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# SPECIFICATIONS OF THE SOURCES OF SECURING INSURANCE COMPANY'S FINANCIAL STABILITY

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**Abstract.** *The purpose* is to generalize the methodological concepts of domestic researchers in sources of insurance companies' financial stability provision. The need in developing and deepening both theory and practice upon the issues of improving financial stability of the Ukrainian insurance companies facilitated the following tasks: analysis of methodical approaches of native researchers concerning division of financial stability sources; highlighting the most important sources of securing financial stability for insurance companies; feasibility of the role and essence of each factor securing financial stability for insurance companies. *Methodology.* The study is based on the theoretical analysis of scientific works and practical activity of enterprises. Methodological basis of the article are methods of scientific cognition, which enable to expose basic conformities to the law of development of the insurance companies, priority ways to ensure their financial sustainability. Such methods are in particular used: analysis and synthesis – during research of financial stability of the insurance companies; systematizations – for revealing factors of maintenance of financial stability of insurers, their detailed analysis and definition of their interrelation; scientific abstraction – with the purpose of forming theoretical generalizations and conclusions. *Results.* The insurance sector plays an important role in the provision of critical financial services. But insurers are exposed to a number of risks and can become distressed or fail. The article examines the essence and importance of insurance company's financial stability as an important factor in the development and functioning of the insurance market. The economic essence of the general theoretical issues about the financial stability of insurance companies is reviewed and analysed. The main features of insurance companies and the factors that affect their financial stability are investigated. *Value.* The economic and social importance of insurance is such that the intervention of public authorities, in the form of prudential supervision, is generally accepted to be necessary. Not only do insurers provide protection against future events that may result in a loss, they also channel household savings into the financial markets and into the real economy. The intervention of public authorities has tended to focus on introducing the measures that seek to guarantee the solvency of undertakings or minimise the disruption and loss caused by insolvency. Therefore, the study of the legislative regulation of the factors of providing financial stability of insurance companies is of strategic importance towards creating a stable insurance market in Ukraine.

**Key words:** insurance company, financial stability of insurer, insurance company equity, reserves of insurer, reinsurance, tariff policy of insurance company.

**JEL Classification:** G 200, 220, 280

## 1. Introduction

Insurance and reinsurance companies are an important and growing class of financial market players. They are becoming ever more significant investors and intermediaries in a wide range of financial markets across the globe, bringing innovative approaches to capital markets, providing insurance coverage for financial risks, mediating in the reinsurance market, as well as developing new tools that help bridge the gap between banking and insurance products.

In particular, the gradual blending of boundaries between the insurance and other financial institutions, especially in the over-the-counter derivatives market,

entails the increasing role of the insurance industry for the systemic financial stability.

As a result, a stronger emphasis on the prudential supervision of the financial risks (as opposed to underwriting risks) will be important for ensuring financial stability.

Under market relationship, the prevailing task of analysing the company status shall be not only accounting monetary flows but also the research of its financial and economic status and financial stability. Financial stability is one of the most important features of any company status and behaviour in respect of external and internal changes.

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Security of the insurance company's financial stability is quite a complex process related to regular control of all the insurer's activities and prompt response of the company management to external and internal changes.

## 2. Research analysis and problem statement

Financial stability of the insurer and impact of various factors on its level have been displayed in numerous scientific researches of national and foreign scientists and practitioners, such as M.M. Aleksandrova, V.D. Bazylevych, V.D. Bigdash, E.N. Bochkaryova, N.M. Vnukova, N.B. Gryshchenko, N.M. Dobosh, M.G. Zhygas, O.M. Zaletov, A.A. Kudryavtseva, S.V. Lukonina, V.V. Maslenikov, O.P. Ovsak, S.S. Osadets, A.V. Palkina, V.A. Sukhova, Yu.N. Tronina, V.M. Filonyuk, O.F. Furman and many others.

Despite a variety of scientific opinions regarding essence, theory and practice of securing financial stability of insurance companies, such issues still remain not enough investigated.

