of head drivers for EK formation in regional and national manifestations, and establishment of the manner in which they influence its most important characteristics –


the ability to preserve and generate enough jobs of the appropriate standard, and the power to increase the amount of gross domestic (GDP) and regional (GRP) product orientating on the levers of the knowledge development in all spheres of public activities. To eliminate obstacles and to provide favorable environment for EK formation in Ukrainian regions it is necessary to introduce monitoring of indices' values in economy growth as one of the components of the knowledge development of a region.

Analysis of latest research where the solution of the problem was initiated.

Ukrainian scientists study the opportunities for innovation and knowledge development of a region from various sides concentrating their attention on specific peculiarities of the process in the conditions of certain areas of the country. Thus, in the paper by V. Tyshchenko the assessment is given of the regional status of EK development using the basic components like innovations, education and ICT on which base regions of Ukraine are clustered [9]. The research by V. Geiets and V. Semnozhenko deals with the assessment of

technologic structures implementation in the economy of Ukraine, as well as innovation-investment activity and scientific potential of EK in regions of Ukraine [2, p. 201-224]. S. Katsura investigated the development tendencies in scientific and technical potential, innovation activity processes in industry, and the effectiveness of innovation infrastructure in its regional profile in Ukraine [3, p. 271-341]. At the same time, regardless of achievements availability related to the qualitative as-

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assessment of EK formation prospects in regions of Ukraine, the sufficiency of the in-

novation support for the knowledge development in the regional profile requires further substantiation.

Aims of the paper. Methods.

So, the aim of the study is grouping of regions of Ukraine in accordance with the criterion of their progress stage in the sphere of science and innovations together with the assessment results generalization related to their level of the knowledge

development on the ground of considering peculiarities of the knowledge potential of educational field, and the extension of information and communication technologies. The methods of generalization, logics and mapping are used to provide the achievement of the specified study's aim.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

The status assessment of the scientific and innovation component of the economy of Ukraine and that of the ability of EK formation is based upon the status establishment of its regions' knowledge development. To assess the potential of the knowledge development with regions of Ukraine various values are chosen characterizing EK from the viewpoint of the stage of their innovation activity and scientific achievements. To monitor the processes of available resources in the sphere of innovation, science and researches the following indices are used:

- The share of regional institutions involved in researches as well as scientific-technical works in their total number in Ukraine;
- The share of researchers' number involved in researches and developments in the average number of staff members in a region;
- The share of industrial enterprises of a region involved in innovation activity;
- The share of new technologic processes introduced in a region as respects to their total number in Ukraine;
- The share of enterprises in a region that sell innovation products as respects to their total number;

- The share of financing researches of a region in the total amount of financing in the country;
- Distribution of financing amount for researches and scientific-technical works according to their sources in the total amount structure of regional financing by structural elements, and namely: from state budget, from own funds, from institutions of entrepreneurship sector, and from foreign sources.

Such indices combining shall comprehensively characterize a region's potentiality as for the development state of innovation and scientific component of EK, determination of their disproportional reserves for breakthroughs in the sphere of high technologies. The indices selected allow an express-monitoring conduct using characteristics of innovation activity and researches in regions of Ukraine. They characterize various-aspect opportunities of the status establishment for EK and the knowledge development in regional profile on the ground of the processes of a region's labor forces attraction to research activity; participation of economy players in researches, scientific and technical works, and innovation activity in a region; ability to finance scientific and innovation

measures from different courses on the level of regions; advanced technologies utilization and modern technologic processes introduction in the activities of economy players, and, as a result, their ability to produce competitive innovation goods and services, Table 1.

In order to increase the level of visualization of the data represented the value of each of the indices was grouped according to three levels – high, medium and minimal – correspondingly shown in different colors. Such approach simplifies the procedure of grouping of regions of Ukraine based on the criteria of assessment of potentiality in the sphere of science and innovations thus giving the opportunity to optimize and supplement the content of information and to form the full-grown understanding of regions’ advantages and bottlenecks for the sake of EK formation in the regional profile, Table 2.

It was established on the ground of the findings that by all assessment criteria the stable leaders in potential opportunities for

the knowledge development are City of Kyiv and Kharkiv Region. Here research activity in 2009 and 2016 was 67 per cent financed from the state budget of Ukraine. They are characterized by maximal values of indices assessing the state of science and innovation activity, and have the large breakaway between indices’ values in other spheres. So they were recognized to be stable leaders in the sphere of science and innovation activity, and excluded from the further study in order to allow other regions ranging by the chosen criteria.

The sufficiently high level of concentration of institutions involved in researches and scientific-technical works is typical for Dnipropetrovsk, Zaporizhia, Lviv and Odesa Regions. In other regions one could observe the approximately same level of regional institutions’ share involved in researches i.e. they have similar conditions for innovation activity conduct on the ground of their outputs providing regional opportunities as for activation of processes forming EK.

Table 2. The range of values with criteria of assessment in the sphere of science and innovation activity for ranging of regions of Ukraine (with the exception of City of Kyiv and Kharkiv Region)*

Ranging description for regions of Ukraine	The share of regional institutions involved in researches and scientific-technical works in their total number, %		The share of researchers’ number involved in researches and developments in the average number of staff members in a region, %		The share of industrial enterprises of a region involved in innovation activity, %		The share of new technologic processes introduced in a region as respects to their total number in Ukraine, %		The share of enterprises in a region that sell innovation products as respects to their total number, %		The share of financing researches of a region in the total amount of financing in the country, %	
	2009	2016	2009	2016	2009	2016	2009	2016	2009	2016	2009	2016
Quantization step	1,94	2,23	0,36	0,43	5,03	5,3	2,22	2,27	3,33	8,04	1,64	4,11
Minimal value of index	0,45	0,82	0,05	0,05	6,13	10,19	0,42	0,17	3,59	5,22	0,11	0,1
Bounds of the first group	2,39	3,05	0,41	0,48	11,16	15,49	2,64	2,44	6,92	13,26	1,75	4,21
Bounds of the second group	4,33	5,28	0,78	0,91	16,19	20,79	4,86	4,72	10,24	21,31	3,40	8,31
Maximal value of index	6,27	7,51	1,14	1,34	21,22	26,09	7,08	6,99	13,57	29,35	5,04	12,42

*Developed by the author on the ground of data [5-8]

One should state that in 2009 and 2016 research workers whose activity determined the effectiveness of researches were mainly located in Dnipropetrovsk, Zaporizhia, Lviv, Mykolaiv, Odessa and Sumy Regions. Various fluctuations towards the decrease of the share of researchers' number involved in researches and developments in the average number of staff members in a region took place in Donetsk Region having represented almost 13.2 times index reduction in 2016 as compared with 2009.

The highest attraction of industrial enterprises to innovation activity is registered in

Zaporizhia, Zhytomir, Ivan-Frankivsk, Lviv, Mykolaiv, Odessa, Ternopil and Chernivtsi Regions. In 2016 the share of industrial enterprises involved in innovation activity related to their total number in the abovementioned regions was 20 to 26 per cent. The head kinds of their economic activity include the production of basic pharmaceutical goods and drugs, computers, electron and optic articles, transport vehicles, coke, and oil refining products [5, p. 83].

Table 1. Assessment of potentialities in the sphere of science and innovations for the knowledge development of regions of Ukraine*

	The share of regional institutions involved in researches and scientific-technical works in their total number, %		The share of researchers number involved in researches and developments in the average number of staff members in a region, %		The share of enterprises of a region involved in innovation activity, %		The share of new technological processes introduced in a region as respects to their total number in Ukraine, %		The share of enterprises in a region that sell innovation products as respects to their total number, %		The share of financing researches of a region in the total amount of financing in the country **, %		Distribution of financing amount with researches and scientific-technical works according to their sources in the total amount of financing by structural elements, and namely: from state budget, from own funds, from institutions of entrepreneurship sector, and from foreign sources, %	
	2009	2016	2009	2016	2009	2016	2009	2016	2009	2016	2009	2016	2009	2016
Ukraine ***	100.0	100.0	1.12	1.24	12.83	18.86	10.0	10.0	10.17	13.26	100.0	100.0	44.8	24.22
Vantsia	1.64	2.06	0.25	0.26	12.23	15.38	3.65	0.86	3.79	11.61	0.53	0.24	44.25	28.2
Volyn	1.03	1.03	0.16	0.15	9.17	10.19	0.48	0.49	3.44	12.04	0.20	0.13	34.54	10.1
Dnipropetrovsk	6.27	5.97	1.05	1.22	8.19	14.74	2.64	2.75	8.19	10.66	4.80	12.42	25.2	23.45
Donetsk	5.00	1.54	0.66	0.05	9.56	13.76	3.91	1.72	8.11	6.38	3.63	1.51	34.26	31.9
Zhytomir	0.67	0.93	0.14	0.17	10.48	20.61	0.95	1.06	11.57	13.33	0.28	0.15	62.28	9.1
Zakarpattia	1.34	0.93	0.37	0.40	13.58	11.19	0.48	0.52	10.49	5.22	0.55	0.35	90.8	1.2
Zaporizhia	2.69	3.09	1.14	1.13	7.03	22.07	7.08	3.41	6.78	23.00	0.97	4.55	8.5	33.54
Ivano-Frankivsk	1.64	1.75	0.35	0.27	21.22	21.09	1.80	0.49	11.60	11.72	0.36	0.15	25.1	75.1
Kyiv	2.54	2.88	0.79	0.53	9.41	16.61	1.53	2.44	9.31	12.46	3.55	1.76	69.21	5.0
Kirovograd	0.97	1.54	0.21	0.27	10.74	17.89	1.37	2.78	13.57	15.79	0.13	0.52	15.78	7.0
Lugansk	3.58	1.44	0.31	0.25	9.87	13.24	0.74	0.17	5.52	5.88	0.62	0.25	22.23	27.27
Lviv	5.97	7.51	0.91	0.98	13.01	20.58	2.96	3.98	5.35	14.15	5.04	2.47	64.3	23.7
Mykolaiv	3.51	2.57	1.12	1.08	13.29	23.08	1.53	0.72	7.26	15.38	2.02	2.72	28.14	10.61
Odessa	4.63	4.84	0.71	0.79	14.18	20.94	1.37	1.81	11.70	13.09	3.36	1.83	63.13	16.7
Poltava	1.64	2.16	0.29	0.42	12.47	13.97	1.48	0.72	8.40	12.39	0.57	0.39	43.26	9.21
Rivne	0.97	1.13	0.12	0.18	11.84	17.04	0.42	1.06	3.59	8.15	0.19	0.08	59.20	21.0
Sumy	1.64	1.65	0.84	1.34	16.21	17.80	4.12	6.99	4.80	20.34	0.62	1.10	20.56	20.4
Ternopil	1.04	1.34	0.18	0.25	17.97	26.09	0.48	2.44	9.27	29.35	0.21	0.10	54.6	35.0
Kharkiv	15.67	16.46	2.91	2.87	15.85	30.47	40.15	5.82	16.62	21.61	13.61	17.46	35.7	41.17
Kherson	1.72	2.06	0.42	0.41	12.17	19.79	0.95	1.00	10.45	15.63	0.66	0.31	74.18	8.0
Chmelnitstvn	0.45	0.82	0.05	0.15	6.13	12.77	0.74	0.57	6.19	8.51	0.11	0.14	65.30	7.0
Cherkasy	2.09	2.06	0.43	0.35	11.86	16.11	1.06	0.49	7.48	18.12	0.58	0.90	37.53	9.0
Chernivtsi	1.79	1.95	0.08	0.72	16.74	20.37	0.58	0.29	11.32	16.67	0.50	0.41	50.6	13.31
Chernyiv	1.64	1.54	0.28	0.38	21.01	15.24	1.53	2.09	8.84	10.48	0.70	0.46	59.20	3.19
City of Kyiv	25.52	30.76	4.20	3.94	26.15	23.06	15.27	55.35	37.22	18.34	53.78	49.59	57.1	19.20

* Calculated and grouped by the author on the ground of the data [5-8]
 ** Information on the cost of researches conduct in 2016 is represented in accordance with the new methodology of organization and conduct of government statistic monitoring "Execution of researches and developments (with the exception of costs for scientific-technical services)
 *** For the year of 2009 the information is represented with the exception of Sevastopol Town and AR of Crimea
 Legend: - high level; - medium level; - initial level; - the areas-leaders

Meanwhile, enterprises' effectiveness in these regions characterized by manufacture and distribution of innovation products is not similar. The best achievements in the innovation activity among industrial enterprises is observed in Zaporizhia and Ternopil Regions where in these indices they pass ahead of such stable Ukrainian leaders as Kharkiv Region and the City of Kyiv that is the evidence of the high effective-

ness of their activity in the sphere of science and innovations, and the presence of considerable potential for the knowledge development. Considering the values of such indices as the share of new technological processes introduced in a region as respects to their total number in Ukraine and the share of financing researches of a region in the total amount of financing in the country it is established that regions of Ukraine with the

exception of the aforesaid leaders have their approximately equal level that corresponds to the minimal one in the given gradation. What could be singled out are only Zaporizhia and Sumy Regions that are famous for the high level of technologies introduction to production and commercial activity of economy players, and Dnipropetrovsk and Zaporizhia Regions having the largest share of financing research works distributed between the regions of Ukraine. Thus practically all regions of Ukraine have similar satisfactory conditions from the viewpoint of the presence of financial opportunities and introduction of modern technologies.

Besides, the study includes calculations on determination of the distribution structure for the financing volume among scientific and scientific-technical works by sources for each region of Ukraine. The most cost-consumptive elements were chosen as the ground for structural element of financing sources including costs from state budget, from entrepreneurship institutions, from foreign investors, and from own funds. It was established that in the year of 2016 Volyn, Zakarpatia, Ivano-Frankivsk, Kyiv, Lviv, Rivne, Ternopil, Kherson, and Khmelnytskyi Regions were being financed from the state budget of Ukraine, local government bodies and off-budget funds by 60-82%. Changes in the structure of financing sources for the progress of researches and developments with the prevailing attraction of own funds (in 2016 there were 48 to 87 per cent of financing research and scientific-technical works for the account of own funds as related to their total amount in the regions) took place in Donetsk, Kirovograd, Mykolaiv, Sumy, and Cherkasy Regions. In Dnipropetrovsk Region there appeared the significant, up to 82%, prevailing of entrepreneurship sector in the structure of financing researches and scientific-technical works. Meanwhile the

leaders in acquisition of funds from foreign investors are Zaporizhia, Lugansk, Cherkasy, and Chernigiv Regions.

Transition “from centralized planning, state financing of researches for the benefit of market stimuli and market demand on developments” was used in the strategic guidelines for EK formation in the implementation of first innovation programs in China [4, p. 11]. In other words, for the knowledge development of regions it is necessary to activate financial sources either from own funds or from entrepreneurship sector.

Complex analysis of regional potentialities in the sphere of science and innovations in Ukraine on the ground of selected indices allows the fact establishment Dnipropetrovsk, Zaporizhia, Lviv, Mykolaiv, Odesa and Sumy Regions to be leaders of the knowledge growth and demonstrate the high stable facilities for research and innovation activity execution by economy players, the corresponding conclusion having been made based on the high share of institutions involved in researches and scientific-technical works and introduction of innovation initiatives to production and economic activity having the substantial concentration of research workers for implementation of prospective strategies of EK formation. Meantime the stable medium level on the ground of the same criteria is represented in Zhytomir, Kyiv, Kirovograd, Ternopil, and Ivano-Frankivsk Regions while in Vinnitsa, Volyn, Donetsk, Zakarpatia, Lugansk, Poltava, Rivne, Kherson, Chernivtsi, Cherkasy, Chernigiv and Khmelnytskyi Regions there is a stable minimal level of the knowledge growth potential.

So, as a result of findings systematization and generalization of the study conducted, regions of Ukraine were divided into four homogeneous groups in accordance with the potentialities in the sphere of science

and innovations for the knowledge development (Table 3). Such grouping of Ukrainian regions shall become the basis for the development of targeted strategies of EK formation considering their peculiarities and potential opportunities as for implementation of scientific and innovation activity, those of financing for researches and scientific-technical works of a region as well as the conditions created for researchers' assignment involved in researches and developments.

Thus, as a result of the study four groups of regions were specified in Ukraine their difference being in the potential of the knowledge development. The first group includes the City of Kyiv and Kharkiv Region which during the period of the study could be characterized as stable leaders in the sphere of science and innovations in Ukraine having the highest potential for the knowledge development according to the entire selected criteria of assessment. The

second group covers Dnipropetrovsk, Zaporizhia, Lviv, Mykolaiv, Odesa and Sumy Regions having the sufficiently powerful potential of basic opportunities as for implementation of scientific and innovation activity by economy players, and being characterized by the indices growth tendencies in the sphere of science and innovations.

The third group containing Zhytomir, Kyiv, Kirovograd, Ternopil, and Ivano-Frankivsk Regions is characterized by the medium potential of the knowledge development due to the activation degree in innovation and scientific activity. The fourth group includes Vinnitsa, Volyn, Donetsk, Zakarpatia, Lugansk, Poltava, Rivne, Kherson, Chernivtsi, Cherkasy, Chernigiv, and Khmelnytskyi Regions that have a satisfactory potential for the knowledge development and are characterized by the minimal level or the majority of indices selected for the analysis purposes.

Table 3. Grouping of regions of Ukraine and the City of Kyiv in accordance with their potential in the sphere of science an innovation activity in 2009- 2016 *

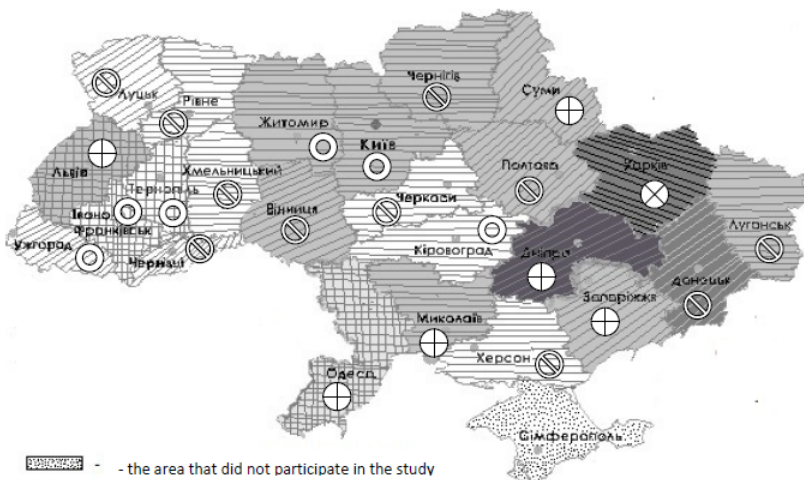
Group No	Regions of Ukraine grouped in accordance with their potential level in the sphere of science and innovations	Potential characteristics of the knowledge development with regions groups due to functioning of the sphere of science and innovations
1	City of Kyiv, Kharkiv	Stable regions-leaders have the best potential of the knowledge development according to all criteria of potentialities assessment in the sphere of science and innovations
2	Dnipropetrovsk, Zaporizhia, Lviv, Mykolaiv, Odesa, Sumy, and Ternopil	Regions have the excellent level of the knowledge development potential. They are characterized by the high potential in the sphere of science and innovations as well as the significant potential that exists due to economy players involved in innovation activity and scientific-technical works. The majority of researchers are concentrated in these regions thus providing the greatest opportunity to produce innovation products. There is a tendency observed of the improvement of selected criteria's values for potentialities assessment in the sphere of science and innovations.
3	Zhytomir, Kyiv, Kirovograd, Ivano-Frankivsk	Regions have the medium level of the knowledge development potential. They are characterized by the medium potential in the sphere of science and innovations related to the environment formation for innovation activity conduct. In isolated cases there are improvements of indices in the assessment of science and innovation component of EK.
4	Vinnitsa, Volyn, Donetsk, Zakarpatia, Lugansk, Poltava, Rivne, Kherson, Chernivtsi, Cherkasy, Chernigiv, Khmelnytskyi	Regions have the satisfactory level of the knowledge development potential. They are characterized by the minimal application level in the sphere of science and education. There is a tendency observed of the reduction of selected criteria or their insignificant improvement.

*Grouped by the author

Rating of the regions as belonging to the fourth group is the evidence of their poor potentialities level as for EK formation by the component of science and innovations. Thus, monitoring the capacity of the regions of Ukraine to implement the development of knowledge in connection with their scientific and innovative potential has allowed forming the characteristics associated with the possibilities of forming EK in the regions of Ukraine. Consequently, in the study the integral assessment is obtained on the preconditions for the regions' knowledge development due to the basic components like the knowledge power of

educational field in a region, extension of advanced information and communication technologies, and potentialities in the sphere of science and innovations. Unification of clustering results with regions classification by the chosen components as well as the use of the mapping method allowed the general characteristics creation for each region of Ukraine that, in its turn, allows identification of advantages, bottlenecks and threats for the purpose of development of targeted strategies for EK formation on national, regional and local level, Fig. 1

Fig. 1 Potential assessment of the knowledge development of regions of Ukraine in 2016



Legend:

Characteristics of the knowledge development of regions of Ukraine	Groups / Clusters of regions			
	1 Leader's level	2 Excellent level	3 Medium level	4 Satisfactory level
The state of the knowledge power of the educational field of regions				
The state of extension of information and communication services [1]				
The state of potential in the sphere of science and innovations				

**Developed by the author*

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Each region of Ukraine and the City of Kyiv thus received different combinations of characteristics as for the state of the knowledge development, Table 4.

Table 4. Complex characteristics of preconditions for EK formation in the City of Kyiv and regions of Ukraine

Names of Regions	The state of the knowledge power of the educational field	The state of extension of information and communication services	The state of potential in the sphere of science and innovations
Vinnitsa	3	4	4
Volyn, Zakarpattia, Chernivtsi	3	3	4
Dnipropetrovsk	3	2	2
Donetsk	3	2	4
Zaporizhia, Sumy	3	4	2
Ivano-Frankivsk	2	3	3
Kyiv, Zhytomir	4	4	3
Kirovograd	4	3	3
Legansk, Chernigiv	4	4	4
Lviv	2	4	2
Mykolaiv	4	4	2
Odesa	2	1	2
Poltava	3	4	4
Terнопil	2	3	2
Kharkiv	1	2	1
Rivne, Kherson, Khmelnytskyi, Cherkasy	4	3	4
City of Kyiv	1	1	1

**Developed by the author*

Conclusions.

The highest level of the knowledge development is demonstrated by the City of Kyiv and such Regions as Kharkiv and Odesa. The poorest level is demonstrated by such Regions as Zhytomir, Kyiv, Lugansk, Chernigiv, Rivne, Kherson, Khmelnytskyi, and Cherkasy. Other regions of Ukraine have different combinations of characteristics of the knowledge development being in disproportional conditions for knowledge acquisition by their

population of various ages, ICT usage on individual, regional and national level, and the effectiveness increase with science and innovation activity. So, regions of Ukraine are characterized by different levels of the knowledge development and the degree of preparedness for EK formation that requires the designing of measures' complex to activate the processes of generation as well as dissemination and implementation of knowledge.

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IV. Law and Administration



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**“POLICE LAW” OF THE FREE CITY OF CRACOW
IN THE YEARS 1815-1846**

**„PRAWO POLICYJNE” WOLNEGO MIASTA KRAKOWA
1815-1846**

**«ПОЛИЦЕЙСКОЕ ПРАВО» СВОБОДНОГО ГОРОДА КРАКОВ
В 1815-1846 ГОДАХ**

Abstract


The aim of the article is to describe, on the one hand, the police authorities and, on the other hand, to present the tasks and competences implemented by these authorities in the field of public order and security in the Free City of Cracow (1815-1846). The legal bases defining the broad spectrum of police tasks were mentioned. These included the fight against begging, vagrancy, passport policy, population registration, protection of consumer interests and rights, building, sanitary and fire safety, maintenance of peace, cleanliness and order in Cracow and the fight against crime. Attention was also drawn to the reasons for issuing such rules of legal relations. In conclusion, the common features of "police law" acts and the meaning of the word "police" used in the Free City of Cracow were pointed out. The article was written using a formal-dogmatic method and a chronological-subject structure. It is the first and so far, the only scientific study presenting legal regulations concerning the title subject.

Keywords: law, police, administration, Free city of Cracow

Streszczenie

Celem artykułu jest scharakteryzowanie z jednej strony organów policyjnych, z drugiej zaś przedstawienie zadań i kompetencji realizowanych przez te organy w sferze porządku i bezpieczeństwa publicznego w Wolnym Mieście Krakowie (1815-1846). Wymieniono podstawy prawne określające szerokie spektrum zadań policji. Dotyczyły one zwalczania żebractwa, włóczęgostwa, polityki paszportowej, ewidencji ludności, ochrony interesów i praw konsumentów, dbania o bezpieczeństwo budowlane, sanitarne, przeciwpożarowe, o utrzymanie spokoju, czystości i porządku w Krakowie oraz zwalczania przestępczości.

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Zwrócono też uwagę na przyczyny wydawania takich regulacji prawnych. W podsumowaniu wskazano na wspólne cechy aktów „prawo policyjnego” oraz znaczenie słowa „policja” używanego w Wolnym Mieście Krakowie. Artykuł został napisany przy zastosowaniu metody formalno-dogmatycznej oraz konstrukcji chronologiczno-rzeczowej. Jest to pierwsze i jak dotąd jedyne opracowanie naukowe przedstawiające regulacje prawne dotyczące tytułowego zagadnienia.

Słowa kluczowe: prawo, policja, administracja, Wolne miasto Kraków

Аннотация

Цель статьи - описать, с одной стороны, органы полиции, а с другой стороны - представить задачи и компетенции, осуществляемые этими органами в области общественного порядка и безопасности в Свободном городе Кракове (1815 -1846 гг.). Были упомянуты правовые основы, определяющие широкий спектр полицейских задач. К ним относятся: борьба с попрошайничеством, бродяжничеством, паспортная политика, регистрация населения, защита интересов и прав потребителей, строительство, санитарная и пожарная безопасность, поддержание мира, чистоты и порядка в Кракове, а также борьба с преступностью. Кроме того, было уделено внимание причинам возникновения таких правовых норм. В заключение были указаны общие черты «полицейского права» и определен смысл слова «полиция», используемого в Свободном городе Кракове. Статья была написана с использованием формально-догматического метода и предметно-хронологической структуры. Это первое и пока единственное научное исследование правовых норм, охваченных проблематикой данной статьи.

Ключевые слова: закон, полиция, администрация, Свободный город Краков

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The statement of the problem in general outlook and its connection with important scientific and practical tasks.

The Free City of Cracow, also called the Republic of Cracow (1815-1846), was established at the Congress of Vienna, which defined the principles of the post-Napoleonic order in Europe. The act called the Additional Treaty of 3 May 1815, in which the signatory states (Austria, Prussia and Russia) established the "Free, Independent and Strictly Neutral City of Cracow together with the District", was of fundamental importance for the legal existence of this state. It was established under the protection of

the mentioned above guarding powers. The main objective of the protectors was to maintain the neutral and demilitarised status of the Republic of Cracow and to maintain and protect the existing political system of their countries, i.e. the absolute-police system, as well as to combat the threats that appeared in the region and destabilised the existing legal order. In accordance with Article 6 of the Treaty, the authorities of the Free City were obliged to avoid providing

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shelter or care to fugitives, deserters or persons under search who belonged to a signatory state of the agreement and to surrender such persons at the request of the competent authorities. Local authorities were also obliged to arrest such persons and deliver them under escort to the border for surrender to the competent guard of the neighbouring state (Kallas, M., Krzymkowski M., 2006, pp. 174-178).

In connection with such assumptions of the policy of the guarding states towards the

Republic of Cracow, a particular interest of these states as well as national authorities were issues related to the proper organization of local security services, i.e. the militia, gendarmerie and police authorities (Cichoń P., 2017, pp. 53-63). The latter performed numerous police and administrative tasks aimed at protecting public safety and order in the Free City of Cracow. Due to the framework of this study, only police authorities and their tasks will be described in the following section (3, 4, 5, 8, 10, 11, 12).

The analysis of the latest research when the solution of the problem was initiated.

The sources of law concerning the Police.

The sources of the law in force in the Free City of Cracow were not only legal acts issued by municipal bodies, i.e. the Senate acting as a government, or the Assembly of Representatives entrusted with the role of parliament (Wachholz Sz., 1957, pp.156-157; Bartel W.M., 1976, pp.15-17). The organisation of the authorities of the Free City of Cracow and their powers were primarily influenced by the constitutional acts issued jointly by the guarding powers. However, issues concerning the organisation of the police services and their tasks in these constitutions were initially of marginal importance. Only Article 22 in the Constitution of 3 May 1815 (Kallas M., Krzymkowski M., 2006, pp. 179-182) and in the Constitution of 11 September 1818 (Kallas M., Krzymkowski M., 2006, pp. 183-190) pointed out the nature of the tasks of the municipal police, which were "the service of internal security and the police". On the other hand, the horse-riding gendarmerie was established to secure roads and rural areas. It was only in the Constitution of 30 May 1833 that a new Article 2 was introduced, in addition to the corresponding provision on the tasks of the militia and the gendarmerie (Article 26) which explicitly

states that any individual or collective conduct directed "at transforming or confusing public order" existing in the states under the control of the three guarding powers, as well as any participation in such activities, would constitute a violation of strict neutrality and as such would be prosecuted and punished as a political offence by the national authorities. Moreover, there is an absolute ban on the admission of prosecuted persons, criminals and deserters and the obligation to surrender them at the request of the authorities of neighbouring countries (Kallas M., Krzymkowski M., 2006, p. 190-201). In 1837, an additional article was introduced into the constitution (it was not numbered), which announced the liquidation of the institutions of vogts and sub-judges. Their duties were to be taken over by the Police Directorate in Cracow, and those of the Police Commissioners (district commissioners) in the district (14). The term "internal security" used in the Constitutions of the Free City of Cracow was used to describe the nature of the security services, i.e. the police and gendarmerie. On the other hand, the term "public order" used in the Constitution of 1833 defined this "order" as a constitutional value protected by the state authorities. Detailed legal regula-

tions concerning the organisation and operation of police services were contained in the Internal Equipment of the Senate of the Free City of Cracow and its District of 15 July 1816, which defined the powers of the Police and Police Department of the same Senate and of the Intermediate Police Office. The department was to ensure, among others, public and personal safety, public morals, the quality and honesty of commercial practices, the medical police, cleanliness in the country and in the lighting of Cracow, as well as fire safety, and to prevent begging, vagrancy and to ensure compliance with Article 6 of the Additional Treaty (§50) (15). In 1822, most of these tasks were taken over by a new department of the Senate, the Department of Internal Affairs and Police (Cichoń P., 2014, p.79). From the point of view of the police services organisation, the legal acts concerning the Police Directorate which took the place of the Intermediate Police Office in 1827 were of special importance. These were ordinances of the Senate: of 13 July 1827. (16) (hereinafter referred to as the PD's Statute), of 1 November 1833. (17) (Reorganisation of the police in the City of

Cracow. The Instruction and the Limits of the same Authority, outlining - hereinafter referred to as the New Instruction), of 18 February 1840. (18) (hereinafter - Second Statutes of DP). Pursuant to para. 214 of the Second Statute of PD, the existing provisions contained in the Statute of PD of 1827 and in the New Instruction of 1833 "insofar as they contained provisions contrary to Part I of the new statutes, shall cease to be in force" (18). Apart from the above mentioned normative acts, a number of other detailed legal regulations defining the tasks of the police services were in force. The main purpose of these legal acts was to protect the narrowly defined problems of public order and security. These were mainly regulations of the Senate, which had the exclusive right to issue legal regulations related to the functioning of administration, including the police services. The Senate also issued instructions to the militia, gendarmerie and the police, setting out detailed rules for patrolling, carrying out searches and performing other activities related to public order and security (Cichoń P., 2014, pp. 55-71, 162-167, 238-248; Namysłowski W., 1914).

Aims of the paper. Methods.

The article aims to present the institutional dimension of the Police and to present the tasks and competences of police authorities implemented in the field of public order and security in the Free City of Cracow (1815-1846). The article was written using the formal-dogmatic method and chronological-object construction. The official forms used were the "Journal of Government Regulations of the Free, Independent and Strictly Neutral City of Cracow and its District", "Journal of Laws of the Republic of Cracow", "Journal of Laws" and "Government

Gazette of the Free City of Cracow and its District". A source publication containing the text of the Constitution of the Free City of Cracow was also used. Not only were acts of "police law" identified in the legislation of the Free City of Cracow, but they were also subject to formal analysis and the reasons for issuing them were indicated. An attempt was also made to define common features of "police law" acts and to define the meaning of the word "police" used in the Free City of Cracow.

Exposition of main research materials with complete substantiation of obtained scientific results. Discussion.

Organization of the Intermediate Police Office and Police Directorate


The burden of actual performance of law enforcement and public security tasks in the Free City of Cracow was initially assigned to the Intermediate Police Office, also known as the Intermediate Police Agency. According to the internal arrangement of the Senate of the Free City of Cracow and its District of 15 July 1816, this body was established "to maintain the internal order of the city [of Cracow - P.C.], its resilience in operation and to ensure public peace and security". (§ 84) (19). The name of this body indicated the indirect role it was supposed to play in contacts between the government and other administrative bodies. Thanks to such location of the Office in the administrative structure, it was possible to ensure a quicker transfer of information, orders and commands between these authorities. It also made it possible to give government orders a more precise purpose, and to adapt the way they were arranged to real needs and organisational capabilities in the city of Cracow and its District.

According to the above mentioned regulation, the Intermediate Police Office was to include a police officer, an appropriate number of adjuncts, inspectors and other police officers, as well as a marked number of police soldiers (§ 84) ["middle-aged, sober, customary people, if they could write and read" could be admitted to the police service; the last condition was necessary for promotions to higher ranks in the mobile militia. Each soldier had to know personally all the officials and officials of the Intermediate Police Office, as well as the commune heads, in order to be able to receive oral orders from them in emergencies] (Namysłowski W., 1914, pp.34-35;

Wachholz Sz., 1957, p.286). The Intermediate Police Office was subordinate to the Militia and Police Department, and later to the Internal Affairs and Police Department, with the Police Authorising Officer also being obliged to carry out orders given directly by the entire Senate as well as by the President of the Senate (Cichoń P., 2014, pp. 80-81).

The most important police authority in the Free City of Cracow, which operated for nearly 20 years, was the Police Directorate (1827-1846). It was a body with many members and varied composition, which was subject to changes based on subsequent legal regulations concerning this body, i.e. the Statute of the Police Directorate of 13 July 1827. (20), the New Instruction of 1 November 1833. (17) and the Statutes of the Police Directorate of 18 February 1840 (18). Among the officers of the Police Directorate listed in these legal acts, we can distinguish – based on competence criteria - three categories of officers. The first group consisted of members of the Police Directorate who had independent or collective powers of authority related to the exercise of the competences of the Police Directorate. This group includes the police director, superintendents and adjuncts. The second group consisted of office workers who performed office functions. These were: secretary, journalist, archivist, clerk, registrar, cashier and controller, consignor, inspector. The third group of officers consisted of supervising service employees, which included: police inspectors, police junior inspectors, detective inspectors, detective junior inspectors, jail supervisors, guards, night guards, orderlies, fire officers, trumpeters at the fire brigade tower, executioners (Cichoń P., 2014, p.123).

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By virtue of the statute of PD, the Police Directorate was divided into two units corresponding to two directions of its activity: court and supervision and administration (Wachholz Sz., 1957, p.301). As regards the functioning of these branches, the New Instruction of 1833 did not introduce any major organisational changes. The second Statute DPD of 1840 maintained the activity of the Judicial Division, also known as the Judicial Department.

On the other hand, the Administrative Branch was liquidated and replaced by the following principle

internal deconcentration and horizontal division of labour many separate positions: censorship officer, minutes secretary of the Registration Office and foreigners, passport secretary, construction referee (construction conductor) (Cichoń P., 2014, p. 212-226).

The Trade Fair Commissioner, the writer of Servant's Bureau, as well as district commissioners and local superiors also cooperated with the Police Directorate. The Police Directorate was also provided with a police service consisting of delegated militia officers and gendarmes who guarded the detainees, carried out arrests and served at police stations (Cichoń P., 2014, pp. 227-248).

Tasks of police authorities

The tasks of police authorities in the field of law enforcement and public security were very broad and thus regulated in numerous legislative acts. The implementation of these tasks was mainly related to the function of regulation and order. On the formal level, the borders of this protection were delineated by legal provisions indicating which authorities and in which situations could undertake sovereign interference, including those limiting the rights and freedoms of individuals. The law also regulated areas of social life which were subject to detailed legal regulations. On the other

hand, the social and political role of public order and security meant that the regulations issued were purposeful and aimed at eliminating threats and ensuring the smooth functioning of society and the established legal order.

It is worth emphasizing that in the Free City of Cracow there was no legal definition of the terms "public order" and "public security". These terms determined the undefined tasks of the authorities in the Free City of Cracow and were a legal criterion for their actions, especially those of the police authorities. Both concepts belonged to, and still belong to, the so-called indefinite concepts, unclear expressions, the meaning of which is very extensible. Thanks to this, their use allowed for flexibility and adequate adaptation of their content to the changing internal situation in the country, especially to the political situation. On the other hand, it allowed for a relative stability of the existing law.

Analysing the en bloc legislation of the national authorities from the times of the Free City of Cracow, it can be concluded that maintaining public safety was to consist in maintaining the inviolability of life, health, dignity, honour, freedom, property and legal order. The scope of understanding of safety was strictly connected with the problems of occurring hazards. Thus, there was a clear coherence between them which caused that the nature and scale of the threats had an impact on the security of the individual, society and the whole state. The needs in this area, on the other hand, determined the choice of ways and methods of action which were to lead to elimination of these threats and achieve a state of lack of anxiety and peace. Public order, on the other hand, was to be ensured by the enforcement of legal provisions by the public, failure to comply with which, in conditions of collective coexistence, would expose them to dangers and nuisances. It was also

connected with the protection against human carelessness and lack of predictions, and not only with the man's evil.

This range of police and administrative regulations in force in the Republic of Cracow was very large, therefore, in the following part of the article the most important tasks belonging to the police, resulting from these legal acts, will be presented.

One of the key tasks of the police services in the Free City of Cracow was to prevent and eliminate social pathologies, i.e. begging and vagrancy, which were common and posed a serious threat to public order. The first local regulations in this field were issued on 5 February 1817. Their aim was to protect the inhabitants of Cracow from the intrusion of the homeless and, on the other hand, to provide help in organized forms to the homeless and the unemployed. A general ban on vagrancy and begging was introduced, and police authorities were entrusted with the elimination of undesirable units from Cracow and its suburbs, as well as with drawing legal conclusions against perpetrators of such behaviour (21).

In the New Instruction of 1833, combating vagrancy and begging, which were still strictly forbidden, was entrusted to the Police Directorate. This legal act also styled minor offences in this category and specified penalties for their commission (Article 207, paragraph 70)(17). The ineffectiveness of the actions taken so far in the fight against begging caused that, on 3 July 1840, the Government Senate issued a new regulation on this matter. This phenomenon continued to be combated by the Cracow Police Directorate and the district commissioners. Detained persons, depending on their origin and state of health, were sent to the Shelter House, the Forced Labour House (or to a branch office in Jaworzno) or expelled from Cracow or the whole country (Articles 9-12) (22).

Institutional combating with begging and vagrancy was with time connected with the Forced Labour House activity. According to the assumptions of the Act of 3 January 1822, the homeless and the unemployed who were capable of physical work were detained in the house (Article 1) (23). This house remained under the supervision of the Police Directorate and was a prison facility. The stay in it was to contribute to the increase of the moral level, to the re-education of people that were unproductive and prone to misdeeds. It was also supposed to help them develop the habit of honest work for their own livelihood.

Another task of the police services was to implement an appropriate passport policy, including the issuance and affixing visas for passports. In this respect, from 1827 a very important role was played by the Police Directorate and its director who personally issued and signed each passport (the secretary of the Police Directorate also signed passports). These legal instruments were very important as the visa requirement made the possibility for foreigners to stay in the Free City of Cracow which was tantamount to recognize that they did not pose a threat to the existing legal order. On the other hand, receiving a passport by a citizen of the Republic of Cracow allowed such citizen to travel to neighbouring countries or to continue the journey. From the 1930s, passport rules were systematically tightened up. In 1832, the Government Senate issued regulations to prevent the use of passports by unauthorized persons. Criminal liability for attempting to give the passport to another person as well as for using the passport of another person was also introduced (item 1). It also provides for legal consequences for persons who, through negligence or recklessness, contributed to the theft or loss of their passports (Article 4) (24). The New Instruction of 1833 introduced further passport restrictions. The

travel document could only be obtained by persons who had presented a certificate of good repute from their home municipality (Article 40) (17). Moreover, the Police Directorate was obliged to send daily lists of foreigners arriving in and departing from Cracow to residents of Austria, Prussia and Russia (Article 41). The aim of these legal changes was to minimize the risk of arriving and departing abroad by people who, due to their previous criminal, underground or independence activities, were undesirable in neighbouring countries. Therefore, a strict passport policy was to contribute to more effective protection of public order and security in Austria, Prussia and Russia, which the authorities of those countries cared for very much (Cichoń P., 2014, p. 273-277). The new Instruction of 1833 also contained an additional catalogue of police and administrative offences related to the misuse of passports (Article 207, items (83) to (85)) (17).

During the occupation of the Republic of Cracow by the armies of the guarding powers from February 1836, even stricter passport regulations were introduced, which were justified by the impossibility of maximising the protection of public safety in the region (25). Also, the Second Statute of PD of 1840 provides for an important role of the Police Directorate in the implementation of the passport policy in line with the expectations of the guarding powers (§ 59, 90-94)(18). Furthermore, on 15 March 1841 the Government Senate issued a decree prohibiting persons from leaving the country without a passport and from voluntarily extending their stay abroad beyond the time limit laid down in their passports (26).

Another task of the police authorities was to control the movement of people within the country. The first regulations concerning the population register in the Free City of Cracow were issued on 29 August 1816,

therefore certain tasks in this respect were imposed on the Intermediate Police Office and on the heads of rural communes. The means used for this was the maintenance of a population book, based on a broadly defined registration obligation. This allowed administrative and police authorities to obtain, collect and process information relevant to public security, including the fight against vagrancy and the detention of suspected or wanted persons. The New Instruction of 1833 redefined the registration bundles and the recording tasks of the Police Directorate (Articles 106-122) (17). In 1836 there was a republishing of the registration regulations of 1824. (27). From 1837, the role of the Police Directorate in the performance of recording duties significantly increased, and the obligation to register in Cracow was fulfilled only in this area, excluding the heads of villages (28) [Absolute enforcement of registration regulations was in the interest of both local authorities and the guarding powers. The implementation of this obligation became particularly important during periods of military intervention and occupation undertaken by the guarding powers, and the increased criminal sanctions for failure to comply with registration obligations were to discipline people for their implementation. In addition, the Police Directorate and, in the district, the district heads, and later the district commissioners, were entrusted with the task of enforcing the police regulations laying down the curfew and the rules for moving on the streets after dark (Cichoń P., 2014, pp. 289-290).

The Free City of Cracow issued numerous legal regulations concerning the activities of small and medium-sized enterprises, especially commercial and service ones. The aim of these provisions was not only to maintain order in this area, but also to improve the safety of economic transactions and protect public life, health and morals.

This involved, inter alia, issuing permits to carry out such activities subject to the sometimes very detailed conditions set out in those provisions. This included running inns (29), playing music in them - which was an instrument for combating drunkenness (30), employing women in such places - to combat illegal prostitution (31), running boarding schools for youth (32), selling grain (33), fuel (34), alcohol (35), etc. Such legal acts also contained provisions regulating the competence and procedure of introducing control over the conducted activity and the quality of sold goods and provided services (Cichoń P., 2014, pp. 308-318). An important instrument which assisted in the performance of the trade inspection function was the transfer to the police administration of the power to inspect measuring instruments used in trade and, from 1836, the power to legalise them (36). In addition, the 1845 legislation introduced administrative supervision over the sale of jewellery which was intended to prevent the illegal sale of those products from abroad (37).

The police services were also responsible for carrying out construction supervision. The aim of such activities was to prevent the unauthorized execution of renovation and construction works in Cracow, which was dictated not only by the desire to avoid threats in the form of construction disasters but also by the maintenance of aesthetics and architectural order in the City. The Police Directorate was also entrusted with supervisory powers in this area and was to ensure that construction work and chimney-sweeping services were carried out by suitably qualified persons (Articles 155 to 156) (17).

Pursuant to a decree of the Senate of 18 February 1842, the Police Directorate additionally controlled the quality of building materials that were produced and sold in the City as well as imported into the country. It

provides for very restrictive sanctions for the sale of non-standard materials, including their confiscation (§ 4-6, 7, 14-15) (38). The New Instruction of 1833 also introduced a new category of tasks related to ensuring "public calm", which directly contributed to maintain public order and security in the Free City of Cracow. In this respect, the Police Directorate was to take care of peace and order in public places, prevent verbal incidents and other illegal behaviours. An obligation to register associations has also been introduced, but only after having ascertained their usefulness and fairness (Articles 123 to 124) (17).

Moreover, the Police Directorate, together with the Censorship Committee, supervised printing, lithographic and bookshop companies. Its aim was to track down forbidden publications, which had a particularly negative impact on the existing political situation in the country and its dependence on guarding powers (Articles 125-126)(39).

This coincided with the introduction of legal regulations for the performance of shows, plays and also the organisation of public gatherings. In order to be allowed to do so, it had to be verified in advance whether the content or the agenda 'contains nothing of such a kind as to offend or harm the religion, morals or interests of the country as well as its neighbours' (Articles 127-130) (39).

The police were also to secure the peaceful course of state ceremonies, as well as social events, both private and official (Articles 132-134) (e.g. in January 1830, the Police Directorate, in accordance with the decision of the Department of Internal Affairs and Police of 24 January 1830, issued "Regulations for maintaining order on public balls in the Free City of Cracow"). (Cichoń P., 2014, p. 326)].

The New Instruction of 1833 also contained provisions to protect the safety of persons

and their property. A general ban was introduced on the carrying of weapons in public places, including white weapons in the form of blades hidden in objects without the appearance of a weapon, as well as daggers and guns. Violators of this prohibition were subject to criminal liability (Articles 135-148) (17).

The New Instruction of 1833 also provided for instruments aimed at protecting the life and health of Cracow's inhabitants, i.e. the official designation of safe swimming pools on the Vistula and Rudawa (separate for men and women - Articles 137-138). There is also provision for administrative supervision of order, cleanliness and safety in public baths, as well as of their equipment ('ringtones for bathers' weakness' - Article 147)(17).

The legal acts also specified the mode and scope of control of entertainment establishments and accommodation facilities. The main objective of these activities was to pursue the detection of suspects, people who were wanted or illegally present on national territory (Article 144).

Legislation has also been introduced to protect young people from demoralisation, including a ban on attending drinking and entertainment facilities as well as brothels. Administrative supervision over the running and opening of bars, inns and billiard houses was envisaged. Illegal gambling was also combated and prostitution, which was to some extent allowed, was controlled (Articles 141-146)(17).

In case of emerging threats related to the risk of occurrence of infectious diseases, there were also provisions imposing common obligations related to prevention and control of such threats [the Police Directorate played an active role in combating the cholera epidemic that occurred in Cracow in 1831 (Bieniarzówna J., Małecki J.M., 1979, pp. 78-79)]. This also applied to the control of animal disease epidemics,

e.g. through the introduction of quarantine within a defined area or temporary restrictions on cattle trade (Cichoń P., 2014, pp. 321-324).

An important aspect related to the protection of life and health of the inhabitants was the care for the proper sanitary condition of water intakes (Article 139). The New Instruction of 1833 also contains extensive health safety provisions relating to prohibition on the sale of premature fruits, dead fish, rotten meat, unroasted bread, etc., which are harmful to health. (Article 180). The Police Directorate was obliged to immediately notify the Department of Internal Affairs and the Police in the ruling Senate of any death caused by a contagious disease to take measures to protect against the epidemic (Article 182) [Preventive measures were also taken, e.g. vaccination against smallpox. The rules concerning the vaccination against smallpox were published in the Government Gazette WKM 1842]. (40). Another task of the police services was to take care of cleanliness and order in Cracow. The first legal regulation which provided for certain obligations of the police in this respect was the Regulation of 15 November 1816. "Ordinance of willingness and order in the City of Cracow, binding on the owners of houses or their deputies to preserve", Government Gazette 1816, this regulation was published separately (no journal number), no. 816). Additional provisions regulating the obligations related to maintaining cleanliness on streets and public squares in Cracow were issued on 9 May 1833. (42). The New Instruction of 1833 also sets out a number of related tasks (Articles 183-190). A number of light police offences were also identified, related to breaches of rules related to maintaining cleanliness in the city, including street cleaning and clearing snow from roofs and streets (Article 207, paragraph 59). Another manifestation of concern for order in the

city, as well as for protection against unpleasant odours, was the control by the Police Directorate of illegal livestock breeding in Cracow (Article 207, items 62-64) (17).

Much attention was also paid in legal acts to issues related to the so-called fire police, i.e. fire safety. In Cracow, as part of the Austrian fire regulations of 22 April 1803, the Senate issued two orders in April and May 1818 concerning the organisation of a fire service in Cracow and the location of barrels and water tankers (Wachholz Sz., 1957, p. 383).

The New Instruction of 1833 also contains a number of regulations concerning fire protection. Among other things, it was forbidden to store flammable materials in wooden rooms or to smoke in public places or to use open fire in places such as stables, mobile homes, inns, alcohol shops, etc. under penalty. It was also recommended to set up stables in rooms with brick vaults with permanently installed lanterns (Articles 157 to 163) (17). Legal regulations also provided for personal obligations related to participation in fire extinguishing and possession of appropriate firefighting equipment (Article 207, items 80, 98-100). Enforcement of such obligations by the police services was to increase the effectiveness of firefighting actions, and at the same time raise public awareness related to the existence of personal obligation to participate in firefighting action by the owners of houses located in the immediate vicinity of the fire or by their servants (Cichoń P., 2014, p. 307).

The Austrian fire regulations of 1803 were in force until 1842, when they were replaced by a new regulation of 6 December 1841 entitled 'Fire equipment for the Free City of Cracow and its District' (43). These regulations governed, among others, the issues of fire prevention, as well as the organization and course of rescue and fire-

fighting operations and securing the belongings of fire victims. A number of obligations for police officers were also defined.

An important task of the police services was also the fight against crime. Investigative activities in Cracow were carried out by the Intermediate Police Office, and later by the Police Directorate, and in the Cracow district by the mayor, and over time by district commissioners (Article 2, Article 12) (Cichoń P., 2014, p. 81)(44). From 1839 the Police Directorate undertook such activities also in the cases of crimes that took place within the communes administratively incorporated into Cracow. It was also entrusted with judicial powers in cases of serious police offences at that time. The amendments to the rules on the organisation of the judiciary were justified by the fact that they aimed to increase internal security in the country and in neighbouring countries (45). Moreover, the Second Statute of the PD of 1840 specified that its powers included adjudicating on all cases of serious crimes committed within the City and administrative communes incorporated in Cracow (§ 14)(18). In contrast, from 1842, the Police Directorate was granted exclusive powers of investigation and adjudication in serious offences affecting public safety, public peace and civil or military guarding images (§ 18, 73) (46) (Cichoń P., 2014, p.360). This also applied to censorship cases, provided they were not crimes [Under the organic statute for the judicial authorities of the Free City of Cracow of 25 January 1842]. (47). The material legal basis for the judicial activity of the Police Directorate was the Austrian Criminal Code Part 2 of 1803 in force in the Free City of Cracow [the Austrian Criminal Code of 1803 in the Free City of Cracow was used in Polish translation] (48).

According to the New Instruction of 1833, crime prevention was also associated with

the supervision of prisoners leaving prison which was supposed to discourage them from returning to criminal activity. Another form of preventive activity was the control of itinerant trade which was intended to prevent dealing in stolen goods and petty theft, which were committed mainly by the servants, and by young people (Articles 140, 148 to 149) (17).