## 3. Sources of the financial stability of the insurance company

Despite the large essence of financial stability of insurance company, the principal regulatory act upon insurance – the Law of Ukraine “On Insurance” has no definition of the essence of insurers' financial stability and its security terms; while only Section III of the Law of Ukraine “On Insurance” devoted to securing the insurer's solvency (in particular, Article 30) formulates basic terms to be complied with by the insurance company for the purpose of securing solvency, namely:

- Paid insurance fund for resident insurers or guarantee deposit for branches of non-resident insurers and the insurer's guarantee fund;

- Insurance reserves enough for further insurance payments and insurance reimbursements;
- Exceeding actual stock of the insurer's solvency over the estimated standard solvency stock (The Law of Ukraine “On Insurance”, 1996).
- Meantime the concept of financial stability is quite broader than the concept of solvency; thus, apart from legislative provisions, the economic literature contains the larger list of sources serving as grounds for the financial stability of insurance companies.

In practice, apart from compliance with legislation, financial stability of the insurer is grounded on the following sources:

- Enough scope of the own capital;
- Grounded tariff policy;
- Balanced insurance portfolio;
- Enough scope of insurance reserves;
- Reinsurance.

## 4. Enough scope of the own capital as the basis of financial stability of the insurers

Grounds for the insurer's financial stability are fixed just in the process of its incorporation. At this stage, the essential terms are the amount and structure of share capital required for commencement of its activity, since for the first time insurance company has no funds but share capital for the purpose of fulfilment of its obligations under insurance agreements, while insurance investments at this stage are quite small. Both in Ukraine and abroad, share capital shall be formed in the manner and under the terms prescribed by the current legislation and constituent documents. The insurer's own costs shall be formed at the expense of founders' investments as well as by means of additional share emission. The own capital shall consist of share, additional, reserve capital and undistributed profit (Fig. 1).

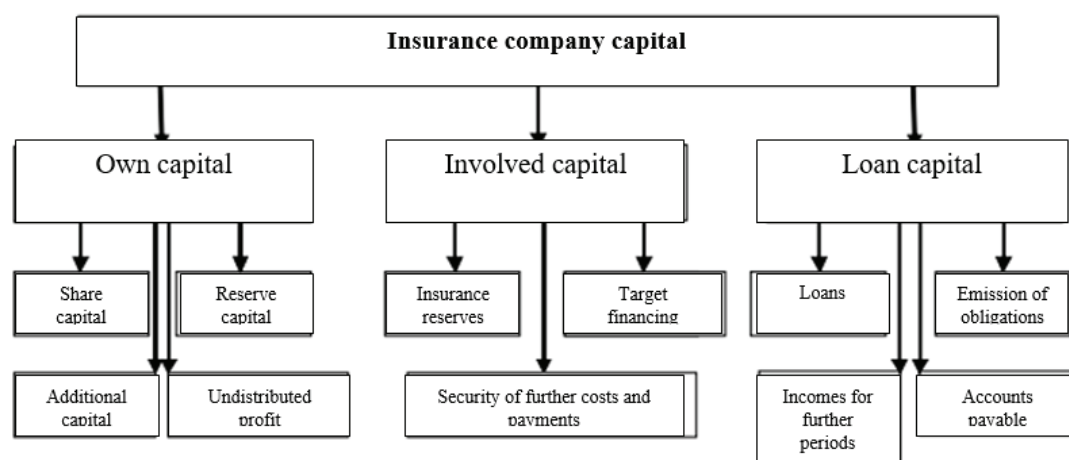


Fig. 1. Structure of the insurance company own capital

Source: made by the author based on (Bazylevych, 2008; Pikus, 2015)