It is worth noting that the effectiveness of police activities depended on the enforcement of legal liability towards persons who violated the regulations in force in this respect. The level of penalties for such violations is set by law in relation to specific violations of the law. Both the financial penalties and the rates of imprisonment or caning varied for different acts. This concerned e.g. unreliable conducting of business activity, failure to comply with the registration obligation, violation of police regulations, fire safety regulations, unfair commercial practices, failure to comply with the obligation to participate in firefighting activities, etc. (e.g. Article 207, items 1 to 101)(17). The introduced system of administrative sanctions, defined in a detailed

manner, resembling modern mandate tariffs, provided an opportunity to improve the effectiveness of enforcement of legal administrative obligations incumbent on various entities. In most cases, these were fines, the amount of which increased if the same offence was committed again. In some cases, the penalty for committing the same offence three times was a ban on continuing to operate, for example, in a commercial or service capacity (49). Continuing to commit the same offences gave rise to liability under the Criminal Code (17a). In the case of offences related to offering goods of poor quality or not in accordance with official contribution or goods coming from illegal sources, the penalty of confiscation was applied (17b). The most severe punishment for foreigners was their expulsion from the Free City of Cracow (32a). The New Instruction of 1833, which provided for 101 types of minor offences in Article 207, had special importance for the enforcement of administrative obligations by police services.

Conclusions.

Summarizing the above considerations, it can be noted that "police law" was not codified but scattered and covered many legal acts, and at different levels. The abovementioned "police law" acts contained both political provisions concerning the organisation of police services as well as substantive provisions defining various types of activities, both preventive and repressive. These acts also contained provisions laying down criminal sanctions for infringements of the rules on law and order. Therefore, a characteristic feature of these legal regulations was also the interpenetration of elements of administrative supervision over a specific area of social life with criminal-administra-

tive elements related to the granting of powers to police authorities to impose such sanctions for infringements of the law.

The aim of so many 'police law' acts was to protect public interests and the various aspects of a peaceful and safe life. However, some of them were politically justified due to the legal dependence of the Free City of Cracow on the guarding powers, i.e. Austria, Prussia and Russia. This was particularly the case with regard to the use of passports and movement controls. Since the 1930s, there has been a trend towards centralisation and concentration of competences in the field of maintaining public order and security. Most of the tasks in this

field were transferred to the Police Directorate, which from 1836 was already managed by Austrian directors who were also officially guided by the guidelines issued by the representatives of the guarding powers (Cichoń P., 2014, p.140). In this sense, the Police Directorate became a monopoly in the protection of public peace, order and security and served to strengthen the police model of the state.

Finally, it is worth noting that the word "police" used during the period of the Free City of Cracow had first of all a physical meaning (similar to that used in the second half the Police Directorate and their officers.

of the 18th century) and defined the tasks of the so-called administrative police, which ex definitione was to secure various areas of social life and to ensure the stability of social relations. As a result, various departments of the administration have pervaded police functions. The word "police" also appeared in a subjective sense, identifying the authorities that performed administrative and police functions, i.e. the Police and Police Department, the Internal Affairs and Police Department, the Intermediate Police Office.

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SEX TOURISM - AN INTERNATIONAL CRIMINAL LAW AND SOCIAL PROBLEM

ZJAWISKO TURYSTYKI SEKSUALNEJ - MIĘDZYNARODOWY PROBLEM PRAWNOKARNY I SPOŁECZNY

СЕКС ТУРИЗМ - МЕЖДУНАРОДНОЕ УГОЛОВНОЕ ПРАВО И СОЦИАЛЬНАЯ ПРОБЛЕМА

Abstract

The aim of the article is to present the phenomenon of sex tourism as an international criminal law and social problem - in the aspect of social and forensic issues, in reference to current measures of criminal law protection. The authors analyzed the theoretical aspects of sex tourism and described the phenomenon by detailing criminal and social problems. The aim of the study was to analyze legal literature, social and forensic problems related to sex tourism and to analyze the directions of scientific research.

Keywords: *sex tourism, forensics, international law, Polish criminal law, EU law, crime of human trafficking*

Streszczenie

Celem artykułu jest przedstawienie zjawiska turystyki seksualnej, jako międzynarodowego problemu prawnokarnego i społecznego - w aspekcie problematyki społecznej, kryminalistycznej w odniesieniu do aktualnych środków ochrony prawnokarnej. Autorzy analizując aspekty teoretyczne seksturystyki opisali zjawisko poprzez wyszczegółowienie problemów prawnokarnych oraz społecznych. Do realizacji postawionego celu posłużyła analiza przepisów prawokarnych, literatury przedmiotu, problemów społecznych i kryminalistycznych związanych z turystyką seksualną oraz analiza prowadzonych w tym kierunków badań naukowych.

Słowa kluczowe: *turystyka seksualna, kryminalistyka, prawo międzynarodowe, polskie prawo karne, prawo UE, przestępstwo handlu ludźmi*

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Аннотация

Цель статьи - представить феномен секс-туризма в международном уголовном праве, а также как проблему в аспекте социальных и судебных вопросов применительно к текущим мерам защиты уголовного права. Авторы проанализировали теоретические аспекты секс-туризма и описали это явление, детализируя криминальные и социальные проблемы. Цель исследования состояла в том, чтобы рассмотреть правовую литературу, социальные и судебные проблемы, связанные с секс-туризмом и проанализировать направления научных исследований.

Ключевые слова: секс-туризм, судебная экспертиза, международное право, уголовное законодательство Польши, законодательство ЕС, преступление торговли людьми

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The statement of the problem in general outlook and its connection with important scientific and practical tasks.

This paper analyses the issue of sex tourism in the context of the legal policy and international jurisdiction of the human trafficking in the aspect of sexual exploitation of minors and prostitution. The aim of this study is to present the phenomenon of sex tourism in the aspect of social and forensic issues, in reference to current measures of criminal law protection. A protected interest in relation to human trafficking under Polish criminal law is the freedom and dignity of every person who cannot be the subject of any trade (transaction). In the Polish

legal and criminal order, it is a common and intentional offence and may be committed only with direct intent (*dolus directus coloratus*). An important criminal aspect of sex tourism with regard to minors will be the punishability for the transfer or receipt of persons for the purpose of their exploitation, even with their consent, in particular when it concerns acts of prostitution, pornography or other forms of sexual exploitation (cf. Article 115, para. 22 of the Penal Code).

The analysis of the latest research when the solution of the problem was initiated.

Detailed research on sex tourism is conducted in Poland by J. Poczta and I. Szebi-otko who rightly point out that many authors use the concept of sex tourism interchangeably with the concept of erotic tourism [inter alia Borzyszkowski 2011; Jarnecki 2012, p. 240; Duczyńska 2013]. The "prostitution" character of the phenomenon is most often emphasised in literature [Clancy 2002; Horner, Swarbrooke 2004,

pp. 303-304, 312; Kibicho 2007, pp. 16-17, following: Borzyszkowski 2011, p. 20 and 2012, p. 29; Godlewski, Wereszczuk 2012, pp. 10-12], although it should also be remembered that sex tourism cannot be unequivocally identified with prostitution [Borzyszkowski 2012, p. 29; Opperman 1999]. On the other hand, some researchers of this problem believe that sex tourism should also include the so-called "romantic

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tourism", which is attributed mainly to women [Pruitt, LaFont 1995, p. 423; Opperman 1999; Johnson 2009; Tepanon 2006, p. 31, citing Borzyszkowski 2012, pp. 29-35]. It should also include accidental, non-commercial gender contacts during holidays [Opperman 1999, pp. 251-266] (J. Poczta, I. Szebiotko, p. 17). For the purpose and verification of this paper hypothesis, the authors adopt those definitional solutions which consider sex tourism to be a pathological form of tourism, often of an illegal nature (citing J. Poczta, I. Szebiotko, p. 17; Horner, Swarbrooke 2004, p. 304; Montgomery 2008, p. 915; Travel Industry Dictionary 2010; Borzyszkowski 2012). The Republic of Poland is a party to numerous international conventions on human trafficking. These conventions are particularly important: the United Nations

Convention to Combat Human Trafficking and Exploitation of Prostitution (1950), the United Nations Convention against Transnational Organized Crime (2000) and Protocol to Prevent, Suppress and Punish Human Trafficking, Especially Women and Children (the Additional Protocol to the United Nations Convention against Transnational Organized Crime, also known as the Palermo Protocol). The documents were created within the framework of the UN. Poland is also a party to the Council of Europe Convention on Action against Human Trafficking (2004) and has implemented Directive 2011/36/EU of the European Parliament and of the Council of 5 April 2011 on preventing and combating human trafficking and protecting its victims, the European Union's basic document (Human Trafficking in Poland, Report 2015, p. 11).

Aims of the paper. Methods.

The study uses a legal and comparative method, analysis of source material and analysis of current reports and scientific research on the subject. The main hypothesis is that there are currently no legal provi-

sions concerning regulations directly related to sex tourism, and that the fundamental problems related to this phenomenon are solved by legal systems based on the provisions concerning the crime of trafficking in human beings.

Exposition of main research materials with complete substantiation of obtained scientific results. Discussion.

From the social point of view, in the literature of the subject one can find many classifications of tourism types, among which there is also sex tourism. The notion of tourism itself is understood as all activities of persons travelling and staying for recreation, business or other purposes for no longer than a year, continuously away from their place of residence (J. Płock, 2009, p. 4). According to the World Tourism Organisation (UNWTO), 'sex tourism is a travel organised by the tourism industry, with or without the participation of the tourism in-

dustry, using its structures, the primary purpose of which is to bring about commercial sexual contact between tourists and those living in the territory'. (WTO, 1995). In addition, international sex tourism covers travelling from one country to another and the accompanying exchange of valuables for various types of sexual services provided by men, women and children in the host country (M. Clancy, 2002, p. 72). Due to the forms of satisfying needs, this phenomenon can be divided into classic sex tourism - as defined above - and quasi-sex tourism, defined as travelling for the

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purpose of satisfying sexual needs without direct physical contact between the parties (e.g. romance tourism, participation in festivals and parades) (WTO, 1995). The main determinants of the sex tourism phenomenon are poverty or unemployment, which force people to take up work in order to raise their standard of living, state interests encouraging people to earn income from sex tourism, the dominance of consumer culture, the growing feeling of loneliness among the society contributing to make accidental sexual contacts, stereotypes perpetuated in various sources of information, leading to beliefs of greater sexual temperament among individual nations, and the legalisation of prostitution in some countries (M. Danczyk, 2013, p. 33). From the point of view of sexual needs, the literature distinguishes 3 segments of tourists as the main motif of the journey, for whom: satisfying sexual needs is the main goal, satisfying sexual needs is only one of many goals and satisfying these needs is an additional asset of the journey, which is not expected, although assumed (D. Chylińska, G, Kosmala, 2012, p. 67).

Theoretically, sex tourism can be considered as voluntary or forced, commercial or non-commercial, as well as increasing or degrading one's own identity. It covers heterosexual and homosexual phenomena, as well as travel for sexual purposes by adults and minors. Sex tourism is considered to be part of a sex industry offering tourists products that can meet their sexual and other needs, such as increasing self-esteem, prestige and domination. It is divided into several main sectors, which include: women and men sex tourism, gays and lesbians sex tourism, child sex tourism, as well as other phenomena of sex tourism, including transvestites and transgenics sex tourism (J. Borzyszkowski, 2012, p. 29). Sex tourism can also be considered in three basic forms:

cultural, romantic and pathological. The first one relates to the journeys which are aimed at learning the history of the art of love and gathering new experiences connected with it. Romantic tourism refers mainly to women who leave to get to know the men who will adore them. On the other hand, prostitution and paedophilia tourism are considered to be pathological forms of sex tourism and pose a significant problem from a social and forensic point of view.

Sex tourism is associated with various manifestations of social pathology, the main one being prostitution, paedophilia, trade in and smuggling of people. From this point of view, the key problems of sex tourism are mainly related to sexual exploitation of children and young people, trafficking in human beings, prostitution of women and men, rape and accompanying violence, or violation of fundamental human rights. It also often leads to the development of pornography, which is disseminated through an ICT network. One of the main problems arising from sex tourism is the proliferation of prostitution, which means commercial sexual intercourse. People who earn their living by selling their bodies are exposed to numerous risks through infection with venereal diseases, unwanted pregnancy, exposure to aggression and pathological behaviour on the part of customers, social isolation or participation in crime (L. Albański, p. 93). Prostitution is a negative social phenomenon which disturbs public order, prevents the proper functioning of society and, what is more, poses a threat to health and upbringing. It is a multi-layered problem, it causes psychological degradation of persons involved in it, and it also destroys the system of mutual relations between people, in which the connection of sexual intercourse with emotional experiences, and not the subject of a commercial transaction, is considered the

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norm. The phenomenon of prostitution affects both adults and minors. In the latter case, we are dealing with child sex tourism. It is an increasingly popular practice that usually involves people travelling from richer countries to poorer ones or within their own countries to have sexual relations with children or adolescents. It is inextricably linked to the trafficking of children and pornography. All these phenomena are examples of human rights violations and therefore pose a significant problem and threat to social security. Sex tourism, from the point of view of social problems, can also contribute to addiction to sex and treat it as the only way of spending one's free time. This approach contributes to weaken people-to-people links. The consequence of this is a weakening of family ties or the disintegration of the traditional family. The spread of sexually transmitted diseases is another social problem resulting from the ever-increasing interest in sex tourism. This problem mainly affects third world countries, where the level of health care and HIV prevention is very low. Sex tourism can increase the number of unwanted pregnancies and thus abortions. The social consequences in this case include increased costs incurred for treatment, pensions or compensation for relatives in the event of the victim's death. A negative effect of sex tourism from the point of view of social problems may also be the spread of sexual deviations, such as zoophilia. From a forensic point of view, sex tourism is seen as a problem because it can be linked to sexual exploitation of children and prostitution and the phenomenon of trafficking in human beings. It should be emphasised, however, that sex tourism itself is not prohibited and therefore neither its use nor its organisation is punishable. However, this does not apply to all its forms, as such forms as child sex tourism, zoophilia sex tourism or violent sex tourism

are considered punishable. Child sex tourism, which is often linked to paedophile activities, is prohibited under national law as well as under international and Community law. The European Union has the most extensive legal system. The most important piece of legislation here is the Framework Decision of 2009 on combating all forms of sexual exploitation and child pornography. This document governs many issues relating to sexual exploitation of minors, e.g. criminal liability for grooming, participation in sexual activities of persons under 18, for forcing a child to marry, or for knowingly participating in pornographic acts involving children and deliberately exposing them to witness sexual exploitation or sexual activities. An important aspect is the legislative approach of states in determining the age of a minor. Already in almost all the countries there is the obligatory equal age of minority, which upper limit is the same and is 18 years old. In case of lower limit of the minor age there are no equal standards. The age of 10 years old, as the lower limit of responsibility of juveniles is predicted in legal regulations in England, Wales, Cyprus, Switzerland and in some countries from beyond Europe— among others Australia. The lower limit of age is predicted in Ireland (7 years) and Scotland (8 years), a little bit higher in Turkey (11 years), and in Holland (12 years), whereas significantly higher in Austria, Bulgaria, Estonia, Spain, Lichtenstein, Germany, Russia, Romania, Slovenia, Italy, Belarus, Lithuania, Latvia, Malta, Ukraine and Hungary (14 years), while in the Czech Republic, Denmark, Finland, Sweden and Iceland (15 years) (S. Gwoździewicz, 2015, s. 167). Other documents setting out sanctions and penal systems for paedophile sex tourism include: the Charter of Fundamental Rights of the European Union (in particular Article 24 providing for the right of children to protection and care); UN Convention on the

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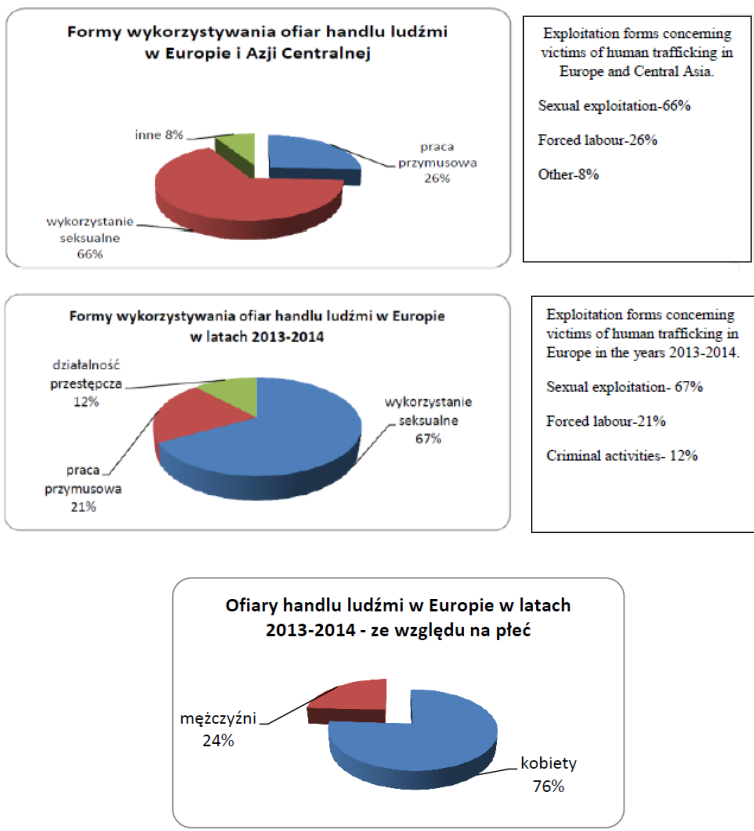
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Rights of the Child and its Optional Protocol on the sale of children, child prostitution and child pornography; the Council Framework Decision on combating the sexual exploitation of children and child pornography; the Council of Europe Convention on the protection of children against sexual exploitation and sexual violence; the Resolution towards a European Union Strategy on the Rights of the Child (European Parliament, 2009). In Poland, the protection of minors from sexual exploitation can be found in Article 200 of the Penal Code "whoever sexually interacts with a minor under the age of 15 or commits another sexual activity to such a person or leads such a person to undergo or perform such an activity shall be subject to the imprisonment for a term between 2 and 12 years" (Journal of Laws of 1997, No. 88, item 553). The second form of sex tourism subject to criminalisation is zoophilia, which consists in having sexual relations with animals, as well as observing such sexual behaviours of other people. Its punishability results mainly from the application of the provisions of the Act on the Protection of Animals. In accordance with Article 35, items (a) and (b), the following shall apply: anyone who kills an animal or harasses it shall be subject to the imprisonment for a term up to one year, the penalty of deprivation of liberty or to a fine (Journal of Laws 1997, No. 111, item 724). According to the Polish Penal Code (Article 202 of the Penal Code), anyone who disseminates, produces, preserves or imports, stores or distribute pornographic content involving a minor or pornographic content related to the presentation of violence or the use of an animal is punished (Journal of Laws 1997, No. 88, item 553).

As the last punishable form of tourism, the authors distinguish the so-called violent sex tourism consisting in travelling to different countries, in order to participate actively or passively in inflicting pain on other people, in connection with various sexual activities. From a forensic point of view, it is the most complex form, as it involves the organisation of human trafficking, enslaving people, forcing them to undergo sexual activities, inflicting torture, intoxicating psychoactive substances and many other activities prohibited by law. Violent sex tourism is therefore punishable by individual acts. Among the existing criminal protection measures, one can mainly mention: provisions on trafficking in human beings; provisions on abduction for the purpose of prostitution abroad; provisions on liability for the financial gain derived from prostitution; provisions on the public display of pornographic content; provisions on the enslavement of another person. According to the report entitled "Human Trafficking in Poland", which was prepared by the Team for Counteracting Trafficking in Human Beings in the Department of Analysis and Migration Policy of the Ministry of Interior and Administration, every year about 2 million people are victims of trafficking, of which one third are children (based on data from the Global Report on Trafficking in Persons - UNODC, United Nations, New York, 2014). The UNODC report notes the main trends in trafficking in human beings. The majority of victims (53%) is exploited in the sex industry (prostitution, pornography). Graphs 1,2,3 show the forms of exploitation of victims of trafficking in human beings in Europe and Central Asia, which clearly show that sexual exploitation of women is the highest rate.

Charts 1,2,3. Exploitation forms concerning victims of human trafficking in Europe and Central Asia.



Victims of human trafficking in the years 2013-2014 by sex, men-24%, women-76%
Source of charts 1,2,3: Human trafficking in Poland. Report 2015 based on UNODC

According to Article 115 para. 22 of the Penal Code, trafficking in human beings is recruitment; transport; provision; transfer; storage or reception of a person by means of application: violence or a punishable threat, abduction, deception, misrepresentation or exploitation of the mistake or inability to understand the business activity properly, abuse of dependence, use of the critical position or state of helplessness, granting or accepting a financial or personal benefit or a promise of it to a person with care or supervision over another person - in

order to use a person, even with the person's consent, in particular in prostitution, pornography or other forms of sexual exploitation, in forced labour or services, in begging, in slavery or in other forms of exploitation degrading human dignity, or for the purpose of obtaining cells, tissues or organs contrary to the provisions of the Act. When the offender's activities involve a minor, it shall constitute trafficking in human beings even if the methods or means set out above have not been used. (Trafficking in human beings in Poland, p. 11). There are

therefore measures in Polish criminal law to combat sex tourism through provisions on the problem of human trafficking. Analysing the criminological problems of sex tourism, it should be emphasised that this article presents only an outline of the issue. This is due to the fact that there are no typical regulations for this phenomenon in international legislation, as it is multidimensional and refers to the commission of many different criminal acts, from trafficking in human beings to presentation of pornographic content, and to abduction of women and

children abroad. At this point, it is also worth mentioning that organisations working to combat the negative effects of sex tourism include the International Non-Governmental Organisation for combating child prostitution, pornography and trafficking in human beings (ECPAT), the World Health Organisation (WHO), the International Non-Governmental Organisation for the Assistance of Victims of Sexual Abuse and Trafficking (AFESIP) and the United Nations bodies responsible for providing health assistance to children (UNICEF).

Conclusions.

Economic development, changing social trends and emerging economic inequalities contribute to the spread of sex tourism in modern times. Sex tourism, as stated in this report, poses threats resulting from violations of human rights and fundamental freedoms. It may be a manifestation of human trafficking, prostitution, dissemination of pornographic content, forcing underage persons to prostitution. However, despite the existence of numerous documents and legal acts regulating sanctions and penalties for specific acts that may be present in sex tourism, so far there are no provisions in the legislation regulating general issues related to this phenomenon. In order to deal effectively with the problem of the growing scale of sex tourism, it is essential to adapt the existing legal systems, both external and internal, of each country. The Member States should take measures to prevent or prohibit sex tourism, especially when it concerns minors.

In order to protect victims of sex tourism more effectively, jurisdictional norms should be changed. This will allow perpetrators of sexual abuse or sexual exploitation from the EU to be prosecuted even if they commit a crime outside the European Union. When sex tourism takes place outside the European Union, the Member States should, using available national and international instruments (including bilateral or multilateral agreements on extradition, mutual assistance or the transfer of investigations), seek to strengthen cooperation with third countries and international organisations to combat sex tourism, especially with regard to minors. Promoting open dialogue and communication with countries outside the Union, under the relevant national legislation, will be the most effective means of prosecuting offenders going beyond the borders of the European Union for child sex tourism.

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LEGAL DILEMMAS OF STREAMING PROPERTY TAX LOGIC

PRAWNE DYLEMATY STRUMIENIOWEJ LOGIKI PODATKÓW MAJĄTKOWYCH

ЮРИДИЧЕСКИЕ ДИЛЕММЫ НАЛОГОВОЙ ЛОГИКИ ПОТОКОВОЙ СОБСТВЕННОСТИ

Abstract


Taxes have the property that they constitute a stream because they are paid by subtracting parts of various other streams generated by business entities. When paying tax, they must pay part of their income - in the case of direct tax or expenditure - in the case of indirect tax; we count both volumes as economic categories called streams. These tax characteristics are called the tax logic stream. The conclusion about the flow of tax is in fact trivial, but fraught with serious consequences - not always noticed. Since the tax itself is a stream, firstly, in its creation as a category of public finances, one should always determine the right reference to the value of some other stream; it should be created in relation to this other stream, for example in terms of income, because only the stream is an effective source of income. The tax is a cash stream and only to the cash flow must be referred.

Keywords: *taxes, indirect tax, direct tax, property taxes, cash streams, tax streams, flow of property tax logic*

Streszczenie

Podatki mają tę właściwość, że stanowią strumień, ponieważ są płacone przez odjęcie części różnych innych strumieni generowanych przez podmioty gospodarcze. Płacąc podatek, muszą oddać część swoich dochodów - w przypadku podatku bezpośredniego, lub wydatków - w wypadku podatku pośredniego; obydwie wielkości zaliczamy do kategorii ekonomicznych nazywanych strumieniami. Takie cechy podatków nazywamy strumieniową logiką podatku. Wniosek o strumieniowym charakterze podatku jest w istocie trywialny, ale brzemienny w poważne skutki - nie zawsze dostrzegane. Skoro bowiem podatek sam jest strumieniem, to: w jego tworzeniu jako kategorii finansów publicznych powinno się zawsze określać właściwe odniesienie do wartości jakiegoś innego strumienia; powinien on być tworzony względem tego innego strumienia, na przykład względem dochodu, gdyż tylko strumień jest efektywnym źródłem dochodu. Podatek stanowi strumień pieniężny i tylko do strumienia pieniężnego powinien być odniesiony.

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Słowa kluczowe: podatki, podatek pośredni, podatek bezpośredni, podatki majątkowe, strumienie pieniężne, strumienie podatkowe, strumieniowa logika podatków majątkowych

Аннотация

Налоги представляют собой поток, поскольку они выплачиваются путем вычитания частей различных потоков, генерируемых субъектами хозяйствования. При уплате налога они должны оплачивать часть своих доходов - в случае прямого налога или же расходов - в случае косвенного налога; мы считаем оба показателя экономическими категориями, называемыми потоками. Эти налоговые характеристики называются потоком налоговой логики. Вывод о том, что налоги имеют характер потока на самом деле тривиален и является рискованным, так как не всегда замечается. Поскольку сам налог является потоком, во-первых, при его создании в качестве категории государственных финансов всегда следует определять соответствующую ссылку на стоимость какого-либо другого потока; он должен быть создан в отношении этого другого потока, например, с точки зрения дохода, поскольку только поток является эффективным источником дохода. Налог представляет собой денежный поток и относится только к денежному потоку.

Ключевые слова: налоги, косвенный налог, прямой налог, налоги на имущество, денежные потоки, налоговые потоки, поток налога на имущество

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The statement of the problem in general outlook and its connection with important scientific and practical tasks.

Tax, (Latin name: taxare), means a compulsory financial obligation imposed on a taxpayer by the state or its functionally equivalent. Currently, it is most often taken in cash, although in the pre-capitalist times it was often paid in kind. Regardless of the socio-political formation of the state, first the ruler and then the state required and requires resources to satisfy its needs and to fulfill its tasks towards its subordinates or citizens. These funds initially came from the assets of the ruling regime, from the forced benefits collected from the population in the conquered areas, and from the voluntary services provided to the ruling population. These benefits, due to their lasting nature, have become

customary and, as a consequence, obligatory. From these customary, obligatory benefits, at a certain stage of the development of socio-economic relations, a modern tax has emerged. Taxes were mainly used to contribute to the budget, as well as social, economic and political functions (Dolata 1999, pp. 21-22). It can be assumed that the main objective of tax policy, both from the macro- and microeconomic perspective, is to fulfil the fiscal function of taxation which is to accumulate tax revenues enabling the fulfilment of tasks and functions due to the entities of the public finance sector. Tax revenues are used to finance budget transfers, including

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for the public sector, affecting the allocation processes between taxpayers and the public finance sector (Kosikowski C., Ruśkowski E., 2003, p.476). Taxes have the property of a stream because they are paid

by subtracting part of the various other streams generated by business entities. The streaming nature of the tax means that the taxpayer must pay it by giving a part of the income stream.

The analysis of the latest research when the solution of the problem was initiated.

The issue of the concept, understanding and dilemmas of the stream logic of property taxes has been and remains the subject of research conducted by many domestic and foreign scientists, such as Jerzy Żyżyński, Julita Łukomska, Jarosław Neneman, Paweł Swianiewicz, Cezary Kosikowski, Eugeniusz Ruśkowski, Stanisław Owskiak, Paul Marie Gaudemet, Joel Molinier.

The following publications are presented in this paper: Budżet i polityka podatkowa (Żyżyński J., 2009), Finanse publiczne i prawo finansowe (Kosikowski C., Ruśkowski E., (red.), 2003), Finanse publiczne. Teoria i praktyka (Owskiak S., 2002), Finanse publiczne (Gaudemet P.M., Molinier

J., 2002), Podstawy wiedzy o podatkach i polskim systemie podatkowym (Dolata S., 1999) and Concepts of real estate tax transformations, expert report prepared for Bank Gospodarstwa Krajowego (Swianiewicz P., Neneman K., Łukomska J. 2014).

The proposals for tax streams are, in fact, mundane, but they also have important results. Since taxes are a stream, their creation should, as a category of public finances, make appropriate reference to the value of another stream. Taxes are cash flows and it is only the cash flow that should be considered.

Aims of the paper. Methods.

The main task of the article is to examine theoretical, methodological and legal aspects and dilemmas of tax stream logic. The main research method in this publication is induction. It consists in presenting general conclusions or determining certain regularities based on empirically specified phenomena or processes. It is a kind of reasoning based on details of general characteristics of a phenomenon or object. The application of this method requires the assumption that only facts can constitute the basis for scientific settlement. These facts are situations that have really occurred. Inductive methods include various legal acts, analyses, expert opinions, statistical data and

scientific documents used in social research. The second method used is the synthetic one which consists in the combination and presentation of tools and forms of tax stream logic in the overall model of not only fiscal but also social policy. This method treats reality as a combination of functions. It is based on combining different concepts into a whole. Through a complex research approach, data sources were triangulated, i.e. information on property tax was compared and theoretical triangulation based on the analysis of data from various theoretical concepts of tax and social policy was applied.

Exposition of main research materials with complete substantiation of obtained scientific results. Discussion.

The system transformation processes of the Polish economy, i.e. their marketing and commercialisation, were correlated with the key aspects of economic globalisation, namely the cross-border movement of goods and capital which are becoming increasingly important. A significant support for these processes was the adjustment of legal regulations and institutional standards governing the functioning of the financial system in Poland (Gwoździwicz S., Prokopowicz D., 2017, pp. 60-75).

In Poland, imposing taxes and other public levies, determining entities, subjects of taxation and tax rates, as well as the principles of granting exemptions and amortizations and categories of entities exempt from tax payments is done by way of an act (Journal of Laws of 1997, No. 78, item 483)(13). Details of the tax system in Poland are specified in the tax ordinance (Journal of Laws of 1997, No. 137, item 926, as amended)(14), which is the basic act in the field of tax law, governing issues important from the point of view of all tax types, such as, but not limited to, competence of tax authorities, creation and expiration of tax liabilities, powers of attorney, responsibility for tax liabilities, issuing interpretations of the provisions of additional law, reliefs in payment of tax liabilities, interest for late payment of tax liabilities, statute of limitations of tax liabilities, tax proceedings, tax inspection and verification activities. [(19)Rödl & Partner 2016].

Taxes have the property of a stream, since they are paid by subtracting part of the various other streams generated by business entities. When paying tax, they must return part of their income - in the case of direct tax, or expenditure - in the case of indirect

tax, both of which fall into economic categories called streams. Such features of taxes are called the streaming logic of tax.

The conclusion is that a streamlined tax is indeed trivial, but it has serious repercussions - not always seen. Since the tax itself is a stream, first of all, in its creation as a category of public finances, we should always define a proper reference to the value of some other stream; it should be created in relation to this other stream, for example in relation to income, because only the stream is an effective income source. The tax is a cash flow and it only should be recognized as the cash flow. It is a paradox that certain legal transactions, which are of an internal nature for companies, are taxed. It turns out that subsidies to the company's supplementary capital are taxed; the tax on civil law transactions is charged on the company's articles of association (instruments of incorporation), amendments to contracts, etc. Consequently, the tax becomes a sanction without any economic justification.

In the case of property taxes, the basis of taxable amount for property tax or inheritance tax is the value of the property. The streaming nature of the tax means that the taxpayer must pay it by giving a part of the income stream. Therefore, if it does not have such a stream, it must sacrifice the accumulated savings, possibly take a loan to repay them, and eventually even cash all or part of his assets (inheritance). Therefore, it seems reasonable to postulate that the property tax should not lead to the depletion of the taxpayer's assets (property) (Owsiak S. 2002, p. 156). We should consider the question of whether, due to economic illogicality, property tax should be eliminated from the tax system. In my opinion, it should not, provided that the income generated by the

property is subject to tax. Such an approach is economically rational because although the subject matter of taxation is the property, and the tax base is the value of this property, the tax is paid on the income stream from that property.

It is therefore possible to identify certain situations where taxation of assets is justified, even though these taxes do not directly consider the streaming nature of taxation in their design:

Firstly, taxation makes sense when income from assets is hidden and there are no formal grounds for charging tax on them. Thus, property tax may be a form of indirect taxation of income, since it retains its stream character.

Second, asset taxation is justified when the State wants to put pressure on the owners of productive assets to use them properly. An example is the tax on building land which encourages landowners to make it profitable (Gaudamet P.M., Molinier J. 2002, p. 481). The willingness to put pressure on businesses to use their assets productively or to tax hidden income may also justify the taxation of large residential properties. However, presuming that a property is or can be used for a paid lease, i.e. that income is derived from it, may often be completely unjustified, and then the negative effects of property tax will occur (Żyżyński J. 2009, p. 178). However, the taxation of productive assets motivated by the desire to activate inactive assets may lead to a weakening of the incentive to invest. An entrepreneur who has the prospect of paying tax on inactive assets - even if the assets cannot be used productively without his own fault - will be afraid to take the risk of investing, especially in conditions of economic uncertainty. In this way, the property tax has a weakening effect on the economic situation.

Thirdly, property taxation is economically and socially justified when the owners of

certain categories of property use the services of the State in connection with that property and the tax is a form of payment for those services. An example is a tax on means of transport (construction and maintenance of roads) or a betterment levy (increase in the value of real estate as a result of certain administrative and legal actions).

Fourth, taxation of assets is justified where the public authorities consider it necessary to impose certain restrictions (high tax rates) on certain assets, where these are considered economically or socially undesirable, or where a certain type of creation of such assets is considered inappropriate. However, in fact, in such a situation, the stream of income or transactions connected with the property is subject to taxation anyway.

One form of a property tax is an ad valorem property tax, based on the general tax treatment of real estate and a link between the amount of paid tax and the value of the real estate (based on different parameters). However, the underlying concept of taxing at market value is logically inconsistent. The market value of a property arises only when concluding a commercial transaction and is an ex post category, and cannot be determined in advance, as it is defined by the seller and the buyer, sometimes in the process of very complicated negotiations. Only their cooperation can lead to the determination of the price of such real estate, and the price of similar real estate "to be a reference point for the determination of the value of real estate" is only one of many factors supporting but not directly determining the final price of the real estate. The system of administrative valuations generates the risk of proper determination of tax rates. They should consider the taxpayer's ability to pay, defined as the revenue stream from which the tax can be paid, without having to give up other taxpayer's needs. It

should be remembered that in addition to the "market value of the property", other methods of tax assessment may be considered. In the interwar period, Poland was subject to real estate tax on all properties in its municipalities, including buildings with courtyards and squares. Cultivated fields, meadows, pastures, orchards and gardens, as well as forest and waterside lands were excluded from taxation. The legislator has assumed that these properties may generate income but that this income is uncertain, seasonal and often dependent on many random factors, so they should be exempt from taxation. Similarly, properties owned by the state treasury, local governments, social security institutions, religious associations, scientific and educational institutions, as well as land under public roads and railways, uninhabited property occupied by hospitals, and properties not inhabited or used due to poor technical condition were excluded (the analogy is the so-called "technical reasons in the current Local Taxes and Charges Act."). Interestingly, the taxable amount was the rent or lease, collected at the rates preceding a given tax year. If the property was not leased, the taxable amount was the hypothetical rent that would have been possible to obtain from the property (calculated using a method comparing it with other properties of a similar type) (15)(Żyżyński J. 2009, pp. 181-182). The tax base for the tax year was the rent or lease payable for the year preceding the tax year (up to 10% of the value). If the property was not leased, the tax was based on a hypothetical rent that could be obtained from the property (from 3% to 5%). If such a value could not be determined, the value of the so-called circulation value, determined on the basis of prices paid for similar properties in the year preceding the tax year, was assumed. If the landlord suffered losses as a result of the non-payment of rent by tenants, these losses were considered

when calculating the tax. It was therefore a typical income tax on hypothetical income from assets and met the logic of the stream character of the tax. A property tax was also in force. It was paid by natural and legal persons occupying premises. The tax ranged from 8% to 12% of the taxable amount, and the taxable amount was the actual rent from the year preceding the tax year. The rate of 8% was for one-, two- and three-room premises, and 12-percent for premises having four and more rooms. In the case of real estate tax as well as property tax, the taxable amount was the income that could be obtained from real estate. Therefore, it is not the transaction value or the sale value that is used. This tax was more of a working nature than a profitable one, and it taxed the generated income stream. An approach based on the assumption that rental income should be taxed at separate rates and given the form of a small uniform property tax related to market rents seems reasonable. Such an approach makes real estate tax an income tax, and the cadastral value of the real estate itself is only the basis for formal determination of its amount. This approach implies that a taxpayer who owns a property receives a fixed income allowing him to pay the tax. For example, the owner of a single-family house does not pay rent but pays property tax, thus financing the local infrastructure he uses. It should be noted that making the tax dependent on the market value of the property has another very serious and not always noticed disadvantage, which makes the tax not only inconsistent logically but also very unreasonable ecologically and emotionally. The tax burden is becoming a function of the economic situation on the real estate market.

The increased prosperity may give rise to speculations such as an explosion in market prices. In such a case, the tax burden also

increases dramatically. If property tax depended on market prices, this would mean a very good result for local authorities' budgets, but it would also mean a high increase for taxpayers. On the contrary, with the market downturn and falling prices, it would reduce the burden on taxpayers as well as weaken local finances, making public finances unsustainable.

It is not only assets that are taxed but it also changes in the form of ownership of assets. However, from an economic point of view, it is only a change of form of safekeeping of assets (property): one participant in the transaction changes his or her apartment (inherited, for example) into money, the other changes money for the apartment. If the authorities levy a tax on this transaction, they motivate the participants to hide its value, and the use of arbitrary pricing systems by official tax collectors - although based on official market price tables or value assessments - can still deviate from the real situation. Of course, the transaction involves a cash flow between the parties. However, the economic content is a change in the form of ownership of assets, so taxation of this act has serious economic drawbacks. The sale of real estate is a property transaction, but it may be profitable. Income tax is only payable if the difference between the sale price and the purchase price is positive, since there is a taxable profit. If this difference is negative immediately, i.e. if the seller had incurred a loss, the sales tax would have increased that loss. The entire amount obtained from the sale, i.e. the value of the flat determined during the sale transaction, is subject to the sales tax. Attempting to tax the actual income would require knowing the actual price the seller has previously received, and this might not be possible in practice, as there would be a temptation to hide this price, to give falsified data in contracts. This may

partially justify the use of income tax, although it seems that there are organisational methods in place to minimise the possibility of such abuses. However, the justification for this form of tax does not alter the undisputed fact that it contradicts the conclusions of the streamlining of the tax as an economic category. Wealth taxes therefore raise many questions, are defective for a number of reasons, distort the distribution and circulation of wealth, but they are also fundamentally contrary to the logic of the tax as an economic stream (Żyżyński J. 2009, pp. 185-186).

Among interesting and practical concepts of reforms of the real estate taxation current model (as alternatives for a cadastral tax) one should mention a report by Paweł Swianiewicz, Jarosław Neneman and Julita Łukomska entitled "Concept of transformations of real estate tax" (Swianiewicz P., Neneman K., Łukomska J. 2014). According to the report authors, the system of financing local governments in Poland requires changes that would lead to the strengthening of the share of own revenues in the budgets of Polish local governments, and at the same time would increase their autonomy in the scope of their financial policy. Among the proposals to strengthen the tax potential of local budgets there are: discussions about changes in the field of property tax, ideas aimed at transforming shares in PIT into local income tax and the concept of local value added tax formulated relatively by W. Misiąga. In this report, the author presents a concept which meets several important criteria, i.e. increases the potential income of many local governments, is fairer than the current binding system and is relatively simple and easy to implement. The author points out that the strengthening of self-governments' own revenues through a reformed property tax has many advantages, which include:

- a. Increase the credibility of local governments towards their residents. The municipality's budget depends on local taxes and charges.
- b. Fiscal policy should be adapted to local preferences.
- c. Revenue structure strengthens the reputation of the local government in the State system.
- d. Due to the high share of own income in the local government budget, the level of local development is growing.

The author presented an alternative proposal to the ad valorem tax, based on the assumption of zoning the highest tax rate, in which the tax depends indirectly on the real estate value. The reform proposal is based on the following assumptions:

- a. The tax could be charged on the surface area of the property, but the maximum rates should vary according to location.
- b. Location in the region and dependence of the highest rates on the level of GDP per capita.
- c. Designation of areas within a municipality where tax rates vary.

Estimates of the impact of the proposed changes on the income of local government units are presented in three variants: "Basic", "radical" and "conservative".

Under the baseline, the rate of the highest property tax depends on GDP per capita. According to the author, the second factor is the distinction of large province cities and communes with highly developed tourist infrastructure.

The radical option is to reduce the disproportion between the income collected from residential, commercial and non-commercial property by raising the tax rate on non-commercial property to the highest level. The retained option would be no change that could lead to the greatest political insecurity - i.e. an increase in the rates of the tax on residential buildings. This option would further widen the gap between the amount

of funds received from residents and from businesses.

Analysts from EC Harris pointed out the role and importance of real estate in the new approach to measuring GDP. The idea of using the value of real estate (fixed assets) to measure the wealth of individual economies (GDP measures only the income of the economy and not its assets) seems to be very relevant, especially if we analyse the shortcomings of the GDP structure based only on the annual revenue stream. GDP excludes, in substance, accumulated assets from previous years. It is like comparing the wealth of two people, one of whom (X) earns PLN 200 000 annually, but has no assets, because he is at the beginning of his professional career, and the other (Y), who receives an annual pension of PLN 30 000, but has several flats, plots of land, shares, etc. with a value of e.g. PLN 5 million. It is known that person Y is much wealthier than person X, although measuring their assets only with a stream of annual income make us think that the case is opposite. This example accurately illustrates the shortcomings of the current GDP structure in measuring the wealth of the economies of individual countries. GDP takes into account only current financial flows in a given year, and completely ignores the wealth that individual countries have accumulated in the past years. That is why HC Harris, in cooperation with the Center for Economic and Business Research (CEBR), has developed its own national wealth index, the so-called "Built Up Assets Index". This indicator shows the value of all fixed assets in the economy, i.e. which infrastructure the inhabitants of a given country can use. The new indicator analyses all the public and private assets built and put into use. In order to estimate it, it is necessary to evaluate all residential and office areas, as well as roads, bridges, viaducts, railway lines, airports, power plants, etc. The authors of the

new indices covered 30 countries and the calculations were based on accumulated investments in the economy (based on data from national accounts), and then they imposed depreciation schemes (based on OECD and World Bank data) for specified types of investments. At the end of 2012, the value of assets built in 30 countries amounted to USD 193 trillion, which is almost three times more than last year's GDP of those countries (USD 68 trillion). The richest countries are the USA (USD 39.7 trillion), followed by China (USD 35.45 trillion), Japan (USD 18.27 trillion), India (USD 11.77 trillion) and Germany (USD 10.29 trillion). Poland, with USD 1.74 trillion of assets at its disposal, is ranked 21st in this ranking, which gives a value per capita of USD 45.5 thousand (PLN 145 000).

The system of property taxation should be understood as a group of taxes in force in a given country, the subject of which is the ownership, as well as the legal transfer of certain assets, subject to taxes based on the binding legal regulations (Reško D., Wołowiec T., 2012, p.6-12). The principle should be that their structural link with a property should be reflected not only in the object of taxation but also in the construction of the taxable amount. The subject of property tax is related to a wide range of events, often of a heterogeneous nature. We can therefore say that it would be difficult to adopt a solution based on the universal identification of assets with which the legislator has tax liability. There is no doubt that the subject matter of property taxation is broad in scope and therefore requires the adoption of a definition of assets in a narrow or broad sense. For the purposes of this trial, due to the fact that research areas are limited to taxes that burden property ownership, the definition of property in the narrow sense has been adopted (property comprising only particular types of assets adopted by the legislator).

In practice, the task of the state tax policy, apart from its fiscal function, is also to guarantee the possibility of stimulating and regulating influence on economic and social processes (Skica T., Wołowiec T. 2013, p. 88-104). With regard to property taxes, the social and economic context in which the local government operates should not be overlooked in legal regulations (as well as in relation to reforms carried out). It should be remembered that the expectations towards property taxes cannot be too high and the specific features of property tax functions should also be considered. Therefore, any tax policy shaped by legal norms should include postulates for effective use of real estate, shaping a rational spatial structure of cities and environmentally-oriented tax solutions.

The diversity of views expressed in the literature on the inclusion of taxes on agricultural and forest land, buildings and unstructured urban areas in the category of property, income or mixed taxes makes it necessary to propose certain solutions to reduce negative legal and economic phenomena within property taxes. From this point of view, the following activities would be desirable:

- a. Arranging the legal regulation of property taxes by adopting permanent, easily identifiable features;
- b. Wherever there is a separate taxation of agriculture and forestry, general taxation principles should be introduced (e.g. income tax - an example of a tax levied on the generation side of income, property tax on the value of property owned - an example of a tax on a resource, VAT - an example of a tax levied on the use side of income);
- c. Considering a selection mechanism promoting the development objective and limiting market disturbances;
- d. Detailed consideration of the necessary design elements of property taxes (e.g.

residential, agricultural, forestry and other) in order to reject an unjustified approach based on the free determination of the affiliation of these taxes;

- e. Simplify tax structures to eliminate revenue specificities.

When analysing the legal and formal division of taxes into direct and indirect, the criteria for determining the characteristics of property taxes belonging to direct taxes should be treated very carefully. I believe that the features of direct taxation should be limited to those that are the least controversial:

- a. Direct taxes are taxes levied on income or property belonging to or outside the taxpayer's control in such a way as to enable him to derive benefits from the property;
- b. The object of the tax is the same as the actual source of the tax (direct link), because the generated income or assets directly refer to the value from which the tax is actually paid;
- c. Direct taxes refer directly to the tax capacity of taxpayers, as they are imposed directly on the source of income;
- d. Direct taxes are those in respect of which it is possible to use the relevant administrative registers of taxpayers and their income and assets (cadasters) for tax assessment purposes;
- e. Direct taxes are those that are closely linked to the effects of economic activity.

Poland does not have a single law to regulate the property taxation system as a whole. The characteristic feature of tax regulations that make up this system is not a large number of implementing regulations.

Conclusions.

Polish property taxation and inventory system is critically assessed by EU experts

In principle, these taxes are fully regulated by legal acts of statutory rank which distinguishes them positively from the rest of taxes. This system is made up of three taxes with a very similar legal structure, which are regulated by three legal acts that are not extensive in scope. Real estate tax is regulated by the Local Taxes and Charges Act (16), the Forest Tax Act (17) and the Agricultural Tax Act (18). The subject of these taxes is land management in its broadest sense. Real estate tax is charged not only on land, but also on buildings, structures and premises. Only land is subject to forestry and agricultural taxes. These taxes are intended to be complementary in such a way that land which is subject to forestry or agricultural tax is not subject to property tax, except where it is used for economic activities other than forestry or agriculture. These taxes are in competition with each other because, depending on the use made of the property for agricultural, forestry, residential or business purposes, it may be subject to one of the three taxes. Although there is a rule that distinguishes these taxes, they are intertwined in both subtitles and in terms of substance. When it comes to property taxation, the coexistence of these three benefits gives rise to many misunderstandings in theory and practice. The real estate taxation system in force in Poland is a typical historical model which was regulated not on the basis of predetermined assumptions, but on the basis of the principle of permanent adjustment of its individual elements - taxes - to the constantly changing social and economic situation.

who have identified the need to reform it. It is an outdated system which is based on the

taxation of property surfaces (land and buildings) and takes little account of value as the taxable amount (buildings). In these taxes, assets are valued for taxation purposes by square meters and hectares (physical and conversion) but not in money (Szybowski D., 2017, p.163-190). This is particularly important in the context of creating conditions for accelerating economic growth in Poland in the years following the unanimous consolidation of the global economy by the process of reconstruction after the recent financial crisis and may enter a phase of much higher growth than at present, given the periodicity of the business climate. Moreover, despite the need to reform public finances in many European economies, economists point to the need to improve security regulations (Gwoździwicz, Prokopowicz 2017, pp. 27-42). The extent to which the opportunities associated with globalisation and the minimised threats will be used depends on undertaking an appropriate, national policy of appropriate successive inclusion of a given country in the modes of globalisation processes, taking into account the economic potential and possible gaps and underdevelopment of the country's economy. This thesis is still valid also in view of shaping the development of the banking system in Poland. (Gwoździwicz S., Prokopowicz D., 2015, p.203-216). In the transformation of the structure of taxes that are part of the real estate taxation system, it can be clearly seen that the legislator quits the taxation of income (agricultural tax) as well as the values of immovability (property tax), for the taxation of the area of real estate. The main factor which determines the amount of these taxes has become the area of the real estate. In fact, there is no reliable and register of taxes on immovable property that

would enable the correct amount to be determined. The area which is the taxable amount is assumed to be the result of the land and building register. However, in fact, only the land register is functioning, and to this day it has not been possible to establish a building register. Therefore, the taxable amount for buildings is defined by the physical size. The taxes that make up this model, despite constant changes, are becoming more and more similar in terms of type, but they continue to manifest themselves in a certain inconsistency of construction. Subsequent changes in property tax and agricultural tax contributed to the fact that these benefits transformed from property taxes (on real estate) and income taxes (on agriculture) into property taxes which still have specific elements for income taxes. This dual form of taxation is the reason why their object (property) does not match the taxable amount which does not directly reflect the property value. The current system does not solve the problem of agriculture taxation, including agricultural real estate. Now, the tax on real estate, especially agricultural one, is the only benefit to be paid by the owners of farmsteads. Because this occupational group does not pay taxes on the general principles of income and income from agricultural activity, the agricultural tax tries to become a tax in the form of income and property. This system does not have a general part on the basis of which the institutions common to all taxes would be regulated. These taxes are not associated as a whole in any political act; but on the contrary, property tax is included in the group of local taxes and charges, while forest and agricultural taxes are not.


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DETERMINANTS OF THE SAFETY OF THE ELECTRONIC DAILY TRANSFER IN THE CONTEXT OF GLOBAL TRENDS ON THE INTERNET DEVELOPMENT OF THE MOBILE BANKING

DETERMINANTY BEZPIECZEŃSTWA ELEKTRONICZNEGO TRANSFERU DANYCH W KONTEKŚCIE GLOBALNYCH TRENDÓW ROZWOJU INTERNETOWEJ BANKOWOŚCI MOBILNEJ

ПОКАЗАТЕЛИ БЕЗОПАСНОСТИ ЭЛЕКТРОННОГО ОБМЕНА ДАННЫМИ В КОНТЕКСТЕ ГЛОБАЛЬНЫХ ТРЕНДОВ РАЗВИТИЯ МОБИЛЬНОГО ИНТЕРНЕТ-БАНКИНГА

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Prokopowicz D., Gwoździewicz S., Grzegorek J., Matosek M. (2018) Determinants of the Safety of the Electronic Daily Transfer in the Context of Global Trends on the Internet Development of the Mobile Banking.

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Abstract

Technological progress and the ongoing globalization processes determine new challenges for the protection, electronic transmission and processing of data, including classified information. According to the guidelines of the European Union Directives in the perspective of the development of the Internet and digital society, the ICT infrastructure of individual entities should be modernized and adapted in order to guarantee the right to protect electronically-available information. The development of techniques for processing and providing information via the Internet is determined by many facilities for beneficiaries, clients and people using information services of public sector institutions. In addition, there is a possibility of a significant reduction of transaction costs of financial operations and electronic data transfer. On the other hand, the development of information technologies functioning on the Internet also involves the risk of loss or theft of information by unqualified entities. The process of providing information via the Internet generates many threats related to crime of identity theft, interception of classified data by hackers and impersonation of monetary funds in electronic banking systems. In response to these threats, individual entities, including institutions of the financial sector, develop security systems for remote sharing of information and transactions carried out via the Internet. Currently, the process of improving techniques ensuring a certain level of Internet data transfer security is being continued. Procedures for safe processing, storage and sharing of information in online banking systems are improved. Gradually, national legal regulations are being supplemented, taking into account new emerging technological innovations and technologies of electronic data transfer on the Internet.

Keywords: *electronic banking, cybersecurity, cybercrime, data protection, digital data processing, security of digitization, Big Data, systems risk management IT systems*

Streszczenie

Postęp technologiczny oraz dokonujące się procesy globalizacyjne determinują nowe wyzwania dla ochrony, elektronicznego przesyłania i przetwarzania danych, w tym informacji niejawnych. Zgodnie z wytycznymi Dyrektyw Unii Europejskiej w perspektywie kontynuacji rozwoju Internetu i społeczeństwa cyfrowego infrastruktura teleinformatyczna poszczególnych podmiotów powinna zostać zmodernizowana i dostosowana, aby zagwarantować prawo do ochrony udostępnianych elektronicznie informacji. Rozwój technik przetwarzania i udostępniania informacji poprzez Internet zdeterminowany jest wieloma udogodnieniami dla beneficjentów, klientów i osób korzystających z usług informacyjnych instytucji sektora publicznego. Poza tym dla podmiotów udostępniających elektronicznie informacje poprzez Internet pojawia się możliwość znaczącej redukcji kosztów transakcyjnych przeprowadzanych operacji finansowych oraz elektronicznego transferu danych. Z drugiej strony z rozwojem technologii informacyjnych funkcjonujących w Internecie wiąże się także ryzyko utraty bądź kradzieży informacji przez podmioty nieuprawnione. Proces udostępniania informacji poprzez Internet generuje wiele zagrożeń związanych z przestępstwami kradzieży tożsamości, przechwytywania przez hakerów danych niejawnych oraz dokonywania małwersacji środków pieniężnych w systemach elektronicznej bankowości. W odpowiedzi na te zagrożenia poszczególne podmioty w tym instytucje sek-

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tora finansowego rozbudowują systemy bezpieczeństwa zdalnego udostępniania informacji oraz dokonywanych transakcji realizowanych za pośrednictwem Internetu. Obecnie dokonuje się kontynuacja procesu doskonalenia technik zapewniających określony poziom bezpieczeństwa internetowego transferu danych. Doskonalone są procedury bezpiecznego przetwarzania, składowania i udostępniania informacji w systemach internetowej bankowości elektronicznej. Stopniowo także uzupełniane są krajowe regulacje prawne uwzględniające nowe, pojawiające się innowacje technologiczne oraz technologie elektronicznego transferu danych w Internecie.

Słowa kluczowe: bankowość elektroniczna, cyberbezpieczeństwo, cyberprzestępstwa, ochrona danych, cyfrowe przetwarzanie danych, Big Data, zarządzanie ryzykiem systemów informatycznych

Аннотация

Технологический прогресс и продолжающиеся процессы глобализации определяют новые задачи в области защиты, электронной передачи и обработки данных, включая секретные данные. В соответствии с рекомендациями Директивы Европейского союза, ввиду продолжения развития Интернета и цифрового общества, инфраструктура ИКТ отдельных предприятий должна быть модернизирована и адаптирована так, чтобы гарантировать право на защиту в электронном виде предоставленной информации. Развитие методов для обработки и обеспечения информации через Интернет определено многими средствами для бенефициариев, клиентов и людей, использующих информационные услуги учреждений государственного сектора. Кроме того, для предприятий, предоставляющих электронную информацию через Интернет, есть возможность значительного сокращения операционных издержек финансовых операций и электронной передачи данных. С другой стороны, развитие информационных технологий, функционирующих в Интернете, включает риск потери или кражи информации неавторизованными субъектами. Процесс предоставления информации через Интернет чреват возникновением угроз, связанных с хищением идентификационных данных, перехватом классифицированных данных хакерами и незаконным присвоением валютных фондов в электронных банковских системах. В ответ на эти угрозы отдельные предприятия, включая учреждения финансового сектора, развивают системы безопасности для удаленного обмена информацией и сделок, выполняемых через Интернет. В данный момент продолжается процесс по улучшению методов, гарантирующих определенный уровень интернет-безопасности передачи данных. Улучшены процедуры безопасной обработки, хранения и обмена информацией в онлайн-банковских системах. Постепенно дополняются национальные правовые нормы с учетом новых технологических инноваций и технологий электронной передачи данных в Интернете.

Ключевые слова: электронный банкинг, кибербезопасность, киберпреступность, защита данных, безопасность оцифровки, Big Data, управление системным риском ИТ-системы

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Nowadays commercial institutions as well as public financial sector perform certain functions in modern economies of the economic systems of highly developed and developing countries (Rakowski J., Prokopowicz D., 2017, pp. 372-373). One of the areas of public services offered is meeting the information needs of citizens after more than 25 years of development of the Polish economy in market conditions and adjustment processes to the institutional standards of the European Union (Wociór D. ed., 2016). Decision-making processes in the institutions of commercial and public financial sectors, such as financial management, indirectly affect the pace of socio-economic development of the country (Muchacki M., 2014).

In all areas of the effective functioning of businesses and public institutions the important issue is the acquisition, processing, gathering, sharing and archiving to other entities of various kinds of information, including classified and unclassified information and personal data of citizens. The key issue of circulation and sharing information is a security of archiving and transferring data in IT systems of enterprises, financial sector institutions, public sector and Internet (Górka M., ed., 2014). These processes also determine the development of pro-innovative corporate culture in business entities and public institutions operating in developing economies (Gałek G., Prokopowicz D., 2017, pp. 118-119).

Entities of commercial sectors, including economic entities of both non-financial and financial sectors of the economy in order to function efficiently are obliged by market determinants of competition to constantly adapt to the changing realities of the socio-economic environment and technological progress in the field of modern IT solutions for secure archiving, processing and sharing information (Sarnowski J., Dmowski A., Prokopowicz D., 2008, pp. 75-76).

The Polish economy in the last quarter of the century has undergone a thorough, multidimensional system transformation. During this period significant changes took place in the Polish economy, including enterprises, financial institutions and public sector entities. On the other hand, the integration processes of economic structures of individual countries are being successively implemented, especially in the European Union. The basis of these processes was the liberalization of cross-border capital flows supported by the harmonization of legal regulations. However, the development of modern technologies generates improvements, innovations and conveniences of electronic data transfer and information sharing and simplifies distribution channels for products and services, which contributes to the improvement of economic growth (Dutko M., Karciarz M., 2011). However, there is an increase in the standardization of applied procedures, devel-

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Prokopowicz D., Gwoździewicz S., Grzegorek J., Matosek M. (2018) Determinants of the Safety of the Electronic Daily Transfer in the Context of Global Trends on the Internet Development of the Mobile Banking.

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oped sales techniques and business operations in business entities. This indirectly influences the improvement of techniques for collecting, processing data, sharing and exchanging information between economic entities. The processes of standardization and homogenisation of market structures as well as the lower - dissemination of IT standards are the basis for the transnational phenomenon of market integration, globalization of economic processes and techniques of electronic processing and sharing of information in the global network (Lakomy M., 2015). In recent years, the importance of electronic data processing in Business Intelligence has been growing in business entities (Grzegorek J., Prokopowicz D., 2017, pp. 224-225). More and more enterprises are deciding to integrate archiving and analysis systems of data collected on Big Data platforms, data transfer via the Internet, financial operations via

electronic mobile banking and obtaining data related to potential clients from social networking websites developed over the Internet, Internet improvement information transfer techniques for creating new marketing strategies and organizing advertising campaigns on the Internet (Sarnowski J., Prokopowicz D., 2015, pp. 145-146). Effective combination and integration of the aforementioned fields of electronic collection, processing, archiving and sharing of information is becoming one of the key areas for the development of innovativeness of currently operating business entities (Prokopowicz D., 2016, pp. 72-73). A special role in this area, apart from financial institutions, is attributed to fast-growing enterprises operating within the SME sector and corporations operating according to the concept of social enterprises (Gardzinski, T., 2016).

Analysis of latest research where the solution of the problem was initiated.

The issues of electronic data transfer safety described in this paper in the context of global trends in the development of online mobile banking in recent years is undertaken in various and numerous scientific publications by scientists from different countries operating in various environments. Therefore, the issue is examined and obtained a global character. The growing interest of scientists in this problem can be explained by its relevance and high level of probability. The increased interest in this issue in environments of scientists shows the growing importance of mobile web banking in the context of the current development of banking systems and financial settlement. In addition, the importance of improving IT risk management procedures in banking is growing due to the issue of electronic data transfer security.

The verification of the opinions, considerations, conclusions and research theses contained in the cited publications first formulated the main research aspects and the image of electronic data transfer security in the context of contemporary trends in ICT development implemented into the online mobile banking systems. Formulated main research aspects and the picture of the analyzed topic served as a basis for determining the objectives and research methods used in this study. Objectives and methods of the research are presented in the next section of this article. The basis for these main components of the research process, which was carried out in this study, was to define a synthetic image of the electronic data transfer security in the context of modern trends in ICT development implemented in online mobile banking systems

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after collecting analytical data and verifying the conclusions contained in the cited publications. A synthetic image of the global trends in the security of electronic data transfer in online mobile banking systems can be described as follows: Technological progress and ongoing globalization processes determine new challenges for the protection, electronic transmission and processing of data, including classified information. The development of techniques for processing and sharing information via the Internet is determined by many facilities for beneficiaries, clients and people using information services of public sector institutions. In addition, for entities providing electronic information via the Internet, there is the possibility of a significant reduction of transaction costs of financial operations and electronic data transfer. However, on the other hand, the development of information technologies functioning on the Internet also involves the risk of loss or theft of information by unauthorized entities. The cited publications indicate that the process of providing information via the Internet generates many threats related to identity theft, interception of classified data by hackers, and the embezzlement of funds in electronic banking systems. In response to these threats, individual entities, including institutions of the financial sector, develop security systems for remote sharing of information and transactions carried out via the Internet. All of the above-mentioned determinants of the online mobile banking development are getting more and more global and become another factor in the contemporary economic and informational globalization. The authors of this study have reviewed the literature on the above-mentioned issues before researching, collecting and developing research results on various aspects of the determinants of electronic data transfer

security in the context of global trends in the development of online mobile banking. Determining and specifying the research problem, which was characterized and analyzed in this article, was preceded by a review of the publication literature and available source materials in which key issues of the determinants of the online mobile banking development of had already been considered. The literature review shows that the various issues of determinants of the online mobile banking development described in different publications were examined only on selected issues, while no attempt was made to synthetically capture this issue, i.e. one that would integrate various key aspects of determinants in an integrated manner. The development of online mobile banking, the considerations taken would have an interdisciplinary attribute and the conclusions of the research would also be a derivative of a fully synthetic approach. This type of research approach has been used in this study. One of the key methodological premises taken up in this study on the determinants of the development of online mobile banking was the application of a synthetic research approach to achieve an interdisciplinary combination of various aspects of the described and researched issues of determinants of the online mobile banking development. The conclusions that were formulated in the summary are a derivative of the synthetic research approach used.

On the basis of the content of the studied source materials and expert publications it has been shown that in recent years the issue of determinants of the mobile web banking development is one of the most promising areas of both the banking and the scientific study of the subject. The analysis of the source literature publication shows that it was a significant progress in electronic data transmission systems in the

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last decades, which was determined mainly by the development of information and communication technologies. From the data contained in literature publications addressing the determinants of the development of online mobile banking, it appears that customers of products and services offered by enterprises, public and financial institutions are increasingly contacting these entities remotely via the Internet. The article describes the problem of determinants of the online mobile banking development using synthetic approach to research and considerations undertaken by authors in earlier publications by D. Prokopowicz (Prokopowicz D., 2016; Prokopowicz D., 2017a; Prokopowicz D., 2017b; Prokopowicz D., 2017c; Prokopowicz D., 2017d), S. Gwoździewicz (Gwoździewicz S., Prokopowicz D., 2016a; Gwoździewicz S., Prokopowicz D., 2016b; Gwoździewicz S., Prokopowicz D., 2016c;), M. Matosek (Matosek M., Prokopowicz D., 2017), J. Grzegorek (Grzegorek J., Prokopowicz D., 2017) and other authors of the cited publications. The analysis of the content of the source literature publication addressing the determinants of the online mobile banking development shows that in the US, research into the security of electronic banking development is conducted by experts operating in the Cisco and Trend Micro technology companies (Cisco 2017; TrendLabs 2016). In Poland, research on the analysis of determinants of the online banking development was conducted by the following scientists: M. Białas and Z. Mazur (Białas M., Mazur Z., 2013), S. Antkiewicz (Antkiewicz S., 2008), B. Domańska-Szaruga (Domańska-Szaruga B., Prokopowicz, D., 2016), M. Dutko, M. Karciarz 2011 (Dutko M., Karciarz M., 2011); M. Górka (Górka M., ed. 2014), M. Polasik (Polasik M., 2008), B. Świecka (Świecka B., 2008). On the other hand, the

global aspects of the development of financial systems were described in the publications by the following scientists: S. Bukowski (Bukowski S., ed., 2010), B. Domańska-Szaruga (Domańska-Szaruga B., 2013), T. Kaczmarek (Kaczmarek T., 2009), J. Świdorska (Świdorska J., 2013). Based on the study of literature sources listed in the Bibliography, it has been shown that the researchers of the described problem confirm the high level of significance of the studied determinants of the online mobile banking development, also indicating the timeliness and development of the issues described. In addition, the authors of the source literature dealing with the determinants of the development of online mobile banking agree that the process of improving techniques ensuring a certain level of Internet data transfer security is being continued. It was observed based on the analysis of the source data, that the procedures for safe processing, storage and sharing of information in online electronic banking systems were improved. The verification of the mentioned literature suggests that the researchers of the described problem state that the national legal regulations are also gradually being supplemented, taking into account new and emerging technological innovations and technologies of electronic data transfer on the Internet. In the context of the described issues, it is generally recognized that the above-mentioned determinants of the online mobile banking development are gradually becoming global in their nature, referring to globally operating financial institutions, transnational finance and accounting systems and increasingly globalized new online media. It is uncontested statement, according to which it is assumed that technological progress and globalization processes occurring determine new challenges for the protection of

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electronic transmission and processing of data, including classified information. In the context of the issue described in this paper, it is also important that websites with the development of information technologies functioning on the Internet also involve the risk of loss or theft of information by unauthorized entities. The studied contents of scientific literature publications, source materials analysis and normative regulations show that financial sector institutions within the framework of improving

ICT risk management systems of mobile banking systems, computing cloud computing technology and business analytics based on Big Data databases expand remote security systems information and transactions carried out via the Internet. Conclusions and suggestions resulting from previous research described in the content of the studied literature were used to formulate the key research thesis and the objectives of the research undertaken.

Aims of paper. Methods.

Before writing this article, a review of the literature dealing with globalization issues of key determinants of the electronic data transfer security in the context of contemporary trends in the development of information and communication technology implemented in the online mobile banking systems has been reviewed. The literature review was also preceded by specifying the key issues of the research problems, which were analyzed, the objectives of the study and formulation of the key questions and research theses. The subject of this work initially defined conceptually and axiomatically was also clarified after the aforementioned review of the publications of other researchers describing the issues of globalization of the determinants of the online mobile banking development. Thus, this article analyzes the problem of globalization of the determinants of the online mobile banking development in a synthetic approach. The analysis of source materials shows that the issues discussed in the subject of determinants of electronic data transfer security in the context of global trends in the online mobile banking development have been described and considered in the current scientific literature only in selected few aspects. On the other hand,

no attempts have been made to conduct research that would consist in developing a synthetic approach to this problem. A full synthetic approach would include various key aspects of globalization of the determinants of the online mobile banking development in an integrated manner, the considerations would have an interdisciplinary attribute and the conclusions from the research would also have the feature of a synthetic approach. This type of research approach has been used in this study. One of the key methodological premises of the online mobile banking development in the present study was the use of a fully objective description of all premises, conditions, components of the analyzed topic and factors affecting particular aspects of globalization of electronic data transfer security in the context of modern trends in ICT development implemented into online mobile banking systems. Analyzing the problems of determinants of the online mobile banking development, the authors of this study have verified the theses and conclusions formulated by the authors of the cited publications. Verified theses and conclusions that repeatedly represented a diverse view, heterogeneous assessment of key aspects of the topic in terms of their level of significance and identified correlations were

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used to formulate key questions and research theses for this study. The conclusions were formulated and included in the summary part based on the verification. In the process of drawing conclusions from these studies guided by the principle of scientific objectivity, impartiality and synthesis of the research approach.

Based on the studied source materials and expert publications, it was noticed that until recently, poor literature describing the problems of determinants of the online mobile banking development in the last few years has been significantly expanded with new titles. On the publishing market, within the mentioned subject matter, there were mainly original monographs and interpretations of specific normative studies and comments on legal regulations. On the other hand, there are far fewer titles that could help in the everyday work of an economic and financial analyst employed, for example, in globally operating investment funds, and help for students of economic faculties as an enrichment of academic literature. The largest gap on issues of research, however, concerns the whole attempt to interpret in terms of synthetic issues relating to the determinants of the mobile banking development. Prokopowicz in the study *The Question of the Security of Facilitating, Collecting And Processing Information In Data Bases of Social Networking* indicates that the issue of the security of electronic data transfer also applies to globally functioning online social networks. The incompletely represented literature describing the issue of globally developing determinants of the development of online mobile banking functioning in the field of electronic banking development is an example of the phenomenon in which intensive development precedes its subsequent interpretation. The problem of determinants of the online mobile banking

development, which obtained the rank of priority in recent years, has become the main premise for the creation of this study. The assessment of the effectiveness of banking risk management was carried out on a macro and a micro scale. The macro-scale is an analysis of credit risk improvement in the context of the entire financial system in Poland. The area also includes the organization and effectiveness of institutions supporting the development of the banking system in Poland. Micro-scale research focuses on the analysis of individual loan procedures. The research undertaken in the work focused primarily on the determination of connections or separateness in the following areas: determinants of electronic data transfer security, ICT instruments for data processing in the cloud, multi-criteria data analysis platforms in Big Data databases, global trends in the development of online mobile banking and perspectives, directions of the development in future financial systems.

During the research, various research methods were used, which were listed below. The work involved various test methods, including:

- a) descriptive and comparative method,
- b) inductive reasoning,
- c) deductive reasoning,
- d) descriptive and vector method,
- e) method of media observation.

The choice of methods was determined by the type of research materials in which various aspects of the subject of the determinants of the security of electronic data transfer in the context of global trends in the development of online mobile banking were described. The purpose of presenting the key issues of the subject, explaining particularly important relationships, connections, correlations between the components of the problems occurring globally growing the determinants of the mobile

web banking development mainly used descriptive method. The comparative method was used primarily in comparison of selected aspects of the studied determinants of the online mobile banking development. Inductive reasoning was used to select unambiguous facts and aspects of the determinants of the online mobile banking development meeting the requirement of indisputability in their experimental verification. The deductive reasoning was commonly applied by the rationalist formulation, selection and ordering of axioms that did not have to be certain. However, they had to meet the condition of presenting complex problems in the form of models and schemes. The axioms formulated by this method were built and developed in the process of logical binding of facts. The descriptive and vector method was used in this article by highlighting the relevant factors of the determinants of the online mo-

bile banking development with an indication of the appropriate direction of impact for them. The literature review was also carried out using the method of observation media, based on the monitoring of selected issues examined the problems reported by journalists specializing in specific areas of economic issues.

Therefore, following the principle of scientific objectivity, impartiality and synthetics of the research approach based on the verification of the content of the cited publications for the purposes of this study, the following main research thesis was formulated: All the above-mentioned determinants of the development of online mobile banking gradually take on a more global character and become an another factor in contemporary economic and information globalization. The final part of this study contains a reference to the issue of verifying the research thesis.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Economic and civilization conditions of technological progress in the field of data transfer and sharing on the Internet.

The increase in technological innovations of electronic information sharing in the enterprise sector, financial institutions and public sector entities has a significant impact on the development of data transfer through ICT systems connected to the Internet. Unfortunately, in terms of broadly defined innovations in the field of ICT, enterprises and public sector entities operating in Poland are among the least active in the European Union (Żołnierski A., 2012). A particularly important issue that should be taken into account when shaping economic policy in Poland for the next years is the activation of business entities, financial

institutions and public sector entities to improve the standards of information sharing so that the technological level and security of data transfer on the Internet is up to the standards of developed countries of Western Europe (Gałach A., Hoc S., Jędruszczak A., Kowalik P. et al., 2015). A significant convenience in the process of improving the techniques of electronic access to information by public sector entities and improving the operation of security instruments is the possibility of implementing these processes in investment projects co-financed with the use of financial resources and subsidies of the European Union. It is now widely accepted that key aspects that are exchanged when defining systemic goals that should be activated and developed in the Polish economy, are also technological innovation, development

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electronic economy, digitization of public sector institutions and improvement of data transfer security on the Internet in the next, already started financial perspective for 2015-2020 (Gwoździewicz S., 2014). A positive result of these processes should be in the following years a significant activation of economic growth, including the improvement of the situation on the labor market as a result of generating new jobs for specialists in the security of IT systems, Internet and other IT areas (Dutko M., Karciaz M., 2011). In the longer term, the process of public finances should also be derived from these processes after 2020. The basis for the above strategic objectives for the development of the electronic economy and information society in Poland is experience in financing technological investment projects implemented under the previous financing perspective with the participation of EU funds in 2007 - 2013. Based on these experience, it was noted that the effective use of available EU funds from the previous financial perspective were determined by innovativeness and entrepreneurship already operating effectively in the market conditions of economic entities in Poland (Matosek M., 2009, 23-24).

In terms of the economic process of globalization, there have been significant globally operating changes in modern economies, including financial sector institutions and public sector entities (Muchacki M., 2014). Individual entities of the aforementioned sectors improve their functioning also in the scope of collecting, processing and sharing data with other entities, including citizens and enterprises. The processes of improving the security of data transfer on the Internet are successively implemented. These processes are undertaken to activate the development of the electronic economy and information society and to

adapt procedures and techniques for ensuring security to the standards of developed Western European countries, including the existing European Union regulations (Wiśniewska M., 2013).

These processes also can be applied to the institutions and economic entities operating internationally, whose dynamic development is determined by the issue of effective implementation of technological innovations in individual corporations, enterprises, financial and public sector institutions. The basis of these processes is the liberalization of capital flows supported by the harmonization of legal provisions. On the other hand, the development of modern technologies is correlated with the issue of activating technological progress in the field of electronic data processing, storage and sharing information on the Internet. This development simplifies the distribution channels of enterprise products and services as well as information services for public sector entities and contributes to the growth of innovation, standardization of applied procedures, developed product distribution techniques and implemented information services. The processes of merging and unifying market structures and the bottom-up process of technological innovation, dissemination of IT standards are the basis of the information globalization phenomenon, including data transfer via the Internet (Bukowski S., ed., 2010).

The essence of online mobile banking and the Internet bank.

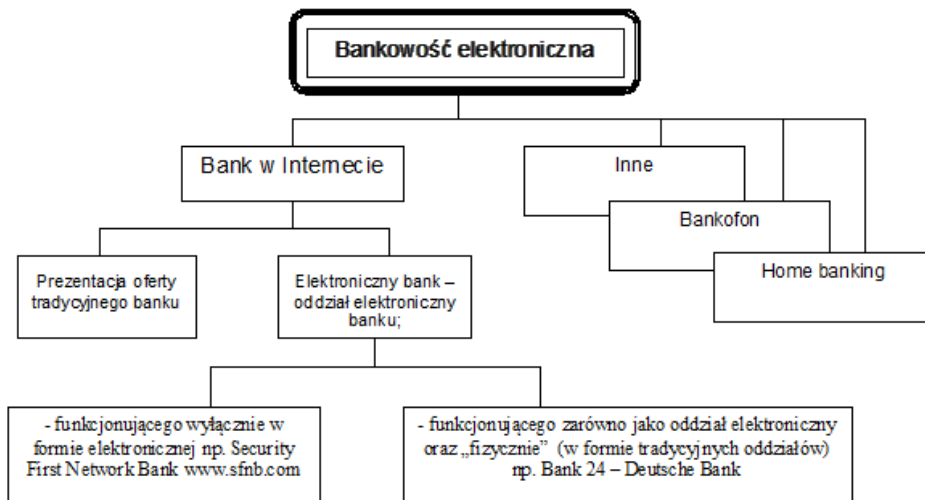
Electronic banking is an area that is currently considered one of the most important factors that determine the development of modern financial systems. Not only the customers of these systems, who are no longer limited by physical access to bank divisions and hours of bank branches, benefit from this development, but also banks, that have expanded their scope of activity

on a national and international scale by starting with the offer to a potentially wider group recipients (Dmowski A., Prokopowicz D., 2010, pp. 347-348). The above-mentioned image of the positive conditions for the implementation of new IT solutions and the benefits that the Internet gives to operating systems of commercial banks has become the main factor in the intensive development of online electronic banking in Poland. This development, which increased growth was recorded primarily in the last few years, is associated significantly with the specifics of the development of the entire national financial system (Domańska-Szaruga B., 2013, p. 267) and the changes that have taken place in the minds of customers. A particularly important factor determining the current processes of implementing new IT solutions to banking systems is the development of ICT in the so-called cloud, including the storage

of large data sets in the so-called big data platforms.

The term “bankowość elektroniczna”, which is a Polish version of the English expression; electronic banking is usually defined as a remote access to a wide range of banking services via the Internet using a computer or other mobile devices providing access to a global network (Guzek E., Słazak E., 2012, p. 57). In recent years, these other devices are mainly mobile ones, including smartphones, tablets, laptops and notebooks. The technical miniaturization of these devices continues, therefore, in the near future, smart watches that will function as a miniature smartphone can be counted among such devices. Due to the increasing use of mobile devices for online banking, this type of banking services is more and more often called mobile banking.

Figure 1. The scope of meaning of the concept of banking.



Source: Own study.

The growing online mobile banking is a system of remote access to banking services from mobile devices, which most commonly use smartphones. Due to the widespread 3G and 4G generation of mobile phone technology, enabling customers to carry out various operations remotely, virtually from anywhere, as a part of electronic banking services. A bank customer can make payments remotely, can verify financial operations carried out on his account, can make transfers and submit loan applications and other banking products. Dissemination of an electronic signature may completely eliminate the client's contact with the physical branch of the bank (Antkiewicz S., 2008, p. 37).

The development of online electronic banking systems, i.e. access to specific banking services through the network, the widespread use of the Internet among individual users and the improvement of electronic data transfer security technologies has generated a new type of banking known as a virtual bank, a bank on the Internet (Gwoździewicz S., Prokopowicz D., 2017a, pp. 123-124).

The main technological and economic determinants of progress in the field of data transfer and storage on the Internet

The advantages of the above-mentioned positive aspects of globalization processes and technological progress demonstrated in recent years suggest their continuation in the near future (Kaczmarek T., 2009). In terms of the main determinants conducive to improving techniques for electronic data transfer and sharing of information to interested recipients via the Internet is mentioned (Szpor G. Wiewiórowski W., 2012):

- improvement of techniques and emerging innovations in the distribution of products, financial services of financial sector and information services of public sector institutions,

- reduction of procedural barriers, technological facilities for clients of business entities and beneficiaries of public sector institutions, including in the scope of conducted business activity, concluding financial transactions with the participation of electronic banking, electronic settlement of business operations with offices,

- target measures included in the socio-economic policy of the country, eg: through governmental programs to support the development of national and local economy in order to increase the level of digitization of the activities of public sector institutions,

- activated by pro-development socio-economic policy, technical progress in the field of computer science and electronic data transfer techniques, it generates an improvement in standards of cooperation and information exchange between enterprises and public sector institutions and financial sector institutions.

A derivative of these processes should also be the activation of entrepreneurship and technological innovation, which should have a positive impact on the development of business activity. In the long-term perspective, this should translate into accelerating the pace of economic development, increasing GDP and improving the situation on the labor market.

Therefore, significant developing correlations and feedback in the field of technological innovation in the sector of business entities and cooperation of these entities with public sector institutions were pointed out in this sub-chapter. Since the early 1990s, economic growth in Poland has been determined mainly by the development of entrepreneurship, the commercialization of economic processes, the implementation of modern technological solutions and the adjustment of procedural standards to the normative regulations of

the European Union. The participation of creativity and innovativeness of business entities operating in Poland, as well as local and national entities operating in the public sector, including local government ones, is significant in this respect. These positive trends were not seriously disturbed even by the recent global financial crisis. On the other hand, the level of technological innovation in Poland is significantly lower in the context of the standards of highly developed countries (Borcuch A., 2012). In particular, there is a need for a further systemic socio-economic policy to inspire in order to create technological innovations emerging in enterprises and their implementation in public sector institutions. This will result in an improvement in the financial management of these entities, and thus this process can be an important factor in improving the finances of public institutions, including local government units, some of the already indebted ones. In addition, correlations and feedbacks that improve the cooperation of business entities and institutions in the financial and public sectors should also develop in the midst of this process (Goździewicz S., Prokopowicz D., 2017b, pp. 98-99).

Determinants of the development of online electronic banking in Poland

A bank that offers credit products in the form of a remote service in the operational risk management process takes into account the risk of IT systems resulting from the architecture and specificity of IT technologies used and personal operational risk, i.e. the risk of loss or copy of confidential information by unauthorized persons (Kosiński J., 2015). According to a study by BizRate.com dealing, among other things, with the monitoring of preferences of e-commerce customers, out of 13000 people surveyed, 2% were the vic-

tims of the theft of data related to the transaction, which was paid with a credit card via the Internet. The significance of the mentioned paradox increases in direct proportion to the growth of the difference in the assessment of the said value of 2% from the bank side and from the side of potential clients (Gąsiorowski J., Podsiedlik P., 2015). Both clients and bank employees who make statements in polls and surveys agree that online e-banking still has a future. The key determinants of the development of this form of financial operations are primarily for the potential client (Grzywacz J., 2016):

- a) more efficient management of funds deposited in the bank, which consists of:
 - the ability to keep track of all operations carried out on the accounts and accelerating the regulation of current payments,
 - the possibility of placing an order to deposit current funds on a time deposit account or to purchase treasury bills,
 - current and up-to-date information about the funds held and liabilities towards the bank or other institutions;
- b) Further positive aspects are (Świecka B., 2008):
 - using the bank's services 24 hours a day from any place via ICT mobile devices such as smartphones or tablets, regardless of bank opening hours,
 - submitting an application for launching a new financial service and sometimes accepting its conclusion remotely by the electronic signature,
 - making transfers between various accounts and performing financial operations on investment accounts with the use of banking products and securities operating on various financial markets.

It must be added the same argumentation that is often given by bank employees to the above-mentioned advantages of online

electronic banking systems for the customer. This is above all (Borcuch A., 2012):

- reducing queues at the bank and the labor intensity of data entry from documents to the bank computer system,

- automatically carrying out of most of banking operations with a relatively low value (in terms of value), which in turn will allow employees to be requalified and directed to activities that require more contact with the client in order to provide new services, eg. direct support or indirect with the client's finances (Gwoździewicz S., Prokopowicz D., 2017, pp. 89-100),

- the possibility of a significant reduction in customer service costs and increase of the bank's operation profitability. This is due to a significant increase in the number of customers and operations carried out on the accounts while maintaining or slightly increasing the employment of bank employees. In general, there is no need to increase the number of customer service stations, and thus incur additional expenses for new banking rooms and their equipment (Białas M., Mazur Z., 2013).

Determinants of the online electronic banking development and the issue of security of data transfer in the Internet

Therefore, the growing online electronic banking is a system of electronic communication with the bank, allowing clients from practically any point of the world to carry out operations on their own account, have constant insight into the data on the company's account, manage finance in a more quick and effective way, reduce the time of operations, as well as apply for new transactions or launch additional financial services. On the other hand, not only positive aspects are associated with the dissemination of electronic online banking. The increase of online bank accounts number and transactions made through them also

promotes the development of cybercrime, which is also confirmed by data from commercial banks operating in Poland (Dolecki S., Brutalna cyberzwistowość ..., 2016).

The dissemination of an electronic signature may completely eliminate the client's contact with the physical branch of the bank (Antkiewicz S., 2008). The development of online electronic banking systems, i.e. access to specific banking services through the network, the widespread use of the Internet among individual users and the improvement of electronic data transfer security technologies have generated a new type of banking known as a virtual bank, a bank on the Internet (Polasik M., 2008).

The development of online banking also has its barriers, which are associated with new risk categories of using information technology in banking. The most important barrier to the rapid development of financial services through the network results from the imperfections of the cybernetic medium, primarily due to the lack of a full guarantee regarding the security of information sent and remotely performed financial operations (Solarz M., 2006). The mentioned imperfection of the Internet is not a factor that banks have no influence on. The use of a specific set of tools increasing the level of security in the bank's IT systems contributes to raising the level of security of electronic banking systems and thus enhances the attractiveness of the bank's offer provided via the Internet. Increasing the security of IT systems is associated with a partial reduction of operational risk and additional costs incurred by the bank. However, the improvement of ICT systems will not fully eliminate operational risk because a significant part of it in the form of operational personnel risk is generated by human factors, i.e. employees of financial institutions who often unknow-

ingly may erroneously carry out certain activities that are necessary for the implementation of electronic transaction (Prokopowicz D., 2017, pp. 93-94).

Threats and security of electronic data transfer in online banking in Poland

The issues of classified data protection, including personal data sent electronically and collected in IT systems of various institutions can also be applied to electronic banking. Banking is a field that mostly developed at online platforms and it is considered to be one of the most important factors that determine the development of modern financial systems. The basic convenience for banks' clients, conditioning its dynamic development, is the ability to carry out financial operations at any time and virtually anywhere in the world through a global network. The benefits of this development come not only from the clients of these systems, who are no longer limited by physical access to bank branches and bank branches' working hours, but also by banks that have extended their activities on a national and international scale by offering a potentially broader audience. The above-mentioned image of the positive conditions for the implementation of new IT solutions and the benefits that the Internet gives to operating systems of commercial banks has become the main factor in the intensive development of online electronic banking in Poland. This development, which increased growth was recorded primarily in the last few years, is associated significantly with the specifics of the development of the entire national financial system and the changes that have taken place in the minds of customers. A particularly important factor determining the current processes of implementing new IT solutions to banking systems is the development of ICT in the so-called cloud,

including the storage of large data sets in the so-called big data platforms.

The term electronic banking is usually defined as a remote access to a wide range of banking services via the Internet using a computer or other mobile devices providing access to the global network (Guzek E., Ślęzak E., 2012). In recent years, these other devices, mainly mobile devices, include smartphones, tablets, laptops and notebooks. The technical miniaturization of these devices continues, therefore, in the near future, smart watches that will function as a miniature smartphone can be counted among such devices.

The security of online mobile banking and the processing of data in the cloud on Big Data platforms

Therefore, the scale of dynamism in the development of online mobile banking is mainly determined by the above-mentioned positive aspects of conducting financial transactions carried out electronically, including via the Internet. In recent years, Poland has been continuing the process of developing online mobile banking and growing interest of bank customers using this form of settlements and payments. Therefore, it should be stated that online mobile banking is a particularly important determinant conditioning current processes of implementing new IT solutions to banking systems and the evolution of transaction platforms for financial operations. The most dynamically developing fields of ICT technology, which determine the successive stages of progress in the field of online electronic banking, include the dissemination of standards for conducting financial operations carried out in the so-called cloud as well as using the large data sets located in the big data platforms (Prokopowicz D., 2017, pp. 117-118).

The concept of so-called "cloud" means cloud computing. It is a service that allows

you to store, archive and use the collected data, which is accessed through the Internet by computers found in another location. Normally, this technology is the ability to use via the Internet with high computing power and memory disks and therefore reducing spending on their own computer equipment (eg. Operational memory). Using the cloud technology can be also characterized by other positive aspects that can be described as increasing convenience for the user. Well, you can access the data stored in the cloud from any Internet-connected device, and therefore not only from a computer, but also from a tablet, smartphone or other device connected online with the Internet.

Therefore, the amount of stored data in the cloud on external servers has also been dynamically growing in recent years, it is usually available for free with certain disk capacities, i.e. parts of what is increasingly commonly referred to as big data. Institutions and companies whose effective functioning is currently based on the above-mentioned cloud and big data technologies estimate that by 2020 the amount of component data in this way on external servers will increase many times, which will mean an increase in the storage capacity of data storage devices, including large disks, which connected in the cloud with servers enabling communication via the Internet will create a kind of external data warehouses, which are currently referred to as big data (Gwoździewicz S., Prokopowicz D., 2016b, pp. 231-232).

Conducting financial operations carried out in the "cloud" as well as using the large data sets located in the so-called big data platforms are, however, only some areas of cyberspace, whose dynamic development determines the need for analogous progress in the improvement of security instruments for transferring and storing classified data.

In recent years, the scale of cash fraud has been growing in Poland on the basis of personal data stolen in the IT systems, i.e. "identity theft". Based on data from the 26th edition of the InfoDOK Report prepared by the Polish Bank Association, it was shown that in the second quarter of this year PLN 81.8 million was attempted to extort. According to the report more than 1.5 thousand were detected. cases of using stolen identity in the phishing of funds (InfoDOK, Report on documents ... 2016). An effective solution significantly limiting this criminal practice was a creation of a system to reserve documents by people who lost them under the "Restricted Documents" program and to disseminate this possibility in social media information campaigns carried out in various fields (InfoDOK: Almost 900,000 zlotys a day were tried to extort ... 2016).

For the above reasons, ensuring a high level of security of transactions made in cybercrime is more and more often recognized as an integral part of security issues in the context of the development of the information society. Cybersecurity of mobile banking is more and more often recognized as the determinant of the effective development of the national economy. Therefore, central state institutions should also take into account the improvement of mobile banking security systems, including information on financial operations and personal data of citizens. The main idea of improving these security systems should be to ensure that individual citizens and entities created by these persons should have the highest possible level of guarantee of new technologies safety, eg. when using electronic banking services, making online purchases or sharing information with friends around the world. In this way, the trust of electronic banking customers will increase, also in the field of personal data

protection in cyberspace, which will contribute to faster development of e-services, which are primarily interested in international accounting institutions and banks (Domańska-Szaruga B., Prokopowicz D., 2016, pp. 125-126).

Statistics indicate that in 2015 there were only 21 physical intrusions to banks with losses estimated at PLN 600,000. These data indicate that the scale of this problem is nearly half lower than the average statistics of physical burglaries to banks against the background of Europe. 125 attacks were carried out on ATMs installed in Poland, of which PLN 5 million were stolen in total. A serious problem for the banking system was false transfers, which estimated the losses for the banks for a total amount of PLN 16 million. Surveys carried out periodically show that 85% of various types of institutions in Poland were attacked by cybercriminals. Among the companies operating in Poland, one-third of these entities admitted that they were the victims of hacker attacks. The banks' losses related to extorting loans based on forged signatures, forged or stolen documents were also relatively high in recent years.

Banking statistics show that the most serious problem that derives from the activity of cybercriminals was the rapidly growing trend of fraudulent transfers because as many as 331 percent of the number of fraudulent Internet transfers increased in 2015 compared to the previous year. In recent years, a growing trend of personalized attacks on the bank's richest clients has been observed, through the use of social engineering techniques of "h-commerce" manipulation. In this criminal activity, hackers remotely infect their victims' computers via the Internet by introducing "Trojan horses", spyware and hacking passwords typed from a computer keyboard. In addition, hackers are increasingly sending

out false information about pseudo overpayments in e-mails received as if from the Tax Offices. Entrepreneurs increasingly receive hack-prepared emails that inform about alleged orders of transfers from bailiffs or contain false invoices for allegedly purchased goods (D. Prokopowicz, 2017, pp. 319-320).

Therefore, in order to increase the effectiveness of crime detection, it is necessary to deepen cooperation of banks and develop systems for efficient and rapid exchange of information about emerging threats at the bank-client level and among other participants in the business. It means a growing role of banking CERTs, data analysts operating on big data platforms, experts on ongoing monitoring in order to identify sources of hacker attacks in advance.

It follows from the above considerations that it is unlikely at the current technological level to ensure a 100% level of security of operations in the field of electronic banking, e-services and the guarantee of a complete lack of access to personal data by unauthorized third parties, so-called hackers. Institutional bodies of the states, which are responsible for the creation, improvement and updating of legal norms adequate to the progress of technology, do not always fulfill their role accordingly. The recent financial crisis of 2008 has demonstrated this, when the majority of sources of crisis factors are perceived in the current imperfections of banking procedures. Bank executives are trying to counter this criticism by suggesting rapid technological progress in the field of risk valuation instruments and banking products made available in a different way than so far, that the improvement of internal banking procedures and security instruments has not been able to keep up with such dynamic

progress (Prokopowicz D., 2017, pp. 176-177).

Economists studying this problem scientifically do not fully share such an approach to the problem. Technological progress is a process that is so objective, interdisciplinary and unpredictable in its positive and negative effects that attempting to target it purposefully through interventionist actions of the state would be an extremely difficult undertaking, even though sometimes it would seem justified. Supporters of the free market approach to simplifying regulations and procedures argue that this would limit the possibility of further stages of technological progress and would reduce the possibilities of competition between entities offering electronic banking, e-services, etc.

The development of institutional integration of cybersecurity systems in Poland

Now the prevalent opinion is that if statistics recorded by the Police and crime banks indicate that in recent years in Poland, the number of both ineffective and effective attempts to break into electronic banking systems and also steal personal data is increasing, which means that the financial system is not too comfortable with this problem and there is a need for state intervention in this matter. It is questionable whether this intervention should be combined with the extension of the scope of media surveillance and electronic data transfer by the state, which is currently the controversial issue. In this study, we do not consider this issue, recognizing it as too far from the analyzed issues.

However, if in this "arms race" between IT specialists employed in institutions offering e-services and IT specialists - hackers in some areas of electronic banking and the latter will start to win, this suggests deep-

ening weaknesses, technological imperfections in the financial systems of banks and other entities providing an Internet platform of electronic banking. Therefore, the state should be involved more actively in the process of regulating this sphere of financial operations and electronic data transfer. However, in order to determine what the scope of this state intervention should be, it is necessary to verify the sources of the increase in the number of effective third party burglaries into electronic data transfer systems and to determine whether the technical imperfections of information systems or rather unpaved security procedures or ignored intentionally, or unknowingly by customers, the principles of safe use of devices for electronic storage and data transfer, including personal data. It is necessary to cooperate with the Police, Ministry of Digitization, Internal Security Agency, Central Investigation Bureau, central and supervisory institutions of the financial sector, ie. the National Bank of Poland and the Polish Financial Supervision Authority, commercial banks and other system institutions participating in the process of electronic data transfer to fully investigate this issue (Matosek M., Prokopowicz D., 2017, pp. 225-226). The role of institutions coordinating and disseminating the high rank of personal data security in electronic banking systems, ie. institutions such as the Polish Bank Association and the Center for Banking and Information Law, is also important. The need to strengthen the cooperation of these institutions to improve the risk identification system, to develop effective solutions in order to improve the security of electronic data storage and transfer systems, including personal data was also emphasized at the "5th Bank Security Forum", which took place in Warsaw on May 10 (Bank Security Forum 2016).

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During the periodically organized conference of the "5th Bank Security Forum", as well as during the debates of the Banking Technology Forum, the Electronic Banking Council, the Antifraud Forum, security experts exchange practical experience to develop constructive, common directions of activities and consultations with representatives of other institutions participating in security systems for classified information. As a result of these debates and coordinating the work of various groups of banking specialists, scientists and central institutions of the financial system, another system institution was established whose main goal will be to improve both identification of risks and development of effective security instruments in cyberspace. Therefore, it was held an official opening of the newly established institution called the National Security Center on July 4 of the current year in the Warsaw headquarters of the Research and Academic Computer Network (NASK). One of the key platforms of this institution is the Bank Cyber Security Center, whose main objective will be to detect cyber threats, analyze them and develop new system solutions adjusted to the current fast changing realities of cyberspace, increasing the security of electronic data transfer and storing classified information, including personal data of citizens. The effectiveness of the new solutions for improving the security issue will be determined by the effectiveness of counteracting the effects of hacker attacks on the IT system of banks and other public institutions (Opening of the Bank Cyber Security Center 2016).

It should be emphasized that the vice-president of the Polish Bank Association, Dr. Mieczysław Groszek, during the conference "V Bank Security Forum" underlined the successful debut of the Bank Cyber Security Center during the implementation of

the governmental "500 Plus Program". In addition, an important conclusion of the Forum was the statement that another important step in the cooperation between banks and the government will be the joint implementation of the National Cybersecurity Strategy (Banking Security Forum 2016). Time will show whether the establishment of the National Security Center as a new institution will realistically change the "balance of power" in this "arms race" between IT professionals - system administrators and computer hackers. Now we can assume that if mentioned new institutions improve the issue of experience exchange and integration of activities between various state authorities, this should contribute to improving security in the area of protection of classified information, including personal data of citizens. On the other hand, organizational and institutional changes will not ensure a high level of security of classified data transfer on the Internet. It can be assumed with a high level of probability that in the coming years cybercriminals will change their hacking techniques adapting them to the changing ICT technologies and online tools. Apart from improving technical and IT instruments of cyber security of attacked institutions and enterprises, it will be necessary to continuously and permanently update legal norms regarding the security of data transfer on the Internet, so that legal regulations enable the improvement of cyber security procedures and tools (Gwoździewicz S., Prokopowicz D., 2016a, p. 393-394).

It is only as a result of this full cooperation that it is possible to develop effective system solutions and the development of legal regulations appropriate for the given situation by the state. However, full cooperation of these institutions is necessary to make it possible, ie. one that would also allow

banks and other e-service providers to provide relevant institutions with full information on both effective and ineffective attempts of hacking attacks on electronic banking information systems, including re-

ported thefts. personal data of bank customers, telecoms, social networks, online stores, etc., all those entities that participate in the process of collecting and using their clients' personal data for their needs.

Conclusions.

Over the last decades, there has been a significant progress in electronic data transmission systems, which was determined mainly by the development of information and telecommunications technologies. Product customers and services offered by enterprises, public and financial institutions are increasingly contacting these entities remotely via the Internet. This is a key but not the only factor determining the currently occurring digital revolution in information societies. In addition, determinants of this process of digitization of societies include also the development processes of ICT devices enabling mobile access to the global Internet network, and the successively expanded offer of financial institutions (Świdarska J., 2013) in the field of online electronic banking. These processes are one of the main factors of the ongoing economic globalization (Bukowski S., ed., 2010).

Accordingly, the progressing economic globalization and, consequently, the growing links between the Polish economy and the world, improve national legal regulations regarding the maintenance of a high level of security of information systems and the protection of classified data, among others as a process of adapting Polish legislation to European Union regulations (Kosiński J., 2015). On the other hand, these adjustment processes do not ensure full adequacy of the adjustment of legal regulations to the constantly evolving elec-

tronic banking offer of financial institutions as well as ICT used in the Internet. Currently, it is assumed that the existing legal norms provide only the most elementary level of protection of classified data during the implementation of specific commercial orders and financial transactions and therefore may be insufficient in the face of constantly progressing ICT technology used by Internet service providers and especially companies that usually offer no-cost use from social networks. The security of classified data transfer as well as transactional and financial information sent via electronic information systems of online electronic banking is also a particularly important issue (Liderman K., 2008).

In the context of the ongoing digitization process of companies, offices and financial institutions, it is assumed that, according to the needs of most Internet users, protection of classified data is an area of human existence that should be provided by entities operating on the Internet. In accordance with the provisions of the Constitution to protect the transfer of classified data, including personal data is one of the elementary rights of every citizen and therefore also an Internet user. Continuing technological progress, constantly modified technical parameters of electronic banking systems and changing internet service offerings may cause non-adaptation of legal norms to rapidly changing realities of the digital age (Gałach A., Jędruszczak A., Nowakowski B., 2013).

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**V. Psychology, Sociology,
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PROFESSIONAL TEACHER AND STAGE OF TEACHER PROFILE DEVELOPMENT

PROFESJONALNY NAUCZYCIEL I ETAPY ROZWOJU PROFILU NAUCZYCIELA

ПРОФЕССИОНАЛЬНЫЙ УЧИТЕЛЬ И ЭТАП РАЗВИТИЯ ПРОФИЛЯ УЧИТЕЛЯ

Abstract

This study explains the approaches taken by various authors dealing with this issue. We have mentioned the dynamic approach considered by S. Freud and C. G. Jung in the behavioral approach of authors such as J. B. Watson, I. P. Pavlov, B. F. Skinner and C. L. Hull. Representatives of the humanistic approach are C. R. Rogers and A. Maslow. Cognitive theories of personality were considered by G. A. Kelly. People have different views and opinions. Similarly, there is also a personality area where we can also meet multiple perspectives. "Different approaches to solving personality issues have led to the formation of different theories of personality. Originally, they were created by clinical psychologists and psychiatrists. In the first years of the last century, most theories focused on identifying factors affecting individuals. They were based in particular on the opinion of S. Freud".

Key words: *teacher, profession, pupil, education, personality*

Streszczenie

Badania opisane w niniejszym artykule wyjaśniają podejście różnych autorów zajmujących się kwestią rozwoju osobowości profesjonalnego nauczyciela. Autor w swoim badaniu nawiązuje do teorii S. Freuda i C. G. Junga, podejścia behawioralnego autorów takich jak J. B. Watson, I. P. Pavlov, B. F. Skinner, C. L. Hull. Przedstawicielami podejścia humanistycznego w niniejszych badaniach są z kolei C. R. Rogers, A. Maslow. Poznawcze teorie osobowości przedstawił natomiast G. A. Kelly. "Różne podejścia do rozwiązywania problemów osobowości doprowadziły do powstania różnych teorii osobowości. Pierwotnie zostały stworzone przez psychologów klinicznych i psychiatrów. W pierwszych latach ubiegłego wieku większość teorii skupiała się na identyfikacji czynników wpływających

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na jednostki. Opierały się one w szczególności na opiniach S. Freuda".

Słowa kluczowe: *nauczyciel, zawód, uczeń, wykształcenie, osobowość*

Аннотация

В этом исследовании объясняются подходы, предпринятые различными авторами, занимающимися этим вопросом. Отметим динамический подход, рассмотренный С. Фрейдом и К. Г. Юнгом в поведенческом подходе авторов, таких как Дж. Б. Уотсон, И. П. Павлов, Б. Ф. Скиннер, С. Л. Халл. Представителями гуманистического подхода являются К. Р. Роджерс, А. Маслоу. Когнитивные теории личности рассматривались Г. А. Келли. У людей разные взгляды и мнения. Также существует область личностей, где мы можем встретить множество перспектив. «Различные подходы к решению личностных проблем привели к формированию различных теорий личности. Первоначально они были созданы клиническими психологами и психиатрами. В первые годы прошлого века большинство теорий были сосредоточены на выявлении факторов, влияющих на отдельных людей. Опирались они в частности на точку зрения С. Фрейда».

Ключевые слова: *учитель, профессия, ученик, образование, личность*

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Statement of the problem in general outlook and its connection with important scientific and practical tasks. Analysis of latest research where the solution of the problem was initiated.

The founder of the dynamic approach is S. Freud. Psychoanalysis is conceived as the science on the unconsciousness and of the theories of dynamics of personality. Personality, in this sense, consists of the id, ego, and superego. These three systems will interact and have a role to play:

-Id-is composed of basic biological impulses. It is governed by the principle of delight, looking for instant gratification.


-The Ego-man learns that the impulses may not be immediately satisfied, must learn to wait. It is governed by the principle of reality. Thus, impulses will be satisfied only when conditions are right.

-Superego-this is an evaluation of what is good and what's bad in man's actions. The principle of excellence is being applied here.

C. G. Jung advocated a direction called analytical psychology. Psychology for him is the science of the soul. He distinguishes two levels of typology - introverted and extroverted person's mental focus. Introverted personality is centered on its inner world. Extroverted individual focuses on his ambience, the outside world.

A representative of individual psychology is A. Adler. His theories are based on the personal experiences of a man which are obtained in a social environment. The key concept in its individual psychology is the feeling of inferiority. Child from is from its infancy inferior and dependent on others. To offset this feeling emerges the lust for power. Since then a man creates a lifestyle that changes him in order to be better than the others.

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When we compare the approach of Freud and Jung, we may find that the first mentioned is devoted to people's needs and their satisfaction in terms of time, when and under what circumstances, individuals will achieve satisfaction. The second is devoted to the soul of man and two bipolar levels - introvert and extrovert as well as to the sense of inferiority.