Some authors believe that both own capital in general and share capital, in particular, have no essence for an insurance company, since, in order to fulfil obligations against insureds, the target insurance reserves shall be formed. In our opinion, such an approach is not correct enough. In order to secure the insurer's financial stability both in Ukraine and abroad, the law prescribes minimum share capital required for commencement of the business activity. From one hand, it concerns the fact that at the initial stage insurance company has no funds for a fulfilment of its obligations under insurance agreements, but share capital, since insurance investments are insignificant. From the other hand, a large amount of share capital facilitates more confident planning of the entity's market activity, quite large operations and the opportunity to gain competitiveness. Thus, in the process of forming the insurance organization, a principal attention shall be drawn to the amount and structure of share capital, i.e. the insurer's financial stability shall be based on the process of incorporating the company. The essence of both share capital and free reserves shall not decrease even when the insurer acts in the market for a long time. Their role in securing financial stability of the current activity is as much important as the role of insurance reserves since even the most accurate calculation of insurance reserves is a mere presumption, which even under the stable portfolio and reliable statistic grounds preserves a risk of loss fluctuation, which is unfavourable for the insurer. It may result from its unsuccessful tariff policy, undesirable changes in contract structure, devaluation of assets (stocks, real estate etc.) due to deterioration of the general economic situation, insureds' additional claims upon insurance payment the insurer deemed as settled etc. It may also occur so that the insurer, in order to support its market positions, will have to expand the range of its operation, which may result in additional risks not secured by the current insurance reserves covering obligations solely under the current contract portfolio (Slepukhyna, 2006).

Therefore, the insurer's own capital amount provides terms for optimal organization of the company's tariff, investment and reinsurance policy by means of securing the insurer's financial stability.

### **5. Reinsurance on the way of ensuring the financial stability of the insurance company**

Another term facilitating financial stability of insurance operations and ordinary activity of any insurance company is reinsurance.

The Law of Ukraine "On Insurance" determined reinsurance as insurance by one insurer (assignor, reinsurer) under the contractual terms concerning the risk of a partial fulfilment of its obligations against the insured at the other resident or non-resident (re)insurer having the status of insurer or reinsurer in compliance

with legislation of its registration country (The Law of Ukraine "On Insurance", 1996).

Authors of The Interdisciplinary Glossary of Insurance and Risk Management determine reinsurance as financial operation upon assigning the insurer's risks accepted before the insurance to another competent (re)insurer in order to provide the balanced insurance portfolio as if it secured the insurance company stability and profitability (Pikus, 2015).

The main function of reinsurance is secondary market redistribution. It means that insurance company is able to provide to the insured the insurance, which corresponds to its financial capacities. The insurer is unable to achieve such results by itself. The insurance company may fulfil its obligations by means of reinsurance, i.e. share risk between itself and another insurance company. Under reinsurance, reinsurer shall assume essential part of risk or guarantee, while the other part of risk imposed on assignor shall be treated as its own retention. Each reinsurer usually bears different shares of insurance cover; therefore, the insurer when assigning risks to reinsurer increases tenfold its abilities to accept risks.

In view of financial stability, reinsurance has at least two aspects. For the primary insurer, the ability to reinsure accepted risks shall mean strengthening its financial stability. Meantime it presumes also reinsurer's financial stability: being also the insurance organization rendering services to other insurers, reinsurer shall have enough solvency level in order to fulfil its obligations in case of insurance or reinsurance event.

Thus, reinsurance has a crucial impact on securing the insurer's financial stability.

1) First, each certain insurance type contains quite many large risks the insurer is unable to bear in full. Insurance company probably will defend itself in case of especially large risks by reducing its responsibility level as compared to accepted liabilities.

2) Second, the insurer's financial stability is under the threat of not only large risks but mass small claims. Reinsurance agreement concluded in case of catastrophic insurance event allows the insurer to avoid extreme losses. Reinsurance provides safe risk level for the company.

3) Third, reinsurance may adjust fluctuations in results of insurer's activity for several years. In particular, results of the insurance company's activity within one year may be subject to the impact of either essential loss due to numerous insurance payments caused by the single insurance event or negative results upon the whole insurance portfolio within one year. Reinsurance adjusts such fluctuations and facilitates stable results of the company's activity for several years, which is quite important for securing the insurer's financial stability.