Behavioural approach

It is a science of behavior, whose founder is J. B. Watson. This group also includes I. P. Pavlov, B. F. Skinner, C. L. Hull. *"The essence of the behavioral theories lies in the assumption that personality is the behavior."*

Behaviourism is involved in the development of the personality on the outside. At the core of learning is the strengthening of matching responses to an incentive in the form of a reward and encourage its repetition. *"Pavlov is famous for his theory of classical conditionality. This is a type of learning in which the connection of the new incentive with the preceding stimulus leads the body towards the same response to a new incentive as the previous one, even if the previous is not present."* This theory was presented on experiments with dogs, where he observed its individual differences. The assumption that the action of a person depends on the activity of the nervous system. On the basis of the results of research, on how the animals behaved, he created his own version of the temperament. *"The original type was divided into the strong and the weak (melancholic). Strong types are divided into balanced and unbalanced (choleric). Reconciled types are fast (sanguine) and slow (phlegmatic)".* Behavioural approach deals with the behaviour of the individual, as is seen by his personality. A man is affected by the environment and factors acting on it.

Humanistic approach

The representative is C. R. Rogers, A. Maslow. The key concept of the theory of personality under the concept of C. R. Rogers is "Me". Draws attention to each man, his uniqueness and stresses the unity. It is based on the idea that people should not hide and pretend, but express themselves as they genuinely feel. From the wild feelings to feelings which are reasonable and approved by the society. Humanistic approach describes a unique survival of man and gives him the freedom to manifest his feelings and acts.

"According to the representatives of these theories is a personality the result of society and social situations in which a person develops and lives. A major role in the development of the personality is attributed to social environment and learning."

A. Maslow's hierarchy of needs *"proceeded on the assumption of the existence of biological complexity, the motive of which become important only when basic needs are satisfied. The Supreme motive – self fulfillment can be followed up after satisfying all other needs."*

"Maslow organized the needs in the following order:

- 1. physiological - need for food, liquids, air, sleep, emptying, ...*
- 2. safety - includes physical security, but also psychosocial, avoiding of situations of threat of existence, ability to ensure a home, a roof over my head, clothes, privacy*
- 3. belonging and love - to be loved, accepted, by the others, belong to someone*
- 4. self esteem - the need for power, recognition, competence, respect, trust, consent*
- 5. self-development - the need to develop and realize personal abilities, personal growth."*

According to the humanistic approach Maslow perceives the personality as the satisfaction of needs from the basic ones (natural), up to the upper ones.

Humanistic approach recognizes the importance of experience and the needs of a person dealing with his "I". It teaches a man to show his true feelings and not to hide behind pretending. We imagined also a hierarchy of values, in which the sequence should follow up on each other and be met by a variety of needs.

Cognitive theory of personality

In a cognitive approach is a man perceived as a scientist, focusing on the world, sets out presumptions and generalizes findings. A person according to this generalized knowledge adjusts according to the environment, but also shapes the world. Through mental processes such as thinking, anticipation processes information. Organization of the information encoded in the mind of a man, the whole experience of the individual represents the personality in terms of cognitive concepts. The foundations of the cognitive approach to personality are two assumptions, which process the information from the real world. The first talks about the perception of the world through an individual look. The second says that people actively construct own images of reality.

The representative is C. R. Kelly. His theory is based on the notion of a construct. It is a way of understanding reality. *"According to Kelly each of us creates a set of personal constructs that we apply to external reality. As if we perceived the world through a filter, which is made up of our personal constructions. They are certain characteristics that we use when we categorize phenomena and people."*

A human being is the supreme creature on the planet because it can think, perceive, love, but at the same time is submissive to the world and therefore adapts to the environment, since it cannot exceed the possibilities of the world. A man is in this cognitive approach perceived as a scientist.

The very concept of personality developed, as well as the different approaches according to the given period which perceive a man from different points of view. Each of the approaches is looking at the personality of the person differently, but one cannot say that it is a wrong one, or one having no sense. If we compare the humanistic principle with the cognitive approach we find diversity as the humanistic-oriented one is oriented only to a man and his emotions and living. In the cognitive approach we take into consideration the world around us, and the conditions in which we live. Behavioral approach can be easier to understand for people, because it is explained on a framework for concrete examples, that the scientists carried out on animals. Is it something specific, we can observe. Therefore, it is not just about a kind of abstract thinking, living. A dynamic approach sees the man as someone who needs to satisfy his needs. There are three measurements in which the satisfaction should be coming. More specifically, it could be compared to the needs of a small child crying to instantly saturate his needs, the kid may be hungry, thirsty ... An adult person is aware of his actions and knows that not everything is possible at any given moment, but he realizes that he must wait. The ideal would be looking at the man using of all the approaches, but the reality is often different so we are unable to perceive ourselves or other people around. Only subject to a variety of needs is achieved in humans relative sense of happiness and satisfaction.

The objective at the beginning was to familiarize and explain concepts that are related to or involved with the topic of the personality of a person. The topic is very extensive and we could use many pages in its further specifying. Even then we would not meet it in its entirety, because every single person is able to bring new, creative initiatives, which are not yet researched. We

have selected the most essential part of it, which we could briefly describe, and we have attempted to portray the subject as simple as possible, easy to comprehend. Man's inexhaustible well of information that will be always alluring, and there will always be something new about it what we want to know. A man in his awareness and

desire to control everything, to know everything is now on the border limits - making the perfect man, what is not natural. Mankind should keep a proper power to the nature, because it stimulates the curiosity of man in the investigation of this perfect secrecy. Each achievement, action of a man triggers a natural response in society and nature which we should not forget.

Aims of paper. Methods.

When drafting the study, we have used content analysis which is a method has been applied to all research, which works with the word (an analysis of the questionnaires, transcript of interviews, observation protocol, etc.). However, it is a special research method for the analysis of text documents. By analogy with the substantive analysis of the verbal text, we analyzed also non-verbal

products - images, charts, graphs, etc. (Gavora, 1999b). According to the current perception of the method among experts, we can conclude that it has the potential to provide results not only at the level of description and quantification of obvious elements, but also interpretative and explanatory conclusions based on the correlation of variables, this is the reason for our options.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Characteristics of the personality of the teacher

In this part of our study, we will focus on the personality of the teacher. So, as everyone is unique, and destined to a particular profession, so does the profession of the teacher and requires some specific traits of the personality of a person. Nowadays, however, it is no longer just about the skills that a person should have in order to be able to carry out this demanding profession. It's also about the requirements and the competences which have a significant impact on the implementation of the work and everyday situations. The profession of the teacher is under the influence of social changes, becoming more and more demanding and requires continuous progress and development of congenital as well as acquired knowledge.

Future of a country depends on education of the members of any society. Requirements

for the job of a teacher which is a part of its creation are getting higher. He/She manages the process and its positive and negative characteristics affects the personality of the pupil. A particularly important role in education has the teacher of the first grade of primary school. He/She acts strongly on pupils during this period, because they are very easily influenced, formable and vulnerable. Kariková describes the situation as follows: *"pupils of the 1. degree, who are daily exposed to one teacher, take over from him not only what their teacher is teaching, but also how the teacher behaves. It is difficult to predict how different students process the different impressions they inadvertently perceive on their teachers. Every teacher must therefore count with the fact that the students are affected not only by their purposeful educational action, but also their spontaneous behavior. Teachers are able to fulfil their mission only when*

they gain respect and trust of their students. The characteristics of a teacher can be divided according to its moral and social character. These are very important and have a unique place in each teacher's personality.

The personality of a teacher is in the teaching-learning process irreplaceable. In the production are faulty products replaced with new ones. But poor education, bad functioning, it can have a very negative effect, which a young person, raised-man carries on to the next life. A man who decided for the teaching profession must have certain personal qualification. Personal characteristics of a character include self-confidence, self-discipline, flexibility. Properties as selflessness, dedication, justice fall into the moral character. A social character includes tolerance, interpersonal skills, the ability to empathize with others, love for children, and others.

Among the features that make up the personality of a teacher are:

- **Attitude to the profession.** His profession is also his mission.

- **Being a good example.** Becomes a role model, someone with whom they can identify.

- **The intermediary of values.** Grows thoughtfulness, fairness in pupils, protecting them from negative emotions.

- **Support.** When he sees signs of grief, helplessness, helps to overcome such a frame of mind.

- **Self reflection.** Can summarize his educational performance and improve it.

The scholastic teacher is one who accepts the views of the pupil, has a willingness to discuss any problem. Accepts feelings, interests, needs and the diversity of pupils, if they are in accordance with the law of the school. Is capable of accepting mistakes, but at the same time works to resolve it. Develops the autonomy of pupils, their think-

ing, the way such issues are addressed. Supports positive relationship to learning. By a personal example leads to cooperation, requires pupils to comply with the discipline, be responsible and leaves space to their own opinion. Leads pupils to self-reflection and realization of own shortcomings. Creates conditions to enable that each pupil experiences a sense of accomplishment and appreciation. Is against environment of fear, mockery an unrest in the classroom. Does not leave students with accommodation of average, but shows them the opportunity for improvement.

A teacher in his relation to the pupil must not be biased. A teacher certainly must not be intolerant, given the pupil's color, gender, family background, religious belief or nationality. Chebeň says *"the teacher should be honest, forgiving, scrupulous, strict, should have a positive attitude towards pupils and to his profession, patience, initiative, creativity, good expression of skills, sense of humor, a willingness to help. The teacher should have sufficient expertise, should know how to clearly and properly for each pupil explain the topic and should be able to attract the pupils to learning."*

Previous features provide us with what would be the perfect teacher like. It cannot be forgotten that it is not possible, because people are not perfect. The teacher, however, during the teaching must seek the ideal, as far as possible.

In every job people use a device - driver needs a car, secretary needs a PC, cleaning maid needs detergents... We might consider that a teacher needs his speech.

The teacher's voice is important. Using his speech a teacher communicates, conveys his emotions, through it we may recognize its psychological frame of mind, motivation, interest.

Kudláčová in her publication distinguishes

three dimensions of the teacher's personality:

- **Dimension of vocational training** - it's about how a teacher is ready for occupation from the point of view training and professional expertise.

- **Ethical dimension** - practical decisions on problems, which the teacher is dealing with at school in the field of ethics - morality.

- **Psychological dimension** - the teacher needs to be aware of the difficulty of the teaching profession. This knowledge helps to sustain a critical overview of the profession and manage to go through harder times.

One may find someone else unsympathetic, even though he has never done anything bad to him – for no reason. The teacher may also come across such situations. It is very important to face situations objectively, and be able to evaluate them critically and get across it. Teachers certainly do not have all positive qualities, which we have already mentioned, but one should try to achieve them, in order to be fair and objective.

The uniqueness of the personality of a person is also reflected in the uniqueness of the personality of the teacher. Some features, however has the majority of teachers in common, some differ significantly. It then determines their relationship and attitude in teaching.

The profession of a teacher and stages of development of the teaching profession

So, as the personality of a man - child develops, so does the teacher's profession - it has its stages and development. They are influenced by the personality of the teacher, and also the environment in which it operates.

The term profession can perhaps be seen as employment, work, or as a profession itself. If the very essence of the profession in the field of teaching is to be fulfilled, the most

comprehensive characteristics is a profession. Profession to carry out its mission with love, empathy and respect for the respective persons. *"The teaching profession is characterized by the fact that its representatives should like people and feel good with the people.*

An important role, in view of the profession of the teacher has the teacher himself in particular in the first stage of basic education. In this period are the children very responsive towards the teacher's personality. *"A special role in education and training have the teachers of the 1. grade of primary school, working with pupils who are very formable and therefore may be strongly affected by the teacher."*

Teacher's personality and his actions are also dealt with in the science of Pedeutology. *"Pedeutology (From Greek: paideutos-raised, logos-word, theory) is a fundamental, interdisciplinary science. Comprehensively examines the objectives, benefits, prerequisites and conditions for the professional activities of teachers, in particular psychological and social demands on the personality, skills, and work of a teacher."*

Hence it is a science on teacher and views him from two angles. The first is a normative perspective, studying the way a teacher should be. The second is the analytical view, which is looking at the features a teacher in fact, has.

The profession of the teacher can be also understood as a *"social status which is a common value that a person has in the hierarchical structure of the social service in the system."* Unfortunately, other teachers do not support each other, there is a rivalry. In particular, the category of female teachers in kindergarten and first grade are underestimated. Striking is that the teachers attributed each lower than required education or lower status. This results from the quotes of some of the university teachers, who addressed female teachers in primary

education that they would only need a Bachelor's degree. While this work is very difficult therefore these teachers need knowledge of the higher kind. It is not right that the work of these teachers is so underestimated. The teachers are very important and the society needs them.

This expression was recorded by Kasáčová et al. It is evident that the teachers of the kindergartens and the first grade of the primary school have been assessed by teachers from universities. We assume that it would be preferable if this issue evaluated teachers, whose jobs are directly concerned.

The teacher and his character must meet certain requirements received from a variety of parties, such as family, society, education. It briefly describes the following division.

"The level of professionalism:

-individual - personality and characteristics of a professional, to be met,

-social - in which roles and responsibilities and professional requirements are formulated including the requirements on his job performance and achieved effects, as well as acceptable standards of his professional procedures,

-qualification - which specifies the required education, its level, type, specialization and the requirements for the next qualifying procedure".

Defined level of professionalism have certain characteristics that are manifested in certain dimensions-professional, ethical and professional. Professional dimension include the personal characteristics of the teacher. They are the motivation for the profession - the factor affecting whether the teacher will stay or leave the profession. Aptitude for the profession made of features and capabilities of the given personality. And also the cognitive assumptions, which are aimed at the mental level of the individual, his intelligence, the ability to make decisions, self-development. In the

ethical dimension, we are talking about teacher's morality in thinking, actions, opinions. He must be always driven by humanistic approach and shall be governed by democratic principles, which are acceptable for the society. Since the teacher is more stringently evaluated in the society, compared to other professions, hence his morality moral conduct are observed more closely. The professional dimension of the qualification is given by the legislature. This is what the level and type of education a teacher has to achieve. The term professional teacher's path refers to his expertise creation. The stages of this process include the following:

- the choice of the teaching profession,
- preparatory phase,
- professional start,
- professional achievements,
- professional stabilization or migration,
- professional burn out.

V. Špendla (In: Baďuriková, Z. et al., 2001) differentiates the 5 stages of professional development of the teaching profession:

1. *the orientation phase (pre-profession choice of the teaching profession),*
2. *the preparatory phase (training of future teachers)*
3. *the adaptive phase (the first years in the job),*
4. *the integration phase (shaping the teacher's personality)*
5. *the stabilization phase (balanced educational performance, professional emergency and scenic views). "*

This is how a teaching profession develops, provided that teachers remain in it. But not everyone who starts to learn will remain in this occupation. There are cases that people choose other profession, than the one they graduated from.

Teachers must have knowledge not only in their specialization - the subject they grad-

uated from, but also from various other sciences such as psychology, Diagnostics, pedagogy, ...

The teacher is *"an agent of new information and knowledge, a person who teaches the students to learn and leads them to be interested in getting this knowledge."*

A good teacher has to be highly responsible and not to take the job only as a job, but as his hobby and mission. He/she is characterized by a positive relationship with the pupil, who is capable of understanding. He/she is in charge of the subject he/she teaches, but also has a broader scope of knowledge, which we mentioned above. Works with other teachers, in particular in the diagnostics. Analyses and evaluates his work and the work of the pupils, who he/she is responsible for. One of his objectives is to become better.

The work of the teacher should be made his mission. It is an internal desire to continuously develop and acquire new information, knowledge in the area of his expertise, valid at the given time and in a suitable way to pass on this knowledge to the pupils. Teachers should consider their service at school, and if this work is way too stressful, challenging and too difficult, they should objectively decide whether it makes sense to remain or their departure is a better solution. His/her's nervousness, uncertainty and reluctance in fact does not only influence him/her, but also the students, who represent the center of interest, and such teachers should not be present at school. We believe that even in a different sphere of work, despite years of study he/she might be happier and more satisfied, and this should be the ideal of the society, when work brings joy.

Typology of the teacher

A correct approach to work in the teaching profession can not be expressed only by spending the required number of hours at school as a result of the nature of employ-

ment. Teacher should show a deeper integration with the school environment, the existence of a genuine thread of sympathy towards students and respect for other colleagues, despite the undoubted difficulties and a lot of stressful situations that are inscribed in the teaching profession (K. Miłek, s. 82). Pretty much everything in today's society can be divided into certain types, whether it's products, games, clothing, or dances. A person of a man or a teacher is not an exception and we will divide it in this subchapter into several types. Also this area is perceived by different authors differently, therefore, in literature we can meet with multiple typologies. We have selected those which we consider to be the most common and the most frequently used.

Kariková explains the concept as follows *"the typology of teacher's personality also describes the basic orientation in the work of the teacher based on his work, the prioritization of certain procedures and approaches to pupils, which are involved in the the personal characteristics, features and abilities of the teacher."*

Typology of a teacher's personality divides teachers into several groups on the basis of various criteria, in particular properties that are prevalent among teachers. One of the most famous is the typology according to the Caselmann, who brings the following types of teachers:

- paidotrope - in the center of his interest is the pupil, he accepts his age, the particularities of the individual,
- logotrope - in the center of his interest is above all comprehension.

Ch. Caselmann further distinguishes the typology based on the way of teaching and *"three types of teachers:*

- *The type of scientific and systematic efforts to proceed rationally and systematically in teaching, has a well-thought-*

out process. The curricula administered transparently, schematically.

- The artistic type presents the topic clearly and vividly, graphically. Develop primarily figurative thinking in pupils. Guided by the intuition.
- The practical type organizes the work of the pupils to make it the most effective possible. Is oriented towards methodological activity. "

Typology of teacher's personality by W. Döringov classifies these types of teachers:

- Economic-type - teacher wants pupils with low effort to achieve maximum performance.
- Aesthetic type - imagination, emotion, empathy-type predominates.
- Social-type pays attention to all pupils.
- Religious type - his life is linked with God. Does not respect science.
- A theoretical type - prefers theoretical knowledge, is responsible.
- Political type enforces his own person, is strict in evaluation.

In the introduction we have divided the personality according to the temperament to a sanguine, choleric, melancholic and a phlegmatic. A teacher is characterized by those types of temperament.

- Sanguine - cheerful and naturally optimistic. Gets knowledge rapidly. Tends to divide the pupils on favorite and non-favorite.
- Choleric - can express himself precisely, knows how to enthuse pupils. His negative aspect is the explosiveness that pupils fear.
- Phlegmatic his peaceful manifestation and behaviour in the classroom creates a relaxed, pleasant atmosphere. Is prone to indecision, indifference, disregard of pupils' errors.
- Melancholic - is sensitive, with understanding for pupils. As his negatives we

consider low level of stringency, what the pupils then abuse.

How the teacher reacts during the lessons is related to his type of temperament. Phlegmatic type cannot attract the attention of pupils, while in class he brings peace of mind. On the contrary, the choleric type brings turmoil to the classrooms due to his reactions. His activity is transferred and on the pupils. Melancholic type is too emotional, what may be exhausting for him and may reflect in disproportionate reactions. Sanguine type tends to be more superficial, but it is easy for him to follow up contacts. Slightly strong type is the most appropriate type of temperamental characteristics.

Following division shows in two points inappropriate behavior of the teacher. The third one, positive, talks about what type of behaviour should a teacher have. Aggressive type - arrogant, ironic, does not let the others finish their thoughts, creator of a bad atmosphere, blackmails using emotions.

Passive type - complains, nods even to things he does not agree with in order to avoid bad atmosphere.

Assertive type - his expression is clear and concise. He can both appreciate and criticize. He is interested in the opinion of others, can make decisions. Accepts his rights and rights of the others. Behavior is based on mutual respect.

According to the type of personality one can assume certain modes of behaviour also in the educational process. They will transfer into the teaching styles of a particular teacher and it shall result in the progress of the whole process of teaching as well as the involvement of pupils in it.

"Teaching style can be seen as the predominant and typical for a certain teacher course of action that is applied to the classroom."

Learning styles in the education process

- Authoritative - in the process of education is the teacher reflected showing dominance. His monologue prevails. Pupils consider him strict, with little sense of humor. He does not respect the opinions of others in what he should do. Does not work with pupils.

- Democratic - in the process of education he works with the pupils. He is figuring out their opinions, receives feedback. Creates a positive climate for education. It activates the pupils; they like and respect him.

- Liberal - in the teaching-learning process, sometimes he cannot maintain discipline. He is very soft to the pupils which they abuse then. They like him but often then do not respect him and misbehave at lessons.

- Unfocused - changes his behavior in the process of education. This teaching style is typical for the novices, fresh teachers.

In the classroom with a nervous teacher there are more aggressive pupils compared to a classroom with a balanced, peaceful teacher.

In practice, it is not always possible to have only one style of teaching. It is rather a combination of all or several with the elements of one or two.

It is appropriate that the teachers study the literature, with a focus we have already mentioned in this section. Good is if the teacher knows his reactions, so that he can identify what type he is in the education process if he wants to work on its improvement, he should find out as much information about himself as possible.

The requirements for teachers

So, as we have already mentioned, the teachers are asked a variety of requirements. Some of them are larger than those of other professions, because not every job entails so much responsibility. *"The teacher should have adequate theoretical and practical expertise from a number of areas:*

- *expert knowledge of the subjects that he teaches,*

- *expert knowledge of the developmental characteristics of learners*
- *knowledge and expertise concerning the organization of a lesson,*
- *insights from the field of didactics,*
- *appropriately developed language and speech abilities,*
- *findings from the evaluation. "*

Findings from the evaluation are important.

They are important for the teacher assessing pupils and teaching process. Parents who are interested in the child's results and the pupil himself/herself.

"The teacher meets during his practice not only with students of the same origin, religion, socio-economic status, race, culture or nation, which keeps the requirements for his personality, skills and competence constantly increasing. His work should be held in a spirit of universal human values, ideas, pluralism. It should promote peaceful coexistence of people of different races, nations, and cultures and to lead students to a tolerance against racism, violence and discrimination."

Every society, in which we live, has a tradition and values, which are established in the long term. People of different cultures should also be tolerant to our culture, they should be able to reasonably assimilate.

Compared to other professions, teachers are under greater expectations. The teacher has to deal with:

1. the stressful factors from outside - personal problems, lack of pupils' interest in school, inadequate equipment, a low financial evaluation, support from parents, society,
2. the teaching profession as an impossible profession - despite a consistent preparation does not always lead to success and meets up with the failure of the pupil,
3. relationship to the pupil, which is educational - this is about finding a middle ground between teachers and pupils. The correlation between them is supposed to be

objective. The teacher has to keep distance from the pupil, but at the same time to be a close person for the pupil and understand him/her. Requires authority from the student, but at the same time he wants the pupils to like him,

4. his own shortcomings, e.g. in terms of temperament.

A teacher must be flexible in his work, creative, withstand the stress well. It is important that the accumulated odds and issues from the private life are not transferred to work, where they can culminate. We should remember that the problems should be consulted with those, who created them and not to "pour" our anger on the other ones.

Competence and self-reflection of the teacher.

In this section we bring the description of the terms competence and self-reflection of a teacher. There are several divisions of competences, according to different authors.

"The notion of competence (from lat. competentia) means power, competence, capability to perform the same action." Terminology Dictionary defines competence as the *"competence, ability to"*.

V. Švec (In: Kasáčová et al., 2006) divides the teaching competence to:

- "Competences to teaching and education – psycho-educational diagnostic, communicative competence.

- Personal skills – ability to accept ourselves, pupils and colleagues, assertive, authentic and empathetic behavior.

- Developing competence - adaptation, research, information, self-reflection "ability. Competences can be summarised as follows:

- expert-subject competence,

- psycho-didact - creating appropriate conditions for the teaching process, appropriate climate, activation of the pupils,

- organization, management - teacher can schedule his activities,

-diagnostic - teacher can find out the problems of the pupil and help him,

- advisory, consulting - concerning the relationship between the parents and the educators,

- a reflection on the own activity - teacher can grade his own performance, behavior,

- communication concerning the establishment of the relationship not only between students, but also among parents, colleagues, and superiors.

Competences creates a holistic view not only on the core areas of intervention of the teacher, but also on his ability to express his personality in the said areas. The very personality of the teacher includes different aspects, which are mutually linked and influence each other. The personality of the teacher is transferred throughout the educational process, but also affects the persons entrusted to it, i.e. the pupils. They respond not only to the mediated curriculum, but directly on the personality of the teacher. It is important how is the curriculum handed over, what is the atmosphere in the classroom, how the pupils work together and that is greatly influenced by the teacher.

The teacher has to carry out self-assessment. He summarizes the facts about himself, his activity, approach, assesses and compares it with the real situation, as it should be. This shall encourage him to change it. A teacher should also carry out self-assessment in a broader sense, when assessing his personality and takes note of it, how he acted, decided, and so on. It is necessary for a teacher to accept himself/herself as he/she is, to respect himself/herself. A teacher should trust himself, but at the same time also be self-critical and aware of his shortcomings. The term self-reflection *"is generally understood as a reflection of ourselves, which should lead to a deeper self-understanding and exactly in*

the teaching profession one has to explore our own motives, hidden desire, which is then reflected in the the teaching action. The purpose of self-reflection in teachers should be to induce changes in our professional activities. This should be a retrospective look back at the teacher for his teaching, behavior in the classroom, in his thoughts, attitudes, actions and emotions, that relate to his pedagogical activities. Self-reflection of teachers is also associated with their internal motivation and some personal characteristics."

The teacher can carry out self-reflection via:

- Introspection - he writes down the ways of behaving which will help him reduce negative behavior.
- Writing of a diary - evaluation of ourselves and others, how they moved away from their objectives.

Conclusions.

When we compare the different parts of our study, we can find several similar divisions and much in common. This is because a personality of the teacher is based on the general characteristics of the personality of a person. Since we wrote about the fact that every man is a personality, we are all personalities, no matter what job we perform. The teacher, however, is working on and shaping many other people - pupils, that is why we considered it important to deal with this area in particular. There are different types of personalities, therefore, there are also different types of teachers with their teaching styles. The teaching profession is not just a profession. It should mainly be a mission. Teacher is a very important man in society, who is characterized by a certain character, qualities, competencies. This im-

-Self-knowledge through others - a need to have such a relationship with a man that will be mutually acceptable, who has his trust and hence he may also confess. It's good to know how the others perceive him.

- Positive selftalk - here a teacher can without self-conceit say his positive aspects, what is he really good at.

- Essay about myself - thinking about ourselves - who are we, where do we aim at. Here is a man aware of his qualities, desires, goals, needs, and problems.

- Will Associations – one thinks of own life, trying to understand oneself.

It is important that the teachers undergo self-reflection. It can provide us with an unbiased picture of ourselves, of our educational effects. And only thanks to a healthy self-criticism and the fact that he wants and can make a difference.

portant profession should only be performed by someone who likes people. Humanism in education seems like the best possible starting point. In particular, the teacher of the first degree is essential. Pupils take over many acting patterns from him. He doesn't even realize how much he can affect their future. Therefore, it should be an exemplary human being, who is the right role model for the pupils. The ideal would be one who lives according to Christian values. Mere Christianity refers to a value system, which is reflected in the love and kindness, and this translates into the classroom, where the pupil knows that he is accepted with his good and bad aspects. Supports the development of spiritual sites and works on the oppression of the bad ones.

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REMARKS ON COMPLEMENTARY EDUCATION OF AN ADULT PERSON

UWAGI O KSZTAŁCENIU KOMPLEMENTARNYM CZŁOWIEKA DOROSŁEGO

ЗАМЕЧАНИЯ ПО ДОПОЛНИТЕЛЬНОМУ ОБРАЗОВАНИЮ ВЗРОСЛЫХ

Abstract

The article presents concepts of complementary education. It specifies the characteristic features of this didactic concept such as individuality, subjectivity and turning towards modern education techniques. The relationship between complementary education and didactic tradition is underlined. The authors also point to the links between education and its axiological perspective.

Keywords: *complementary education, didactics, principles of education*

Streszczenie


Niniejszy artykuł prezentuje koncepcje kształcenia komplementarnego. Wskazuje on na cechy charakterystyczne dla tej koncepcji dydaktycznej takie jak: indywidualność, podmiotowość, zwrócenie się w kierunku nowoczesnych technik edukacji. Podkreślony jest związek kształcenia komplementarnego z tradycją dydaktyczną. Autorzy wskazują również na związki kształcenia z jego perspektywą aksjologiczną.

Słowa kluczowe: *kształcenie komplementarne, dydaktyka, zasady kształcenia*

Аннотация

В статье представлены концепции дополнительного образования. Обозначены характерные особенности дидактической концепции, такие как индивидуальность, субъективность и обращение к современным методам обучения. Подчеркнута взаимосвязь между дополнительным образованием и

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дидактической традицией. Авторы также указывают на связь между образованием и его аксиологической перспективой.

Ключевые слова: дополнительное образование, дидактика, принципы образования

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Statement of the issue in general outlook and its connection with important scientific and practical tasks.

Knowledge and technological progress has always accompanied the process of the development of civilization. The use of tools made us fitter, more productive, and consequently more effective. A. Gehlen explaining this phenomenon at a level of cultural anthropology indicates the following examples: "Stone in the palm relieves, and also increases the effect of fighting fist; cart, the animal ridden relieve us in pedestrian traffic and exceed our capacity considerably" (Gehlen 2001, s.146). At a time when Charles Babbage designed his analytical machine, and John von Neumann, when he created the basis of contemporary digital machine, he was guided by the idea to facilitate and speed up calculation works and relieving man from tedious mathematical and statistical calculations. Probably they did not foresee then all the consequences of their inventions. The creators of digital technologies paid attention to the technical aspects of inventions introduced, sometimes they were guided by practical purpose - mainly speeding up and facilitating mathematical analyses and scientific and research works - later modernization and facilitation of office and design works and statistical analysis. They did not expect the far-reaching social and sociological effects of the rapid development of digital techniques and information technology. It should be emphasized that at present we observe the


intensification of the ongoing transformations. As Giddens points out: "Modernity inevitably globalizes, and destabilizing consequences of this phenomenon connect with the circularity of its reflective nature, creating a universe of events in which the risk and hazard acquires a new character" (Giddens, 2008, p. 125). These phenomena have also been observed in pedagogy (Pólturzycki 2016 Galanciak 2016 Tanaś 2007 Zaczyński 1986).

Modernity and technologies related to it are changing the conditions of our functioning. Along with them there are new challenges, which man is not always able to meet. An example of these changes can be an unprecedented plethora of information, which causes that man not only is able to remember it, but is not able to keep up with their selection (assess the validity), and even receive. In this way a phenomenon of information noise and stress is created defined by Marie Ledzińska as "a syndrome of sensations accompanying the inability of the current development of information and integrating it with the existing knowledge of individual" (Ledzińska 2002, p. 27). The ability to analyse, especially to separate and organize the information turns out to be important evolution trophy. The acquisition of this competence is an important education task.

Apart from challenges, technology creates new opportunities and chances for education, making it more efficient and

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more accessible. As J. Pólturzycki points out referring to the use of computers in continuous education of adults: "first attempts and successful experience took place in the English Open University, German Institute of remote Studies DIFF in Tubingen, Canadian universities in St. John's and Quebec and Australian and Japanese and the United States" (Pólturzycki, 2016, p. 347). The opportunities connected with the dissemination of new technologies are emphasized, being aware of the existing restrictions at the same time. "ICT

(Information and communication technologies - information and communication technologies) are obviously not a panacea for the ills of education. However, they can help to overcome the barriers of conventional education and higher education and contribute to LLL system (Lifelong learning, lifelong, lifewide, voluntary, and self-motivated - lifelong learning)" (Tanaś, 2010, p. 2). It is important of course to see the risks posed by the development of media reality (Andrzejewska, 2014).

Aims of paper. Methods.

In the article, besides the presentation of the concept of complementary education the experiment of a natural character is also presented (Zaczyński, 1995). It was an analysis of the use of complementary education techniques in the conditions of vocational training organized for adults in the Centre of Prison Service in Kalisz using: the experimental group and a control

group to compare selected aspects of effectiveness and conditions for the acceptance of the training process (Sagittarius 2015). Research was carried out for three consecutive years (on three age groups of students), systematically repeated and compared. The experiment was based on the method of the only difference.

Exposition of main material of research with complete substantiation of scientific results Obtained. Discussion.

An adult as a subject who learns.

Learning in adulthood is different from the learning of children and young people. This is due, among other things, to a sense of identity and subjectivity, which should be characterized by adults. The major difference is that adults accept and take responsibility for their learning. It is connected with the belief that they can decide what wish or do not wish to learn. Characterizing adult learning, we can point out some key features. In particular, we can conclude that adults (Illeris, 2009):

- learn what they want to learn, or to which they give importance;
- they use mostly such materials and tools, which they know;

- take responsibility for learning to such an extent to which they want to take, they cannot be forced to learn;
- they do not want to learn something they are not interested in, they do not attach much importance to it, they do not see any sense in it.

It is worth adding to the remarks of Illeris that the condition of taking up education by adults is its adaptation to non-cognitive and non-didactic conditions of the functioning of adult such as work, family issues, or also cultural and personal experience.

A key element in learning process, and in particular learning in e-learning, is motivation. According to some researchers, the reason for all the activities of people

are, on the one hand, cognitive factors, on the other hand, emotional ones. In adult learning motivation for learning is of particular importance and related emotions. Zbigniew Meger concludes "... research show that effective learning takes place in the so-called positive cognitive cycle, that is, when positive emotions prevail. Negative emotions also have their share, applied in the right place at the right time." (Meger 2008, p. 24). Emotions have a very important impact on motivation, which is the basis of any action. No action is possible if there is no will to take action. Will, as a rule, is not possible without the right motivation. Motivating the participants of training organized in the organization or institution prepares for taking a decision on action, however, the decision itself, to be of causative and effective nature, should be taken only when there is a (free) will to act. It should be noted that motivation and volitional processes should be maintained throughout the period of activity. Effective learning depends on many factors, which include, on the one hand, to affective components, supporting above all motivation and decision making processes

and cognitive components, supporting mainly operation and logical activities. Cognitive factors are effective elements. They can relate to the knowledge itself, information and its structure for example. knowledge about content, knowledge about tasks, or knowledge about strategies. They can be associated with the experience and skills, or be of process nature. They relate to learning strategies, competence in the field of work with information and sources and competence in control and self-control. This group of factors is very closely related to biographical competence of student, which are a special and very personal feature of adult learners. In particular, school experience of adult student plays a great part here. The importance of cognitive and affective elements can be different with each person or each group of people. However, you can be tempted to attempt to make a list of factors playing a key role in remote education processes. On the basis of the experience accumulated a set of components of independently controlled learning was developed, which distinguishes motivational and cognitive components. Table 1 illustrates the set

Table 1 Components supporting education


motivational components			cognitive components		
affective-motivational components			Cognitive-effective components		
structural			structural		
needs	hobbies	objectives	knowledge about content	knowledge about tasks	knowledge about strategies
process			process		
strategy assessed independently	volitional strategy		strategy of working out information	control strategy	source strategy

Source: author's study based on: Meger Z., Motivation in remote teaching "E-mentor", 4 (26), October 2008; Meger Z., Motivational-volitional strategies in remote education. "E-mentor" 5 (28) December 2008.

In the division shown in the table two concepts of learning may be reflected, one of which indicates that learners specify methods of achieving teaching objectives themselves, and the other one says about such support of learning environment so that the learner can participate in the common learning process.

It follows that the motivation process can be considered from the internal point of learning person, where the activities thus arising are inspired, and from the external point, when such activities are the consequence of factors beyond the control of person and the person is controlled externally. The influence of cognitive and

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affective factors on motivation, will and activity in education process is intercurrent and mutually complementary or in conflict. Consequently, in order to ensure the proper cycle and to maintain high activity of learners, a simultaneous impact of cognitive and affective actions of motivation and volitional nature are necessary.

Regardless of the differences in learning of children, youth and adults, there are also similar factors. An important element in teaching are individual factors of student and teacher. Didactics discovered this fact long ago. On the basis of these beliefs differential didactics came into being.

Concept of complementary education.

The concept of complementary education is a response to the needs and opportunities of contemporary world of learners and teachers. In particular, it applies to adults. The author of the concept of complementary education is prof. Maciej Tanaś (Mischke, Stanisławska 2006, p. 7). The very concept is the result of the analysis of experience resulting from the practices of educators, coaches and teachers, and the opportunities that modern ICT technology creates. In its essence the concept of complementary education is trying to keep the advantages of traditional forms of education, with the creative use of what contemporary technology offers to education and, in particular, computer techniques and the Internet. The central characters of educational process here are the student and teacher who retain their subjectivity. Creating together and seeking knowledge, taking advantage of the benefits resulting from technological development and at the same time aware of the risks associated with technology.

Thus, in the concept of complementary education in the center of learning process there are persons, teacher and student, seen as a conscious subject and object of


educational activities. Making these reservations, we can accept basic assumption of the concept of complementary education presenting its essence.

Complementary education is a concept, which assumes that in the process of teaching-learning we should combine in a flexible way traditional education and characteristic to it direct communication with remote education using the Internet and other types of media. The essence of complementary education is to combine these two education modes so that the individual elements are complementary to each other or complement each other and suit to the needs, possibilities and expectations of participants in the education process. Computer and the Internet occupy a special place among these media (Czarkowski 2015, pp 40-42).

The concept of complementary education is both intrinsic and significantly different from the proposals of b-learning understood as a parallel education, also introduces different solutions in relation to other contemporary trends of educational thinking immersed in new technologies such as cognitivism, transgressionism or connectivism.

Cognitivism usually adopts models of learning similar to modeling, computer information processing. In the references understood in such a way learning is perceived as a process of contributions, managed in short-term memory and encoded for long-term remembering. Cognitive theorists believe that they seem to be more appropriate to explain the complex forms of learning, such as solving mathematical problems, drawing conclusions from text or writing compositions. At the same time, the same author indicates the common characteristics in the process of teaching, regardless of the content taught or

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objectives set. "learning to read is fundamentally different from learning to play the violin, but both require support, attention, effort and perseverance. Learning to write semester work and learning to throw the javelin does not seem similar, but both are accomplished by setting the objectives, independent monitoring of the progress, feedback from teachers and trainers and a sense of intrinsic motivation" (Schunk, 2014, p. 25).


In transaction concepts the transaction itself "always appears in a meeting of two or more persons who indicate a desire to communicate by sending transaction incentives, in this way we are dealing with the transaction response or mechanism of searching for a positive evaluation and approval on the part of others" (Ernst, 1991 p. 10). In the light of these concepts each didactic situation is of transactional nature, and often therapeutic. In this context, it is worth quoting the thought of Anna Włodarczyk: "the specificity of each didactic meetings is continuous confrontation of the two parties of specific dialogue-teacher and student. You can say that each meeting is actually coming of "person to another person". This Rogerian wording implies at least two meanings of didactic relationship, taking into account the specificity of a particular social role and the individuality of the personality of teacher and student. In this way, a therapeutic character of relationship and the specific teaching style is outlined" (Włodarczyk, 2007 p. 12).

Listed due to the time of creation as the last connectivism, is a concept which in the belief of its followers combines all previously mentioned. It is, in their opinion, a theory best adapted to the digital age (Siemens, 2004). Creator of the concept of Georg Siemens proves that learning is a process, which is not fully under the control of man, because it does not take place

"inside" it, but in the way of combination with the information and resources of the knowledge used (2004). Note also the fact to which attention was already drawn before, that the resources of knowledge, information change all the time, new data are added, that is why the ability to select the most important information from less important one is the key one (Tanaś 1999). The ability to determine when the new information changes to such an extent, that it affects its basis when taking earlier decision is also very important. According to Siemens in view of the above facts, it is not important to "know how" (know how) or "know what" (know what), but you should also know "know where" (know where) (2004). In the light of this concept not all messages need to be in your head, and the most important is to be able to find the necessary information in the right resources, which starts up the learning process. In this context, the action (skill)itself of combining with knowledge resources is more important, than what is known to the student at present.

The concept of complementary education using many valuable achievements and relevant findings of indicated systems but draws attention to the essential element of subjectivity of both the student and the teacher in the learning process- teaching, the service role of media and knowledge transfer tools as a means and teaching aids. Unlike many other modern didactic proposals it tries for the benefit of participants in the process of education to use the achievements of didactic tradition, in particular the achievements of the Polish didactics (Sośnicki, 1948, 1956, Okoń 1996 Zaczynski 1990). The followers of complementary education appreciating the work of tradition and contemporary times believe that you should not spare effort and means in search of still better, and especially more adapted ways of the

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organization and implementation of learning process, oriented towards individual needs of person, but taking into account social opportunities and needs.

There are differences between the e-learning, b-learning and complementary education. The concept of e-learning involves the use of Internet technologies for educational purposes, while the parallel education assumes the implementation of the part of content, e-learning method, and a part of classes using traditional methods (Rosenberg 2003, p. 1, or Clarke 2007, s. 11-12). Complementary education, however, requires the use of various forms of communication, including various forms of direct communication. The concept of complementary education is a development of the concept of b-learning, also known as mixed or hybrid teaching. It is the result or the effect of the postulates of the integration of various forms of education communication (Thorne 2003, p. 16). The alternation (mixing) of various forms of communication was not enough in the implementation of postulates. A necessary condition is the complementarity of measures used and educational needs of the student.

Complementary education concept complements the existing rules of classical didactics and media education with additional assumptions. It is important here to emphasize that the concept of complementary education does not reject, or in any way lessens the importance of the work of general didactics to date, in particular the Polish school initiated with works of Kazimierz Sośnicki and Wincenty Okoń and their students and colleagues. It does not negate the achievements of andragogy, understood as a theory of adult education. Of particular importance here are the assumptions of the theory of multilateral education, which also has its

wide application in adult education (Pólturzycki 1991, p. 123-128).

Complementary education principles with regard to the education of adult.


Just as in traditional teaching takes some principles of teaching-learning, referred to as "the most general principles, which the teacher should observe in all his specific didactic procedures" (Sośnicki 1948, p 211-212) and called "standard outlining the teaching method to the teacher" (Okoń 1996, p. 167). so the concept of complementary education defines it as well. However, unlike traditional systems of teaching, the authors of concept emphasize that they are complementary or extend the traditional rules, and they not an attempt to replace them. It is worth noting with Katarzyna Bocheńska-Włostowska that "teacher, reaching for new technologies in teaching and education work, must be aware that it is a complex process and contrary to appearances, not separated from experience and theory of traditional teaching." (Bocheńska-Włostowska, 2017, s.131).

We accept the following additional complementary education principles:

- the principle of conscious and independent participation of all participants in the process of teaching-learning;
- the principle of cooperation of the teaching and learning;
- the principle of individualization and optimization of educational process;
- the principle of comprehensive activating of student to critical and creative use of information;
- the principle of creative, total and alternating use of various ways and means of communication so that they complement one another mutually;
- the principle of efficiency

The principles of complementary education mentioned here require clarification and

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indication of the most important dependencies, which occur between them and the question of the relationship between the traditional didactics, and indications of this theory.

As in other publications these issues were discussed more in detail characterizing the principles of complementary education (Tanaś, 2010, Czarkowski, 2015), here I will refer only to those issues which directly relate to aspects made earlier characteristic for adult learning.

A key principle of building the motivation and conditions of education is the principle of conscious and subjective participation of all participants in the process of teaching-learning. In a broader comment we read "both the learner and the teacher should participate in the educational process in a subjective and conscious way. Each participant of the process should specify their desire to participate in the teaching-learning process on his own. Complementary education effectiveness process depends on the willingness to undergo this action "(Hastings, 2009, p. 191). In its assumption complementary education assumes that both the participants and the learner know and accept the objectives set, are aware why they are participating in the educational process. This makes the participants of the process its subjects. However, knowledge about the world and people, by subjective relationship of person to the subject of cognition, by experiencing the events related to it or gaining the events, leads to the involvement in educational process of emotions, feelings and will, becoming the value for students. K. Sośnicki writes that this is a value "[...] we want to defend and for which we want to win over others "(1963 Sośnicki, p. 139). The specific importance gains the analysed principle in the context of another assumption receiving the cooperation of the teaching and learning

as a necessary element of complementary education. At this point, it should be noted that experience and knowledge resulting from learning activity are not always associated with the content of undertaken activity, they can also be related to the circumstances of its making, including interaction and especially partnership and cooperation (Zaczynski 1990, s. 104-105). Partnership and cooperation of the participants in complementary education process leads to a situation where all its participants to some extent become students, and to some extent, teachers. The teacher plays the part of master here or guide or even "older brother", who is a model for student to follow. The authority of the teacher is based primarily on the basis of conformity with the beliefs and truths professed. In this situation, he need not always know everything, but he should be genuine in what he says and does, open to seek and seeking knowledge. It is important that he improve the skills to search knowledge continually. The common search for knowledge, learning and teaching in cooperation leads not only to know, but also to co-experience, and as a result the process of complementary education also becomes a "meeting of people [...] through whom the horizon of values opens, due to which a man becomes a man regardless of the ideology or social system "(p. 111). In his practical reference the cooperation can only be a form of collecting feedback. It is important, however, that regardless of the form accepted it is a conscious common action towards achieving the objectives accepted, and do not provide information about the impressions on classes. It is difficult from the participants, or material users expect a competent assessment of their substantive quality. However, they can describe their experience, in particular, whether the submitted content and received materials

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supported them in the pursuit of a common objective and what were their feelings and emotions in connection with them. In the concept of complementary education impressions and feelings of participants are also important. In principle, we assume that a feedback is an element of conscious participation of the participants in the process of teaching-learning.

The concept of complementary education is focused on individual and on his personal development, it assumes the adaptation of expectations set for each student with regard to its capabilities and skills. It assumes the building of his individual characteristics in order to reach their own full development and to achieve his objectives. It is important in this issue is that the effort is optimized so that work put in the process of learning and teaching bring broad and lasting effects. This is reflected in the principle of individualization and optimization of the process of education.

An important consequence of this principle is the significant role of diagnosis, both preliminary and its diverse forms conducted during the process. The diagnosis should be carefully and regularly performed, become a daily element in the processes of teaching and learning, because it is an inseparable part of the process of individualization of education. Neglecting systematic diagnosis contributes to the formation of gaps in the news and the failure of the whole process. At the same time, as previously discussed principle, the principle of individualization and optimization takes on special significance in the context of cooperation of the learning and teaching and emphasizes the importance of consciously provided feedback, which in adults is an important part of diagnosis and at the same time a prerequisite for optimizing the learning process. Proper and adequate diagnosis


significantly supports the optimum organization, selection methods and the methods of both summative and formative evaluation. Reliable implemented principles of individualization and optimization also mean the need for the preparation of different teaching materials and a constant build up of their base. It should be noted that the preparation of educational materials filling the planned process of complementary education requires the same action to the one included in the manual Gagne, Briggs, Wagner referred to as "guiding in the individual teaching" (Gagne, Briggs, Wagner, 1992, p. 288).

The principle presented takes on additional importance in the context of the adoption of the assumption about the creative, and alternative use of various ways and means of communication so that they complement each other. The key here is the term "creative", because in a particular way, it imposes on the teacher, to whom many theorists of adult education confers title of facilitator (Knowles, Holton, Swanson, 2009, p. 231-233), postulate of such organization of the process of education, so it is not only varied, or internally varied, but so that it is a creative material allowing a creative activity of the teacher and the student. It is worth recalling here the thought of the work of S. Jarmuza and T. Witkowski: "a creative approach to training should manifest itself in the fact that the trainer can invent a new task, especially for the needs of a particular training situation and to do courageously." (Kale, Witkowski, 2004, p. 84)

Contexts of complementary education characteristics

The adequacy of the concept of complementary education for adult student results not only from the constitutive education principles, but also from consecutive with regard to the principles of

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the characteristics of complementary education. Among them as a key for the adult student flexibility, attractiveness, and availability should be mentioned.


- Flexibility – the richness and diversity of the media, as well as diverse forms of communication used in a complementary education allow for easy and quick adaptation of educational process to changing external conditions and individual characteristics of students and teachers. This means high ease in modifying the learning process in relation to changing conditions, which sometimes takes place even during the process of learning – teaching without quality loss, and, in particular, the effectiveness of education.
- ATTRACTIVENESS-complementary education assumes such organization of the process of teaching-learning, which provides students with the diversity of experience and a wealth of experience, this makes the process of education attractive, this situation prevents the dropping into a routine and at the same time mobilizes the student and teacher to creative behavior, being a challenge for the human mind, makes it more efficient, more open to new knowledge and experience, interested in the world.
- AVAILABILITY – free and dynamic combination of different ways of communication in the process of teaching-learning makes it available to adult learners, with different needs, preferences, as well as opportunities to learn. This makes the process of learning more open both to those who have a need to know more, as well as for those who must work or bring up children and have limited time to learn, both for those who are audible, visualizers, or kinesthetics also, finally, for those who master the specific content easily and can deepen and widen the content far beyond the

necessary minimum, and those whom the mastery of content is harder and they need more time.

Axiological horizon in complementary education should also be pointed out. The issue of combining the issue of problems of values with the education and their presence in is an important problem of the contemporary scientific discourse (Geydos, Bocheńska-Włostowska 2018). The concept of the complementary education places in the perspective of axiology characteristic for personalism created by Mounier, and in Poland represented, inter alia, by T. Gadacz. This means that the location of man as a person in the center of the value system, and at the same time giving the instrumental value and service role of technology which surrounds us. E. Mounier noticed "the application of technique and mass forms of life are not factors bringing depersonalization inevitably. They become them when the man discouraged by seeking difficult synthesis fails to strive for a personal life when he stops to value the ideal of life. Then, but only then, too rigid order of production and collective life will cause the disorder from the perspective of a man similar to the one which gave birth yesterday individualistic anarchy "(Mounier 1960, pp. 207-208).

Adoption in practice educational objectives of education complementary consequently leads to continuously remind the menial role the media should play to man and their instrumental value. The media are tools of interpersonal communication, not their creator, media of knowledge, not its source. With every text, image, film or any other form of media expression is a man, with his creative potential, good or bad, wise or stupid, right or morally degenerated. Implementing the assumptions of the concept we present their subordinate role in the processes of learning and teaching, and

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we make them a tool of education and self-education. We get the learning cget used to critical and subordinate treatment of them.

Research perspective

An interesting and little-known example of the practical application of the techniques of complementary education in conditions of scientific research is an experiment conducted in the Central Prison Service in Kalisz. Infrequent research in the area of training the officers and employees of the uniformed services, including the Prison Service is due to concern for safety, containment of services and emerging postulate of confidentiality of test results, or difficulties in the organization of research and reaching the source material (this is also connected with with the requirements of the service). At the same time the experiment referred to is an example of improvement and training of adults, and because of the rare specificity it can be considered unique.

The starting point of the research undertaken was the search for a new more effective forms of training in the situation of previous experience of imperfection and and external constraints which preventing its effective implementation. Pedagogical experiment was performed at the Central Prison Service Training Centre in Kalisz, with the age groups 2011 2012 2013 , in which research and control groups were students of vocational training. Its purpose was to compare the efficiency and effectiveness of training using methods of traditional and complementary (Strzelec, 2015).


In the experiment the results of the Group K were compared, recognized as control group to the results of the experimental group E1. Both groups were recruited from random groups of the listeners of training in subsequent years. Groups were comparable. The hypothesis was assumed that the results of the experimental groups

(E) carried out using complementary method will be better than the control groups (K). The research confirmed the assumption accepted ($KT < E1T$). It should be added that this dependency was confirmed in three subsequent years of the experiment. Statistical analyses of the above data show a significant statistical difference of results, that is, arithmetic average of the marks of subjects and exams from the theoretical set between groups K and E1 ($t(868) = -6.049$ $p < 0.001$) the experiment referred to.

In addition, evaluation surveys were also used in research. As part of their analysis a positive evaluation of complementary forms of training given by listeners was obtained and the recognizing it as a friendly form of education. This technique of diagnostic survey applied and implemented in conditions of confidentiality and anonymity allows to know the sensations and opinions of listeners (adults) about the form of education in which they participated. At the same time, it is worth noting that the survey study a significant number of respondents indicated the problem of the need of independent organisation of learning time, which is an important element of this education system and indicates the important role of the teaching persons in supporting the learning persons with the use of complementary methods.

Cited research allowed not only to assess the major fragment of the system of training the officers of prison service. What gives them a practical dimension. They also confirm the efficiency of complementary education model in the training of adults and the positive impact of this method of organization of educational space on the effectiveness of education, measured by the achievements of school students in the form of average credit examination marks and final results.

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Conclusions.

The issue of new technology often raises also concerns about the role of the teacher. It is worth noting that in the process of complementary education it is the teacher who is the key person in the road to knowledge. The concept of complementary education (perhaps surprisingly) addresses these models of the relationship of teacher and student, which emphasize the personal and individual character. Therefore, in particular the question of the identity of the teacher is associated with this problem. It seems necessary to refer to the problem on

the basis of different theories and different points of view. Teacher's subjectivity is an important aspect due to the fact that only the teacher who knows and understands himself, can effectively support the learning of other adults, can be a facilitator for the development of other people. The process of teaching learning is a meeting of people, the teacher and the student. The implementation of assumptions of the concept of complementary education leads to restore, the role of the teacher as master and guide on the paths of knowledge.

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PSYCHOLOGICAL ASPECTS OF CYBER-COMMUNICATION ADDICTION

PSYCHOLOGICZNE ASPEKTY UZALEŻNIENIA OD CYBER-KOMUNIKACJI

ПСИХОЛОГИЧЕСКИЙ АСПЕКТ КИБЕРКОММУНИКАТИВНОЙ ЗАВИСИМОСТИ ЛИЧНОСТИ

Abstract

The article deals with the main approaches to the study of the problem of cyber-communication addiction in both domestic and foreign psychology. It has been demonstrated that the problem of psychological predisposition has not been studied in foreign psychology. The research has mainly focused on various aspects of the study of addiction, which are conducted in the main directions as an individual variable - cognitive, motivational, emotional and behavioral characteristics of the dependent personality and as a set of behavioral features. The problem of addictive personality is represented in a number of areas: Internet addiction, network gambling and other numerous varieties of addiction. Addiction is basically seen as a consequence of interpersonal transactions within social groups that create the effect of "social dependence"; dependence as a set of behavioral features. In Ukrainian psychological science, in a broad sense, addiction is seen as a specific way of thinking, perception and interpretation, of feeling and the outside world. The main features of online addictions are: obsessive thinking about working at a computer (games, programming or other activities); pathological commitment to online gambling, online auctions or virtual purchases, addiction to the social use of the Internet (chat rooms, group games and teleconferencing), etc.

Keywords: *personality, welfare Internet, communication, cybercommunicative addiction, addiction*

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Streszczenie

Artykuł ujawnia główne podejścia do badania problemu uzależnienia od cyberkomunikacji w psychologii krajowej i zagranicznej. Wykazano, że w psychologii zagranicznej problem predyspozycji prawie nie był zbadany. Przeprowadzone badania prezentują głównie różne aspekty badania uzależnienia i są prowadzone w głównych obszarach jako odrębna zmienna: poznawcza, motywacyjna, emocjonalna i behawioralna zależna od osobowości i jako zestaw cech behawioralnych. Problem osobowości nałogowca jest prezentowany w wielu obszarach: uzależnienie od Internetu, gier sieciowych i wielu innych rodzajów uzależnienia. Uzależnienie jest postrzegane jako konsekwencja transakcji interpersonalnych w obrębie grup społecznych, tworząc efekt „uzależnienia społecznego”; uzależnienia, jako zestaw cech behawioralnych. W ukraińskiej psychologii, w szerokim spektrum, uzależnienie postrzegane jest jako specyficzny sposób myślenia, percepcji i interpretacji uczuć i świata zewnętrznego. Główne cechy uzależnienia od rzeczywistości wirtualnej to: obsesyjne rozmyślanie o pracy przy komputerze (gry, programowanie itp.); patologiczne zaangażowanie w gry hazardowe online, aukcje online lub wirtualne zakupy, uzależnienie od społecznego korzystania z Internetu (rozmowy na czacie, gry grupowe i telekonferencje) itp.

Słowa kluczowe: osobowość, dobrobyt Internetu, komunikacja, uzależnienie od cyberkomunikacji, uzależnienie

Аннотация

В статье раскрыты основные подходы к изучению проблемы киберкоммуникативной зависимости личности в отечественной и зарубежной психологии. Показано, что в зарубежной психологии проблема психологической склонности почти не исследовалась, преимущественно представлены различные аспекты исследования зависимости, которые ведутся по основным направлениям: как индивидуальной переменной - когнитивные, мотивационные, эмоциональные и поведенческие характеристики зависимости личности и как совокупность поведенческих особенностей. Проблема зависимости личности представлена несколькими направлениями: зависимость от интернета, сетевых азартных игр и других многочисленных разновидностях зависимости. Зависимость преимущественно рассматривается как следствие межличностных транзакций внутри социальных групп, создающих эффект «социальной зависимости»; зависимость как совокупность поведенческих особенностей. В украинской психологической науке в широком смысле зависимость рассматривается как специфический способ мышления, восприятия и интерпретации, ощущение себя и внешнего мира. Основными признаками интернет-зависимости являются: навязчивая страсть к работе за компьютером (игры, программирование и др.); патологическая привязанность к сетевым азартным играм, онлайн-аукционам или виртуальным покупкам; зависимость от социального применения Интернета (общение в чатах, участие в групповых играх и телеконференциях) и др.

Ключевые слова: личность, благополучие и Интернет, общение, киберкоммуникативная зависимость, аддикция

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The active development of new technologies in mass communication over the past few years has given rise to new types of mental disorders associated with intense advertising influence in the press and in television broadcasts, with the increasing use of e-mail, the Internet, cellular communication and other communication technologies in communicating people.

Internet addiction is an important and actual problem, since it is able to greatly affect the personality, lead to its deformation, disrupt the ability of a person to establish relationships with society. In connection with this, there is a need to identify the factors that contribute to the process of creating an Internet addiction. Internet addiction is a multidimensional phenomenon, it allows you to escape into the virtual reality of people with a low self-esteem, anxious, depressed, who are vulnerable, alone, to those whom relatives do not understand, who feel the burden of their work, learning or social environment.

The Internet allows you to search for novelty, to satisfy the desire for constant stimulation of feelings, the need for emotional

saturation (the opportunity to speak, to feel what you understand and take, to get rid, thus, from the strong experience of troubles in real life, to receive support and approval).


From a psychological point of view, the basis of online dependence is the dislike of self and self-doubt. People with a complex inferiority, not satisfied with their appearance or small attention of others to their personality are most prone to the emergence of addiction. Recently, a special form of interactive interaction has become widespread - social networks. The most popular among them are Facebook, Instagram, Twitter, etc. Virtual communication in many respects repeats the real, but its application occurs in a special space (virtual reality), with specific formations, with a characteristic only to him kind of communication. Many network users, while on the Internet, start to feel excitement. The desire to get as familiar as possible or to download more interesting information makes them stay in the virtual space for almost all free time.

Analysis of latest research where the solution of the problem was initiated.

The theoretical analysis of scientific literature has shown that the study of the problem of psychology of dependence on the Internet as a behavioral addiction is widely outlined in foreign literature. In domestic psychological science, unfortunately, this subject has not yet been studied and elucidated.

Recently, this topic was covered in works aimed at identifying the peculiarities of the formation and manifestation of online dependence; implications of online dependency on an individual; the study of mental states that occur in Internet addicts and others.

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Aims of paper. Methods.

The purpose of the article is to conduct a theoretical and methodological analysis of modern studies of cybercommunicative personality dependence. We conducted a study involving 101 Internet users - boys and girls aged 17-23. The researchers were

asked to answer questions to get information on the motives of using the Internet, about the relationship of users to the Internet and the impact of the Internet on the livelihoods of users.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.


At the end of XX century thanks to the development of computer technology, there was another means of communication - the so-called virtual communication. It is communication with a virtual interlocutor in the virtual space with the help of electronic means. Interactive communication is a real-time messaging. Depending on the programs, communication can be performed by transmitting voice, video image or text. Thanks to the computer, a person develops the latest electronic media and learned how to operate in an open communication environment. The global dimension is the penetration of information technology into the everyday life of people. The Internet has allowed a person to significantly expand the limits of his communication. According to research specialists, 91% of users use the Internet to communicate.

Many online organizations provide access to interactive services that support "live" conversations between residents of different cities, countries or communities. There are programs that support "live" communication in real time. For example, in a teleconference with the use of electronic communication, large groups of users are involved. There are also local conferences dedicated to specific events or a clearly defined topic. In the conference, communication takes place around a specific topic, while chat does not usually have a specific topic. Communication in some applications can be considered analogous to a telephone

conversation. In this case, the two persons who communicate, have access to one server and are in the system at the same time. Each of the interlocutors has an opportunity to immediately see all that is typed on his computer keyboard by his partner. And although they do not see and can not imagine each other, they transmit their thoughts, emotions, exchange information and react at the same time to it.

In works A.E. Zhyckina the question of the reasons for the creation of a virtual person is solved through consideration of the problem of identity of its impact on human behavior (Zhyckina A.E., 2004). They emphasize the relationship of real and virtual identity, their interdependence, defining deviant behavior in virtual communication as a way of forming social and virtual identity. Thus, the conflict can serve to self-determination, overcoming the blurred identity in reality, and in the virtual space. According to J. Sullera, nobody wants to be completely anonymous - absolutely invisible, without name, identity or interpersonal interaction in general. Deviant behavior is a way of responding to anonymity, which reflects the desire to be seen, even in a negative form, than to be completely anonymous. Simultaneously with the virtual human project, a person creates an image of an interlocutor, which almost always does not correspond to reality, since he lacks information, guided by his own expectations.

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In the transition from virtual to real contacts, former virtual interlocutors tend to feel surprise or frustration of inconsistency of their ideas and real personality (Zhyckina A.E., 2004).

The reason for accessing the Internet as a communication tool can be:

1. Insufficient saturation of communication in real contacts. In such cases, users will quickly lose interest in Internet communication, if opportunities arise to meet the relevant needs in real life.

2. Possibility of realization of personality traits, playing roles, experiences of emotions, which for one reason or another are impossible in real life. Such a possibility is due to the above features of communication through the network - anonymity, non-rigid normativity, originality of the process of human perception of person. The desire to experience this or that emotion is probably explained by the desire for emotional content of the text.

3. To the possibility of interaction "man-computer" added the possibility of communication "man-computer-man."

Psychological researches of features of virtual communication on the Internet are conducted relatively recently, mainly by foreign ones, in particular Ukrainian specialists. They distinguish the following basic functions of virtual communication: information exchange; interaction with the aim of solving any problems; development of personality, improvement of educational level, training (Voiskunsky A.E., 2009).

Of course, in order to have quick access to information in any part of the globe, the possibility of simultaneous work in the system of many users must adhere to the appropriate culture of communication on the World Wide Web. It includes the following components: the culture of information presentation; culture of perception and use of information; the culture of using new in-

formation technologies, etc. For the community, which arises from the boarding house, the network itself is a communication tool. And the effectiveness of this communication, its impact on a person depends on the compliance of all participants with the ethical and psychological requirements for communication.

Describing communication on the Internet, psychologists, in particular Ukrainians, point out that there is not so much group communication as a large number of acts of one on one communication. And each person plays one of his roles for the partner. And one cannot see the true attitude of these people to another one, draw conclusions about them beyond this communication. But at the same time, these people, acting anonymously, influence each other. And this influence can be significant - both positive and negative. Psychologists note that visiting chats over a long period of time often leads to the fact that communication partners are already perceived as friends, that is, there is a leveling up of the boundary between virtual and real communication. It is noted that the majority of chat visitors are included in the constant activity due to the presence of emotional connections with other visitors, the need for interaction, the awareness of their established role and status in the chat, as well as the tendencies to continue to interact in the future.

There are currently many ways of communicating on the Internet, the main ones being e-mail, social networks, forums, various conferences, chats, network games, and more.

Thus, virtual communication is communication with a virtual interlocutor in the virtual space with the help of electronic means. Internet communication performs a number of functions: communicative, self-presentation / expression, entertainment, socialization, self-development, psychological discharge, function, estimated.

An analysis of modern research has shown that the problem of psychology of dependence on the Internet can be viewed from various angles.

First, the issues of Internet dependence are revealed within the framework of the problem of deviant behavior. According to the classification of T.P. Korolenko and T.O. Don, all behavioral deviations are divided into two groups: non-standard and destructive behavior. Non-standard behavior may take the form of a new thinking or such actions that go beyond the stereotypes of behavior. Deviant behavior, depending on the direction, is divided into intradisciplinary behavior (suicidal, conformist, autistic behavior) and externally destructive behavior, which in turn is divided into antisocial behavior (consisting in actions that violate existing laws and the rights of other people in the form of asocial behavior) and addictive behavior (involves the use of any substances or specific activity in order to escape from reality and obtain the desired emotions). (Korolenko Ts.P., Loskutova V.A., 2004, p.97-98).

Different kinds of addictive behavior have their own specific features, manifestations and consequences, but the stages of formation of the addiction are common. The beginning of the formation of the addictive process always occurs at the emotional level as an experience of acute change in the mental state in the form of an increased mood, a feeling of joy, ecstasy, an incredible rise in connection with the use of certain substances or certain actions. The next stage is characterized by the formation of a certain sequence of appeal to the means of addiction. In the third stage, the addictive behavior becomes stereotypical, typical, in the fourth - completely dominant, and on the fifth it destroys both the psyche and biological processes (Tikhonov M.N., Bogoslovskii M.M., 2012).

Regardless of the type of dependence there are general signs of addictive behavior: a steady desire to change the psychophysical state; continuous process of formation and development of the addiction; cycles of dependent behavior; natural occurrence of personality changes and social maladaptation; the formation of an addictive unit, that is, a set of cognitive, emotional and behavioral features that cause an addictive attitude to life; excessive emotional relation to the object of dependence; transformation of the object of the addiction into the purpose of existence; Denial of dependence and its severity (Voiskunsky A.E., 2009, p. 120-122). Along with that, A.E. Voiskunsky gives the following criteria that determine the dependence: priority, mood change, tolerance, symptoms of a break, conflict and relapse. (Voiskunsky A.E., 2009, p.91).

Secondly, the emergence of Internet dependence is seen as a consequence of reducing the psychological stability of the individual (Chukhrova M.G., Ermolaeva A.V., 2012). Since psychological stability protects a person from disintegration and personality disorders, forms the basis of inner harmony, full mental health, then the reduction of psychological stability leads to the disintegration of the individual, the violation of the regulation of behavior and activities, the collapse of the system of life values, motives, goals that increase the risk of occurrence dependencies.

Thus, according to the results of the survey, general information about the subjects was obtained: the majority of boys and girls study in higher educational establishments (54.5%), higher education (41.5), single (88%), the majority of the income is estimated as follows: "Only enough for food and clothes" (56.5%).

The activity of the users of the Network itself is manifested in the following: The Internet experience of most boys and girls is 5-10 years old, and only a small percentage

is not over 10 years. Perhaps this is due to the fact that over the past 10 years, the Internet and computer equipment have become more accessible. And, accordingly, it became popular due to the activity of users in connection with the sending of information, electronic money, that is, people began to spend less time for such actions thanks to the Internet. The number of hours spent on youth in the network per day (average time) is: at least 4 hours, the maximum is 5, but 20% of users spend on the Internet for more than 10 hours. Boys and girls often visit the Internet every day, several times - as needed. Some users say about this: "Depending on the circumstances, the Internet is an auxiliary tool for me, working with it" (2% - boys and girls). Consequently, it is worrying that 38% of the youth (more girls) "live" in the network, that is, they are more likely to exist in the virtual world and may be Internet addicts. Most often young people visit the Internet in the evening, but also - if it is necessary. In the morning and in the afternoon - those who are at work, mostly girls. On weekends - at any time of the day. Network access is more frequent at home and only 4% - by mobile communication anywhere (boys), and a small percentage of users - in the library; in a cafe with Wi-Fi and friends - girls. Thus, the purpose of using among the subjects is 98% of the search for various information, search for music and videos 83%, communication 71.5%, news reading 60.5%, mailbox lookup 70%, that is, for young people, the Internet is an important search for entertainment, communication, exchange information and information about the world. Users prefer social networks and YouTube, and the most popular programs for communication are ICQ and Skype. Skype itself is very popular, because it can be used to call around the world for

free. Among the social networking users are more girls, it can be explained by the fact that many girls work in the office, and have free time for visiting social networks for communication and entertainment. The topics of the forums that are of interest to young people are different techniques (including computers), and girls: cooking, fashion and beauty, that is, in this case, we see a clear division into women's and men's interests.

The results of the survey indicate that Internet use causes most Internet users to cause positive emotions, but in 24% of girls, emotions are not stable, that is, they depend on the Internet - from the information they receive there. In 22% of boys emotions do not depend on the availability of the Internet, and girls - only 6%. This can be explained by the fact that girls by their nature are more emotional than boys, as well as perhaps giving serious value to virtuality and using the Internet to find emotions, considering the Net safe.

Most users claim that the Internet does not affect their communication with others, but 16% of young men have become less conversant with friends, and 14% of Internet users are replacing real communication. Mostly, the Internet is helping users to learn and work (81%), but some (12%) have suggested that the Internet is both helping and preventing. Users (9%) who are confident that their health has deteriorated significantly due to the use of the Internet, since they spend too much time on a computer - 13-16 hours. It is worrying that the attitude of relatives (friends, friends) of admitting users to the Internet to boys and girls is characterized by the fact that "they all the same" - 89%, "they have nothing to worry about, I'm indifferent to the Internet" - 59%, because relatives may not even notice that a person is dependent on the Internet.

Conclusions.

The problem of dependence on the Internet is mainly concerned with mental health professionals; maybe that's why the "information overload" is virtually non-existent. The analysis may, in our opinion, be substantially complemented, based on other theoretical considerations. In the activity of the "addict" there is an obvious deep inter-

est, unselfish curiosity and hypermobility. Thus, the main features of online dependencies are: obsessional passion for work at a computer (games, programming or other activities); pathological commitment to online gambling, online auctions or virtual purchases; Dependence on the social use of the Internet (chatting in chat, group games and teleconferencing), etc.

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**DYSFUNCTIONAL USE OF DIGITAL SPACE BY THE YOUTH –
PEDAGOGIC IMPLICATIONS OF ADDICTION TO E-ACTIVITIES**

**DYSFUNKCJONALNE KORZYSTANIE Z PRZESTRZENI CYFROWEJ
PRZEZ MŁODZIEŻ - IMPLIKACJE WYCHOWAWCZE
UZALEŻNIENIA OD E-CZYNNOŚCI**

**ДИСФУНКЦИОНАЛЬНОЕ ИСПОЛЬЗОВАНИЕ ЦИФРОВОГО
ПРОСТРАНСТВА МОЛОДЕЖЬЮ - ПЕДАГОГИЧЕСКИЕ
ПОСЛЕДСТВИЯ ЗАВИСИМОСТИ ОТ ИНТЕРНЕТА**

Abstract

The publication relates to dysfunctional use of the digital space by the youth. It refers to the latest theories explaining the reasons of addictions to e-activities. It includes up-to-date review of the research on their access to the modern digital media and use of their functions. The authors present their own research performed on a group of young adults relating to the relationship between their style of coping with stress and addiction to the multimedia. The following issues have been presented in the publication:

- 1. Selected theories of risk of development of addictions to e-activities.*
- 2. State of research on the issue of addictions to social networking platforms.*
- 3. Pedagogic implications of addiction of the youth to e-activities.*
- 4. Styles of young adults being addicted to the multimedia of coping with stress in the light of own research.*

Keywords: *the youth, upbringing, stress, e-activities, addiction, social media*

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Kolek A., Andrzejewski A. (2018) Dysfunctional Use of Digital Space by the Youth – Pedagogic Implications of Addiction to E-Activities. *International Journal of New Economics and Social Sciences*, 1(7)2018: 279-296

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Streszczenie

Publikacja dotyczy dysfunkcyjnego korzystania przez młodzież z przestrzeni cyfrowej. Odwołuje się do najnowszych teorii wyjaśniających przyczyny uzależnień od e-czynności. Zawiera aktualny przegląd badań na temat ich dostępu do współczesnych mediów cyfrowych oraz wykorzystywania ich funkcji. Autorzy prezentują badania własne wykonane na grupie młodych dorosłych, dotyczące związku pomiędzy stylami radzenia sobie przez nich ze stresem a uzależnieniem od multimediów. W publikacji zaprezentowano następujące zagadnienia:

1. Wybrane teorie ryzyka rozwoju uzależnień od e-czynności.
2. Stan badań nad problematyką uzależnień od portali społecznościowych.
3. Implikacje wychowawcze uzależnienia od e-czynności u młodzieży.
4. Style radzenia sobie ze stresem u młodych dorosłych uzależnionych od multimediów w świetle badań własnych.

Słowa kluczowe: młodzież, wychowanie, stres, e-czynności, uzależnienie, media społecznościowe

Аннотация

Публикация касается дисфункционального использования цифрового пространства молодыми людьми. Она ссылается на последние теории, объясняющие причины зависимостей от интернет-действий. Представляет собой современный обзор исследований, касающихся доступа к современным цифровым медиа и использованию их функций. Авторы представляют свои собственные исследования, проведенные группой молодых людей относительно взаимосвязи между разновидностями преодоления стресса и зависимостью от мультимедиа. В публикации представлены следующие вопросы:

1. Избранные теории риска развития зависимостей от интернета.
2. Состояние исследований по проблеме зависимости от социальных сетей.
3. Образовательные последствия зависимости у подростков.
4. Разновидности преодоления стресса у молодых людей, пристрастившихся к мультимедиа в свете собственных исследований.

Ключевые слова: подростки, воспитание, стресс, интернет-действия, наркомания, социальные сети

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The 21st century is characterised by the adolescence period. It raises a lot of dynamic development of digital media. The thought of numerous groups, in particular the scale and the reach of their use already by the group of psychologists, pedagogues and the youngest generation is increasing and sociologists. In the opinion of Maciej gradually. Nevertheless, the largest group Tanaś, ‘while entering these lands, a of users is constituted by young people in teenager has an actual impact on them. He

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Kolek A., Andrzejewski A. (2018) Dysfunctional Use of Digital Space by the Youth – Pedagogic Implications of Addiction to E-Activities. *International Journal of New Economics and Social Sciences*, 1(7)2018: 279-296

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or she may become whoever they want, not the one other people want him or her to become. He or she is a free person. The teenager decides on the types of the actions taken in the network, creates and learns, listens and watches, is a passive or active Internet user' [own translation] (Tanaś, 2016, p. 8).

Social applications, popularised in the recent years, develop quickly. They offer newer and newer possibilities to the young people in the field of publishing and improvement of their own image, they cover the network marketing segment and they popularise the pop-culture celebrities, who seem to aspire to maintain the developed esteem on a permanent basis. 'Social networking platforms have started to play the role of information medium as well as they have clearly started to create some trends and fashions. At the same time, they have become an entertainment tool offering interesting forms of free time spending themselves' [own translation] (Suma, 2010, p. 8). There is always something going on in them. They are a peculiar alternative to the real world, for the ones who are busy and active but also for the ones who are lonely, shy and seeking. Everyone takes what they need at the given moment from them. Some people are interested in expansion of their knowledge or acquisition of some information. Others feel a need to share the interesting facts from their live, to express their standpoint or to chat with their friends. Some people seek assistance and support, others provide this assistance.

The activity of the teenager is subject to significant transformations. Referring to

the work by Roman Friedrich, Michael Peterson and Alex Koster (2011), Janusz Morbitzer characterises them as a generation of digital natives, called also generation C, even though the term 'generation 7 C' - from the words determining their behaviour: Connected, Communicating, Content-centric, Computerized, Celebritised, Community-oriented, always Clicking - would be more accurate (Morbitzer, 2017, p. 215).

According to S. Gwoździewicz (in legal and social studies of cyberspace), the consequences of the shaping of identity are increasingly emphasized, in which the experience of existence is largely created in the virtual space. The search for identity, both in the collective and in the individual e-space, becomes a fundamental source of the sense of existence in society. This identity is characterized - as an energetic force that is based on the dynamics of the network society. (S. Gwoździewicz, K. Tomaszyci p. 251).

The digital media attract the attention of the young people for the majority of the time, very often isolating them from real contacts. They revolutionise their thoughts as well as their objectives. There are a lot of controversies in the field of use of social media by the youth, who are at the moment of their life that is the most important and the most difficult in terms of their development. Their activity in this environment, which generates a lot of consequences not only in the personal sphere but also in the pedagogic area, becomes worrying.

Aims of paper. Methods.

The following issues have been presented in the publication:

1. Selected theories of risk of development of addictions to e-activities.
2. State of research on the issue of addictions to social networking platforms.

3. Pedagogic implications of addiction of the youth to e-activities.

4. Styles of young adults being addicted to the multimedia of coping with stress in the light of own research.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Selected theories of risk of development of addictions to e-activities

Already from their birth, the children become the consumers of the digital devices and the media accompanying them globally. The American research performed in 2014 relating to parents of children at the age of 6 months - 4 years exemplifies a worrying phenomenon. 73% of parents were declaring consent to their children playing with the mobile media while they were doing housework. 65% of parents were calming the child down with the use of digital technologies and 29% of them were trying to put them to sleep in such a way (Kabali, 2015).

This phenomenon is also very visible in Polish families. The research conducted by the Nobody's Children Foundation (currently: the Empowering Children Foundation) revealed that over 64% of children at the age of 6 months - 6.5 years had experienced initiation with mobile devices, of which 25% - every day. 26% of children have their own mobile device. 79% of children watch films and 62% play on a smartphone or tablet. 69% of parents provide the children with the mobile devices when they have to deal with their own things and 49% of parents use it as a kind of award for a child (Bąk, 2017, p. 7).

Excessive use of mobile applications, i.e. Facebook, Messenger, Instagram or Snapchat, implies abuse of the digital technologies, through which the recipients may participate in the social media.

The researchers and the therapists warn that intensive use of the new media, in particular the social networking platforms, may be particularly dangerous for young people due to addiction risk (Echeburua, Corral, 2010). Daily and long-lasting use of the social media applications is conducive for development of Internet addiction. We may explain it as over-active activity of the youth in social contacts, being addiction to the functions offered by Facebook, Instagram, Youtube and similar services. By definition, none of the available social media is harmful in its structure. The multiplicity and the attractiveness of the media sites result in the fact that the adolescents abuse them, at the same time destroying the balance between the two worlds that they have to function in, i.e. the real and the virtual world.

Nevertheless, it is worth devoting attention to the theories and models explaining compulsive use of the Internet, computer and mobile phones, since these tools are integrated with the function of use of the social media.

In the attempts to explain the reasons of occurrence of technological addictions, the researchers support themselves with the schemes relating to addictions to activities, which in the psychological nomenclature are called behavioural addictions.

Richard A. Davis presented a cognitive-behavioural model of pathological use of the Internet. The author divides the addiction to the Internet into two types: specific and generalised one. The first one relates to one function of the Internet, e.g. compulsive chatting or cybersex and is a consequence of the concurrent psychopathology, existing already earlier, which has been associated with activity in the network. The second one relates to compulsive use of the functions of the Internet being a consequence of social isolation of the user with simultaneous strong need for social contact (Davis, 2001, pp.187-195). The social networking platforms having different functions and offering a lot of services are conducive for development of this addiction model.

The Social Skills Deficit Theory formulated by Scott E. Caplan is an elaboration of the concept by Richard A. Davis. The author draws attention to the role of loneliness in creation of the pathological use of the Internet. In the opinion of Caplan, occurrence of social anxiety is a predictor of preferring of online contacts instead of the real ones by the person with the disorder. According to the analyses of the author, social competences of the individual are crucial in creation and development of the addiction (Caplan, 2010, pp. 1089-1097). Deficits in correctly developed competences may constitute a predictor of the addiction.

Apart from the behavioural model, a neurobiological concept functions in the literature. This scheme explains addictions to the given activities. It relates to a disorder between two systems - the award

system and the punishment system. The first one is regulated in the brain by the dopaminergic system, while the second one - by the serotonergic system. In the opinion of Aleksandra Suchanecka, additionally: 'the award system is engaged in all behaviours that are important for survival of the organism: food intake, fluid consumption, sexual activity and aggressive behaviours. During these activities, the secretion of dopamine increases, which is felt as pleasure, satisfaction' [own translation] (Suchanecka, 2011-2013, 160).

It may be concluded on the basis of the claims determined above that in case of addicted persons, the impact of the punishment system diminishes while the impact of the award system rises. The role of the neurobiological mechanism presented above is interpreted in a comprehensible way by Agata Błachnio, Aneta Przepiórka and Tomasz Rowiński: 'the activity of the use of the Internet in this case becomes the source of immediate bonus. The pleasure given by the use of the Internet affects the award system. Logging in to the Internet is a kind of award, similarly to all information found in it, shopping and computer games, which give the feeling of satisfaction' [own translation] (Błachnio, Przepiórka, Rowiński, 2014, p. 386).

Małgorzata Styśko-Kunkowska and Grażyna Wąsowicz see a threat of addiction of the given person to e-activity in deterioration of their emotional functioning. The addiction symptoms relate to a negative emotional reaction manifested at the moment of lack of the possibility to perform the given e-activity. They include occurrence of negative emotions, such as '(...) anger, nervousness, feeling of dissatisfaction, negative evaluation of the entire day and even feeling of unhappiness'

[own translation] (Styśko-Kunkowska, Wąsowicz, Internet resource).

Anna Radochońska and Mieczysław Radochoński distinguish a couple of theoretical models of risk factors in occurrence of addictions, relating to developmental transformations of the adolescents:

The overburden model connected with the effect of the stress occurring in the developmental period, often connected with changes and personal challenges of this period, caused by the changes and challenges of the given developmental period themselves. In this model, the cyberspace is a shelter, in which the teenager may hide from the obligations and expectations set to them by the real world.

The non-adjustment model, in which a significant role is played by the relation between the adolescent and the environment of their functioning. It is demonstrated by frustration at the moment of lack of the possibility to have the needs satisfied by the closest environment. The addiction becomes a response to frustration. The increased heterogeneity model relates to the ability to cope with stressors through selection of constructive or non-constructive reactions. On the basis of this model, young people may choose contacts via the Internet or mobile applications instead of the real ones. In this way, they satisfy the need of peer relations, not attending school though (Radochońska, Radochoński, 2012, pp. 17-36).

The next equally important model described in the literature is the neuropsychological model of addiction to the Internet, developed by the team of researchers: Kimberly S. Young, Xiao D. Yue, Li Ying (Young, Yue, Ying, 2011, pp. 3-18). Within this concept, the individual stages of pathological use of the Internet, which includes seven subsequent stages, were distinguished. They create an

addiction chain, the elements of which follow each other. The cycle starts from the need to satisfy the basic drives striving for obtaining of the feeling of pleasure, which causes an impulse to use the Internet. This activity stimulates the central nervous system, causing the state of euphoria and satisfaction. In the next stage, tolerance for these stimuli increases, which in turn results in the necessity to prolong the time devoted to performance of the e-activity in order to obtain the state of satisfaction from the initial stage. The next stage is occurrence of withdrawal symptoms as a result of discontinuation or limitation of performance of the given activity. It results in occurrence of negative emotions, *inter alia* such as: emotional instability, concentration disorder, sleep disturbance, dysphoria and fear. The consequence of the earlier stages is occurrence of passive strategies of coping with the problem, which is demonstrated *inter alia* by the inability to adjust to the expectations of the environment, aggressive behaviours and withdrawal syndrome. The cycle creates a vicious circle of the addiction. The authors of this theory emphasise that changes of neurotransmission in the brain play an important role in addiction to the Internet.

The emotional-motivational concept by Henryk Gasiul (Gasiul, 2002; 2003, pp. 17-40), explaining the mechanisms of addiction to the Internet, is the last one that should be noted. It results from it that the characteristics of the object, which may be activities connected with the use of the Internet, are the key aspect of the addiction. Activity in the network causes positive emotions, which fulfil the hidden motives of the human. Dysfunctionality in the use of the Internet results from the inability or impossibility to realise these motives in the situations taking place in the real world. Consequently, the Internet becomes a tool for arousing and stimulation of the desired

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emotional states, which as a result leads to addiction. The desired emotions accompanying online contacts via applications, social networking platforms, Internet forums and network games are the manifestation of fulfilment of the given motives.

State of research on the issue of addictions to social networking platforms

For a lot of present-day young people, social media have become a part of their everyday lives. Logging in to a social networking platform is for them the most important activity that they perform repeatedly already from the beginning of every day. 'Almost 90% of teenagers at the age of 14–17 have at least one profile on a social networking platform. (...) Girls have such account more often than boys (93.8% vs. 85.5%), (...) the majority of teenagers (65.8%) access the social networking platforms every day or almost every day. Girls do it more often ((76.7% vs. 53.7% in case of boys)' [own translation] (Makaruk, 2013, p. 71). In 2010, a report prepared by The National Family Week, which was illustrating the impact of the use of the social media on family life, was published in Great Britain. The research was conducted on 1,000 children at the age of 8-15 and on 3,000 parents. It showed that for as many as 40% of girls and 6% of boys Facebook was the most important thing in their lives (Coughlan, Internet resource). It is not difficult to notice that girls prefer social networking platforms to a greater extent than boys, they are an important social life aspect for them.

A lot of experts on this issue, in particular therapists, emphasise the fact that abuse of the social media by the youth may lead to a lot of dangerous and unpredictable consequences, among which one of the most serious ones is addiction. The term 'social networking addiction' may be found

more and more often in the literature (Kuss, Griffiths, 2011).

The research by Wioletta Tuszyńska–Bogucka allows for unification of the psychological portrait of an addicted person. The young addicted human is characterised by low emotionality, which is displayed in poor expression of emotions, superficial in its form. Moreover, the youth feel great anxiety resulting in withdrawal from interpersonal contacts, increased apathy with simultaneous decrease of activeness, increased level of aggression and impulsiveness. The manner, in which the addicted youth threat other network participants, is worrying. It is mainly about instrumental treatment of people; they may abuse or cheat others in order to achieve their objectives, respond with anger or even hatred e.g. to the statements of other people (Tuszyńska–Bogucka, 2012, p. 119).

Interesting research was conducted together with other researchers by Isabella Wolniczak (Wolniczak et al., 2013). It results therefrom that in about 8% of students, displays of addiction to Facebook were noticed, resulting in disturbed sleep and its quality caused by their dysfunctional activity during the day. Another research conducted in Ireland among teenagers shows that 33% of them at the age of 11-16 feel that they use the social media too often (Machold et al., 2012).

While exploring the modern literature relating to the social networking platforms, we may notice the term: 'Facebook addiction', referring to the impact of the aforementioned media on the mental health of the growing up youth, more and more often.

This addiction caused by excessive expansion of the social media in the lives of the adolescents is characterised by similar symptoms to the ones of other addictions. The indicator of the occurring disorder is intensive thinking about the use of

Facebook as well as feeling of negative emotions in case of lack of access to the platform or in case when this access is reduced to some extent. The person affected by the addiction has difficulties in discontinuation of participation in and use of Facebook in spite of the attempts to abstain from the Internet and of the promises declared in connection with it. These complications subsist, at the same time implying a number of negative consequences for interpersonal relations as well as results in learning and work. Facebook addiction is characterised by a strong need to continue the behaviour connected with frequent logging in to the platform. Repeated checking of own profile and of the ones of other users during the day. Engagement in keeping of the account, supplementing it with new contents, i.e. photos, posts, videos. Prolongation of the time spent on the platform becomes an inevitable element needed for getting joy and satisfaction from online activity.

In the conducted research, the scientists from the University of Milan and the Massachusetts Institute of Technology proved that the chemical and physiological reactions taking place in the human organism could determine the needs to check own profile on the social networking platforms. Respondents at the age of 19-25, being Facebook users, were tested by means of an electroencephalograph, a cardiac monitoring apparatus and an electromyograph: '(...) after logging in to their accounts, they were displaying physical and psychophysical reactions, being similar to satisfaction felt while playing an instrument or performance of creative activities' [own translation]. What is more, interpretation of biological signals was indicating the fact that the use of Facebook was causing a psychophysical state being characteristic for strong

emotional agitation (Horn, Internet resource).

One of the pioneers dealing with the issue of Facebook addiction is a Norwegian researcher, Cecilie S. Andreassen. Together with her partners, she developed the Bergen Facebook Addiction Scale on the basis of the scale by K. Wilson (2010), which was containing for example such components as salience or withdrawal. She included there six most important key factors relevant for the specificity of this addiction:

1. Salience – the activity dominates thinking and behaviour.
2. Mood modification – the activity changes or improves the mood.
3. Tolerance – in order to achieve the earlier effects, it is necessary to escalate the activity.
4. Withdrawal – experiencing of unpleasant emotional states in case of lack of continuation of the activity or its cessation.
5. Conflict – the activity results in occurrence of interpersonal conflicts and conflicts in the field of other activities.
6. Relapse – the tendency to return to the previous behaviours in spite of discontinuation of the activity or its periodic control (Andreassen et al., 2012).

In 2018, a team of the Polish scientists from the University of Gdańsk conducted a research on the Facebook users with the use of the Polish adaptation of BFAS on a representative sample of 1,182 Polish students. Summing up the obtained results, it may be said that the persons addicted to Facebook experience a high level of stress, which is connected with general deterioration of their health condition and with the problems with the sleep quality. Compulsive use of this social networking platform generates an increase of the stress level, which in consequence adversely affects the functioning in the psychosocial sphere (Atroszko et al., 2018, pp. 329-338).

Facebook addiction may result from ineffective control over emotions of the individual who experiences difficulties and non-adjustment in the real social life. Persons with a high level of extroversion, narcissistic features, low self-esteem, feeling lonely and feeling social fear are exposed to the addiction the most (ibid, pp. 329-338).

Another consequence of excessive use of the Internet is constituted by the temporal factor connected with the amount of time spent by the youth on the use of the social networking platforms. It may result in weakening of the ties with the family and intimates and further lead to depression disorders as well as the feeling of loneliness and derealisation in relations. According to Anna Andrzejewska, the addicted youth treat the Internet as an escape tool, thus deepening the states of depressed mood and remorse, resulting from negligence of the real life as well as the tasks and duties resulting from life (Andrzejewska, 2010, p. 74).

Pedagogic implications of addiction of the youth to e-activities

The presence of multimedia technologies is a common state and the natural area of the socialisation processes for the youth. The virtual world is the space of becoming independent from parents as well as of shaping of own identity and media and real relations. In the situation of deepening of inter-generational distance and weakening of family ties, it is important to build rapport and intimacy with the youth (Tomaszewska, 2009, p. 202).

Teachers, tutors, pedagogues and parents, understanding and accepting importance of the new media in the lives of the children and adjusting the communication message in the axiological-personal aspect, create new quality of the inter-generational rapport in the field of relations, upbringing and socialisation of the youth.

Marc Prensky presents the generation of the present-day children and youth as digital natives who were born in the world of digitalisation and hypermedia. On the other hand, digital immigrants are parents and tutors, in the lives of whom technology has been emerging slowly, gradually, as technical innovations. Therefore, the two generations speak different languages and have different values. Virtual communication does not seem for the digital natives to be mediated communication (Prensky, 2001, Internet resource).

Digital natives are the generation born after 1980, being proficient in digital technology through staying continuously in the media world; they have other preferences and learning styles than the generation of teachers. In the world of the natives, the convergence of the media is a standard; the youth use a lot of multimedia devices at the same time or they use one device, on which they listen to the music, communicate verbally, send photos and use various applications in one time unit (Mysior, 2014, Internet resource).

The youth belonging to the generation of the widespread multimedia technology is an open generation, fascinated with and expecting continuous access to the ubiquitous communication technology (Poprawa, 2011, p. 222).

Wiesław Poleszak (2012) draws attention to lack of personal experience of the guardians in the world of the multimedia, being the reason for too little awareness of the Internet threats. Consequently, the tutors prepare for safe use of the new media insufficiently. And after all, understanding of participation in the virtual world in terms of its chances and threats, as one of the important activities of the child, is one of the factors protecting the young generation (Poleszak, 2012, p. 186).

Correct upbringing styles, both in the context of the family and of the care and educational centres, shape proper self-esteem, ability to establish relations with other people, internalisation of adequate norms, values and manners of behaving in the youth. Intimate persons pass the ways of coping with stress to the child, thus minimising the destructive impact of various environments (Ryś, 2012, p. 38).

The children and the youth brought up in an unfavourable family environment more and more often adopt the role of an 'invisible child', retreating into the virtual world (ibid).

It is possible to observe a discourse on the duality of the impact of the family on the media and vice-versa in the literature. The family as an incorrectly functioning system moderates the dysfunctional forms of behaviour in the child, e.g. the media addiction tendencies, but also the media (according to: Tyszka, 1995) may disturb the correct processes in the family system as a whole, disorganising family life and disturbing upbringing functions (Tyszka, 1995, p. 150).

According to Jadwiga Izdebska, the use of the multimedia and of their messages creates both developmental chances and difficulties for the present-day children and youth. This is why on the ground of the pedagogic reflection, the following issues should be considered: impact of the multimedia (by the degree and extent) on the child, the child in the 'global village', change of emotions, thoughts and experiences of the child under the influence of the media, audiovisuality vs. imagination of the child, childhood as the time of playing and exploring vs. electronic media. The pedagogical and educational consequences of participation of the child in the multimedia space include such important factors as: development of interests, positive emotions of the child,

learning new behaviours, internalisation of moral and social norms, understanding of the value system, opening to new experience, acquisition of information but also diminishing of fear and stress, development of imagination, development of creative thinking, stimulation of fine motor skills, strengthening of self-esteem of the child and satisfaction of the needs of the child (Izdebska, 2007, p. 527).

Janusz Morbitzer (2007) analyses the pedagogical consequences, their diversity and complexity, as well as the challenges faced by the care and educational centres and by the family environment of the child. Unlimited access of the young generation to the Internet, co-participation in the culture of globalisation and multimедialisation of life create new problems that the present-day education systems will have to tackle (Morbitzer, 2007, p. 148). Therefore, the most urgent tasks in the aspect of the pedagogical consequences of information society development include: maintenance of the system of values and ethical rules, upbringing preparing for participation in the culture, referring to spirituality, shaping of adequate attitudes, with simultaneous support of development of the youngest generation (ibid, p. 154).

The pedagogues raise the issue of inclusion of the entire families in the educational process. Thanks to it, younger and younger generations may realise the assumptions of the Family Media Education and acquire media skills in a natural and spontaneous way as well as through planned and intentional impact. The entire educational process requires also engagement of other educational and care environments, schools, non-school institutions and mainly the media themselves (Izdebska, 2007, p. 532).

On the ground of educational sciences, in the context of media pedagogy, the reflection that through enhancement of the

strengths of the child, its feeling of dignity and self-assessment, through a stable upbringing system based on clear principles, positive reinforcement and consistent limits the tutor wipes out the need of the child for excessive engagement in the virtual world dominates. Showing the factors compensating the deprivation of the needs to the young human seems to be a sufficient elements protecting against addiction.

Styles of young adults being addicted to the multimedia of coping with stress in the light of own research

The purpose of the research was to determine whether there was any relationship between excessive use of the Internet and the style of young adults of coping with stress.

The number of the samples for the research was selected by means of statistical methods. The research sample was selected by means of the purposive sampling method. 1,052 respondents were covered by a survey (N=1,052). Students of private and state universities on the area of Mazowieckie Province (Uczelnia Warszawska im. Marii Curie Skłodowskiej (Maria Curie Skłodowska Warsaw University), Akademia Pedagogiki Specjalnej (Academy of Special Education) in Warsaw, Szkoła Główna Gospodarstwa Wiejskiego (Warsaw University of Life Sciences) in Warsaw) participated in the research. As a result, the group of respondents included 1,002 persons, of which 784 women and 218 men. In the entire sample, the group of respondents was made up of young adults (872 persons) while the control group was made up of persons above 29 years of age (130 persons). In the entire sample, 872 persons (87%) were not older than 29 and 130 persons (13%) were 30 and more years old (N = 1,002). The research was conducted in the period from October to December 2014.

Standardised and independently constructed tools were used in the research. The standardised tools include: CISS – Composite Indicator of Systemic Stress consisting of 48 statements relating to various behaviours that may be taken by people in stress situations. The style of coping with stress is understood as a relative fixed tendency for application of person-specific ways of coping with stress in various stress-generating situations. The respondent assesses the frequency, with which they take the given action in the difficult stress situations, on a 5-point scale.

The results are presented on three scales: TOS - task-oriented style; EOS - emotion-oriented style; AS - avoidant style. The avoidant style may have two forms: D - distraction and SD - social diversion (Strelau at al., 2013, p. 17).

Also the following tools were applied: K. Young's Internet Addiction Test and author's Survey for Research on the Subjective Sense of Internet Addiction.

Data analysis was quantitative in relation to the research conducted with the use of the survey questionnaires and test. Calculations were performed with the use of statistical software: Statistica and with the use of Excel spreadsheet.

On the basis of literature analysis, the following temporal limits of non-adaptive use of the Internet were assumed: norm - up to 3 hours a day, predispositions to addiction (harmful use of the Internet) - up to 5 hours a day, Internet addiction - above 5 hours a day. The most persons, i.e. as many as 609, were using the Internet within the norm (up to 3 hours a day), 222 persons were displaying predispositions to addiction while 171 persons were addicted. Therefore, after adoption of the perspective of the time spent in the Internet, almost 40% of students constitute a group predisposed to Pathological Internet Use (PIU).

Table 1. Styles of coping with stress vs. Internet addiction - Spearman's Rho

	Internet addiction	
Task-oriented style	Correlation coefficient	-0.08*
	Statistical significance (two-sided)	0.018
	N	865
Emotion-oriented style	Correlation coefficient	0.23***
	Statistical significance (two-sided)	0.000
	N	865
Avoidant style	Correlation coefficient	0.14***
	Statistical significance (two-sided)	0.000
	N	865
Distraction	Correlation coefficient	0.20***
	Statistical significance (two-sided)	0.000
	N	865
Social diversion	Correlation coefficient	-0.03
	Statistical significance (two-sided)	0.317
	N	865

* $p < 0.05$ *** $p < 0.001$

Source: own study.

The lower the level of the task-oriented style and the higher level of the emotion-oriented, avoidant and distraction style, the greater the level of Internet addiction.

Table 2. Preference of social networking platforms vs. styles of coping with stress

	Preference of social networking platforms	N	Average rank	Total ranks	Average
Task-oriented style	No	128	487.29	62,373.00	58.79
	Yes	737	423.57	312,172.00	56.96
	Total	865			
Emotion-oriented style	No	128	379.74	48,607.00	44.71
	Yes	737	442.25	325,938.00	47.68
	Total	865			
Avoidant style	No	128	395.36	50,606.50	48.61
	Yes	737	439.54	323,938.50	50.28
	Total	865			
Distraction	No	128	401.66	51,412.00	21.27
	Yes	737	438.44	323,133.00	22.36
	Total	865			
Social diversion	No	128	408.63	52,304.00	17.94
	Yes	737	437.23	322,241.00	18.25
	Total	865			

Source: own study.

The persons using the social networking platforms were characterised by a lower level of task-oriented style - $U = 40,219.00$; $p = 0.008$ and by a higher level of emotion-oriented style - $U = 40,351.00$; $p = 0.009$ than the persons not preferring the social networking platforms.

On the other hand, no statistically

significant differences between the analysed groups in the field of the average level of avoidant style, distraction and social diversion were demonstrated: avoidant style - $U = 42,350.50$; $p = 0.065$, distraction - $U = 43,156.00$; $p = 0.124$, social diversion - $U = 44,048.00$; $p = 0.230$.

Table 3. Preference of instant messaging vs. styles of coping with stress

	Preference of instant mes- saging	N	Average rank	Total ranks	Average
Task-oriented style	No	500	427.58	213,790.50	57.00
	Yes	364	439.26	159,889.50	57.55
	Total	864			
Emotion-oriented style	No	500	423.05	211,526.50	46.77
	Yes	364	445.48	162,153.50	47.89
	Total	864			
Avoidant style	No	500	414.93	207,466.00	49.40
	Yes	364	456.63	166,214.00	50.90
	Total	864			
Distraction	No	500	421.48	210,741.50	21.94
	Yes	364	447.63	162,938.50	22.57
	Total	864			
Social diversion	No	500	422.80	211,397.50	18.03
	Yes	364	445.83	162,282.50	18.43
	Total	864			

Source: own study.

The persons using instant messaging were characterised by a higher level of avoidant style– $U = 82,216.00$; $p = 0.015$ than the persons not preferring instant messaging. On the other hand, no statistically significant differences between the analysed groups in the field of the average level of task-oriented style, emotion-oriented style, distraction and social diversion were demonstrated: task-oriented style = $88,540.50$; $p = 0.497$, emotion-oriented style – $U = 86,276.50$; $p = 0.192$, distraction – $U = 85,491.50$; $p =$

0.128 , social diversion – $U = 86,147.50$; $p = 0.179$.

Answering the question about the relationship between excessive use of the Internet and the style of young adults of coping with stress, it was ascertained that there was a significant relationship between Internet addiction and the style of coping with stress.

Analysis of the data presented above allows for the following conclusion: the smaller the skill of coping with stress, the greater the risk of Internet addiction among young

adults. It is worth emphasising the fact that preference of instant messaging as the dominant Internet activity occurs in case of young adults who display evasion tendencies in stress situations, i.e. avoid thinking about the current problem as well as experiencing the difficult situation. Due to the fact that the styles of coping with

stress are related to Internet addiction, developmental and competence trainings (especially in the field of social competences and styles of coping with stress) may perform the role of the preventive factor but also of the one averting addiction relapses.

Conclusions.

In results from the analyses and interpretations of the latest theories as well as of the concept of the risky nature of the youth in the digital sphere, performed in the text, that the presented contents become a new global challenge arising from numerous prerequisites, not only from the ones relating to development of the traditional fields of knowledge but perhaps mainly from the ones relating to the latest media and digital technologies. Their broad possibilities, apart from a lot of chances, create numerous threats connected with their activity in the cyberspace and virtual worlds as well. They are tightly connected with dysfunctional use of the digital space by the youth. This activity has a lot of particularly dangerous effects, not recognised so far. For this reason, the diagnosis of the pedagogical implications connected with addictions to e-activities acquires an exceptionally important aspect.

It is worth noting that the research connected with e-activities is still on an initial diagnostic stage. It is so due to the fact that new implications resulting from excessive use of the social networking platforms by the youth emerge systematically. For this reason, the interest in the results of the research conducted in the West is particularly important in our cultural and social environment, especially for the parents and for the school personnel as well as for the prophylactic and therapeutic centres. In this situation, styles of young adults being addicted to the multimedia of coping with stress in the light of own research become important. Nevertheless, they require an innovative approach, verification of the previous solutions in this area as well as next research allowing for optimisation of these threats and determination of effective preventive actions allowing for minimisation of the negative consequences.

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BIOPSYCHOSOCIAL MODEL OF COPING BEHAVIOR

BIOPSYCHOSPOŁECZNY MODEL RADZENIA SOBIE ZE STRESEM

БИОПСИХОСОЦИАЛЬНАЯ МОДЕЛЬ СОВЛАДАЮЩЕГО ПОВЕДЕНИЯ

Abstract

The article considers the problem of coping behavior and, in particular, a critical analysis of coping behavior, its key models from the perspective of their values and weaknesses. It examines major substantive categories of coping behavior, such as coping strategies and coping resource. Categorical components are described from the perspective of bio-psychosocial methodology that is singled out by biological, psychological and social components in these key categories of coping behavior, indicating that coping behavior is a bio-psychosocial phenomenon. The theoretical components that are updated in this model facilitate our perception of coping behavior from a systemic perspective.

Keywords: *coping behavior, coping strategies, personality, adaptive system, psychological defense mechanism, resource sphere, biopsychosocial model*

Streszczenie

Artykuł dotyczy problemu radzenia sobie ze stresem, a w szczególności jest krytyczną analizą mechanizmów radzenia sobie ze stresem, jego kluczowych modeli z perspektywy ich zalet i wad. Analizuje główne, istotne kategorie zachowań, takie jak strategie i zasoby radzenia sobie ze stresem. Kategorialne elementy są opisane z perspektywy biopsychospołecznej metodologii, która została podzielona na biologiczne, psychologiczne i społeczne elementy w tych kluczowych kategoriach radzenia sobie ze stresem, co sugeruje, że to zachowanie jest zjawiskiem biopsychospołecznym. Elementy teoretyczne aktualizowane w tym modelu pozwalają spojrzeć na sposoby radzenia sobie z stresem z punktu widzenia systemowego.