Therefore, due to reinsurance, the insurer is able to bear most of the insurance risks. On these grounds, we may state that the more agreements the insurance company concludes the more balanced portfolio it

obtains and the fewer fluctuations its financial results face. Reinsurance provides an opportunity for the insurer to expand the list of insurance risks it is ready to bear, to cover the greater range of insurance types and to defend its assets. Reinsurance allows the insurer to insure such objects whose value or risk level increases significantly its financial resources.

Today almost all the Ukrainian insurance organizations need reinsurance. Most of the insurers do not have enough funds and are unable to bear large risks. Having assigned partially their responsibility to reinsurers, insurance organization may guarantee fulfilment of its obligations against the insureds even in a case when several large insurance events occur. Reinsurer provides economic support to insurer: from one hand, it secures financial stability; from the other hand, it expands the insurer's scope of activity.

## 6. Enough scope of insurance reserves as the basis of financial stability of insurers

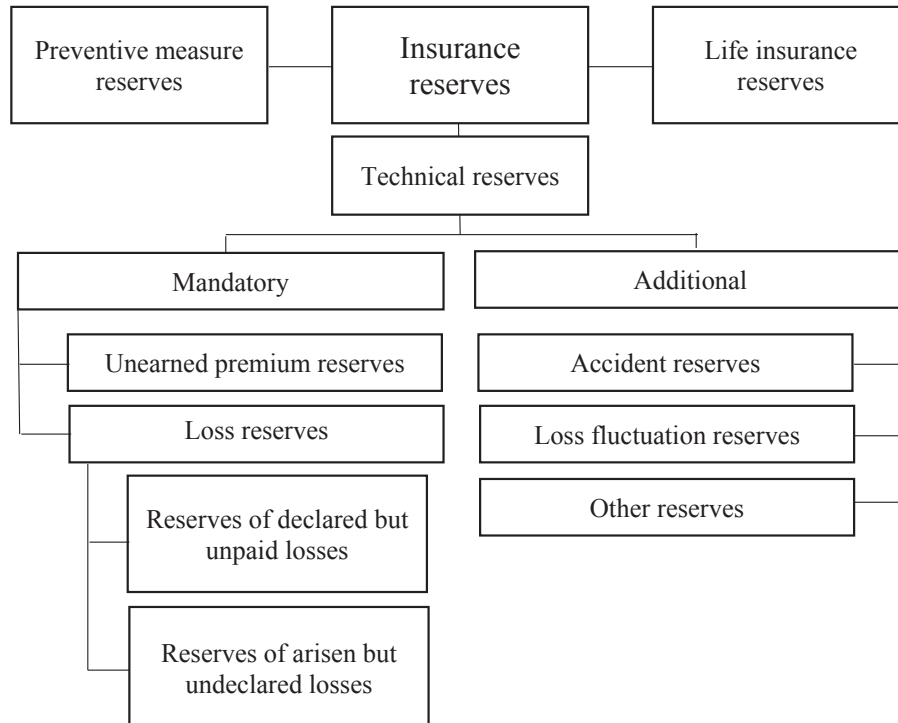
To make payments in case of insurance events, insurance organization shall have special monetary funds, i.e. insurance reserves. V.D. Bazylevych states that insurance reserves mean monetary assessment of further payments under the current insurance agreement, other than life insurance (Bazylevych, 2008).

Formation and use of insurance reserves, right and obligation whereon is imposed on insurance organizations according to the current legislation, serve as the basis for the insurer's activity and its financial stability. Financial stability, solvency of financial organization and its ability to fulfil insurance payment obligations against insureds under insurance events depend on correct calculation of insurance reserves with regards to non-fulfilled or partially fulfilled obligations.

Pursuant to Article 31 of the Law of Ukraine "On Insurance", in order to secure fulfilment of its obligations, insurance companies shall, in the manner and under the terms prescribed by the Ukrainian legislation, form insurance reserves from their insurance investments required for further insurance payments and insurance reimbursement depending on (re)insurance types.