Słowa kluczowe: *radzenie sobie ze stresem, strategie radzenia sobie ze stresem, osobowość, adaptacyjny system, psychologiczne mechanizmy obronne, obszar zasobów, model biopsychospołeczny*

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Аннотация

В статье рассматривается проблема совладающего поведения, а в частности представляется критический анализ ключевых моделей совладающего поведения с позиций их достоинств и недостатков. Рассматриваются основные содержательные категории совладающего поведения, такие как копинг-стратегии и копинг-ресурсы, данные категориальные компоненты описываются с позиций биопсихосоциальной методологии, то есть выделяются биологические, психологические, социальные компоненты в данных ключевых категориях совладающего поведения, что говорит о том, что совладающее поведение является биопсихосоциальным феноменом. Теоретические компоненты, актуализированные в данной модели, позволяют посмотреть на совладающее поведение с позиций системности.

Ключевые слова: совладающее поведение, копинг-стратегии, личность, адаптационная система, механизмы психологической защиты, ресурсная сфера, биопсихосоциальная модель

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Three main approaches are quite pronounced in modern psychology, such as analytical, dispositional, transactional (Stanibula S. 2016, p. 53). In these approaches the main models of coping behavior are actualized, they describe the main procedural components of this phenomenon rather fully.

As a sample we used critical review model presented by N.A. Sirota, V.M. Yaltonsky

where we considered the main theoretical components of coping behavior models. However we will consider these theoretical and practical models from the perspective of their values and weaknesses for more detailed understanding of coping behavior phenomenon. Also we found it necessary to add coping behavior model by N.A. Sirota, V. M. Yaltonsky, interactive and mediatorial too.

Analysis of latest research where the solution of the problem was initiated.

There are lots of different models and conceptions for explaining coping behavior. Nowadays the most interesting and proved in theory are:

Conception of cognitive appraisal and coping accordance. Fundamentals of cognitive assessment and coping accordance conception («the-goodness-of-fittest» – the fit between the appraisal of controllability and coping) emphasize

problem – oriented coping importance as the most adaptive and effective in those situations where person is able to control different events. Coping behavior, which has a mostly emotional nature, is effective for less controlled situations (Endler N., Parker J., 1990, p. 885. Conway V., Terry D, 1992, p. 7).

The appropriate choice of the specifics of coping behavior depends on the perception

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characteristics in a particular situation (Zakowski S. 2001, p. 160). In the situations that are difficult to cope with, emotionally oriented coping strategies are used; in the situations that are easily controlled, problem – oriented coping strategies are used. This is proved by the research of many scientists, who established the relationship between coping behavior and individual psychological characteristics of the individual.

The influence of dispositional aspects on coping behavior of a person is proved from the perspectives of cognitive assessment and coping accordance conception. The main value of this model is the actualization and scientific and practical justification of the most adaptive nature of problem-oriented coping and less adaptive nature of coping oriented on emotional sphere. The weaknesses of this model are explanations of coping behavior from the perspective of intellectual and emotional sphere, without considering other mental processes and dispositional characteristics of the person.

Interactive model

This model uses transaction direction of coping behavior by R. Lazarus and S. Folkman as a scientific and methodological basic. The model describes the appearance of coping behavior as a quintessence of personality and situation interactions.

The main value of this model is an updating of predominate role of an assessment of phenomenological perception by individual in a situation where necessary to cope with. Coping behavior changes the semantic perception of the threatening situation and updates the gained experience to the individual aspect of personality.

This model's weakness is the absence of attention to such categories as social networks, which, as the researches in other conceptions demonstrate, are influenced on coping personality potency.

Mediatorial model. Mediatorial model updates leading influence of personal (dispositional) characteristics on coping behavior of a person in the difficult life situations.

Key value of this model is the allocation and updating of personal dispositions as key resource components that allow the person to cope with a difficult situation.

This model's weakness is a lack of attention to other components of coping behavior such as features of the situation, personal experience, social environment etc.

Coping behavior model by N.A. Sirota, V.M. Yaltonskiy. This model uses transaction direction of coping behavior by R. Lazarus and Folkman as a scientific and methodological basis. The researches of addictive behavior of teenagers closely related to this model. Authors confirm that according to the non-adaptive use of cognitive coping methods, the teenagers resort to using of psychoactive and alcoholic substances that is an inappropriate form of avoiding a stressful situation.

The value of discussed model is a practical validation of addictive and coping behavior mutual influence. According to this model, a huge number of preventive and corrective programs of work with addictive behavior are created.

As a result of integration of achieved empirical facts from the study of patients and healthy from drug addiction and alcoholism, a model of adaptive functional coping behavior, a model of pseudo-adaptive dysfunctional coping behavior, and a model of dysfunctional non-adaptive coping behavior were developed.

Model of advancing coping that is future oriented. With the help of this model the researches aspire to explain the expression of coping behavior not only in the situation where threat, the past and present loss are, but for prevention of non-adaptive effects

of potential threats. It emphasizes that people have a certain ability to anticipate potential threats and act proactively to minimize the influence of stressful situations. Within this model there are regenerative, respondent, reactive coping, advanced, proactive coping, anticipate, forestalling, anticipatory coping, preventive and preventive coping (Aspinwall L. 1997, p. 420).

Model of advancing coping that is future oriented was used as a serious theoretic and practical basis for creating of different preventive programs aimed at the prevention of different psychosomatic diseases.

The weakness is an insufficient theoretical and practical validation of complex of processes by which people emphasize and anticipate threats.

Model «Goals and coping with stress». The authors of the model «Goals and coping with stress» actualize the basic value of goals as one of the main phenomenon undergoing the greatest changes during stressful events (Folkman S., Stein N. 1997, p. 120).

Adaptivity of coping mainly depends on person's possibility phenomenologically deal with the actual goals, it means that if necessary, to discard and revise them or generate new goals that are inherently the most relevant, significant and fundamental. The coping process is inherently dynamic; as a result there is an amazing and insufficiently studied process of transformation of the semantic sphere of personality. To our mind, this model is still waiting for its researchers, especially in the dynamics of the semantic sphere and its influence on person's coping behavior.

The main value of this model is a focus on the goal as the main element of the process of the meaningfulness which influence on coping processes. In front of the threat person tries to save internal integrity

through updating and commitment to goals. The main coping components are focused on the aspect of commitment, aspiration and transformation of a gradual revision of priorities and goals. The important characteristic of the model "goals and coping with stress" is that it's compatible and easy to integrate with other models.

The weaknesses are: at first, this model doesn't take into human's biological and social aspects when updating coping behavior; secondly, this model can't explain the expression of coping behavior in situations or age periods when it's impossible to talk about the formation of goals and motives.

Dual process model of coping. Dual process model of coping explains the coping process from the position of functioning of various subsystems that are in constant interrelations, complementing and regulating each other.

Coping behavior are expressed in automatic, proximate, immediate and spontaneous reactions to stressful situations. The regulation of coping behavior by the individual occurs through conscious and unconscious efforts to updating physiological responses; to manage mental states and processes (emotions, attention, intellect, behavior).

The adaptive coping in this model is the dynamic interrelated process of coping with difficulties and reconstruction of the actual psychophysiological state to the stress effect, reaching by orientation to the negative and positive overestimation of the stress situation, avoidance of the problem and its resolution (Stroebe M., Schut H. 1997, p. 71).

The weaknesses of this model are insufficient theoretical and practical study of interaction of the reaction processes to stressful event and the regulation process of the psychophysiological state before the impact of stress.

Model of post-traumatic growth. Model of posttraumatic growth is based on that life crisis; this is a situation that caused the obstacles to realizing of internal motives, needs, goals due to the emergence of objective and subjective factors and conditions. Person is used to definite (traditional) life forms, conditions of existence, social status, moral and spiritual values, which makes the basic foundation his life activity. Crisis state can deprive him of this support. In the same time close to negative expression during the crisis there can be the deepest understanding of the true life value, spiritual self-awareness (Nakano. K. 1991, p. 350).

Some representatives of this conception identify a number of positive consequences caused by the experience of crisis events: fixation of social resources (improvement of relations with friends and family); fixation of individual resources; development of coping skills (Tedeschi R., Calhoun L. 2004, p. 5).

In this conception the huge meaning attends to the crisis event as one of the main factors of personal growth and development.

The value of the model of post-traumatic growth is the detailing of the positive component of stress events. The model allows you to detail and pay special attention to the resource component of any crisis event. The weakness of this model includes a one-sided analysis of the studied processes, only the positive side of personal changes in overcoming difficult life situations is considered.

Analyzing the directions and models and concepts developed within the psychology of coping behavior, it becomes clear that no one direction and model is leading and sufficient for most cases. This aspect confirms the idea that today it is necessary to integrate the main theoretical and practical results and to detach them into new biopsychosocial model of coping behavior. The understanding of dynamic, structure, development and acts of coping behavior can include numbers of biological, psychological, social and cultural aspects.

Aims of paper. Methods.

Considering these components separately is likely to lose significant aspects of interaction and interdependence between different factors. The existing limitations of each approach can be partially overcome in the biopsychosocial model of coping behavior.

Biopsychosocial model offers to look at the coping behavior problem from the systematic point and taking into account many factors that influence on the specific of coping behavior. The model is formulated by G. Engel in 1977 (Engel G. 1980, p. 540).

The biological aspects include genetic, physiological, sexual and other factors that influence on the specifics of the development and expressions of coping behavior. The psychological aspects are focused on emotional, volition, behavioral and cognitive sphere of personality. Social aspects include the structure and features of interpersonal and family relations, social status, professional aspects and preferences.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

If to consider the various categorical units of coping behavior among which key points are coping strategies and coping resources, we can confidently say that all the main problems of functioning, development and structure of these basic categories of coping behavior can be described from the points of the biopsychosocial model.

The success of a person's adaptation to stress is determined by the level of development of his coping behavior, which is regulated by the use of environmental conditions (coping resources) and behavioral strategies (coping strategies) on the basis of available personal experience and coping resources (Vessrman L., Schelkova O.2003, p. 564).

Particularly, during the theoretical analysis it was determined that coping strategies include next categories: 1) knowledge and ideas, 2) feelings, 3) people relations, 4) spirituality, 5) physical being. Appealing to a particular situation is determined by the stressor and semantic content of a problem situation (Zeidner M., Hammer A.1990, p. 700).

It can be confirmed that coping strategies are the complex of social, biological, psychological patterns of response of

overcoming a difficult situation. So the coping strategies are person responses that are emotional, cognitive, behavioral, biological and situational conditioned by environmental and biological factors. They are the responses of the person to the perceived threat as a way of stress control (Stanibula S. 2017, p. 53).

The other important category is the coping resources of the person. Researchers who work within the framework of socio-cultural approaches understood and studied coping resources as psychological (variables like self-esteem and self-efficacy) and environmental factors as social resources, social network of supporting relations, financial resources and level of education (Wethington E., Kessler R. 1991, p. 13).

According to S. Hobfoll, the resources include: material (house) and nonmaterial (wishes and goals); external (social support, family, friends) and internal variables (self-esteem, skills, interests, optimism, self-control, life values, belief system, etc.); mental and physical states; volitional, emotional and energy characteristics (Hobfoll S., Canetti-Nisim D., Johnson R., Varley J., Palmieri P., Galea S. 2008, p. 13).

Conclusions.

Therefore, the person resources include a systematic complex of physical, personal, social and spiritual adaptation categories that allow overcoming and stabilizing stressful situations and their consequences. The resource sphere of the personality is a dynamic dispositional structure caused by the variability of biological, social and psychological contexts.

It can be affirmed with confidence that the main categorical units of coping behavior: coping strategy and resource sphere have biopsychosocial origin and aspects. Thus, It can be affirmed with confidence that biopsychosocial model of coping behavior in its methodological origin is based on the understanding of the categorical components of coping behavior from the position of biopsychosocial approach.

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EXPLAINING THE TEACHER'S PERSONALITY IN INTERACTING WITH VALUES AND PROFESSION

WYJAŚNIANIE OSOBOWOŚCI NAUCZYCIELA W INTERAKCJI Z WARTOŚCIAMI I ZAWODEM

РАСКРЫТИЕ ЛИЧНОСТИ УЧИТЕЛЯ ВО ВЗАИМОДЕЙСТВИИ С ЦЕННОСТЯМИ И ПРОФЕССИЕЙ

Abstract

The teacher's personality is irreplaceable for the pupil in a school environment. This is not just a means of information and knowledge, but also a model of behavior, which he imitates. Through the scientific research, the author identifies, compares, verifies the teacher's personality in interaction with values and profession in the regions of Slovakia. The author gradually examines and evaluates separately selected questions. In conclusion, he provides an assessment and recommendation for pedagogical practice.
Key words: teacher, personality, values, pupil

Streszczenie

Osobowość nauczyciela jest niezastąpiona dla ucznia w środowisku szkolnym. Nie jest jedynie pośrednikiem informacji, wiedzy, ale jest także wzorcem do naśladowania. Poprzez badania naukowe autor identyfikuje, porównuje, weryfikuje osobowość nauczyciela w interakcji z wartościami i tym zawodem na Słowacji. Autor stopniowo weryfikuje i ocenia poszczególne wybrane pytania badawcze. We wnioskach autor podaje wyniki badań oraz ich rekomendację dla praktyki pedagogicznej.

Słowa kluczowe: nauczyciel, osobowość, wartości, uczeń

Аннотация

Личность учителя незаменима для ученика в школьной среде. Это не просто средство информации, знаний, но и поведенческая модель, которую он имитирует. Благодаря научным исследованиям автор определяет, сравнивает, проверяет личность учителя во взаимодействии с ценностями и понятием данной профессии в Словакии. Постепенно проверяет и оценивает отдельно выбранные вопросы. В заключение автор дает оценку и рекомендации для педагогической практики.

Ключевые слова: учитель, личность, ценности, ученик

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Statement of the problem in general outlook and its connection with important scientific and practical tasks. Analysis of latest research where the solution of the problem was initiated.

On the personality of the teacher can apply general definition of personality, which reads as follows: "Personality is a system regulating the man-world relations" (Pedagogical review no. 3, 1990. Dr. Kenneth O'Gangel: Occupation: Teacher (Called To Teach), ACSI, Colorado Springs, U.S.A., 1995. The essence of the educational interaction with pupils, however, certainly won't be winning the war of words, but form educated and honest people; the wise and humble, ready for all sorts of tests, which the life shall bring. After all, the school offers young people the opportunity to build the foundations for life, clear attitudes, beliefs and values and their own correct order of values.

The author offers the results of educational research, the aim of which was to identify, compare, verify the personality of the teacher in the regions of Liptov and Kysuce.

Based on this objective, we have identified the partial ones:

- to determine the relationship of a teacher to the values and the relationship to the occupation,
- to determine the relationship of teachers to pupil evaluation,
- to determine the characteristics of teachers.

Exploratory sample in which we used the method of a questionnaire was made up of educators who teach students on the 1. stage of primary school. 50% of the survey sample consisted of teachers from the region of Kysuce and 50% of the survey sample consisted of teachers from the region of Liptov. The questionnaire was completed by 200 educators. The return rate was 100%. Review sample in which we used the method of interview consisted of 25 teachers at the 1. stage of the primary school but only 11 of those teachers were willing to answer.

Aims of paper. Methods.

In the exploratory investigation section, we used the method of interview, questionnaire, synthesis, analysis. The reason for the questionnaire method was a possibility for a quick collection of more information and the option to distribute it electronically. We have prepared the questions in electronic and printed form. The questionnaires

were designed for teachers on the 1. stage of primary school in the regions of Liptov and Kysuce. We distributed them in the two regions, in electronic and hard copy form to the addresses of schools. In the questionnaire, it was clearly stated that the questions are anonymous, and used solely for the following purposes.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Exploratory questions

The majority of the questions of the questionnaire was created in a way that the wording required only one answer. In two questions, it was necessary to select three responses. Open questions provided space for respondents to write their own answers. During the creation of some of the questions in the questionnaire, we were inspired by the questionnaire used in 2002 by M. Vargová.

The questions in the questionnaire have been divided into three parts:

1. questions dealing with the autobiographical details of respondents,
2. question dealing with the relationship of the teacher to the values and the relationship to the occupation,
3. questions dealing with assessment of teachers and pupils,
4. questions dealing with the characteristics of the teacher.

Responses were obtained from the questionnaire and processed into charts, tables

by using a table editor. The results serve as a percentage. We focused on comparison of the observed data in various regions. On certain issues we determined the results according to the length of the pedagogical practice, gender, where appropriate, we compared the answers with the answers of the questionnaire, which was used in 2002. We supplemented the survey with a standardized interview (Compare: ŠVEC, Š. et al. 1998. p. 115-119). In its compilation and execution, we followed the instructions of Mr. Švec. We carried out the survey in person, by telephone and subsequently made a transcript of the interview.

Survey questions:

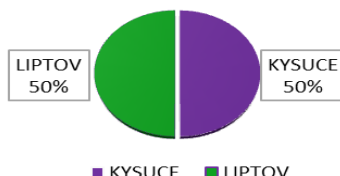
- What is the relationship of the teacher to the values?
- What is the relationship of the teacher to assessment of pupils and their leading towards self-assessment?
- What qualities do the teachers have?

Analysis and evaluation of the results.

We have evaluated the data processed from the replies in the questionnaire from the regions of Liptov and Kysuce and we put them in tables, charts, and described, we choose the most interesting questions and answers.

Question No 1 "Region in which you teach", Kysuce and Liptov

Chart 1 shows the percentage of respondents from each of the regions. The table for this chart can be found in the annex under the heading of table 1.1.



Graf 1 Rozdelenie pedagógov podľa regiónu v ktorom vyučujú

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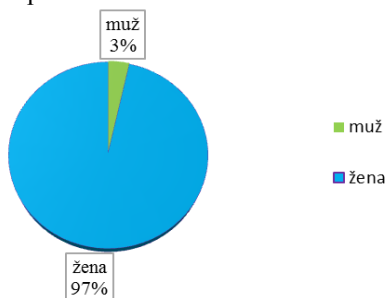
Table 1 shows the distribution of teachers according to the region in which they teach. The chart for this table can be found in the annex marked Chart 1.1 and 1.2.

Table 1 distribution of teachers according to the region in which they teach

Region	Number of responses	Percentage representation
Kysuce	100	100 %
Liptov	100	100 %

The first question was focused on the region where the teachers of primary schools teach. 50% of the survey sample consisted of teachers from the region of Kysuce and 50% of the survey sample consisted of teachers from the region of Liptov. (Chart 1, Appendix - table 1.1). The questionnaire was completed by 200 educators. 100% of the responses were

from the region of Kysuce and 100% of the responses were from the region of Liptov. (Table 1, Appendix - Chart 1.1 and 1.2). Question No. 2 "**Gender**" male, female Chart 2 shows the percentage of respondents from each of the regions. The table for this chart can be found in the annex under the heading of table 2.1.



Graf 2 Rozdelenie pedagógov podľa pohlavia

Table 2 shows the representation of teachers by sex in the respective regions –

Kysuce, Liptov. The chart for this table can be found in the annex marked Chart 2.1 and 2.2.

Table 2 Breakdown of teachers by sex

Region	Sex	Number of responses	Percentage representation
Kysuce	man	5	5,00 %
	woman	95	95,00 %
Liptov	man	2	2,00 %
	woman	98	98,00 %

Using the second question we assessed the gender of respondents. The following chart shows distribution by gender. The representation of women was 97%, and 3% were male. (Chart 2, Appendix table 2.1).

In the region of Kysuce replied 5% of men and 95% of women. In the Liptov region answered 2% men and 98% of women. (Table 2, Appendix - Chart 2.1 and 2.2).

From the chart, it is clearly seen the superior representation of women in the profession of a teacher. We assume that the reason is still higher attractiveness for the female population. And men, sometimes designated as family breadwinners do not earn

enough in this profession compared to other, technical fields.

Question 3 "Age" 18-25, 25-35, 35-45, 45-50, 50 and more

Question No. 5 "How important are the following terms for you in your private life. Sort them from the most important one. "Money, pride, family, career, love. Chart 5 shows sorting of the values of the respondents in their private lives, obtained from individual respondents and then shown as a weighted average (response and the importance of the concept of private life). The table on this chart can be found in the annex under the heading of table 5.1.

Chart 5 Sorting the terms by importance

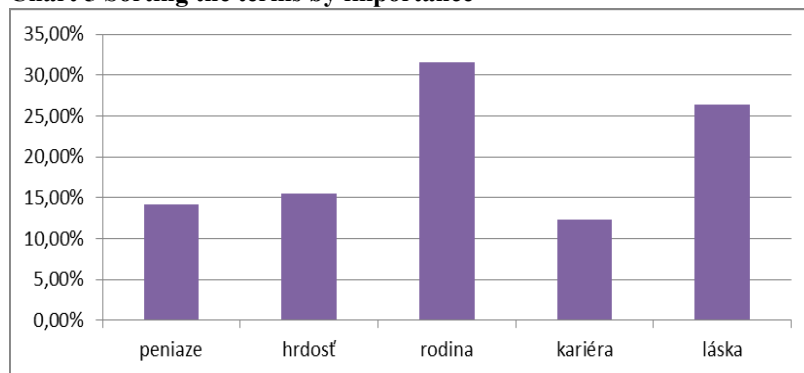


Table 5 shows the representation of the values of the respondents in the private lives provided by the teachers from the

region of Kysuce and Liptov region. The chart for this table can be found in the annex marked Chart 5.2 and 5.3.

Table 5 The importance of values in private life

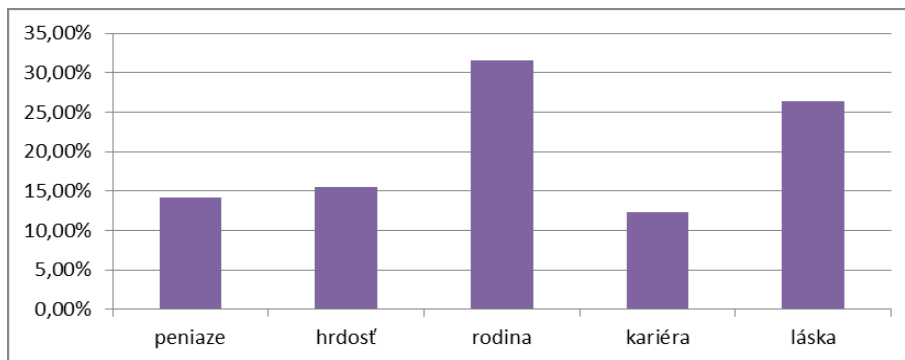
Terms	Kysuce		Liptov	
	Percentage representation	Weighted average of the respondents	Percentage representation	Weighted average of the respondents
money	14,73 %	15	13,60 %	14
pride	15,73 %	16	15,40 %	15
family	31,93 %	32	31,26 %	31
career	11,27 %	11	13,26 %	13
love	26,34 %	26	26,46 %	27

With the fifth question, we measured the importance attributed by the respondents to the notion of money, pride, family, career, and love in their private lives. This view was carried out using a weighted average, where we based the values we found displayed in Annex Table 5.2, which is shown in Chart 5.1. Then we created a weighted average, while each location carries its weight. First place bears the weight of 5, the last, the 5. bears the weight of 1. The weighted average was received using a calculation: the number of responses we have gained multiplied by the number of answers in a specific location. For example, calculating the weighted average for the family from table 6.2 $[(5 * 157) + (4 * 39) + (3 * 0) + (2 * 3) + (1 * 1)] = 785 + 156 + 0 + 6 + 1 = 948 / 15 = 63,2$. The following comprehensive answer defines the order of the response values of the surveyed respondents: 31,6 % family, 26,4 % love, 15,57 % pride, 14,17 % money, 12, 26 % career. (Chart 5, Appendix table 5.1).

In table 5, we can see how respondents answered from each of the regions. The order of the values in the Kysuce region for teachers are: family 31,93 %, love 26,34 %, pride 15,73 %, money 14,73 %, career 11,27 %.

The order of the values in the Kysuce region for teachers are: family 31,93 %, love 26,34 %, pride 15,73 %, money 14,73 %, career 11,27 %.

In both regions dominated on the first place family, closely followed by love. Behind them were pride, money, career. The results were compared with the results of a questionnaire, processed in graduation thesis in the year of 2002 by M. Vargová with the name The Personality of a Christian Teacher - from the page 69. Family ended here also in the first place. From the above, we assume that the family is regarded as the most important value for a society in the private lives of people. It has not only been so in the past but also in the present.



Question No 6 "My ideals before entering teaching practice."

On this question, respondents replied as follows:

Good financial rating	Material facilities of the school, classroom
I will be creative	To teach pupils
Respect for the teacher	Lifelong learning
A good teacher liked by everyone	I will not fade away to a stereotype
I will have the pleasure of a well done job	The importance of the teaching profession in the society
Love for children	Career growth
Working with children	Be a role model
Have a good friendly team	I did not have any

Question 6 was to find out what ideals had the interviewed respondents, prior to entry into educational practice. Here's a summary of the ideals in which educators from both regions agreed to at least three times. We compared our result with the result of the questionnaire, which was elaborated in the graduation thesis in the year 2002 by M. Vargová and was designed for teachers of secondary schools. Specifically, they are: *"working with young people, to teach pupils as much as possible, be well evaluated for the job done, have educational optimism, be objective, induce interest in the subject, use as many non-traditional methods as possible. Educators who had ideals before entering the teaching practice, or did not refer to any"*. We compared the ideals of teachers of the 1. stage of the primary school from the

current year, with the ideals of the teachers of the secondary school of the year 2002. We found that interviewed respondents provided in some replies, the same answers: well financially evaluated (good job appreciation), working with the children (working with young people), I've had no (did not refer any). But the ideals were more diverse. From the foregoing results that the teachers of first stage named more ideals.

Question No 7 **"Is it difficult for you to objectively evaluate students?"** 1. Yes; 2. Rather Yes; 3. I cannot assess; 4. Rather No; 5. No

Chart 7 shows the percentage of respondents from each of the regions. Expresses the issue in an objective evaluation of the pupils. The table on this chart can be found in the annex under the heading of table 7.1.

Chart 7 Problem at an objective assessment of pupils

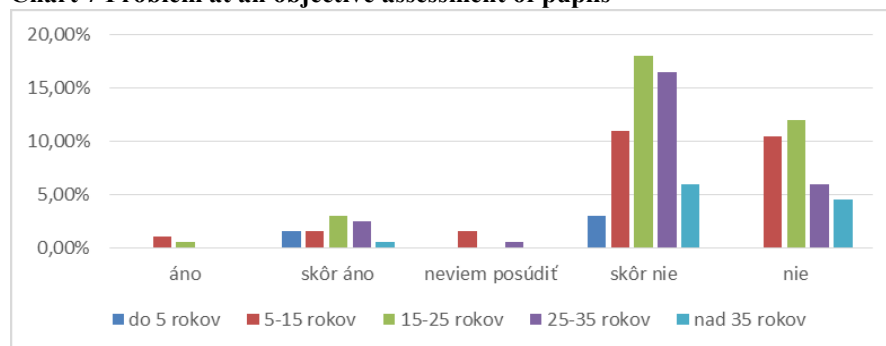


Table 7 shows the representation of teachers according to the length of the educational practice in the regions Kysuce, Liptov and their answer whether it is a problem for them to objectively evaluate pupils. The chart for this table can be found in the annex marked Chart 7.1 and 7.2.

Table 7 Problem with an objective assessment of pupils

Region	The length of the pedagogical practice	Yes	Rather Yes	I cannot assess	Rather No	No
Kysuce	up to 5	0.00 %	1.00 %	0.00 %	4.00 %	0.00 %
	5	0.00 %	1.00 %	0.00 %	15.00 %	7.00 %
	15	0.00 %	1.00 %	0.00 %	15.00 %	13.00 %
	25	0.00 %	3.00 %	0.00 %	16.00 %	8.00 %
	over 35	0.00 %	1.00 %	0.00 %	7.00 %	8.00 %
Liptov		Yes	Rather Yes	I cannot assess	Rather No	No
	up to 5	0.00 %	2.00 %	0.00 %	2.00 %	0.00 %
	5	2.00 %	2.00 %	3.00 %	7.00 %	14.00 %
	15	1.00 %	5.00 %	0.00 %	21.00 %	11.00 %
	25	0.00 %	2.00 %	1.00 %	17.00 %	4.00 %
over 35	0.00 %	0.00 %	0.00 %	5.00 %	1.00 %	

The seventh question was posed to find out what the teachers find difficult to objectively evaluate pupils. We evaluate this question in view of the length of the pedagogical practices of teachers. A summary of the two regions of Liptov and Kysuce provided us with these results. Here are the answers of the respondents to the question, whether they have a problem with objective assessment of pupils: 3 % rather no, 5 – 15: 11 % rather no, 15 – 25: 18 % rather no, 25 – 35: 16.50% rather no, over 35, and more: 6 % rather no. (Chart 7, Appendix - table 7.1).

In the Kysuce region, the most common answer was "rather not". Its largest representation in the amount of 16.5% was represented by teachers with 25-35 years of experience, but closely followed by 15% of teachers with a length of experience of 5-15 and 15-25. At teachers with a length of practice over 35 years there were 8% of answers "no". In the Liptov region, the most common answer was "rather not". Its largest representation of 21%, was at the group of teachers with 15-25 years of

practice. At teachers with a length of practice of 5-15 years prevailed with 14 % answer „no“. (Table 7, Appendix - Chart 7.1 and 7.2).

The men replied: „Yes“ 0,50 % (1), „Rather Yes“ 0,50 % (1), „I cannot assess“ 0 %, „Rather No“ 2 % (4), „No“ 0,50 % (1). The Women replied: „Yes“ 1 % (2), „Rather Yes“ 8,50 % (17), „I cannot assess“ 2 % (4), „Rather No“ 52,50 % (105), „No“ 32,50 % (65). The number in brackets represents the number of respondents.

We have found out that most of the responses from the two regions, and in both sexes belonged to the reply "rather not". We assume that this answer means that the teacher do not have problems to objectively evaluate students, but there are some exceptions. From the replies we assume that whether is a teacher starting or experience does not determine the teacher has a problem with an objective assessment of pupils.

Question No 8 "Do you use also other forms of evaluation than the grades?"

Yes; Rather Yes; I cannot assess; Rather No; No

whether the teachers also use some other form of evaluation than grades. The table Chart 8 shows the percentage of respondents from each of the regions. It indicates

Table 8 Use of other forms of evaluation than grades

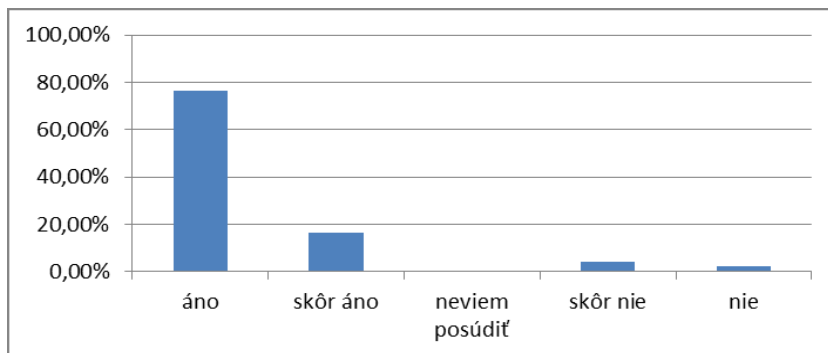


Table 8 presents individually in regions – Liptov, Kysuce, whether the teachers also use some other form of evaluation. The chart for this table can be found in the annex marked Chart 8.1 and 8.2.

Table 8 Use of other forms of evaluation as grades

Region	Yes	Rather Yes	I cannot assess	Rather No	No
Kysuce	78	15	1	3	3
	78,00 %	15,00 %	1,00 %	3,00 %	3,00 %
Liptov	75	18	0	5	2
	75,00 %	18,00 %	0,00 %	5,00 %	2,00 %

Using the 8. question we asked whether the teachers use some other form of evaluation except for the grades. We summed up the answers from the two regions of Liptov, Kysuce and we see that 76,5 % responded „Yes“, 16,50 % „Rather Yes“, 0,50 % „I cannot assess“, 4 % „Rather no“, 2,50 % „No“. (Chart 8, Appendix - table 8.1).

If we sum up answers "Yes" and "Rather Yes" in the Kysuce region, we see that 93% of respondents used another form of evaluation than the grades and surprisingly

the exact percent was found in the Liptov region. (Table 8, Appendix - Chart 8.1 and 8.2).

The men replied: „Yes“ 2,50 % (5), „Rather Yes“ 0,50 % (1), „I cannot assess“ 0 %, „Rather No“ 0 % (0,50), „No“ 1 % (1). Answers of the women: „Yes“ 74 % (148), „Rather Yes“ 16 % (32), „I cannot assess“ 0,5 % (1), „Rather No“ 4 % (8), „No“ 2 % (4). The number in the brackets represents the number of respondents.

We assume that the reason why the teachers also use other forms of assessment, is motivation of students, as it definitely requires the age of pupils. It is very important that teachers do not just use grades, but also other forms of assessment.

Question No 9 "What assessment are you using in the classroom?"

On this question, respondents replied as follows: oral praise; verbal evaluation; stamp; points; praise; small (material) rewards; stickers.

Using the ninth question we were asking the respondents who have answered Yes to the previous question, what other rankings in the teaching-learning process they use. We select the answers of the questionnaire in which teachers from both regions agreed to at least five times. They are the following: verbal rating, stamp, points, rewards, praise, small stickers. We compared our result with the result of the questionnaire,

which was elaborated in the graduation thesis in the year 2002 by M. Vargová and was designed for teachers of secondary schools. They are the "praise, word assessment, points." In comparison with the teachers who completed the questionnaire in 2002, more examples of a different form of assessment were provided by the teachers of the first stage. We assume that younger children should be assessed and thus motivate in different ways to be interested in the matter. So in addition to verbal reviews, appraisals, it is good to use small stamps, stickers, small rewards that are appropriate for this age group.

Question No 10 "Try to evaluate yourself to bring a result (in percentage) of one hundred. Your teaching style that prevails in the teaching-learning process is: liberal.....%; authoritative.....%; democratic....%; sum = 100%

Chart 10 shows the percentage of individual teaching styles in both regions. The table on

this chart can be found in the annex under the heading of table 10.1.

Chart 10 Teaching style prevalent in the teaching-learning process

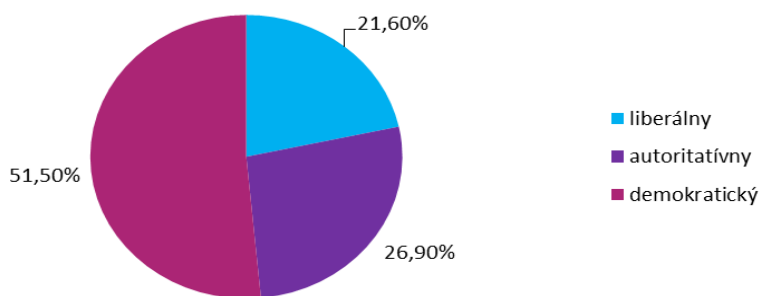


Table 10 presents the prevailing educational styles in Kysuce and Liptov regions.

The charts for this table can be found in the annex marked Chart 10.1 and 10.2.

Table 10 Teaching style prevalent in the teaching-learning process

Region	Teaching style		
	liberal	authoritative	democratic
Kysuce	21,00%	27,00%	52,00%
Liptov	22,20%	26,70%	51,10%

The tenth question helped us to identify what teaching style is prevalent in the teaching-learning process. In a summary in both regions has dominated the democratic style represented by 51.50%, followed by the authoritative with 26.90% and liberal with 21.60%. (Chart 10, Appendix table 10.1).

In the Kysuce region in the process of education prevails according to respondents democratic style with 52%. In the Liptov region also prevails democratic style in teaching with 51.10%. (Table 10, Appendix - Chart 10.1 and 10.2).

The interesting thing is that teachers from both regions prefer more the authoritative style from the liberal style. We compared our result with the result of the questionnaire, which was elaborated in the graduation thesis in 2002 by M. Vargová under the title Personality of a Christian teacher -

from the page 75, which brought the following values: democratic 55.54%, Liberal, 22.52%, authoritative 21.90%. We assume that the reason for this is that the kids misbehave more, they are less respectful for the teachers and this style of instruction it a teachers's try to keep the discipline and order in the classroom.

Question No 11 ", **Select from the following options three positive characteristics that are the most important for you on a teacher."**

fairness, empathy, patience, consistency, honesty, tolerance, creativity, flexibility, friendly, expertise.

Chart 11 shows the ranking of the most positive features, which should a teacher have. The table on this chart can be found in the annex under the heading of table 11.1.

Chart 11 Positive qualities of the teacher

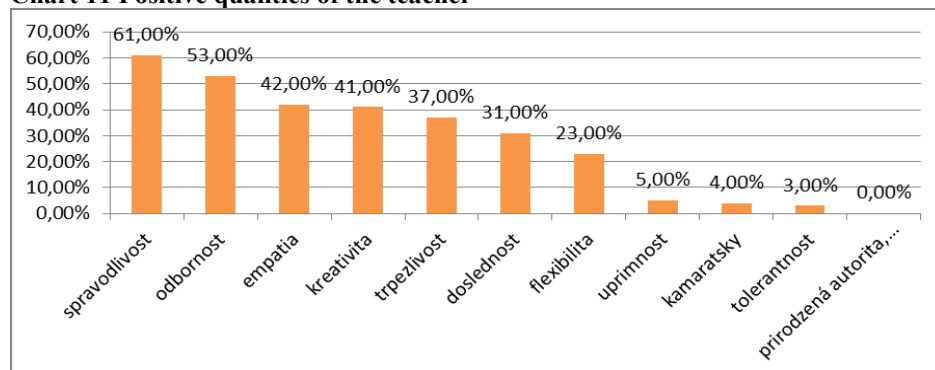


Table 11 shows the ranking of the most important positive qualities, which should a teacher have in various regions. The chart for this table can be found in the annex marked Chart 11.1 and 11.2.

Chart 11 Positive qualities of the teacher

Qualities	Kysuce	Liptov
	Percentage representation	Percentage representation
Justice	61,00 %	51,00 %
Expertise	53,00 %	50,00 %
Empathy	42,00 %	46,00 %
Creativity	41,00 %	40,00 %
Patience	37,00 %	45,00 %
Consistency	31,00 %	32,00 %
Flexibility	23,00 %	13,00 %
Honesty	5,00 %	9,00 %
Friendly	4,00 %	6,00 %
Tolerance	3,00 %	6,00 %
Other: inherent authority, creativity	0,00 %	2,00 %

The Eleventh question was aimed at the characteristics of the teachers considered to be the most important. Teachers should select three options from the given terms. The aggregate response of the two regions of Liptov and Kysuce for the three most important characteristics a teacher should have are justice 56%, expertise 51.50%, empathy 54%. (Chart 11, Appendix table 11.1).

Specifically, in the Kysuce region around 61% would opt for justice, 53% for expertise, 42% would opt for empathy. In the Liptov region 51% would opt for

justice, which is considered to be the most important. Expertise was followed with 50% and 46% of empathy. Because each of the options has been marked at least once we assume that these properties are considered to be important to respondents. Justice was in both regions in the first place. (Table 11, Appendix - Chart 11.1 and 11.2). Question No 12 ", **select from the following options, three negative characteristics that are unacceptable for teachers.**" **explosive, moody, aggressive, unjust, arrogant, indifferent, indecisive, impatient, irresponsible, ironic.**

Chart 12 shows the order of unacceptable, negative qualities of a teacher. The table on

this chart can be found in the annex under the heading of table 12.1.

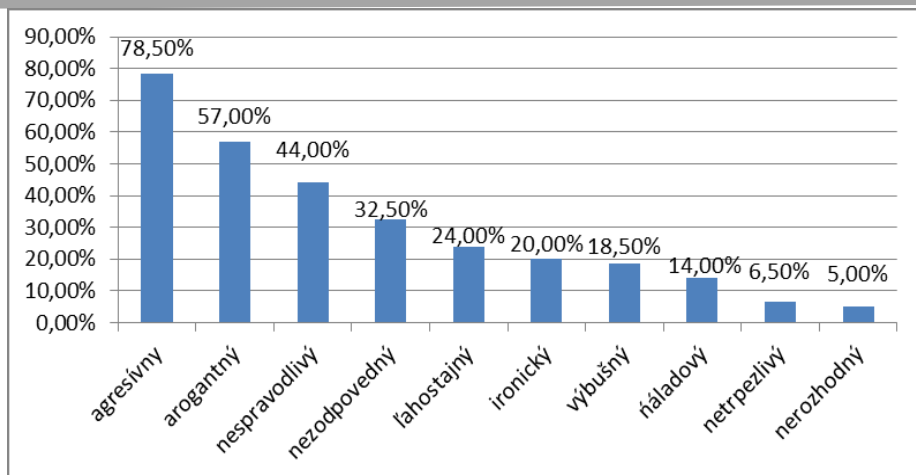


Table 12 Negative, unacceptable qualities of teachers

Table 12 illustrates the order of negative, qualities that have the teachers marked unacceptable individually in the regions. The chart for this table can be found in the annex marked Chart 12.1 and 12.2.

Table 12 Negative, unacceptable qualities of teachers

Qualities	Kysuce	Liptov
	Percentage representation	Percentage representation
Aggressive	82,00 %	75,00 %
Arrogant	52,00 %	62,00 %
Unjust	48,00 %	40,00 %
Irresponsible	36,00 %	29,00 %
Indifferent	23,00 %	25,00 %
Ironic	19,00 %	25,00 %
Explosive	15,00 %	18,00 %
Moody	11,00 %	17,00 %
Impatient	8,00 %	5,00 %
Undecisive	6,00 %	4,00 %

The twelfth issue was aimed at finding out what qualities of a teacher consider the respondents unacceptable. They had to select three options from the given terms. Respondents provided the following answers: First with 78.50% was selected aggressive quality, in second place with 57% arrogance and in third place, with 44%

injustice. (Chart 12, Appendix table 12.1). In the Kysuce region were provided the following results: 82% for aggressive, 52% for arrogant, 48% for the unjust. In the Liptov region, were the figures as follows: 75% for aggressive, 62% for arrogant, 40% for the unjust. (Table 12, Appendix - Chart 12.1 and 12.2). Not surprisingly, injustice is

ranked among the top three, because of the previous question, we can see that the

respondents placed to the first place of the positive qualities of a teacher justice.

Conclusions.

The objective of our research was to identify, compare, verify the personality of the teacher in the regions of Liptov and Kysuce. Using the methods of a questionnaire and interview survey we looked at at the following issues:

1. the autobiographical details of respondents,
2. the relationship of the teacher to the values and the relationship to the occupation,
3. the relationship of the teacher to the assessment of pupils and their leading towards the self-assessment,
4. qualities of the teacher.

Of these, we have set the review questions:

- What is the relationship of the teacher to the values?
- What is the relationship of the teacher assessment of pupils and their leading towards self-assessment?
- What qualities do the teachers have?

1. Relationship of a teacher to the values of the profession we tested using the methods of a questionnaire and interview. The respondents have sorted the following values in the private life according to an order. In the two regions was the order matching: family, love, pride, money, career. We compared them with the questionnaire from 2002, and there the family also got in the first place. We believe that the family is still regarded as the most important value for the society. (see table 5). The question was developed using the method of interview where we looked at the private life (love, family, money, pride, career), and whether these values impact the educational effect of the respondents. Most of the teachers responded that the mentioned values affect the teaching process.

We looked at ideals before entering teaching practice and compared them with a questionnaire of 2002, carried out by M. Vargová intended for high school teachers. Here are the answers, which we agreed on: good compensation package (have a well evaluated job), working with the children (working with young people), I had none (had none, did not state any). From the above, it is apparent to us that teachers want to work with the students, but they want to be properly financially awarded now just like they did thirteen years ago. Using a method of interview we were trying to find out how the ideals of teachers changed after they entered the educational practice. From the answers we deduct that teachers perceive their profession as unrecognized by parents or the society. They are not satisfied with the financial compensation. There are high demands placed on them, which requires their flexible approach. Consequently, we were trying to find out, whether they would choose the teaching profession if they could choose again. 10/11 of the polled respondents answered yes.

2. The relationship of the teacher to assessment of pupils and their self-assessment was examined in the questionnaire and interviews. We asked the teachers whether it is a problem for the teachers to objectively assess the pupils and we compared the regions mutually. We evaluated this question in view of the length of the pedagogical practice of the respondents. From the responses, we found that in the regions of Kysuce, Liptov was the preponderance of responses "rather not" whatever length of pedagogical practice. By the method of interview we have found the view of respondents, whether they think that beginning

teachers have a problem with an objective evaluation. The majority of the respondents expressed here their rather positive opinion and as a reason they stated lack of practice and experience. Furthermore, we have found using a method of interview what the respondents see the biggest problem in evaluating students, where teachers reported large numbers of students in a classroom on the basis of which they may not be able to follow what a particular pupil knows or doesn't know. And has to watch the very individuality of the pupil. Using the questionnaire method, we were trying to find out whether the respondents also use a different form of assessment as grades. In both regions has the prevailing answer been "Yes". The following question was focused on what other forms of assessment they use. From the replies we have selected those in which they agreed in the both regions at least five times, and then the results were compared to the answers of the questionnaire for high school teachers in 2002. Here are those in which the respondents from the primary school agreed with the answers from high school: praise, word rating, points. More other forms of evaluation were chosen by primary school teachers - stamps, small rewards, stickers. By the method of interview we found out, why the respondents use other forms of evaluation of pupils, than grades, and most replied that because of the incentives, because grades are not always fair. Furthermore, we have tried to find out whether they try to lead pupils to self-assessment and whether the pupils have a problem with it 9/11 surveyed respondents said that they lead students to self-assessment. Responses whether it is a problem for the pupils differed.

3. What characteristics have the teachers we have found out using a method of the questionnaire. There, we asked what style of instruction prevails in the teacher's education, and then we compared both regions.

Regions have identical sequence: a democratic, authoritative, liberal (table 10). Subsequently, we compared the ranking with the questionnaire from 2002, which came out as follows: democratic, liberal, authoritative. By the method of interview we have found out, what is the ideal style of teaching according to teachers. 9/11 teachers rated the highest a democratic teaching style, followed by the authoritative and the least was evaluated liberal teaching style. Using the questionnaire method we have asked the teachers, which of the following characteristics are considered by them to be the most important on a teacher. From the replies of the respondents, we see that the order of the qualities in the regions is identical. Here are the three qualities that respondents from both regions have identified as being the most important: fairness, professionalism, empathy. (Table 11). By the method of interview we asked the respondents, which of the following is a quality of the respondents, they had to choose 3. Here are the ones in which they agreed most often: They replied as follows: justice 5/11 respondents, empathy 5/11 respondents, expertise 5/11, creativity 6/11. The last question in the questionnaire we aimed at finding, which of the qualities (explosive, moody, aggressive, unjust, arrogant, indifferent, indecisive, impatient, irresponsible, ironic), are unacceptable for a teacher. Then we compared responses between regions. The three negative characteristics that are unacceptable for a teacher the regions agreed on. They are: Aggressive, arrogant, unjust (Table 12). By the method of interview we asked the respondents whether they possess any of the above qualities. None of the surveyed respondents claimed to have a quality that the previous question rated as the least acceptable. From the following 6/11 replied that sometimes they are impatient, undecided and 4/11 replied that none of the listed options is among their qualities

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The answers from the survey carried out in the regions of Kysuce and Liptov showed that they are very similar.

We recommend to ensure lower numbers of students in the classroom. At the lower number of pupils, teachers have a better idea about what the students know and what they have yet to work on. In such numbers it is easier to apply an individual approach. The teacher has more time for each student. We recommend that the work of the teachers was adequately financially valued. This work is a responsibility that requires full concentration. Better financial security for the teachers who not only teach, but also educate the pupils is motivating.

We recommend to create the proper conditions for a teacher, his professional growth and career advancement. The reason for a career development is a motivation of teachers to educate, supplement their education. The influence of different modern devices introduced into the teaching process is essential to their education in a variety of areas. To prevent stagnation, using only the traditional methods, but on the contrary, continuously improve.

We recommend to create an environment that appreciates the work of educators. The work of teachers is often under-appreciated by the company itself. This occupation is on the contrary very important and the personality of the teacher is irreplaceable.

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POLISH AND AUSTRALIAN UNDERSTANDING OF EDUCATION ON THE EXAMPLE OF PRIMARY SCHOOLS

POLSKIE I AUSTRALIJSKIE ROZUMIENIE EDUKACJI NA PRZYKŁADZIE SZKÓŁ PODSTAWOWYCH

ПОЛЬСКОЕ И АВСТРАЛИЙСКОЕ ПОНЯТИЕ ОБРАЗОВАНИЯ НА ПРИМЕРЕ НАЧАЛЬНЫХ ШКОЛ

Abstract

The article presents the results of a comparative analysis of the specificity of selected educational solutions of the Polish and Australian education system at primary level. Its purpose is to show the factors, which had an impact on the understanding, and as a consequence the implementation of education at school. The essential similarities and differences on the examples between the current educational solutions in both countries taking into account their historical, geographical, cultural and political specifics. This comparative analysis was performed based on the analysis of literature, documentation of institutions responsible for the implementation of education in both countries and the experience of Polish emigrants in contact with the Polish Australian education published on websites. Conclusions and proposals resulting from the analysis can be found at the end.

Keywords education, Poland, Australia, comparison, educational system

Streszczenie

W artykule zaprezentowano wyniki analizy porównawczej specyfiki wybranych rozwiązań edukacyjnych Polskiego i Australijskiego systemu edukacji na szczeblu podstawowym. Jej celem jest ukazanie czynników, które miały wpływ na rozumienie, w konsekwencji realizowanie edukacji w szkole. Wskazano, posiłkując się przykładami, zasadnicze podobieństwa i różnice między obecnymi rozwiązaniami edukacyjnymi w obu krajach uwzględniając ich przyczyny: historyczne, geograficzne, kulturowe i polityczne. Wspomniana analiza porównawcza została zrealizowana w oparciu o analizę literatury, dokumentację instytucji odpowiedzialnych za realizację edukacji w obu krajach oraz opublikowane, na stro-

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nach internetowych, doświadczenia emigrantów polskich mających kontakt z polską australijską edukacją. Na końcu umieszczono wnioski i postulaty będące wynikiem przeprowadzonej analizy.

Słowa kluczowe: *edukacja, Polska, Australia, Porównanie, System Edukacyjny*

Аннотация

В статье представлены результаты сравнительного анализа специфики отдельных образовательных решений польской и австралийской системы образования на уровне начальной школы. Его цель состоит в том, чтобы показать факторы, которые имели влияние на понимание, и, как следствие, реализации образования в школе. Представлены основные сходства и различия на примерах действующих образовательных решений в обеих странах с учетом их исторических, географических, культурных и политических особенностей. Этот сравнительный анализ был проведен на основе анализа литературы, документации учреждений, ответственных за реализацию образования в обеих странах, интернет-страниц, а также опыта польских эмигрантов, которые сталкивались с австралийской системой образования. Выводы и предложения, вытекающие из анализа, можно найти в конце.

Ключевые слова: *образование, Польша, Австралия, сравнение, образовательная система*

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JEL Classification: I 210, A 130, I 25

Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The principal purpose of article is to present the specificity, fragment of the Polish and the Australian educational system of primary education. Several important from the point of view of understanding the role of education and a comparative analysis were included in it.. The most important aspects are: teaching organization scheme, purposes of education, method to achieve them, attitude to education, schools and teachers. In addition, possible causes of the states of things observed were indicated, including those of historical, geographical, cultural and political background. The description presented was formed based on

several sources of research, in particular the analysis of books and publications addressing the issue of the Polish and Australian education, documents of institutions responsible for educational issues of the two countries and experience of the Polish in contact with education in both countries, published on the discussion forums for the Polish living in Australia. The results of a comparative analysis presented will allow the reader to appreciate the understanding of the role of education of both systems and factors, which had a huge impact on it.

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Analysis of latest research where the solution of the problem was initiated.