As per the standard scheme of insurance reserve formation, each type of the insurer's obligations shall be covered by the relevant type of insurance reserve. Like in worldwide practice, the current Ukrainian classification detaches the following groups of insurance reserves:

- Under life insurance agreements (for accumulative insurance types);
- Under other than life insurance agreements (for risk insurance types);
- Preventive measure reserves (The Law of Ukraine "On Insurance", 1996) (Fig. 2).



**Fig. 2. Classification of the insurance company reserves**

Source: made by the author based on (The Law of Ukraine "On Insurance", 1996; Resolution of The National Commission for State Regulation of Financial Services Markets of Ukraine " On Approval of the Required Criteria and Standards of Adequacy, Diversification and Quality Assets of the Insurer", 2016; Resolution of The National Commission for State Regulation of Financial Services Markets of Ukraine "On Approval of the Methodology of Formation of Insurance Reserves by Type of Insurance Other Than Life Insurance", 2016)

Insurance reserve distribution in life insurance and risky types of insurance is facilitated by a different content of insurance indemnity, risk nature, functions, tasks and methods of tariff calculation.

Insurance reserve amount, provided that they conform to obligations under insurance agreements, as well as their optimal placement and proportion conformity to the scope of own costs may show the insurer's financial stability. That is why the role of the state in determining methods of insurance reserve formation is a necessary factor for securing the insurers' financial stability.

Financial stability, solvency of financial organization and its ability to fulfil insurance payment obligations against insurants depends on the correct calculation of insurance reserves with regards to non-fulfilled or unduly fulfilled obligations. If a (re)insurance company has not enough insurance reserves for insurance reimbursement, it has to make payment at its own expense. Such own expenses will form the solvency stock over the solvency provided by the established insurance reserves.

EU member states highlight seven principal factors, which impact on the insurance reserve system formation:

- Insurance organization cycle inversion;
- Insurance portfolio stability;
- Insurance portfolio risk structure;
- Insurance company organizational structure;
- Insurance company investment activity;
- Reinsurance development market level;
- Inflation.

If the Ukrainian (re)insurers comply with such principal factors, they will be able to form insurance reserves, which would facilitate their financial stability in the insurance market and will fulfil promptly their obligations against insurants and other (re)insurance companies.

Insurance reserves consist of insurance premiums payable by insurants. Insurance payment amount shall facilitate not only insurance reserve formation but also the insurer's opportunity to settle all the insurance events, to cover case proceedings costs and to gain income, as displayed in the insurance tariff structure.

Under today macroeconomic conditions, insurance organizations face more difficulties in maintaining profitability level and securing financial stability, therefore tariff policy and expense decrease become prevailing management objects for insurers.

Today the standard insurer performing the large scope of various insurance types with a small portfolio under each one faces problems regarding risk assessment on the grounds of its own experience only. It is necessary to use either valid market rates or information of large insurance companies with a large portfolio under the certain insurance type.

## 7. Grounded tariff policy as the basis of financial stability of insurers

The insurer has a lot of risks to break the stable situation caused by errors in tariff application, e.g. tariff decrease under the loss increase under the certain insurance type, or incorrect choice of the insurance portfolio structure for the certain market under other equal conditions may cause decrease or loss of financial stability. Today when insurance is performed by different insurance organizations, the rate is one of the elements of competition constantly stimulating insurers to reduce tariffs, grounded with regards to client involvement but groundless with regards to the company's financial stability. If the insurer performs single agreements under any type of insurance, tariff amount is not essential as for impact of the insurance company's competitiveness, but in such a case, in order to secure financial stability, tariff shall take into account the market loss level for the purpose of this risk assignment to reinsurance without any problems (Sukhov, 1995).