The literature about the Polish education system, is relatively wide, the most important items relating to the specificity of the Polish education system include those by Tadeusz Lewowicki, Stefan Mieszalski, Mirosław S. Szymanski (Lewowicki T., Mieszalski S., Szymański M. S., 1995), Magdalena Pyter and Adam Balicki (Balicki A., Pyter M., 2011), Mateusz Pilich (Pilich M., 2015). Among the publications, which compare the education system of Poland with other, in particular, those issued by Wiktor Rabczuk (Rabczuk W., 1994, 1998), Eugenia Potulicka, Dobrochna Hildebrandt-Wypych and Celina Czech-Włodarczyk (Potulicka E., Hildebrandt-Wypych D., of the Czech Włodarczyk C, 2013), Wiesława Bokajło, Aldona Wiktorska-Święcka (Bokajło W., Wiktorska-Święcka A., 2008), author Ryszard Pachociński (Pachociński R, 2000), Magdalena Mazińska (Mazińska M., 2005), Lidia Jastrzębska (Jastrzębska L., 2009) or Elżbieta Zyzik (Zyzik E., 2004/2005) should be mentioned. In addition, a lot of information on the websites of the Ministry of National Education or Local Education Authority, and EURYDICE (European Network of Information on Education) can be obtained. These selected items dealing with the specificity of Polish education relate mainly to the Polish education system, or comparing it to the European ones,

unfortunately there is no (or is very poor) reference to Australian education solutions. The Polish literature about education in Australia is relatively poor while relatively old. The most important publications raising the motif of education in Australia include a series of publications of Marianna Łacek (Łacek M., 1998, 1999, 2004, 2005) and Mieczysław Sprengel (Sprengel M., 2002, 2005, 2007, 2008) and individual articles (Pachocińska E., 1988; Dadej E., 1990; Bińczycka J., 1996; Sawicka-Wilgusiak J., 1999, Sobiecki W., 1999; Lee-Drew E., 2009; Kaszulanis M, 2009). Publications, which addresses the issue of the education of Polish emigrants in Polish schools and the place of the Polish language in the education system and culture of Australia. Special attention should be paid to a series of articles/books by Jerzy Jarosław Smolicz (Smolicz J.J. Secombe M.J., 1990; Smolicz J.J., 1990; J.J. Smolicz, Wozniak A., 1993), Ewa Lipińska (Lipińska E., Seretny A., 2012; Lipińska E., 2013), Marianna Łacek (Łacek M., 2000, 2007), Jan Lencznarowicz (Lencznarowicz J., 2001, 2005), Elizabeth Drozd (Drozd E., Ribarow J., 1993; Drozd E., 2001, 2004), Andrzej Gawroński (Gawronski A., 1984, 1997) and other authors (Koprukowniak A., 1995; Ferguson T., 1990; Leuner B., 2008; Matej Z., 1998; Biczynska J., 1996). In all these items, a comparative reference to the Polish education system is only residual.

Aims of the paper. Methods.

The acceptance of the analysis of documents (Pilch T., Bauman, T., 2001, p. 88) as a basic research method is justified by the specificity of studies undertaken. The educational system, even its narrow fragment, which is here analysed, is the result of the acceptance of specified structure by the state authorities of a

particular country, which according to them, is to allow effective education. That is such, which is to allow the achievement of converging purposes with the actual educational needs of the group, for which it was created. To do it the participation of many institutions is necessary both those appointed to education, upbringing and

care, and to educational policy, including the administration, dealing with supervision and distribution of funds. It also includes the specificity of the structure of teaching such as: levels of education, population of students and teachers, programs and styles of teaching and specifies the rules of services, which support educational activities including psychological, social or health care/support. (Cylkowska M, 2017, p. 367).

Other factors also affect its shape, such as the organisation of teaching space, school equipment, specificity of parent-student-teacher relationship or relationship to the process of teaching itself at school. In the article only selected constituents of both education systems are described, which are to show to the reader the causes and consequences of the understanding of education in a particular country.

Exposition of the main material of research with complete substantiation of obtained scientific results. Discussion.

Australia and Poland general outline.

Australia and Poland are countries distant from each other about the tens of thousands of kilometers. However, it is not the distance, which is an essential factor which differentiates them. Describing both educational systems circumstances in which they function should be taken into account, in particular, historical, geographical and political issues should be taken into account.

Australia is an island / continent, has no immediate neighbours, from whom or with whom it could share the culture or experience. Poland is located in Central Europe, on the coast of the Baltic Sea. It borders with seven countries: Germany, Czech Republic, Slovakia, Ukraine, Belarus, Lithuania and Kaliningrad Oblast with Russia. The neighbourhood history of Poland, taking into account even the last two centuries was abundant in many events including war events, during which Poland played the part of both ally and enemy for its neighbours.

Australia is divided into six states: New South Wales, Queensland, Western Australia, South Australia, Tasmania and Victoria and two territories: Northern Territory and the Australian Capital Territory (States: New South Wales

(NSW), Queensland (QLD), South Australia (SA), Tasmania (TAS), Victoria (VIC) and Western Australia (WA), capital territories: Australian Capital Territory (ACT) and Northern Territory (NT)). And Poland is divided into 16 provinces: Lower Silesia, Kujawsko-Pomorskie, Lublin, Lubusz, Lodz, Lesser Poland, Mazowieckie, Opolskie, Podkarpackie, Podlasie, Pomerania, Silesia, Świętokrzyskie, Warmian-Masurian province, Great Poland and West Pomerania.

The area of Poland is 312 679 km², population more than 38 437 inhabitants, 123 inhabitants per square kilometer (CSO, 2016, p. 17). Australia being a country with the size of Europe, area of 7 692 024 square kilometers [52], has just 24 million inhabitants, population density is on average 2 people per square kilometer [53], but 90% of its inhabitants live up to one hour's travel by car from the coast. Indigenous people (Aborigines) constitute only 2.8 per cent of the country's population [54]. Due to the large area, and the specificity of residence, between different major cities there are large distances counted in thousands of kilometers.

The climate of Poland based on the Köppen classification, is in the zone of humid

continental climate, and Australia due to its size is located in several climactic areas ranging from tropical through dry to moderately warm [55].

Australia and to be precise the Commonwealth of Australia, has been less than 120 years (Commonwealth of Australia was founded on 1 January 1901 as federation of six British colonies). It was inhabited by settlers only in 1788, when the first port settlement of Port Jackson (later Sydney), began to take British convicts (Manning C., 2004, p. 19). The history of Poland is many times longer, the Polish State itself has existed for over 1000 years. The first historically confirmed date relating to the history of Poland is the year 966, when Prince Mieszko I, ruler of areas, which were located in most of today's Polish borders was baptized, in 1025 he founded the Polish Kingdom. In spite of the different fortune Poland managed to win and maintain its position among the neighbouring countries, maintain the values and beliefs, and function as a unity both from the point of religious, social and political view.

In Australia, due to the distance, which were particularly felt in the days of colonisation, each of the settlements distant from one another considerably accepted its own solutions in many issues, ranging from the width of railway tracks to solutions as regards education. The newly arrived were recruited mainly from the Anglo-Saxon countries, visitors from other regions of the world, especially from countries outside Europe, had great difficulty with the arrival or living and working in Australia (see. White Australia policy (K. Windschuttle, 2004). This status continued until the mid-60s of the 20th century. The ratio of the colonists also to indigenous inhabitants of Australia was negative, for many years the aborigines did not have voting rights, and their children were presettled to other

regions of the country, in order to reduce them the opportunities to cultivate their own culture (Lencznarowicz J., 2005, p. 28). It is, therefore, in contrast to Poland, the country, which has a fairly short history, and thus different experience. Australians could, however, (even in spite of some dependency on the British Crown) create their own identity in the course of years.

The Parliament of Australia formally consists of three chambers: the Queen of Australia, the Senate and the House of Representatives, but in addition, each state or territory has its own Parliament, Prime Minister and Government. Freedom in making decisions, including those relating to education, which have individual states/territories and limited supervision "from the top" (Bożyk S., 2001), resulting in the presence of some differences in administrative and social solutions. In spite of the presence of three levels of authority: federal, state/territorial and local, it is state/territorial and federal authorities which are jointly responsible for education (at federal level Department of Education, Employment and Relationships at place of work (Department of Education, Employment and Workplace Relations), and Department of Industry, Innovation, Science, Research and Higher Education (Department of Industry, Innovation, Science, Research and Tertiary Education) [56]. The organisational structure of the Polish State, specified in the Constitution of the Republic of Poland, passed by the National Assembly on April 2, 1997. It is characterised by trias politica principle, Sejm and Senate are responsible for legislative issues, and for executive: The Council of Ministers and President, for judicial: courts and tribunals. For the creation of educational policy two ministries are responsible the Ministry of National Education, which is responsible for matters related to pre-school education,

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secondary education, special and vocational education, and the Ministry of Science and Higher Education, responsible for academic teaching and research.

Today's Australian policy in relation to newcomers, has been present only for more than 40 years. In spite of the fact that newcomers from European countries are predominant, the growing group are Asians [56], the result of which, almost ¼ inhabitants of Australia was born outside its borders, and at least 27% has at least one parent who was born beyond the area of Australia. Poland is a country relatively homogeneous culturally and religiously.

Educational models and history of the development of education.

Australia in spite of the distance from Europe, imitates models of social functioning mainly from Europe. Also in case of education (English, Irish and Scottish schools), the presence of American models can be seen (Pachocińska E, 1988, p. 691). This has to do, according to Elizabeth Pachocińska, with the fact that in both countries there is a significant dispersion of population on the vast territory (Pachocińska E., 1988, p. 691). Mieczysław Sprengel claims that the current model of educational system in Australia was adapted from the United States of America. "Primary and secondary education is based on the principles reigning in the 70s and rejects the traditional systems of teaching, emphasizes individuality of individual, their right to choose, right to understand what is taught, right to learn what is important to them, and right to pleasure taken from science" (Sprengel M., 2005, p. 98). These models are different from the Polish ones, in which the teaching system was close, and partly is to the present system in the countries of the Eastern bloc, where the traditional system of teaching was prevalent.

In Australia due to large distances, already in the 50s of the 20th century education at a distance developed very strongly. Radio schools replacing correspondence schools, allowed many young people the actual access to education and increased their effectiveness. In later years, communication systems improved: two-way radio, satellite or virtual classrooms thanks to access to online resources at the beginning of the 21st century. In Poland, due to the large population and well-developed higher education, the idea of schools at a distance had no *raison d'être*. Education, as a purpose in Australia is understood pragmatically. It dates back to the time of settlement, which due to the need to live up to the circumstances encountered, placed knowledge and technical skills in the first place, in the second or even third place such disciplines of knowledge as history or philosophy. The main reason for this state of affairs, was probably the fact that the first settlers had to rely only on themselves, their skills and knowledge of practical nature. Models and ideals of art, philosophy, etc. were left behind tens of thousands of kilometers. Australia did not have any neighbours, whose presence could affect the ideals and educational models. An important factor was the fact that the majority of the first settlers in Australia was recruited from convicts (Manning C., 2004, p. 20-32). Education in the Polish edition, due to the long history and educational experience and put and puts less emphasis on practical skills, but more on the development of knowledge of a more general nature, guided by the ideals of a man comprehensively developed. (Kupisiewicz Cz., 2012).

Organization of education.

The description made takes into account the fact that Australia being a federation of self-governing states and territories can use different educational solutions in different

places. Comparative analysis and description include, therefore such aspects, which relate to current solutions throughout Australia or they were described by individuals having contact with it.

According to the Constitution of the Commonwealth of Australia, state / territorial governments are responsible for providing education to all children at school age (Bożyk S., 2001). Although the responsibility for the general coordination of funding and education is the responsibility of federal government, budgeting in individual schools is left to the states/territories. It involves, especially, full financial support of public schools, funding of private schools, and supervision of program and educational policy in a particular state/territory. National educational purposes are formulated with a common agreement of all states and territories [57].

They define the syllabus, accreditation for individual subjects, marks and prizes for students, both among state and private schools. [58]

All states and territories have their own department / department of education, which formulates its own policy (which takes into account the needs and priorities of a particular region) with respect to the organization of school, syllabus (including their acceptance) evaluation of students and teachers, certificates, education at a distance, special education, admission of foreign students and the allocation of resources and coordination of educational activities [56], accreditation of the courses of education, assessment of students and certification (issuing certificates). The responsibility of state / territory in relation to private schools concerns their registration, control and additional funding [59].

And the role of the Australian government in relation to school education is to provide

financing, coordination, research and analysis of national education policies, whose key task is to provide a coherent national school system at national level [59].

School at the primary level (primary education) in Australia are divided into public (Government Schools, State Schools, Public Schools) and private schools (Non-Government, Private Schools, Independent Schools). (Sprenkel M., 2005, p. 98). Private schools are divided into religious (eg. Catholic, Anglican, Islamic [59]) and based on the theories of education (Montessori, Steiner). Regardless of the type of educational institution, it must be registered with the state / territorial department of education and is subject to the requirements of government in terms of infrastructure and register of teachers [59].

Since January 2010 the mandatory age of starting school education is six years for all states and territories except Tasmania, where it is five [60]. However, most children start their education in the so-called initial year of formal education (Pre-Year 1, Preparatory), which applies to students between the fourth and the fifth year [58]. In Poland, education begins in the school year in which the child is 7 years old, or at the request of parents from the age of 6. In Australia there is a requirement for compulsory education for all young people until they complete the tenth year of education (tenth form) and to the age of 17 (depending on the state) full-time (at least 25 hours per week) [58], but you can continue education also in 11 and 12 year of education, passing final exams, (equivalent of GCSE in Poland), the result of which is translated into position in ranking to university studies or specialistic courses (Sprenkel M., 2005, p. 98).

Australia has a relatively long period of compulsory education, including 11 years

of primary and secondary school (including Pre-Year). The OECD average is nine years [61]. In Poland the obligation of education includes persons between 7 and 18 year of age, however, the status of compulsory institutions concerns only a primary school and a junior high school which is being eliminated [62].

Depending on the territory/state to 6/7 year of education the student attends a primary school [in Australia there is no such division into forms as in Poland, the so-called years of learning/education (Year) are taken into account here. After completing the tenth year (Year 10) the student may complete his education, to reach this stage of learning consists of years spent in primary and secondary school] (Primary School) (Łacek M., 1998, p. 39), and completes it at the age of 12-13. (Sprengel M., 2005, p. 98). The purpose of education at this stage is the general development of child in the preparation for the first year of education and it is similar both in Poland and Australia.

For example, in the state of Victoria "primary school lasts 7 years and includes forms from" preparatory "(zero form) to form 6. Secondary school are forms from 7 to 12. However, in many private schools education is provided in the whole scope of school from 0 to 12 year of education. Then school is internally divided into branches covering age groups, but the division into primary and secondary school is not necessarily present. Division into three levels is very popular: junior (the youngest), middle (medium) and senior (the oldest)" [63].

The school year in primary schools begins at the beginning of the calendar year (end of January) and lasts until mid-December, (Sprengel M., 2005, p. 98) is divided into four cycles, each of which usually lasts between 9 and 11 weeks, giving a total of 40 weeks of education in the year-specific

dates are different for each state/territory. Two-week holiday periods accompany the cycles (Sprengel M., 2005, p. 98). School starts from 8:30 and 9:00 and ends between 15:00 and 15:30, and the classes are from Monday to Friday. The number of students in class ranges between 20 and 35. (Education Guide Australia, 2015, p. 3). The day of classes is divided into three segments. Generally students stay at school six hours, with 70 minutes for breaks (Taylor, 2013, p. 78). On average, once every quarter students have the day off (pupil free day) most often at the beginning or end of the week. This day is spent on conferences, seminars or training for teachers (Taylor, 2013, p. 78).

Individual issues are raised as part of the thematic blocks such as society and environment (Society and Environment), science (Science) or art (Art), or through the implementation of projects, that is, majority of studies on a particular subject. (Sprengel M., 2005, p. 98.) The content included in the key areas are set out in the Australian curriculum (Australian Curriculum) [64].

During classes, no written work or oral answers are expected, children must read the reading set every day for 10 to 20 minutes (Lipińska E., 2013, p. 79). At the beginning of the week students receive homework for the whole week. Most commonly this homework has the form of a piece of paper of A4 format with listed exercises in mathematics and English, subjects of geography or history are raised more rarely. In the middle of the year, each student receives a semi-annual list of marks (report), (Lipińska E, 2013, p. 79) divided into sections and subjects, the higher the form the more detailed it is [63].

Although the marks are present, they do not, however, translate into progress and are not associated with any formal qualifications obtained. The more so, that

students are promoted to the next form regardless of the degree of the mastery of material. (Dadej E., 1990, p. 160).

According to education assumptions Australian schools sustain the idea of such flexibility of syllabus so that it takes into account the needs and interests of children. Focusing on the so-called. learning through discovery (discovery learning) and common experience, which involves the student and arouses his deeper emotions (Dadej E., 1990, p. 160). The syllabus implemented and the organization of education, often takes into account the distribution of the age group in terms of level of the development of specific students and general skills and abilities. Leading to the creation of "horizontal groups". The variety of methods used, ways and speed of education of children translates into large differences in the level of schools (Dadej E., 1990, p. 160).

Final marks depend largely on the results of school examinations however,, most states also uses some form of external assessment (interstate state examinations or external government supervision) [65]. In many cases, a report on the results of education, which are part of the received certificate helps to explain the system used in the assessment [65].

Art. 70 law 1 of the Constitution of RP [66] gives every person residing in the territory of the Polish right to education. Education is compulsory from 6 to 18 years of age, but the status of mandatory institution is reserved only to a primary school and junior high school which is being eliminated. detailed organization and activities of the education system are specified, in particular, in the law dated 14 December 2016 Educational law [67], and the law dated 7 September 1991 on education system [68].

Financing education at a primary level in Poland is regulated on the basis of the

Regulation of the Minister of National Education on the method of division of subsidies of education for local government units [69]. The amount of the so-called. "educational subsidy" depends on, among others, on such issues as: number of students, types and kinds of schools and correction factor, taking into account the degrees of the professional promotion of teachers.

Education in the Polish primary school begins for children at the age of 6 or 7. Eight-year period of education is divided into two stages. The first covers classes 1-3 is called early school education during which all classes are given mostly by one teacher. Classes are conducted (with the exception of additional subject, for example, religion) for 1800 hours in the cycle of education (70. Additional subject is conducted for 180 hours in the cycle of education). In the second stage classes 4-8, each subject is conducted by individual teachers. Classes begin at the beginning of September and end by the end of June. Holiday period is in July and August additionally during the semester break (January or February, depending on the province) there are winter holidays , which last 2 weeks. During the eight-year primary education student learns the following subjects: Polish, modern foreign language, music, art, history, social studies, nature (later a division into biology, geography, physics, chemistry), mathematics, computer science, technique, physical education education for safety and classes with class teacher. In addition, in the primary school optional classes in religion or ethics are organized.

In the Polish education system apart from "standard" primary schools their specific types are also present: special, integration with integration and sports classes, sports and athletic championship schools.

Units of local self-government are involved in running primary schools: municipality, town (public education). Primary schools are run by private persons, associations, foundations and churches are called non-public schools, which after providing the fulfilment of the necessary requirements acquire the rights of public schools. Both in public and private education institutions, the same basic principles: programs are applicable: education syllabuses are implemented taking into account the syllabus base [70], educational classes are implemented in the number of hours not fewer than the number of mandatory

educational classes specified in the framework education plan, classification and promotion of students, documentation of the education process, teachers of compulsory educational classes, who hold appropriate qualifications. Near many primary schools, mainly in rural areas, pre-school departments are present.

One qualified teacher is responsible for the organization of education in Australian primary schools [58]. However, in the classroom he is not alone, he has helpers (teacher's aides), who focus their attention on weaker children [72]. Classes are held 5 days a week (as in Polish schools).

Conclusions.

As Ewa Lipińska points out the priority in Australian primary schools is mainly "training communicate skills with others using the spoken, written word and visual resources" (Lipińska E., 2013 s. 79). "A child learns to see the correlation between the content and form of-what he wants to pass, to whom, and how to do it best" (Łacek, M. 1999, p. 39). Teachers prepare students to be able to present (present) the effect of their own work to others, that is why reporting and public speaking is often present [72]. The student must prepare at home "speech on a given subject, and then make it before class. Not only what is said but also how it is said is assessed. Teachers pay attention to body language (whether the student maintain eye contact with the audience, whether he was looking only at the top of his own shoes). You can't read the text simply from a pece of paper, you need to prepare small cartons with the main points and to speak by heart, or take advantage of computer presentation in Power Point. Mark can be lowered for speaking too fast or too slow, too low or too loud or not clearly "[73].

In the Polish education system the teacher focuses largely on the implementation of syllabus. Memory education is then dominant, desire to keep up with the specific content or readings. Due to the fact that the content or readings mentioned are imposed by political parties, which are currently in power, you get the impression that in education the most important thing is to communicate certain defined beliefs on a subject than on the creation of individuality. So promoted ability of self-presentation in Australia, highlighting one's own ego, is not implemented in Poland, teachers prefer that the student does not stay behind (whether positively or negatively) his colleagues in the class.

A child who completes an Australian primary school should be able to write, read and count. However, as Mieczyslaw Sprengel emphasizes "knowledge of specific subjects will be quite accidental" (Sprengel M., 2005, p. 98). In a similar vein Anita R. says "Imagine that students in 6th form can not yet write well, they make a lot of spelling mistakes, they do not have any idea about large and small letters, not do not put full stops or commas" [71]. Students

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who complete the Polish primary school, have quite a rich and systematic knowledge in many disciplines, its scope and contents is similar in the whole Poland, so the student even by changing the school during his education will not have problems with the implementation of syllabus.

This comparison reveals some differences in the understanding and implementation of education in both countries. As you can see

many factors starting from political and ending on geographic had an influence on such situation. Keep in mind that the primary school is, admittedly, an important stage in the development of a young man, but his education does not end. These are further stages, (their choice) secondary and higher education, which have an impact on further professional career or social position.

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INFORMATION TECHNOLOGIES AS THE NEWEST SOCIAL PARADIGM OF THE LIFE OF YOUTH

TECHNOLOGIE INFORMACYJNE JAKO NAJNOWSZY SPOŁECZNY PARADYGMAT ŻYCIA MŁODZIEŻY

ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ КАК НОВЕЙШАЯ СОЦИАЛЬНАЯ ПАРАДИГМА ЖИЗНИ МОЛОДЕЖИ

Abstract

The article analyzes social aspects of the Y generation life in the information technology system. There was chosen a methodological toolkit to examine the essence of the concepts “millennials”, “digitization” and “gaming”. They determine the distinctive features of millennials from previous and subsequent generations. It is concluded that the informatization of the society life leads to a change in the consciousness of a person, especially in the Y generation which was formed in the information-oriented society. Coverage of the indicated directions of the article is performed by analyzing the components of the research problem, in particular the generation of information technologies, digitization of the life of youth, gaming as a method of motivation and involvement in the social processes of society. It is determined that the representatives of the new generation are characterized by increased attention to the social problems. It is ascertained that digitization is a specific approach to the use of digital resources for improving the quality of life and personal characteristics of the Y generation in the process of self-realization. Gaming is a motivational element of social contacts of the generation of millennials in the field of health, sports, education, culture, and professional activity.

Keywords: *millennials, generation Y, Gen-Yer, digitization, gaming, information technologies of culture, information technologies of education*

Streszczenie

W artykule zostawała przedstawiona analiza społecznego wymiaru życia pokolenia Y w systemie technologii informacyjnych. Zostało dobrane instrumentarium metodologiczne dla przeanalizowania istoty takich pojęć jak milenialsi, digitalizacja, grywalizacja. Te pojęcia wyznaczają cechy charakterystyczne współczesnej młodzieży, milenialsów, w po-

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równaniu do pokoleń poprzednich i następnych. Został wyciągnięty wniosek, że digitalizacja życia społeczeństwa prowadzi do zmian świadomości człowieka, w szczególności pokolenia Y, które ukształtowało się pod wpływem społeczeństwa informacyjnego. Wskazane tematy w artykule zostały opisane w ramach analizy poszczególnych problemów badania - pokolenie technologii informacyjnych, digitalizacja życia młodzieży, grywalizacja jako sposób motywacji oraz włączenia w procesy społeczne w społeczeństwie. Zgodnie z jednym z wniosków przedstawiciele nowego pokolenia charakteryzują się podwyższoną uwagą wobec problemów o charakterze społecznym. Ustalono, że digitalizacja to specyficzne podejście do wykorzystania zasobów cyfrowych dla udoskonalenia jakości życia oraz charakterystyk osobowych pokolenia Y w procesie samorealizacji. Grywalizacja występuje jako element motywacyjny kontaktów społecznych pokolenia milenialsów w sferze zdrowotnej, kulturowej i oświatowej, a także sportu oraz działalności zawodowej.

Słowa kluczowe: Milenialsi, pokolenie Y, Gen-Yer, digitalizacja, grywalizacja, informacyjne technologie kultury, informacyjne technologie oświaty

Аннотация

В статье проведен анализ социальных аспектов жизни поколения Y в системе информационных технологий. Подобран методологический инструментарий для рассмотрения сущности понятий «миллениалы», «цифровизация», «геймификация». Они определяют отличительные черты современной молодежи миллениалов от предыдущих и последующих поколений. Определено, что информатизация жизни социума приводит к изменению сознания человека, особенно поколения Y сформировавшегося в условиях информационного общества. Раскрытие указанных направлений статьи реализовано путем анализа составляющих проблемы исследования – поколение информационных технологий, цифровизация жизни молодежи, геймификация как способ мотивации и вовлечения в социальные процессы общества. Определено, что представителям нового поколения свойственно повышенное внимание к проблемам социального характера. Установлено, что цифровизация - это определенный подход к использованию цифровых ресурсов для усовершенствования качества жизни и личностных характеристик поколения Y в процессе самореализации. Геймификация выступает мотивационным элементом социальных контактов поколения миллениалов в сфере здоровья, спорта, образования, культуры и профессиональной деятельности.

Ключевые слова: миллениалы, поколение Y, Gen-Yer, цифровизация, геймификация, информационные технологии культуры, информационные технологии образования

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Introduction.

In the theory of post-industrialism, suggested by the philosopher Daniel Bell, the rapid spread of digital technology is called the Scientific Revolution. It is preceded by such discoveries as the invention of steam engine, achievements in the field of electricity, new ideas in the field of chemistry. Similar to conveyor production and, as a consequence, increased productivity, the emergence of the society of consumption and digitization of social life will generate streaming production of information. This process will ensure the development of all spheres of modern society. Digitization will cause a paradigmatic shift in the consciousness of a human, his thinking, external and internal social contacts; it will require to perceive the world and world processes in a different way. Young people most actively perceive all these processes. Digitization acts as an instrument for changing the information space of society. Absolute digitization of social space is based on the integration of complex infrastructure equipment with appropriate sensors and software that generates a large amount of data. The analysis of the information of organized databases makes it possible to investigate the needs of the younger generation, to build specialized solutions to ensure their interests.

The development of digital technology generates virtualization of communication in the society, which is formed in the social space and has an evolutionary distribution among people. Development depends on the readiness of society to these evolutionary processes. Self-realization of a person is measured not by the positions occupied, but by a set of corresponding competences. Virtual reality is being merchandised, online models are becoming more popular,

the integration of public and private information databases takes place; with the help of the Internet, any information becomes available here and now, online communication changes the value of human communication. The time will show how ready for these processes and transformations societies are. However, any state cannot stand aside from these processes. To achieve success, we need a synergy of technologies for working with information flows and databases, knowledge in the field of information communications, generation of new types of social and economic models. It is doubtless, young people have a real chance to become a generator in the development of their own state, region, and global cultural space.

Representatives of generation Y, known as millennials, born in the implementation of digital technologies, are not aware of other conditions without a digital lifestyle. First, all the means, forms and methods of social and cultural influence of information technologies are gaining importance in educational processes and help to achieve results not only in education but also in educative actions [Soichuk R. L., 2016, p. 220]. Informatization of educational and cultural spaces is accompanied by such a social phenomenon as gaming, the essence of which is the use of elements of game mechanics to attract or retain users in a certain thematic area. For millennials, gaming is a way of social realization with a new value set - to be competitive, to be effective, to be interesting to other members of society. The motivation for self-realization in the Y generation representatives is enthusiasm and reward, not the correctness or social responsibility. They may not understand the manager's orders, but they are well versed in game levels, tasks, achievements, and the

like. The evolution of game technologies has allowed expanding the audience of young people, capture the attention of older generations, and increasing the economic benefits of gaming for the social life of society.

The process of mastering the new information becomes much more interesting with the use of certain game algorithms in the form of performing the appropriate set of actions to obtain the main goal of the player – the result. In modern society, material motivation often yields to corporate self-organization and to the drive of the working process. Therefore, gaming favors to distraction from the routine effect and creates additional content for participants in social contacts. This process takes on special importance in the formation of loyalty

systems, when instead of buying the client gets emotional contact with the brand and further development of interesting and useful relationships. There are certain functional differences in the informatization of educational process, cultural and social spheres, but the goal for all is to excite the interest and make it emotionally comfortable for the user to learn and perceive new information. The specified spheres of society's life represent a large number of diverse social institutions that have corresponding functions, manifestations and forms of work. Therefore, the methods of information technology in adapting the process of gaming will be different that will restore the interest of young people to these areas of public life.

Scientific research on the theme.

The term was suggested by the American researchers, authors of the theory of generations William Strauss and Neil Howe, who devoted a book to this generation [Howe, Strauss, 2009]. Nowadays, the problems of millennials are being investigated by such research centers of scientific and journalistic directions as Bernstein company, Pew Research Center, Vision Critical research and also researchers T. Savchuk [Savchuk T., 2018], H. Miednikova [Miednikova H., 2015], K. Novikova [Novikova K., 2016]. Digitization is a topical issue of the development of the countries of Eastern Europe that is reflected in the research of A. Sleptsova [Sleptsova A., 2010], O. Sheremeta [Sheremeta O., 2014], T. Adeenko [Avdeenko T., 2017], A. Aletdi-

nova [Aletdinova A., 2017]. Gaming, embodying a game principle, promotes the formation of a meaningful approach to education. According to Kevin Verbach's definition, "gaming is the use of game elements and gaming techniques in non-gaming contexts". Gaming helps to identify the mechanisms, which ensure the involvement of the "player". The suggested concepts relate to a young sphere of scientific research. There is a lack of structured scientific works, but there is already a good few of studies and publications on this determined theme. Among them are up-to-date research by O. Borodiienko [Borodiienko O., 2015], R. Soichuk, [Soichuk R., 2016] O. Isaieva [Isaieva O., 2014], O. Tkachenko [Tkachenko O., 2015].

The aim of the work.

Is to highlight the social aspects of life of the Y generation in the information technology system. Informatization of all spheres of human life leads to the change in human consciousness. Especially it is clearly marked for the development of generation

Y. Achieving the aim involves the disclosure of problematic issues in such areas as generation of information technologies, digitization of the youth's life, gaming as a way of motivation and involvement in social processes of society.

Research methods.

The methodology of the suggested article is based on the methods of collecting, analyzing and systematizing information in order to establish the essence of such concepts as "millennials", "digitization", and "gaming". They reveal the structuring of the theoretical and categorical apparatus, the definition and analysis of trends in the develop-

ment of concepts suggested for consideration. The proposed methods allow tracing the emergence and evolution of informational component in the social life of young people, the spread of technologies and the introduction of the foundations of gaming in the educational and cultural space of society.

Exposition of the main material of research with complete substantiation of obtained scientific results. Discussion.

Millennials – generation of information technologies.

The irreversible process of informatization of world and national societies caused tectonic changes in the consciousness of the humankind generations, which are conditioned by the epoch, social norms and technologies. Today's most productive age group of a society is the generation known as millennials or generation Y. Since this layer of society is the driving force of economic development and the most productive labor force, it turned out to be at the center of the society's economic and informational research, its social and cultural processes. According to the experts of the Pew Research Center, to the generation of millennials should be referred people born during the period from 1981 to 1994. Here it is necessary to take into account that definition of chronological limits of the generation existence always gives an approximate guideline. The youngest generation of

nowadays, within the defined research object, is generation Z (postmillennials), born in 1995–2005.

Globalization processes, expansion of social networks boundaries, development of the media and spread of Western culture makes the millennials of the world similar. Despite their national peculiarities, they have much more in common comparing to previous generations. Among the characteristic features of the Y generation representatives, the experts of the mentioned center singled out love for travel – no other generation was so enthusiastic about traveling to other countries as millennials. As numerous studies have shown, millennials plan and postpone money precisely on travel and widening the boundaries of their worldview, in contrast to previous generations for which money has become a vital priority [Soichuk R. L., 2016, p. 222].

Peculiar are the food habits, in particular the priority of ready-made food and fast

food establishments. According to the analysis of the Bernstein Company, millennials eat in restaurants much more often than any other generations. As the habit of consuming the ready-made food is increasing, in most grocery stores cooking departments with a wide range of cooked foods are being opened, many food establishments open a food delivery service. In these conditions, the use of information technologies in the form of mobile applications and services is gaining weight, which makes the requests of millennials even more convenient [Isaieva O., 2014].

Taking into account such services and possibilities of distant servicing, this generation is considered the fattest generation in history. This detail of the modern-day generation is common to the millennials in the geographical areas from the United States and Great Britain to the Arab Emirates. Instead, the priority of biologically clean and nutritious food products is exposed to the price barrier and the actual supply of useful products. Therefore, the millennials are often forced to refuse from such a "healthy" diet, which eventually forms their appearance.

The next characteristic feature of generation Y is a pronounced self-awareness. Therefore, the absolute majority of millennials would choose the electric car Tesla out of all the cars [Isaieva O., 2014]. According to Business Insider, the reason for such a favor would not be the desire to demonstrate a brand, status or wealth, but that its creators take care of the environment, and that millennials prefer the overall strategy of the company.

What is peculiar of this generation are the ways of obtaining new information and a way of communication. Social media Facebook and Instagram are moved foreground, erasing national and informational boundaries and bringing communication to the international level with interests and common

affairs. According to Vision Critical 2015, television logically recedes into the background. The classical form of television keeps people within clear information limits and does not leave space for self-expression and formulation of their own opinion since "it has already been done for us" [Miednikova G. S., 2015].

Another peculiarity of this generation is that its representatives consider it important to maintain work-leisure balance that positively affects productivity and general health [Isaieva, A., 2014]. A study by the US Bureau of Labor Statistics concluded that millennials, on average, sleep half an hour longer than representatives of other generations, trying to "sleep" the recommended 7-9 hours, notes Forbes.

Numerous studies prove that for various reasons it is more difficult for millennials than other generations to save up. Some researchers see the reason of it in the lesser earnings of millennials, while others argue that they simply have other life priorities. It is noteworthy that the millennials of Western culture are much less focused on buying their own apartments, creating a family, and they usually give birth to children later than previous generations, says The Stanford Daily.

As the Metro edition informs, in an attempt to assess the best and comfortable cities for millennials, analysts draw attention to such indicators as employment rates, number of start-ups, tourism, affordability of housing and products, as well as speed of Internet communication, organization of nightlife. Thus according to their version, the best cities for millennials are Berlin, followed by Montreal, London, Amsterdam, Toronto, Vancouver, Barcelona, New York, Cologne and Manchester.

The Forbes edition notes that millennials can be characterized by the desire for idealism – their workplace should often be the "business" of life, which is the content of

life and the benefit to life. Representatives of this generation rather easily cooperate with others in the team, cope with multi-tasking, and perceive well team spirit and effective cooperation [Novikova K, 2016, p. 161].

Researchers have repeatedly drawn attention to the fact that in countries that are on the way to democracy and freedom, the youth is the initiator and the driver of changes. In this sense, millennials are considered more tolerant and active in defending their rights, protecting the environment and fighting for the rights of animals.

Digitization of the life of youth as a social paradigm.

Digitization or modern conversion of information into digital format gradually covers new corners of our planet. For residents of Eastern Europe digitization processes are complex due to the prolonged economic and political crisis that held back external involvement and development of digital technology. Leading trends in the modern information society (globalization, informatization and computerization of all spheres of life) witness of a pervasive process that merges computer with the physical world, and organic interweaving of technologies into the structure of everyday life without feeling their presence.

For the current moment, digitization covers the main spheres of the society life where young people are most represented. Nowadays it is more than a technology; it is a separate culture, a modified and updated model of interaction between people. The world continues to change, and the speed of the change is growing. To resist the concept of general digitization is useless, it is necessary to accept it and understand how to use individual elements of this process for one's personal development and public benefit. Established business models are completely changing. The most famous traditional companies worth billions of dollars did not

Nevertheless, there is a different opinion. When comparing millennials, it should be borne in mind that many people live poorly and have no opportunity to fully engage in self-development and expansion of their prospects [Savchuk T., 2018]. It is necessary to take into account signs of non-compliance with millennials. In particular, it can be a conscious choice, unwillingness to take responsibility for a particular generation or future development of the entire society [Sheremeta O. Yu., 2014, p. 357].

have a significant economic growth in the past 15 years they. However, this increase occurred in the new economic segment, which demonstrates absolute transparency and a higher rate of profit. Users are accustomed to the fact that information is distributed instantly, and expect similar instant changes from their corporations.

Such conditions of development completely turn over the idea about the structure of companies. Previously there were standards, procedures, and processes based on the principle of "offering the market a product that we can produce, and then trying to sell it". The business approaches of today differ fundamentally. First, the markets and possible customers with their potential needs and interests are being explored, and only then, the company offers what is needed in the market at the moment. In this situation, the simple approach – let's all digitize and automate does not mean switching to the digital stage. It is impossible to automate the old processes. They need to be replaced gradually and completely.

All of these economic innovations require from young people a set of completely different skills. Digitization is a paradigm shift of how we think of how we act, how we communicate with the outside world and with each other. The technological component acts only as an instrument, not as an

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end in itself. It is possible to implement the cultural component of digitization, since it is created as an environment in space, but it can not be imposed by force. The main concept underlying the introduction of digitization is freedom, as the key value of a modern person. Here we are talking about freedom of creativity and creativity of decision-making. This autonomy generates new leaders in the youth environment. Such a culture is capable of reproducing and creating much more leadership potential than any other is, since it compels to think. In other words, when the ocean is approaching, it's obvious that everyone will learn to swim: someone will master this technique faster, and someone will be slower.

Nowadays it is possible for young people to use digital literary content through functioning of electronic reading rooms in libraries. However, the lack of mutual integration of curricula in educational institutions automatically reduces the number of readers who turn to libraries for electronic editions of educational, scientific and cultural character. Weak commercialization of digital content in the educational and cultural space brings this sphere into the category of non-competitiveness [Avdeenko T.V., Aletdinova AA, 2017]. A similar problem is observed in the museum sphere – the absence of market relations hinders the development of this content. The problem that makes it more difficult and expensive to create popular or scientific publications of museum collections is the absence in most museums of data banks of the museum items' images and high-quality photographic material of collections. Even more complex is the situation with the adaptation of opportunities and the use of the Internet with its enormous information capabilities in the field of culture and education. Cultural sphere is traditionally focused on youth and state's inertness in it leads to unregulated processes of its spontaneous

filling with poor-quality or pseudo-cultural values.

There are well-established connections between information technology and culture. The Internet is not only a way of disseminating cultural information, but also an effective tool for its creation. Therefore, it is a new actor in the arena of development and spread of culture in the world. There occurs democratization of informational network, which opens a broad approach to the Internet, represented by public interest. The electronic digital revolution has caused profound changes in all sectors of cultural industry, from direct creation of works of art to their spread. There appeared a new generation of artists working in the field of audiovisual art, graphic, music and other fields.

In addition to this, the radical change lies in that due to the Internet system, anyone – a person, an association, an enterprise - can become the creator and the distributor of information. At the same time, there are such issues as intellectual property, quality and truthfulness of information, disappearance of intermediaries between raw information and its user, identification of sources and other aspects that should be discussed. Psychologists, culture experts and philosophers analyzed the problems associated with the impact of global informatization on society and culture, and highlighted the most problematic areas in this sphere.

1. The issue of the Network's ecology. The Internet network can be both a storage of knowledge and a rubbish dump.
2. If the complexity of computer systems exceeds the complexity of human thinking, people will find themselves in the power of cars. The way out of this situation can be found in the form of expanding the capabilities of human memory. This issue is unresolved and relevant today.
3. Internet opportunities do not contribute to the development of memory, since with

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the emergence of instant free access to information the need to memorize has almost disappeared. This process is quite natural. Any achievement of humankind threatens it with some kind of loss. This was the case with the advent of writing, when oratory fell into decay.

4. Accusing the Internet community of the lack of spirituality, psychologists are extremely negative about the traditions of assigning network names to users, comparing them with street nicknames.

Undoubtedly, in the course of the research, there were discovered positive qualities of the network community. People working professionally on the Internet are much less aggressive than the out-of-network culture representatives are. Internet culture contributes to the development of so-called “*teen-ageness*” among people of a mature age. It positively affects the general emotional state of the society. For instance, according to the research on the Internet users’ worldview, most of the respondents perceive freedom of speech not as a public but as a personal achievement. According to the experts, the main plus of the “virtual reality” is that it creates structures for individual existence and a person with their help can identify himself in a particular way. The new generation, which has grown in the era of the Internet, is more adapted to life, it is interested not only in the internal affairs of their state, but also in events abroad. Thus, in the future, the governments of the countries will compete not only for their citizens, but also for the users all over the world.

This information is just a fragment of knowledge about the Internet’s impact on people, culture and society as a whole. Nowadays, very few specialists deal with the problems of psychology in cyberculture. The school curriculum includes the basics of the PC using, but it does not teach network culture and ethics on the Internet.

There are also significant deficiencies in the field of medicine with regard to psychological assistance to Internet dependent people who have suffered from work in the virtual space. The development of communication technologies during the history of humankind has caused contradictory opinions among contemporaries. In each era, there were the “enthusiasts” and the “skeptics”. Today the global computer network became the object of discussion. Among the main controversial points there should be mentioned the following unexplored and underestimated aspects of universal development.

The first point is vulnerability of the digital network. Cybercriminals or network trespassers are not interested in the content of textbooks and electronic texts of classical literature. Instead, electronic databases of citizens are much more complicated – this is where appears the task of preserving the privacy of a person, as well as protecting the “further actions algorithms” from external influences. A particular problem is the use of information technology to influence other countries or governments. This issue was further aggravated by the problem of conducting “hybrid” wars, the creation of necessary for the aggressor value and semantic landmarks both for individual social groups and for whole regions of Europe. The second point is presented in the theoretical aspect. Digital technologies allow a person to get constant, convenient and quick access to the huge amount of knowledge and information. This makes it unnecessary to learn and memorize this knowledge. What for if one can always get them either from the global Internet or special services.

With complex vision of modern information processes, the statement that digitization of the youth social group should not be an end in itself remains unchanged. In the digital world, the most important task

remains the same – not to learn the ways how to access information, but to be able to work with it. However, to teach learning is much more difficult than to provide access

Gaming as a way to motivate and engage.

The high speed of changes in the informational environment and the development of technologies have become the catalyst and driver for the evolution of this trend. Continuing education has become a new norm. Hundreds of changes occur in the world every day. To survive and prosper new generations should be able to adjust and improve their knowledge and skills to face variable needs. The most important thing is to know how to learn and to learn in a versatile way.

The potential of gaming techniques have been known since the antiquity. In later eras, psychologists, culture experts, and teachers noted the important role of game in upbringing, learning or developing any skills. Among the first who saw the great potential of game was Aristotle. Instead, Plato admits that game is not serious, but, on the other hand, he sees in the game a movement of laws that brings the educational seed. Among the classics of the twentieth century, the names of Elkonin and Makarenko should be mentioned in the first place. The latter noted "the game plays an important role in the life of a child. It has the same meaning as adult's important activities, work, or serving. How the child manifests itself in the game, so it will reveal itself in work in adult life. Therefore, the upbringing of the future individual first of all lies in the game".

In one of the most monumental works of "Homo Ludens", the outstanding philosopher *Yogan Geizing* speaks of the universality of game in human life since ancient civilizations [Geizing Y., 1994]. He emphasizes, "For an archaic person, an action and courage are strength-power, and knowledge

to a conditional array of data, because for this, one should learn to think [Sleptsova A. O., 2010].

is a magical strength-power. For him, any specific knowledge is sacred, esoteric and miraculous wisdom, since all the knowledge directly relates to the cosmic system. In esoteric knowledge, competition is deeply rooted in a ritual, and it constitutes an essential part of it". Game as such goes beyond purely physical or purely biological activity. It is an expressive activity with a certain importance and meaning. Culture occurs in the form of a game, it is performed from the very origin. Even those activities that are directly aimed at satisfying the vital needs of archaic society tend to a playing form. Competitions and ostentatious entertainments do not take place in culture – they precede culture. The sacred ritual and festive competition are the two forms that are constantly and everywhere being renovated and inside which culture playfully grows like a game. The riddle or the next level of the game acts as an important part in the formation of a person, full of mysterious and at the same time dangerous power. In the early stages of humankind, such a task served as a sacred game, the act of becoming a person, which allowed ignoring any permitted limits of distinction between the game and the serious. Further, in the process of the civilization development, the riddle unfolds in two directions: towards mystical philosophy and entertaining values [Geizing Y., 1994].

Modern tendencies of the social reality creation reflect the approach known as "gaming" – the application of approaches in computer games creations to other types of activities, in particular educational [Kim A. Jo. 2000]. Researchers have pointed out that, on the one hand, users spend a considerable amount of time playing computer

games but on the other hand, there is a significant involvement and inclusion of users in the game process. Assuming that the use of similar principles (the presence of a plot, levels of play, rewards for achievements, etc.) can be used to create the appropriate reality, researchers are offering techniques and scenarios that greatly enhance the motivation to master the desired content or engage in appropriate action. The techniques can be awards for the completion of tasks (criteria for rewards are the completion time, basic or advanced level of completion); availability of a public resource that reflects the achievements of the gaming process and the number of rewards received. All this in general enhances the level of motivation and involvement in the process of gaming [Borodiienko O., 2015, p.11-19].

The main methods of gaming tend to attract natural human instincts at the most. These are competition, achievement, status, self-expression, altruism, and problem solving. A thorough analysis of the content of gaming as a modern innovation process makes it possible to assert that gaming in the general sense is the use of elements of game and gaming techniques in the non-gaming context for attracting the end-users to problem solving in different fields. While gaming of education involves the use of games, gaming techniques and gaming practices with an educational purpose for better learning of necessary information and skills [Tkachenko O., 2015, p. 306].

Most scholars, educators and philosophers point out that game in any manifestation and any age is a way of world perception, education of some skills, which touch all the spheres of human life. The rapid development of personal gadgets reveals new opportunities for the emergence of comprehensive gaming models based on the program component. In the field of education, the gaming form of knowledge and skills

transference, allows turning the lessons into quests with upgrading the corresponding "characters". Such a degree of individual's engagement eventually has a high level of discipline and success. The teamwork of students, interaction with parents and interactive home assignments give great opportunities, but also require a new creative approach from teachers in teaching methods in the school of the 21st century.

Except for the sphere of education, gaming techniques are also used in other areas of the society life. The use of plot games helps in learning the educational material in a distant form. Competitive techniques help to attract the person to the appropriate action, which necessarily shows the success of the game, motivates one's "real" virtual trials and rewards. The methods of personal "task lists" help to distinguish and divide one's actions into useful and harmful ones [Tkachenko O., 2015, p. 305].

Gaming appears to be an important element in the field of health and sports. Nowadays, cuff passometers, pulsometers, tonometers, etc. become widespread. Game in sports computer programs or smartphone applications is known for gaming simulators that allow repeating the sporting actions after the virtual character. Methods of competitiveness, control, and stimulation push the young man to action, impart healthy lifestyle habits, help to get rid of negative habits that worsen his physical state. For instance, for an ordinary washing-up the score will be awarded, and for an extra cigarette they will be removed. For greater effect, it is possible to organize various collective quests that will connect people with friends [Tkachenko O., 2015].

Therefore, those who know and love game, live easier and manage to achieve more. The game and its motives give pleasure, help to surpass oneself and reveal one's creative possibilities. This is the realization of creative opportunities, which rather often

remain unclaimed in life. People achieve the goals that were absent from their plans, but which were in their potential. The game

gives the possibility for an unlimited fantasy and creativity.

Conclusions.

Summing up the article, it is necessary to determine the main directions of the life activity of generation Y in the conditions of the information society. The traditional subject approach in the educational training of youth for adult life does not always help in solving social problems of today. The established norms and rules limit the creative possibilities of a person in the new informational and technological conditions of development. Personal creative approach to the task solution and personality manifestation in making an effective and justified decision become topical. Digitization here defines a comprehensive informational paradigm of development, formation and self-realization. Through gaming, by means of creation and immersion into the virtual world, young people learn digital supranational citizenship, morality of digital relationships, empathy and other social skills, enriches information literacy, and receives real-time feedback on their social requests. Gaming changes the human's behavior in a team, and due to the entertaining form, increases the efficiency of obtaining skills

necessary for further life. Creativity in the latest digital space, the creation of ideas, IT products and services is a reflection of the use of the generation Y intelligence. The result of digital production is a high value added product, an illustration of knowledge capitalization that is fundamentally different from the natural resource economy. A distinctive feature of the millennials' generation is a way of adjusting to the conditions of modern life. In particular, the Y generation can easily handle a large amount of information from a variety of sources, which is very difficult to make for older people. It is important to preserve, develop and apply such abilities correctly in adult life. A perspective direction for further research is the adaptation of training techniques to game scenarios, focusing on motivation and collaboration, self-learning and effective communication. Gaming of life is an essential approach that combines interesting experiments, research, and challenges to abilities.

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DEVELOPMENT OF SANOGENIC THINKING OF STUDENT YOUTH THROUGH THE PRISM OF SOCIO-CULTURAL ADAPTATION


ROZWÓJ SANOGENICZNEGO MYŚLENIA MŁODZIEŻY STUDENCKIEJ PRZEZ PRYZMAT ADAPTACJI SPOŁECZNO- KULTUROWEJ

РАЗВИТИЕ САНОГЕННОГО МЫШЛЕНИЯ СТУДЕНЧЕСКОЙ МОЛОДЕЖИ ЧЕРЕЗ ПРИЗМУ СОЦИОКУЛЬТУРНОЙ АДАПТАЦИИ

Abstract

The research deals with the problem of the formation of life scenarios of students-migrants and their sanogenic thinking through the prism of socio-cultural adaptation. The authors point out that the sanogenic thinking reduces internal conflicts, allows you to control emotions, needs and desires, and thus prevents diseases. The article is presented the model of the formation of students' sanogenic thinking that can be a key way to restore individual wellbeing. The article proves that scenario decisions of students-migrants are unconscious, irrational mind sets for adapting to life. In this regard, the modality of students-migrants contact with socio-cultural surroundings which impacts the establishment of acculturation strategies has been predicted and featured. The authors established a correlation between certain types of socio-cultural adaptation and the prohibition of the scenario. The authors prove that the process of the development of the students' sanogenic thinking through the prism of socio-cultural adaptation can enrich psychological theory and practice with new experience and become a means of support for the interested reader.

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Handzilevska H., Hilman A. (2018) Development of Sanogenic Thinking of Student Youth Through the Prism of Socio-Cultural Adaptation. *International Journal of New Economics and Social Sciences*, 1(7)2018: 349-362

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Keywords: *sanogenic thinking, life scenario, socio-cultural adaptation, psychological immunity, students-migrants, acculturation strategies, life roles, scenario decision*

Streszczenie

Badanie dotyczy problemu tworzenia scenariuszy życiowych studentów-imigrantów i ich sanogenicznego myślenia poprzez pryzmat adaptacji społeczno-kulturowej. Autorzy zwracają uwagę, że myślenie sanogenne ogranicza wewnętrzne konflikty, pozwala kontrolować emocje, potrzeby i pragnienia, a tym samym zapobiega chorobom. W artykule przedstawiono model formowania się sanogenicznego myślenia uczniów, który może być kluczowym sposobem przywrócenia dobrego samopoczucia. Artykuł dowodzi, że decyzje scenariuszy uczniów-imigrantów są nieświadome, irracjonalny umysł przystosowuje się do życia. W związku z tym przewidziano i przedstawiono modalność kontaktu uczniów-migrantów z otoczeniem społeczno-kulturowym, które ma wpływ na ustanowienie strategii akulturacji. Autorzy ustalili korelację między niektórymi typami adaptacji społeczno-kulturowej a zakazem scenariusza. Autorzy udowadniają, że proces rozwoju myślenia sanogenicznego uczniów przez pryzmat adaptacji społeczno-kulturowej może wzbogacić teorię i praktykę psychologiczną o nowe doświadczenia i stać się środkiem wsparcia dla zainteresowanego czytelnika.

Słowa kluczowe: *myślenie sanogenne, scenariusz życiowy, adaptacja społeczno-kulturowa, odporność psychiczna, studenci-imigranci, strategie akulturacji, role życiowe, decyzja scenariuszowa*

Аннотация

В исследовании рассматривается проблема формирования жизненных сценариев студентов-мигрантов и их саногенное мышление через призму социокультурной адаптации. Авторы отмечают, что саногенное мышление уменьшает внутренние конфликты, позволяет контролировать эмоции, потребности и желания и тем самым предотвращает болезни. В статье представлена модель формирования саногенного мышления учащихся, которая может стать ключевым способом восстановления индивидуального благополучия студентов. В статье доказывается, что сценарные решения студентов-мигрантов являются бессознательными, иррациональными наборами разума для адаптации к жизни. Авторы установили корреляцию между некоторыми видами социокультурной адаптации и запретом сценария. Авторы доказывают, что процесс развития саногенного мышления учащихся через призму социокультурной адаптации может обогатить психологическую теорию и практику новым опытом и стать средством поддержки заинтересованного читателя.

Ключевые слова: *саногенное мышление, жизненный сценарий, социально-культурная адаптация, психологический иммунитет, студенты-мигранты, стратегии аккультурации, жизненные роли, решения по сценарию*

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

The active international academic and professional mobility of modern Ukrainians has raised the interest of general and practical psychology to find the ways of solving the sociocultural adaptation and self-realization problems in an incultural environment. It is a common knowledge that prolonged state of instability often leads to a violation of mental and physical health. First of all, it concerns student youth. The period of studying at a high school is accompanied by the need to overcome obstacles during the solving of various problems. According to Alister Ward, Jo Salmon, Maxine Duke about 90% of students have a

deviation in their health; nowadays we increasingly notice students with obsessive thoughts and destructive settings. According to the theory of transactional analysis, such unconscious irrational settings are adopted in accordance to the prohibitions and directives of parents. The same can be said about the mechanism of protection, initially possible, and creation of a sense of security, but further it can provoke the formation of hyperfunction of psychological immunity. It can complicate the process of adaptation and negatively affect the formulation and realization of goals.

Analysis of latest research where the solution of the problem was initiated.

In general, the problem of sanogenic thinking is devoted to the work of many domestic and foreign scholars (N. Povyakel, V. Rybalka, E. Aleksandrovska, R. Burns, K. Bütner, T. Vasilieva, D. Jampolsky, M. James, A. Dobrovich, I. Dubrovina, A. Zakharov, V. Levy, M. Ratter, T. Danina, L. Rubtsova, D. Fontan, K. Horni, etc.). The problem of the development of sanogenic thinking in children and teachers in domestic psychology is devoted to the works of T. Vasilieva, E. Alexanderovsky, A. Dobrovich, I. Dubrovin, A. Zakharov, V. Levy, B. Semke. T. Vasilieva and M. Kozlovska reveals the essence of sanogenic thinking, the place of sanogenic and pathogenic thinking in the structure of the personality of the junior schoolboy (T. Vasilieva) and the peculiarities of the influence of sanogenic thinking on the correction of the emotional states

of the personality of the convicted (M. Kozlovska).

The life scenario is also studied by modern domestic researchers in the context of generic scenarios (L. Gridkovkets et al.), sexual and gender peculiarities (T. Kambalova, N. Klymenko, etc.), in the field of scientific interest are motivational factors for creating a personality life scenario (L. Karagodina, etc.), the representation of life roles in the consciousness of the person (A. Odintsova, etc.), the conditions for designing a life scenario (P. Zhebeleva, etc.), the peculiarities of the formation of life plans and awareness of life scenarios in adolescence (T. Kostina, M. Gladkevych et al.) and others. The problem of the formation of life scenarios of students-migrants and their sanogenic thinking through the prism of socio-cultural adaptation was not thoroughly investigated.

Aim of paper. Methods.

Aim of the paper is to reveal the peculiarities of the problem of the formation of life scenarios of students-migrants and their sanogenic thinking through the prism of socio-cultural adaptation. *Theoretical* (analysis, comparison, systematization of the data of psychological, pedagogical literature of the problem), *empirical* (psychological and pedagogical experiment, the test

of the research of meaningful orientations (D.Leontyev), the test for the research of sanogenic thinking (L.Rubtsova) and *methods of mathematical and statistical processing of empirical data* (methods of descriptive statistics, the method of the correlation, the multiple regression analysis).

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

Thus, an empirical study on a sample of internally displaced persons (the first year student are also included into research) [11]. It allowed at the empirical level to investigate that introspectively parental orders support emotional control over the unknown situation of emigrants. Moreover, it orients the person to a sense of security, sta-

bility, which is confirmed by a direct correlation between indicators of the scale of Subjective Well-Being [7] (and the scale of subjective well-being (G. Perrudet-Badoux) (adaptation of M.V. Sokolova)) [15] and scenario prohibitions and requirements (questionnaire early childhood solutions S. Maximova).

Table 1. Results of correlation analysis between indicators of subjective well-being and scenario settings.

Prohibitions, prescriptions	Do not show up	Do not be a child	Do not be successful	Do not be yourself	Do not be meaningful	Do not be patient	Try it out	Hurry up
Welfare	.531** .004	.390* .040	.429* .023	.598** .001	.453* .015	.410* .030	.381*, 046	.384*,044

At the same time, it has been investigated that the low level of readiness for change, indicates internal support for change and erroneous behavior patterns of migrants, also depends on a number of prohibitions,

among which there are two – "Do not be successful" and "Do not belong to the group" [3]. These options block the ingenuity, confidence, optimism, courage and tolerance of migrants.

Table 2. Results of correlation analysis between personal readiness indicators and scenario settings

Children's solutions Willingness	Do not become adult	Do not be successful	Do not do	Do not be a child	Do not belong to	General Prohibitions
ingenuity	-.449* ,017	-.475* ,011	-.418* ,027	-.303 ,117	,094 ,633	-.372 ,051
optimism	-.196 ,317	-.486* ,009	-.175 ,372	-.368 ,054	-.118 ,549	-.219 ,264
courage	,189 ,336	,244 ,211	,265 ,173	,122 ,535	-.380* ,046	,162 ,410
confidence	-.325 ,092	-.524** ,004	-.429* ,023	-.413* ,023	-.021 ,916	-.383* ,044
tolerance	,277 ,154	,015 ,939	,189 ,335	-.076 ,703	-.412* ,029	,023 ,908

The statistically significant inverse relations were found between the indicators of the Smile-life orientations and scenario prohibitions [6]. The most expressed of which are "Do not be yourself", "Do not be

successful", "Do not do". The content of the corresponding scenario decisions allows to distinguish them with psychological barriers of adaptation to the new environment.

Table 3. Children's solutions

Children's solutions PIL	Do not be yourself	Do not be successful	Do not create
Life Goals	-.399, p<0,01	-	-
Life Process	-.512, p<0,05	-.527, p<0,05	-.471, p<0,01
Effectiveness of life	-.471, p<0,01	-.464, p<0,01	-
Locus control	-.390, p<0,05	-.464, p<0,01	-.463, p<0,01
Locus control-life	-.541, p<0,05	-.448, p<0,01	-.675, p<0,05

In addition, on the empirical level, it was discovered that scenario decisions (installations), restricting spontaneous behavior, and block personal growth of the individual. It results in the context of acquiring new experience, values of a new culture, new skills that can negatively influence the

process of socio-cultural adaptation. This is confirmed by the established correlation between certain types of socio-cultural adaptation and scenario prohibitions. Among these the most active in the context of destruction of all its types is the prohibition "Do not be successful" [4].

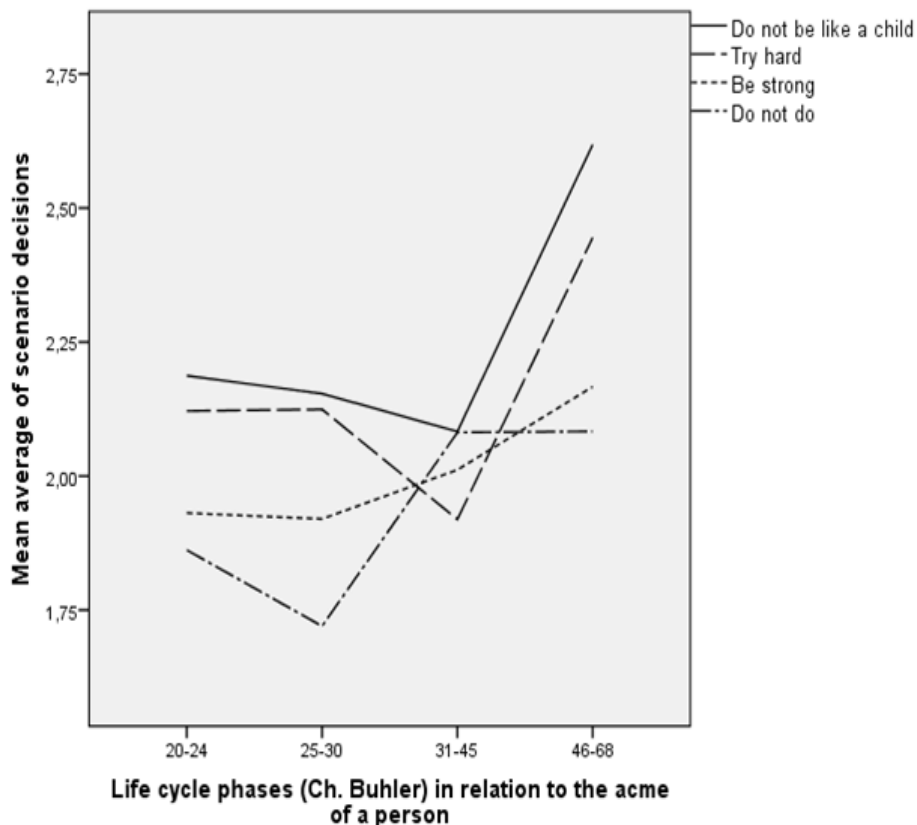
Table 4. Results of correlation analysis between indicators of socio-cultural adaptation and scenario settings

Prohibition \ Adaptation Type	Adaptation	Conformity	Depression	Nostalgia	Alienation
Do not be a child	-.004 ,966	,096 ,335	,194 ,050	,016 ,870	,195* ,049
Do not be successful	-.274** ,005	-.243* ,013	,290** ,008	,222* ,02	,223* ,023
Do not be the first	-.139 ,161	-.140 ,159	,326** ,001	,206* ,037	,261** ,008
Do not be meaningful	-.180 ,069	-.137 ,169	,279** ,004	,231* ,019	,355** ,000
Do not be (Do not show up)	-.180 ,068	-.221* ,025	,310** ,001	,293** ,003	,206* ,037
Do not get closer	-.174 ,079	-.109 ,274	,318** ,001	,254** ,010	,173 ,080
Do not be yourself	-.175 ,077	-.169 ,088	,280** ,004	,244* ,013	,130 ,191
Do not be healthy	-.213* ,031	-.182 ,066	,275** ,005	,278** ,005	,036 ,718
Do not become adult	-.166 ,095	-.165 ,095	,200* ,042	,166 ,094	-.049 ,624
Do not feel	-.180 ,069	-.036 ,719	,218* ,027	,039 ,693	,042 ,674
Do not belong to	-.238* ,016	-.250* ,011	,142 ,154	,201* ,041	,101 ,310

At the same time, it was discovered that the prohibition of "Do not be a child", which blocks the non-adaptive form of activity, and the "Be strong" order, according to which the behavior of migrants is caused by

frustration of desires, true desires, needs is prohibited by the leading prohibition of migrants in the age range of 20 to 30 years [4; 9].

Fig. 1. Life cycle phases in relation to they acme of a person



Through the multiple regression analysis, a number of prohibitions have been identified. Those bans have an impact on the formation of the destructive side of the migrant's life scenario. What is more, it had an influence on a certain type of socio-cultural adaptation, in particular, Nostalgia and Alienation. Such results provide grounds for considering scriptural solutions as psychological barriers to socio-cultural adaptation and acmeologization, among which we distinguish "Do not feel", "Do not grow older,"

"Do not be the first," "Do not be meaningful." Nostalgia = 8,341-1,417 (Do not feel), Alienation = 6,081-1,134 (Not getting older) + 1,352 (Be the first) +1,24 (Do not be meaningful) [13].

In this connection, the modality of the contact of migrants with the socio-cultural environment, which has an impact on the formation of strategies for acculturation, is predicted. In accordance with the prohibitions listed, passive adaptation is planned. It involves self-identification with other people's expectations, a breakthrough of

needs and restrictions on certain activities. Predicting strategies are separation (minimizing contact), marginalization (unwillingness to accept new demands and self-denial), and assimilation (full acceptance of the conditions of a new society through the rejection of their own values and culture). It should be emphasized that there is no integration strategy that is considered by most scholars to be optimal (cultural identity is preserved in the partial adoption of a new society).

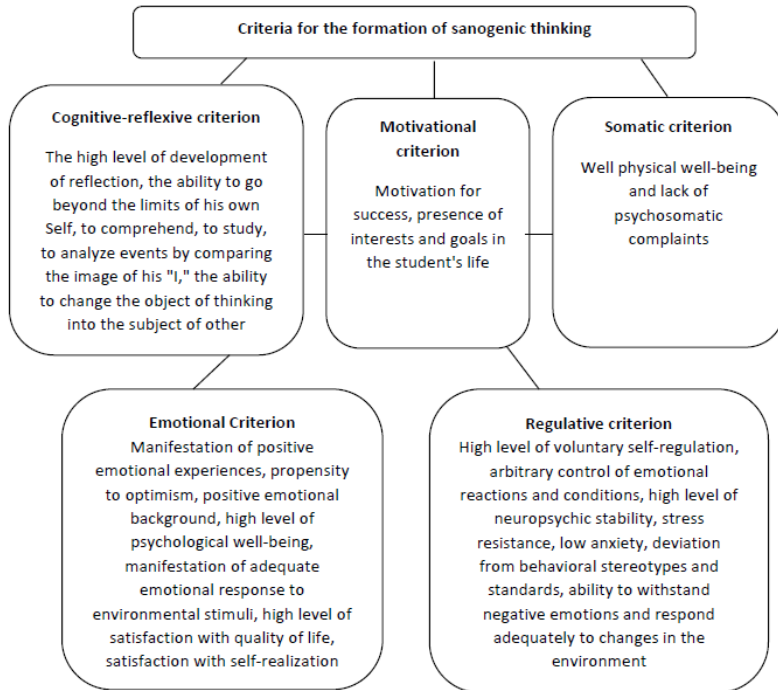
In connection with this, there was a need for correction of scenario installations, and hence artificial formation of active psychological immunity.

Nonadaptive destructive thoughts create a heavy feeling, and as the result a person is forced to have constantly recurring thoughts which lead to intrusive behavior. One of the main reasons for the emergence and development of any forms of obsessive states is the habit of an internal conversation with oneself, especially, a nonconstructive, constant unconscious discussion of old and new issues (what has already happened or may take place once). We diagnosed that 78% of students are predominated by pathogenic thinking. The students' negative cognition was investigated, among which 48% were consensual judgments, 34% were condemned judgments and 18% were horrific judgments, which mostly have destructive content [10]. Defying sanogenic thinking, a person stops useless automatic work of keeping intrusive thoughts in his mind.

A great number of foreign and native scientists point to the link between mental and physical health with the learned patterns of human thinking. In this context, the researchers (Y. Orlov, T. Vasilieva, N. Morozzyuk, L. Rubtsova, etc.) use the term "sanogenic thinking", which we understand as: the mental process of reflection of their own emotional experiences, which are characterized by a high level of metacognition and monitoring [10]. By the way, this term, manifests itself in the comprehension of traumatic emotionogenic factors, the awareness of nonconstructive behavior program. It also provides for their correction and skills to apply adequate methods of response in situations of tension. It is likely that unlike pathogenic, sanogenic thinking contributes to the development of a successful life scenario and effective socio-cultural adaptation. The concept of the sanogenic thinking is based on the thesis of the predominance of cognitive assessments over emotions, which allows a student to use their thoughts to influence feelings and, by changing cognitive assessments, to acquire the skills of constructive ways of responding to these events [10; 12; 14].

Among the criteria for the formation of sanogenic thinking, we highlight the cognitive-reflexive, motivational, somatic, emotional and regulatory criteria that include the flexibility of thinking, the existence of goals in life, good physical and emotional well-being, high levels of voluntary self-regulation [10].

Fig. 2. Criteria for the formation of students' sanogenic thinking

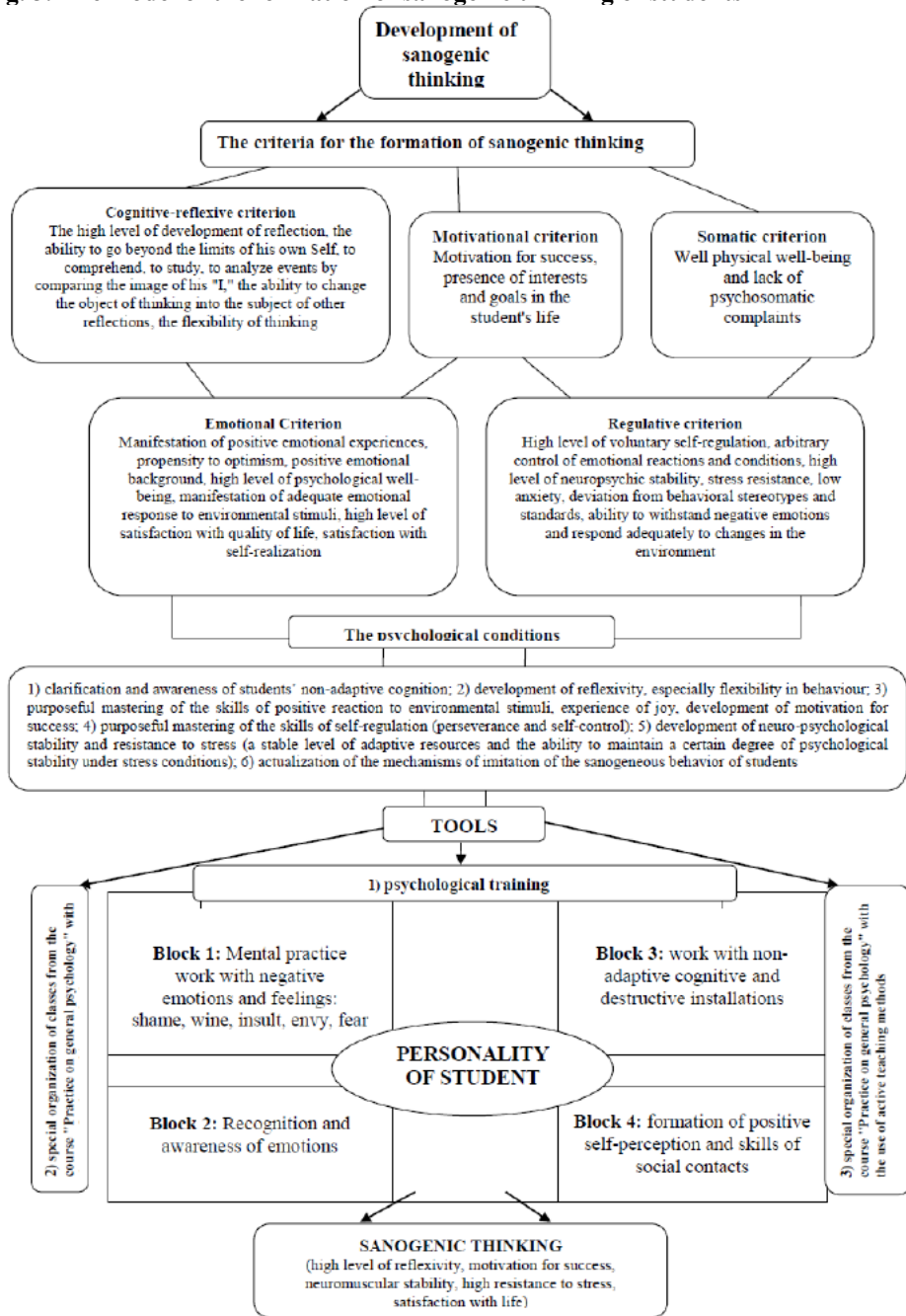


The result of the dispersal of sanogenic thinking in students is the correction of the negative emotional and rich attitude of man towards himself and others.

Taking into account the results of the theoretical analysis and obtained data of empirical research on the sample of migrants and students of NaOA, according to which 78% prevails pathogenic thinking, the model of the formation of sanogenic thinking of students was substantiated [10]. It also reflects the psychological conditions and means of purposeful influence on it, in particular: 1) psychological training "Formation of sanogeneous thinking of student youth"; 2) special organization of classes from the course "Practice on general psychology" with the use of active teaching methods; 3) Individual and group conversations; 4) appropriate

organization of extra-curricular time students. The psychological conditions for the formation of the sanogenic thinking of students are determined: 1) clarification and awareness of students' non-adaptive cognition; 2) development of reflexivity, especially flexibility in behavior; 3) purposeful mastering of the skills of positive reaction to environmental stimuli, experience of joy, development of motivation for success; 4) purposeful mastering of the skills of self-regulation (perseverance and self-control); 5) development of neuro-psychological stability and resistance to stress (a stable level of adaptive resources and the ability to maintain a certain degree of psychological stability under stress conditions); 6) actualization of the mechanisms of imitation of the sanogeneous behavior of students [10].

Fig. 3. The model of the formation of sanogenic thinking of students



The main tasks of the socio-psychological training were: reducing the manifestation of pathogenic and automatic thoughts, arising in situations of stress; introducing ways of mastering sanogenic thinking for the students; formation of skills and abilities of a constructive solution of conflicts in communication, emotional and behavioral self-regulation, psychological analysis of situations; the formation of positive self-perception [10]. The training program contained the following content blocks: recognition and awareness of emotions; work with non-adaptive cognitions and destructive installations; mental practice of working with emotions and feelings (shame, guilt, insult, envy, fear); formation of positive self-perception and skills of social contacts. The training was implemented within the framework of psychodramatic and narrative ap

proaches. The main psychodramatic technique in working with students was "Projection into the future", among narratives - amplification (transformation of history into metaphor, deconstruction (studying the context of the emergence of discursive prescriptions), restoration of participation (involving other members of the group in finding new perspectives on solving the problem and other.

To test the effectiveness of the developed program, an experimental (EG) (25 people) and a control (KG) (25 persons) group were formed. The dynamics of cognitive-reflexive, emotional, motivational, regulatory and somatic criteria of sanogenic thinking formation of student youth of the experimental (EG) and control (KG) groups before and after the training. It is presented in the table of the first group of participants to find new perspectives on solving the problem [10].

Table 5. The formation of sanogenic thinking in the students of EG and KG before and after the molding experiment (n1=25, n2=25)

№	Indexes	Experiment (average)			After experiment (average)			Changes		
				<i>t_{cn}</i>			<i>t_{cn}</i>			
		CG	EG		KG	EG		EG <i>π/e</i>	eg <i>π/e</i>	<i>t_{cn}</i>
1.	Sanogenic Thinking	31,90	32,71	0,23	31,90	35,90	-1,33	31,90	35,90	2,36
2.	Pathogenic thinking	34,10	35,21	0,28	34,10	30,1	1,28	34,10	30,1	3,12
I. Cognitive-reflexive criterion										
1.	Reflexivity	7,5	7,8	0,15	7,8	10	2,45*	7,5	10	2,67*
2.	Rigidity	31,5	31,1	0,21	31	29,2	1,68	31,1	31,3	1,73
II Emotional criterion										
1.	Joy	22,2	23,4	0,38	24,2	27,05	-3,38*	23,4	27,05	3,32*
2.	Anger	25,2	26,4	0,52	24,9	19,6	-4,65**	26,4	19,6	-3,67**
4.	Sorrow	25,55	24,64	0,32	24,2	20,55	-4,78*	24,64	20,55	-2,98
5.	Optimism	21,1	22,4	0,52	21,1	25,55	2,62*	22,4	25,55	3,05*
6.	Self-control	21,8	23,6	0,43	22,95	23,45	-0,31	23,6	23,45	0,69
7.	Quality of life index	21,18	22,21	0,48	21,19	22,56	3,08*	22,21	22,56	0,71
8.	Positive relationship with the surrounding	54,36	55,28	0,32	55,24	59,42	-1,59	55,28	59,42	2,63*
III Motivational criterion										
1.	Motivation for success	15,6	16,3	0,83	15,6	16,3	1,24	16,3	15,7	0,82
2.	Motivation for failure	6,4	6,9	0,25	6,4	0		6,9	0	
3.	The motivation pole is not pronounced	10,8	11,2	0,22	10,8	10,7	-0,23	11,2	10,7	-0,75
4.										
5.	Trend of motivation for failure	8,5	8,6	0,21	8,5	8,6	0,12	8,6	8,4	-0,34
6.	Trend of motivation for success	12,6	12,5	-0,51	12,6	12,7	0,23	12,5	12,7	0,28
IV Regulatory criterion										
1.	Persistence	7,3	7,1	-0,1	7,4	11,6	2,22*	7,1	11,6	2,31*
2.	Composure	5,6	5,8	0,1	5,7	9,3	2,24*	5,8	9,3	2,27*
3.	Neuropsychiatric breakdowns	30,5	31,2	-0,38	31	29	-0,48	31,2	29	-1,98
4.	Stress resistance	32,7	32,3	-0,22	32,9	35,2	2,58*	32,3	39,2	7,67***
5.	Behavioral type A	49,7	48,3	-0,15	49,8	48,1	0,32	48,3	48,1	1,24
6.	Behavioral type B	34,9	34,2	-0,21	35,3	35,3	-1,89	34,2	35,3	-1,99
7.	Mixed type	15,4	17,5	0,16	14,9	16,6	2,12	17,5	16,6	-1,86
V. Somatic criterion										
1.	Exhaustion	3,40	3,38	-0,27	3,21	3	-0,42	3,38	3	-0,98
2.	Pain in different parts of the body	5,45	6,12	0,33	5,23	3,75	-3,55*	6,12	3,75	-5,85**
3.	Gastric complaints	3,55	3,24	-0,15	3,54	3	-0,67	3,24	3	-0,99
4.	Heart complaints	3,75	3,65	-0,21	3,23	2,55	-1,23	3,65	2,55	-1,34
5.	Overall rate of complaints intensity	15,55	15,23	-0,23	14,90	3,1	-24,83	15,23	3,1	-27,23** *

Note: * $p < 0,05$, ** $p < 0,01$, *** $p < 0,001$.

Conclusions.

Consequently, the results of the control cut-off allow us to establish a significant improvement in the basic characteristics of sanogenic thinking of students. After the training, the students subjugated the subjective idea of the loss of vital energy. They also reduced the intensity of psychosomatic complaints, but increased the level of neuro-psychological resistance and resistance to stress. This gives grounds to conclude that mastering the techniques of reflection and self-regulation and the skills

of adequate response to environmental stimuli. The development of a sustainable level of adaptive resources and the motivation for success contributes to the formation of sanogenic thinking of students. The formation of sanogenic thinking involves a long process of working on itself. It helps to find adequate ways of responding to stress itself, stress situations and to avoid obsessive thoughts that may occur in the mind of a young person.

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VI. Reports and Reviews



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JULIAN URSYN NECESSES ABOUT THE KOSCIUSZKOW INSUANCE

JULIAN URSYN NIEMCEWICZ O INSUREKCJI KOŚCIUSZKOWSKIEJ

ЮЛИАН УРСЫН НЕМЦЕВИЧ О ВОССТАНИИ КОСТЮШКО

Abstract

Julian Ursyn Niemcewicz, a Polish writer and politician, fought for the good of his homeland throughout his life. The knowledge gained at the Knight's School allowed for many years to perform the function of Adam Czartoryski, adjutant general of the army of the Podolia region. During the deliberations of the Great Sejm, he actively joined in the efforts to strengthen the army of the Polish-Lithuanian Commonwealth. He took an active part in the battles in defense of the Constitution of May 3. Niemcewicz demonstrated the greatest military activity during the Kościuszko Uprising as Tadeusz Kosciuszko's adjutant. His memories of these events seem to be an important source for learning the final act of the history of the Polish-Lithuanian Commonwealth. The author with high professionalism and accuracy describes the events that took place then.

Keywords: Julian Ursyn Niemcewicz, Polish-Russian War 1792, Kosciuszko Insurrection, diaries

Streszczenie

Julian Ursyn Niemcewicz polski pisarz, polityk, przez cały okres swojego życia walczył o dobro swojej ojczyzny. Wiedza zdobyta w Szkole Rycerskiej pozwoliła przez długie lata sprawować funkcję adiutanta generała wojsk ziemi podolskiej Adama Czartoryskiego. W trakcie obrad Sejmu Wielkiego włączył się aktywnie w działanie na rzecz wzmocnienia

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armii Rzeczypospolitej. Brał czynny udział w walkach w obronie Konstytucji 3 maja. Największą aktywność jako wojskowy Niemcewicz wykazał w trakcie Insurekcji Kościuszkowskiej jako adiutant Tadeusza Kościuszki. Jego wspomnienia dotyczące tych zdarzeń zdają się być ważnym źródłem dla poznania aktu końcowego historii Rzeczypospolitej. Autor z dużą fachowością i dokładnością opisuje zdarzenia, jakie miały wtedy miejsce.

Słowa kluczowe: Julian Ursyn Niemcewicz, Wojna Polsko-Rosyjska 1792, Insurekcja Kościuszkowska, pamiętniki

Аннотация

Юлиан Урсын Немцевич, польский писатель и политик, на протяжении всей своей жизни боролся за благополучие своей родины. Знания, полученные в Рыцарской школе, позволили ему на протяжении многих лет служить адъютантом сухопутных войск Адама Чарторыйского в регионе Подолье. Во время встреч Великого Сейма он активно участвовал в укреплении армии Польско-Литовского Содружества. Он принимал активное участие в битвах за защиту Конституции от 3 мая. Немцевич продемонстрировал значительную военную деятельность во время восстания Костюшков качестве адъютанта Тадеуша Костюшко. Его воспоминания об этих событиях, похоже, являются важным источником для изучения заключительного акта истории Польско-литовского Содружества. Автор с высоким профессионализмом и точностью описывает события, которые тогда имели место.

Ключевые слова: Юлиан Урсын Немцевич, Русско-польская война 1792, восстание Костюшко, дневники

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Statement of the problem in general outlook and its connection with important scientific and practical tasks.

Julian Ursyn Niemcewicz is known in the scientific literature as well as in social awareness mainly as a politician or a writer. Julian Ursyn Niemcewicz was able to participate in many important events thanks to his extensive knowledge and functions. His career began as the adjutant of prince Adam Czartoryski, general of the Podole region. He held this function until the activity period of the Great Sejm. Already

in the second half of the eighties, he was a deputy candidate for the Sejm of the Republic of Poland. He took an active part in the creation, defense of the Constitution of May 3 and the Kościuszkow Insurrection. During the battle of Maciejowice, on October 10, 1794, he was taken prisoner by the Russians, where he remained until after the death of Tsarina Catherine.

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Analysis of latest research where the solution of the problem was initiated.

Despite military education, occupying various military positions in the Republic of Poland, participating in the war with the Russians in 1792 and the Kościuszko Insurrection two years later, he remains a less known soldier. In Poland, research on the life of Julian Niemcewicz was carried out by A. Czaja (Czaja A., 2005; Czaja A., 2002), S. Majchrowski (Majchrowski S., 1982); G. Pauszer-Klonowska (Pauszer-Klonowska G., 1987) and K. Zbyszewski (Zbyszewski K., 1999).

Aims of paper. Methods.

Rich experience and high activity in the military role makes it justified to analyse the memories of the national hero in terms of his view of his own predispositions, participation and evaluation in the Kościuszko Insurrection.

Exposition of main material of research with complete substantiation of obtained scientific results. Discussion.

The military education of Julian Niemcewicz began with the admission to the Knight's School on August 8, 1770. As he recalls, the Cadet Corps was founded by Stanisław August 1764. It consisted of sixty students. They were divided into three brigades, twenty cadets each and a brigadier and a sub-brigadier. In addition, the classes were attended by exteriors that were organized in the next brigade (Niemcewicz J. U., 1868, pp. 23-24). Stanisław August Poniatowski held the title of captain. Although the monarch did not have any substantive function, he attached great importance to the proper functioning of the Knight's School. He often came in horseback surrounded by uhlans. He took active part in final examinations, observed parades and ordered to send copies of documents from this institution. The prince general, Adam Czartoryski, was extremely important and popular among the cadets. Niemcewicz remembered him as a person trying to temper the spirit of future soldiers. He paid particular attention to matters of honour, integrity and, above all, patriotism. The Catechism for the cadets supported in raising young people. Each student knew it by heart, and he was obliged to recite the contents contained there before the brigadier, a group guardian, every week (Niemcewicz J. U., 1868, p. 25). Niemcewicz remembered a graph, Fryderyk Moszyński, quite differently. The son of August II and Mrs. Orzelska was described as cold, formal, *ordered as the most well-ordained banker*. He spoke foreign languages, and had many talents. On his initiative, the *Allemande* dance was introduced into the education program. All students remembered a high level of requirements, discipline and transfer to the Kazimierz Palace (Niemcewicz J. U., 1868, p. 25). Breaking the rules prevailing in the unit was threatened with corporal punishment. Niemcewicz, however, considers them to be sporadic and necessary. The ideals taught in this way were to bring great benefits to the homeland in the future. From that moment, each brigade had its own room, while each of the cadets was equipped with chests of personal belongings, a tin bowl and a basin. The session of the Great Sejm is the period in which J. Niemcewicz showed the greatest hopes for improving the situation of the homeland. In addition to the detailed descriptions of the proceedings in his memoirs, he listed the most important, in his opinion, successes of eliminating the

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Perpetual Council, resolutions on the creation of a 100 000 army and tax reforms (Niemcewicz J. U., 1868, pp. 91-92). The adoption of the constitution was to be the crucial point of the works.

The intervention of the Russian army, the declaration of the Targowica Confederation, was considered as betrayal. According to the assessment of the situation, Józef Poniatowski did not undertake appropriate offensive actions. According to J. Niemcewicz, despite many wins of battles, e.g. near Zieleńce and Dubienka, he could not get any benefits. In Polish literature, both battles are considered a success. Both on June 18 at the Battle of Zieleńce and on July 18 at the Battle of Dubienka, hostile troops were detained. Losses on both sides were more or less equal. However, the aim of breaking the crown army failed (Derdej P., 2000, pp. 65-70, 87-92, Wolański A, 1996, pp. 173-177, 296- 297). Niemcewicz himself, winning the war itself, depended on the strong will of the ruler, Stanisław August Poniatowski, who joined the Targowica Confederation at a critical moment.

The news of the beginning of the Insurrection found him in Rome. Informed by unknown Bernardine. The date of this event remains unknown; however, immediately after receiving this information, Niemcewicz immediately goes back to his homeland. During the trip he collects information about events that were initiated and took place in the first days of the uprising (Niemcewicz J.U., 1868, pp. 157-185). Taking over the function of the dictator of the uprising on March 23 and the victory at Raclawice on April 4. The people of the Republic of Poland were encouraged by the first successes to support Kosciuszko's initiative and caused the entire country to become an arena of fighting in a short time. The capital city was to become the most important

place of fighting. In Niemcewicz's opinion, Igielsröm's nervous decisions, such as the arrest of people suspected of wanting to riot, and taking control of the Warsaw arsenal directly led to the outbreak of fighting in the city itself.

Kapostas and Jan Kiliński were the initiators and the main leaders of the activities of the Poles. In conspiracy, they urged the public to take up the fight, which began as planned on April 17. Suddenly for Niemcewicz, the commander of the Polish artillery, Cichocki, came to the rescue. The author of the memories recognized him as a traitor because he was enjoying Ingjelström's trust. It was not until the fighting that *he felt the Polish heart beating* and decided to hand over the arsenal to the fighting Varsovians without a fight. The victory of the Targowica followers deprived the King, government and military of influence on the state condition. The only solution was to negotiate. For this reason, the assessment of Cichocki himself seems to be wrong. Despite the concise form of the message, he recognized the liberation of the city as a great success. He estimated the Russians' losses of 3 000 killed and 1 800 soldiers and 160 officers taken as prisoners (Niemcewicz J. U., 1868, p. 158). The opinion coincides with dedicated research on the subject (Szyndler B., *Insurrekcja kościuszkowska 1794*, Warszawa 1994, p.; Kępka – Mariański W., *Insurrekcja warszawska 1794*, Warszawa 2012, p. 172). He involved the archive of the Russian ambassador among the valuable achievements. The entire military operation ended on April 20 with the submission of civilian weapons to the arsenal. At the same time, insurgent authorities began to form.

The liberation of the capital was of great importance for events throughout the country. As Niemcewicz decided, the whole army joined the Insurrection. This statement does not reflect the actual

situation. Some of the Polish Army troops from before the Second Partition of Poland were incorporated into the army of Tsarina Catherine and could not participate in this war. Due to, inter alia, Niemcewicz's information, it is known about successful attempts to break through certain units and connect them with the main army (Niemcewicz J. U., 1868, p. 160). He mentions the arrival of Józef Kopcio with 600 cavalymen, and Wyzkowski with 1 200 soldiers of unknown formations, and several hundred soldiers of Łazniński.

Lithuania was the second important active area distinguished by Niemcewicz. Here, generals and representatives of regional patriotic elites joined the organization of the army and defense of the country. The division of society and elites was also in the area of interests of the writer. As Niemcewicz noted, General Niesiołowski, Romuald Giedroyc, Antoni Prozor, Piotr Zawisza, Brigadier Sulistrowski had to put a lot of energy into believing that General Antoni Chlewiński would join the uprising (Szyndler B., 1972, p. 51). The example mentioned by Niemcewicz was a serious problem for the entire Insurrection. Generals, land majors often did not carry out their duties properly, which caused problems in mobilising and concentrating new troops.

Niemcewicz rather misrepresents the Insurrectionary readers in Lithuania. The local army was to go to Vilnius (Sikorski J., 1975, p. 432). The concentration in this place could have been due to Jakub Jasiński and his 300 soldiers, who managed to liberate the city from enemy units on April 23 and take commandant of Russian Arseniev and Szymon Kossakowski to captivity. The latter was sent to a military court with an accusation of treason. Together with other captured marketers, they were sentenced to death. Then Jasiński successfully fought with the enemy at

Nemenczyn and Sola. Only after the arrival of the main Russian forces under the command of Mikhail Zubov and Beningsnen in clashes at Knoryng and Cycjanov, he was forced to retreat. Thus, some successes were initially made. Along with the taking over of the post of commander in chief in Lithuania, the military situation in Milohorskia began to worsen. According to Niemcewicz, from the perspective of the headquarters of the Dictator of the uprising, the commander was guilty. Errors and, above all, lack of trust, prompted Kościuszko to agree with the proposal of the officer staff of the Lithuanian army to appoint a new commander-in-chief. It was General Mokronowski (Niemcewicz J. U., 1868, p. 166). The events taking place during the Insurrection resulted in the surrender of Kraków. This fortified city was handed over to Wieniawski's orders. For unknown reasons, according to Niemcewicz, without a fight, the former capital of Poland was subjected to the Prussian army. In addition to this episode, he briefly presented events that took place in Chełmno and Lublin. Division of general Zajęczek was to observe the Bug river line. On the news of the approaching enemy, at the joint meeting, the commander, Hauman, Wedeisztet, Wyzkowski, and Chomentowski were to decide to attack the opponent. The decisive battle was on 7 June near Chełm (Niemcewicz J. U., 1868, p. 162). According to Niemcewicz, guns were of crucial importance. The Polish army had six of them, while twenty-eight belonged to the army of gen. Derfelden. The composition of the insurgent infantry, which mostly consisted of just mobilised inexperienced soldiers - scythemen, was significant. They were the first to be attacked by the enemy. When the retreats began, the rest of the units announced a retreat. Officers, as you can imagine thanks

to Niemcewicz's memoirs, decided that all units were announced to be withdrawn. If we accept this thesis, general Zajączek is fully responsible for failure. He could not properly maintain communications between individual departments. Such an assessment would not be entirely true. Vedelszt and Wyszowski officers had to be aware of the way in which they were told to inform the troops about the decision to withdraw from the battlefield. Therefore, the guilt of the officers may be considered more serious than the guilt of Zajączek. However, later decisions caused a bad reputation of the general. The entire Lublin region was provided without a fight. He was not able to persuade his subordinates to further fight and as a result he directed all units to the capital.

An extremely important role in Niemcewicz's memoirs was played by the battle of Szczekociny on June 8. Kosciuszko was to make a decision to gather more troops under his direct command. For this reason, he hid near Połaniec. The units were to come from the conscription and from the arriving units called by the Chief. Denisov tried to stop it. He was to instruct his troops, by destroying nearby villages, to cut off the Poles from supply (Niemcewicz J. U., 1868, p. 161). At the same time, Kosciuszko learned about the approaching Prussian army. Concerned by this fact, the Polish leader made the decision to attack the Russian forces. The description of the battle of two armies is missing here. The reader learns only about the initial successes of the Poles, which turned into a defeat after the arrival of the Prussian troops. The deaths of generals Wodzicki and Grochowski were considered as irreparable losses by Niemcewicz. In his memoirs, he distinguished Adam Poniński, Kropiński, and Paweł Bieliński.

The consequence of the described events became the siege of the capital lasting from

July 9. Soon after the arrival of Kościuszko, sections of the defense of the city and their commander were designated. The Chief defended the capital in the area of Mokotów, Zajączek near Czysty, and Mokronowski from the side of Marymont. Niemcewicz calculated the strength of the garrison at 17 000, while the enemy units at 50 000 soldiers (Niemcewicz J. U., 1868, p. 165). At the same time, he noted that the enemy troops could not definitely start organized offensive actions. All three months of fighting were limited to small skirmishes. At Kosciuszko's initiative, many excursions were carried out to eliminate artillery. According to Niemcewicz's opinion, the effectiveness of these activities was not great. Nevertheless, it brought concrete results in the form of the destruction of enemy forces. The scythes were often used for this type of actions. Under the cover of the night, they approached the enemy positions, then ran with great cries to the embankments. As he recalls, each such skirmish was fierce and they were always characterized by *a flash only by fire from guns, the cry of terrifying and fighting people who were horribly frightened*. This statement proves the fact that Niemcewicz himself participated in direct fighting many times. On the basis of diaries, the question of speculation whether he was the commander of the attacking troops or just an observer.

The key moment was the attack of the Prussian army carried out on July 28 on Wola and Młociny, where the Poles lost several guns. The constant heavily firing of the city began at this moment. However, it turned out to be completely ineffective. At the same time, Dąbrowski managed to push the Russians from Wilanów. It did not cause any damage to the morale of both soldiers and civilians. In his diary, he mentions the interweaving of social life and warfare. One day during the supervision

with Kosciuszko of the section at Czyste, Poland and the terrible command of Frederick William II. The ceasefire would be in favour of the Prussians, who could expect to suppress the uprising within their borders. Then, without consequences, they proceeded to further actions against the Insurrection. However, what advantages would the insurgents have? A short period of fighting only with Russian troops would not lead to major changes in favour of the Poles. It resulted from the forces and values of both armies of invaders. Niemcewicz did not comment this subject. He showed only the answer of Zajączek. Aware of the lack of specific benefits *not wanting to talk in vain, he gave him the answer that the Prussian King, having broken the covenant himself, into which he drew the Poles by himself, should not expect the nation once betrayed, trust him again* (Niemcewicz J.U., 1868, p. 166).

The civilians deserved special attention. They took part in fights as part of their abilities and participated in the fighting, as Niemcewicz points out, mainly with the Prussians. Only professional soldiers participated in offensive operations. In his diaries, he recognized Colonel Krasieński, Lieutenant Colonel Jabłonowski, Brigadier Kopcia, Kotysko, Dunikowski as the most distinguished (Niemcewicz J. U., 1868, p. 167). The latter died during the fighting. A gunner, Zaferin, was another distinguished officer. He attacked Wola at night, where he took the control over the Prussian battery and destroyed nine guns. At the same time, he captured a certain number of prisoners. The author of the diary did not provide the dates of this operation. It should be assumed that this was some time before the last attack on the Prussian infantry bayonets, which took place on September 5. The next day, the allied troops retreated.

Not long after this incident, the Prussians attempted to start peace negotiations. At Czyste, during the retreat of the enemy, Manstein came to general Zajączek. The official mission of this legation was to meet Prussians with prisoners of war who were then in Warsaw. It was only after a long conversation that he tried to investigate Zajączek on the possibility of a ceasefire. At this point, you can ask yourself what forced the Prussian King to take such steps? Could the Polish side benefit from such an agreement? As is commonly mentioned in the literature, the failure of the first siege was caused by the uprising in Greater

Poland and the terrible command of Frederick William II. The ceasefire would be in favour of the Prussians, who could expect to suppress the uprising within their borders. Then, without consequences, they proceeded to further actions against the Insurrection. However, what advantages would the insurgents have? A short period of fighting only with Russian troops would not lead to major changes in favour of the Poles. It resulted from the forces and values of both armies of invaders. Niemcewicz did not comment this subject. He showed only the answer of Zajączek. Aware of the lack of specific benefits *not wanting to talk in vain, he gave him the answer that the Prussian King, having broken the covenant himself, into which he drew the Poles by himself, should not expect the nation once betrayed, trust him again* (Niemcewicz J.U., 1868, p. 168).

After the most spectacular success of the Polish army during this campaign, the question arose how the situation could be used. Was the strategic situation improved? Could the insurgents afford to rest after the departure of the enemy troops, as Niemcewicz described. The lack of an adequate number of troops was becoming more and more noticeable During this period, the information about the accession of the Austrian Empire to war came. Under the command of General d'Harnoncourt, the troops of our southern neighbour occupied the Sandomierz and Chełmno lands. Engagement in the fight against Germany and the Russians did not allow to oppose this aggression.

According to Niemcewicz's analysis, there were three basic aims to be achieved. First of all, it was necessary to support the uprising in Greater Poland. Then, the main army of Suvorov and Derfelden could not be joined with the approaching army of Fersen (Niemcewicz J. U., 1868, p. 169).

The Chief of the Inspectorate of Lithuanian Army, stationed in Grodno, began new activities. These troops commanded by Mokronowski did not present greater combat strength. Only Bielak's regiment, as Niemcewicz described, had greater combat efficiency. Eastern Mazovia was not controlled by the Russians, but the journey through this area was not safe, due to the numerous Cossack patrols. As it seems their operations were to be the basic identification of the area before the next offensive.

They gave great hope to the successes of Henryk Dąbrowski in Greater Poland. At the order of Kosciuszko, he went with his corps to help the insurgents. He defeated the army of general Sekuli near Bydgoszcz. As a result of this victory, the city itself and the Prussian commander were under the Polish control.

Unfortunately, on September 17, Sierakowski's division fought an unmatched battle with Suvorov's army near Krupczyce (Powstanie kościuszkowskie 1794. Dzieje militarne, pod red. Tadeusza Rawskiego, Warszawa 1996, t. II, p. 168 – 179). After a fierce battle, the Polish general managed to retreat to Brest. At the same time, as Niemcewicz informs, he sent to Kosciuszko full information about the situation and the request for support. The Chief immediately sent three battalions of infantry and an unspecified number of rides under the command of general Kniaziewicz. Then, he decided to go to the front line personally. Together with Niemcewicz, they left the camp near Mokotów on October 6. At four in the morning the next day, they approached Sierakowski's Division. They met with two bad news: about the disintegration of the Polish division and Fersen's crossing over the right bank of the Vistula River near Maciejowice

The basic aim of Kościuszko was to prevent the connection of the Russian forces. It was only late in the evening that two travellers were found in Sierakowski's quarters. His troops shrank, as Niemcewicz calculated, to 2 500 soldiers. 21 cannons were lost, and the entire cavalry dispersed. The next day, Kniaziewicz connected with the Chief. However, as Niemcewicz notes in retrospect, it was a strange thing not to call for Poniński's unit of 4 000 soldiers. It could go out to the enemy's back and make it retreat. Initially, it was to observe the Vistula River crossings and prevent Fersen from crossing. After the failure of this mission, it remained without orders for some time. This caused a significant delay in the later merger with the main Polish forces. Additionally, after discussions, it was decided not to wait for support involving 2000 infantry, 10 squadrons of rides and 12 guns, sent by Zajączek. On October 7, the army under Kosciuszko's orders moved on. They headed to Żelechów and then to Korytnica. At the end of the day, Kosciuszko assigned his headquarters to the last place in the destroyed noble estate. At that time, a number of Russian soldiers were captured by Poland. Podczaski was among them. This major came from the Braclawskie province. As a Pole, he was afraid of being blamed for betrayal. He was promised to give his life for providing information on the quantity, condition and location of the troops. The information obtained in this way was not taken seriously. As Niemcewicz himself mentions, largely influenced by his opinion, Kosciuszko decided to accept the battle (Niemcewicz J. U., ..., p. 170). At the order of the Chief, at nine in the morning on October 9, the army sets off towards Maciejowice. The aim was almost reached at four in the afternoon (Niemcewicz J. U., 1868, p. 171). Kosciuszko and his adjutant decided to

check the area. Unexpectedly for both of them, as Niemcewicz himself mentions, they were attacked by a more unknown Cossack unit. Only thanks to the intervention of Kaminski's regiment after an hour of fighting managed to force the enemy unit to retreat. After this incident, soldiers began to dig trenches as part of preparations for the upcoming battle. Unfortunately, there was not enough time for the insurgents to complete these works. Kosciuszko's headquarters were taken over by Andrzej Ordynat Zamoyski. He also organized his forces. General Sierakowski took command of two Fusilier regiments and Działyński's regiment. Kniaziewicz, on the other hand, was to command an unknown number of infantry, a regiment of cavalry, a regiment of Uhlans Kaminski, two squadrons of the Crown Guard, and two militia squads of the Brest-Lithuanian province. Poniński's Division was to stay on the Wieprza River, near Białek, in accordance with the decisions taken on October 6 in Sierakowski's camp (Szyndler B., 2001, p. 325). It was only in the evening of October 9 that the Chief, as Niemcewicz points out, sent an order to Poniński to join the main army. This decision is usually regarded in the literature as being late and the same erroneous. These units were too far away from the battlefield to support the main forces (Niemcewicz J. U., 1868, p. 172).

The battle of Maciejowice was described by Niemcewicz quite generally. The Russians attacked first. At first, the fight involved the heaviest 12-pound guns. The Polish side had only three of them. Significant disproportions were attempted to balance with better accuracy. For this reason, the Chief of the uprising led successfully their fire. A better location of the troops gave, according to Kościuszko's adjutant, a significant advantage over the enemy in the first phase of the battle

(Niemcewicz J. U., ..., p. 173). However, thanks to the numerical advantage and greater firepower, the Poles were suffering more and more losses. An important moment, which he pointed out, was to be an independent attack by soldiers of Colonel Krzycki. This forced manoeuvre caused a gap in the insurgent ranks and provoked the attack of the cavalry of the opponent. At the command of Kościuszko, Niemcewicz tried to avert danger as the head of the Brest-Lithuanian squadron. During the fight, he became wounded and was taken as a prisoner, and his unit escaped from the battlefield.

The participation, role and involvement that Niemcewicz brought to the uprising remains respectable. During the fight, he performed many military functions, mainly as the adjutant. We learn from the memories about the observer function he performed during the first siege of Warsaw, while during the battle of Maciejowice, he attacked the enemy. Despite many mentions of the participation in direct fights, one cannot present the full characterization of Niemcewicz as a soldier. It is relatively easy to describe his character. He is always perceived as an energetic, self-confident person. Undoubtedly, Kosciuszko made decisions based on the opinion of Niemcewicz. He had to enjoy the Chief's trust as a person assessing the situation on the battlefield as an expert and able to predict the next manoeuvres of the opponent. However, you cannot observe significant skills in independent commanding of troops. It is not possible for the researcher to analyse Niemcewicz's activity in terms of dealing with the duties of the adjutant. Perhaps the key question remains, how did he deal with the realities of direct combat? A number of relating questions arise. Could the attack of the Brest-Lithuanian regiment led by Niemcewicz result in favour of the Poles?

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Conclusions.

Julian Ursyn Niemcewicz inscribed himself in the pantheon of the heroes of the fight for freedom of the homeland. He fought for it with a pen, his own administrative or military knowledge. His memories will remain an important historical source showing the political life and realities of the life of the state and the Polish society. At the same time, he shows the author himself from a less important part - as an army officer. Obligatory, extremely perceptive, with professional knowledge and great charisma - this is the image of a man emerging to readers. At the same time, it

allows to indicate mistakes made by him. As he notes, in his youth, he was too optimistic. He could not reliably calculate his own strength and opponent. At the same time, he never analysed problems related to the production of weapons and ammunition in his memoirs from this period. In summary, Niemcewicz cannot be classified as capable theoreticians or senior officers ready to conduct military operations by himself. The sense of observation should be considered as his assets, thanks to which he seems to be an influential person in the head of the Chief.

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