Therefore, the insurer's tariff policy optimization is quite essential in the aspect of securing its financial stability. Insurance business prosperity is facilitated merely by the quality of calculations regulating financial relationships between the insurance subjects. Incorrect tariff calculation causes a decrease of the insurance company's financial stability. In order to optimize insurance policy, the insurer shall use mathematic and statistic methods for developing algorithms of the insurance portfolio structure formation and modification, which will facilitate a sufficient defence of the insurance company from the threat of bankruptcy.

## 8. Conclusions

The financial stability of insurance companies is the main condition, through which the institution of insurance can fully carry out its multifaceted role in the social reproduction process, since it is solvency that acts as one of the main criteria when potential policyholders select an insurer, and as the basis for the successful functioning and development of the said institution.

An adequate level of financial stability of insurers is, therefore, the main condition for:

- the provision of the insurance coverage for the social reproduction and for the maintenance of the standard of living achieved by the population;
- the full and timely compliance with insurance obligations;
- the efficient and competitive functioning of an insurer in the future;
- the development of the country's economy as a whole.

The economic and social importance of insurance is such that the intervention of public authorities, in the form of prudential supervision, is generally accepted to be necessary. The intervention of public authorities has



tended to focus on introducing the measures that seek to guarantee the solvency of undertakings or minimise the disruption and loss caused by insolvency.

Thus, on the grounds of the above analysis we may conclude that financial stability of the insurance company depends on many aspects of the insurer's work organization, while their complex and simultaneous improvement may facilitate effective and stable activity of the company, which will become more confident among competitors and guarantee proper defence for its clients.

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## Мария БАЛИЦКАЯ

### ХАРАКТЕРИСТИКА ИСТОЧНИКОВ ОБЕСПЕЧЕНИЯ ФИНАНСОВОЙ УСТОЙЧИВОСТИ СТРАХОВОЙ КОМПАНИИ

**Аннотация.** Целью работы является обобщение методологических концепций отечественных исследователей на пути поиска источников обеспечения финансовой устойчивости страховых компаний. Необходимость развития и углубления теоретических разработок и практических наработок по вопросам совершенствования обеспечения финансовой устойчивости страховых компаний Украины обусловили постановку следующих задач: анализ методических подходов отечественных исследователей относительно выделения источников обеспечения финансовой устойчивости страховых компаний; выделить важнейшие источники обеспечения финансовой устойчивости страховой компании; обосновать роль и значение страховых резервов в обеспечении финансовой устойчивости страховой организации. *Методология.* Исследования проводятся на основе теоретического анализа научных трудов и практической деятельности страховых компаний. Методологической основой статьи являются методы научного познания, позволяющие выявить основные закономерности развития страховых компаний, приоритетные пути обеспечения их финансовой устойчивости. В частности используются следующие методы: анализ и синтез – в ходе исследования финансовой устойчивости страховых компаний; Систематизация – для выявления факторов обеспечения финансовой устойчивости страховщиков, их детального анализа и определение их взаимосвязи; Метод научной абстракции – с целью формирования теоретических обобщений и выводов. *Результаты.* Страховой сектор играет важную роль в обеспечении критически важных финансовых услуг. Но страховщики, в свою очередь, тоже подвержены ряду рисков и могут потерять способность отвечать по своим обязательствам. В статье рассматриваются сущность и значение финансовой устойчивости страховой компании как важного фактора развития и функционирования страхового рынка. Экономическая сущность, общие теоретические вопросы о финансовой устойчивости страховых компаний рассмотрены и проанализированы. Основные характеристики и факторы, влияющие на финансовую устойчивость страховых компаний исследованы. *Значение.* Экономическое и социальное значение страхования таково, что вмешательство органов государственной власти, в форме пруденциального надзора, является общепризнанным необходимым

фактом. Роль страховых состоит не только в способности обеспечить защиту от будущих событий, которые могут привести к убыткам, а также перераспределении сбережений населения в финансовые рынки и в реальный сектор экономики. Вмешательство органов государственной власти, как правило, сосредоточены на внедрении мер, которые призваны гарантировать платежеспособность предприятия или минимизировать разрушения и потери, вызванные неплатежеспособностью. Таким образом, изучение законодательного регулирования факторов обеспечения финансовой устойчивости страховых компаний имеет стратегическое значение на пути к созданию стабильного страхового рынка в Украине.

## MODERN MARKETING CONCEPTS AS THE BASIS FOR FORMATION AND INCREASE OF THE ATTRACTIVENESS OF CITIES AND TERRITORIES

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**Abstract.** Instruments of formation and increase of attractiveness of the territory within the framework of modern marketing conceptions, the role of marketing complex elements in shaping the attractiveness of the territories are examined, separate economical categories, forming notional instrument of the attractiveness of the territories are specified and proposals concerning the directions of marketing efforts are formulated. *Methodology.* Theoretical and methodological basis of the research is the work of scientists on marketing problems of the city, theory of I. Budnikevych, identifying the characteristics of territorial marketing (municipal, city marketing) within industrial, commodity, sale, classical, social-ethic and partnership conceptions. The authors used the combination of following methods in the process of scientific investigation: method of generalization and scientific abstraction – for concrete definition of notional-categorical apparatus; analytical monographic method – to represent scientific thoughts on the directions of marketing instruments application in the processes of territorial attractiveness management; comparative analysis – to find out the peculiarities of marketing instruments and methods use within the limits of different concepts and at different stages of territorial development. *Practical value.* It was defined that territorial marketing system allows to expand traditional approaches to the policy of regional and local authority's attractiveness, supplementing them with modern components and characteristics. Nowadays, the instruments of situational conceptions are still actively applied by homeland and foreign territorial marketing practice, sale conception in particular, which stipulates the direction of territorial authorities' activity to satisfy territorial needs. The instruments of modern territorial marketing conceptions allow to form and increase the attractiveness of territories for defined target audiences. Using the instruments of municipal marketing social-ethic conception one can focus target audiences' attention on social, ecological and economical territorial attractiveness ensuring stable territorial development. Territorial marketing within the framework of partnership conceptions as the philosophy of territorial (region, city) functioning based on the formation, support and development of mutually beneficial long-term relations between the participants of interaction will create new common values, obtaining and sharing advantages of this activity. The development of the relations between territory and its target audiences defines and forms the basis of the environment to make decisions as to the habitation, visiting, conducting business, investment etc., i. e. forms specific territory's (country, region, city, settlement) attractiveness. *Novelty.* On the basis of this research the authors proposed to consider marketing approach to territorial (regional, urban) attractiveness as a transition to long-term development in the field of systematic management on the basis of consumers' demands orientation and partnership, clear definition of target audience and its demands, flexible regional policy, applying both traditional and non-traditional instruments to form, improve, support and, sometimes, decrease the attractiveness of territory with demarketing means. *Conclusions.* It has been determined, that according to marketing approach, the attractiveness of the territory is – the ideas total about properties and features, factors and conditions, limits and possibilities, means and instruments, providing satisfaction and the perspective of increase of target audiences' needs while they choose a proper region for activity and organize their loyalty towards the territory (region, city). Marketing policy of the attractiveness of territories is proposed as a complex of measures aimed at attracting target audience's attention, it's being worked out and realized by territorial bodies (members of the community take active part) and it is the element of territorial programs and development strategy. Marketing efforts should be fixed on the increase of territorial attractiveness not only for the inhabitants but for other target groups – tourists, visitors, investors, population and entrepreneurs from other cities, subjects of regional, national

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and international levels. Investment, settlement, social, business, innovation, tourist and educational attractiveness will favour long-term partnership formation with target audiences. Marketing instruments ensure long-term relations, helping to increase and transform territorial image, provide loyalty of all the subjects, objects and contact territorial audience, and they are one of the most complex and effective mechanisms of formation and increase of the attractiveness of territories, their promotion in internal and external social-economic environment.

**Key words:** marketing conceptions, city marketing, municipal marketing, classical marketing conception, social-ethnic marketing conception, relationship conception, marketing techniques, marketing influence, attractiveness of territories, marketing approach, marketing policy of attractiveness.

**JEL Classification:** A11, R19, P49

## 1. Introduction

The quality of urban development management in new conditions of postindustrial society and further development of economical knowledge demands focusing on the newest approaches in such management organizations. Managerial efforts should be oriented on target audiences demands, urban resource potential and mostly based on intellectual, informative, managerial, cultural-patriotic and national-ethnic needs. The necessity to form the systems of territorial (regional) management focused on target audiences demands satisfaction and economic, ecological, social, cultural factors balancing, defines actuality of marketing approach to this kind of management.

Marketing as the system of principles and mechanisms, the complex of means and instruments aimed to learn consumers' needs and involve them into the process of socially useful values creation gives the opportunity to form a qualitative new territorial product, to provide the system of functioning and further stable development of all public institutions and local authorities with a new content. These institutions are aimed at providing urban social economic development and obtaining social economic effect (the increase of population's well being and living standards, comfortable living conditions, formation of favourable entrepreneurship and investment environment etc.).

According to the marketing approach the territory attraction is a reflection of the degree of satisfaction of the needs and expectations of target audiences. Attractiveness is a potential of the territory from the viewpoint of the satisfaction degree and perspective growth of the needs of target audiences in case of their choice of territory (city, region, country) for activity (visiting, habitation, investment, etc.) taking into account the objectives and their capabilities. Based upon the priority target audiences and their needs there are made not only reasonable decisions in territorial management, but also territorial development strategies are developed.

The problem of territorial attraction, its formation, evaluation and increase is reflected in scientific works by A. Asaul, I. Blank, V. Hramotnev and N. Bobrytska, N. Bryukhovetska, V. Demydovych, S. Zelenskyi, M. Lesechko, O. Mykhailenko, M. Oklander,

O. Yastremska, V. Hob and many others. Marketing approach to territorial attractiveness is analysed in the works by I. Budnikevych, M. Butko, V. Vakulenko, D. Vizgalov, V. Homolska, F. Kotler, O. Lashchenko, T. Metaksas, M. Oklander, O. Pankrukhin, E. Romat, T. Sachuk, D. Haider. At the same time, the notion "attractiveness as marketing influence object" is not clearly defined, the statements connected with the policy of marketing attractiveness are not formulated, marketing tools characteristic to modern marketing conceptions are not identified.

The aim of the article is a consideration the tools of formation and increase of territorial attractiveness within the framework of modern marketing conceptions, the role of marketing complex in the formation of territorial attractiveness will be discussed. Some economic categories formulating the notion of territorial attractiveness are specified; the offers to direct marketing efforts are formulated.

The concept of territorial marketing is considered as an effective tool to maximize the efficiency of territorial management, aimed at: meeting the needs of internal and external subjects of the territory in public goods, services, ideas; increase of the territory attractiveness (for habitation, for visiting, for activities, for investment); solution of the problems that most local authorities can not cope with traditional management methods; preservation of existing and formation of new competitive advantages of the territory; achievement of sustainable development of territorial systems; partnership development and harmonization of interests of socio-economic relations participants.

## 2. Marketing concepts and the territorial policy

In the works by I. Budnikevych (Budnikevich, 2012) the characteristics of territorial (municipal marketing, urban marketing) within the framework of manufacturing, trade, sale, marketing in particular (classical), social-ethnic and partnership conceptions are identified. Each of the conceptions can be used at different stages of territorial development, extending the tasks and fields of marketing usage, changing its tools and methods. Thus, big cities of Ukraine have already started to realize the conceptions of classical

marketing. Middlesized cities either finish to realize sales conception and form prerequisites of transformation to marketing conception or develop new advantages to involve economical agents to the city. Small towns mostly search for their own position within the goods conception or activate sales conception actual due to investors' migration out of big cities to more available land areas. The definition of marketing concept and systematic usage of its tools by territorial authorities allow to intensify the development of the territory (city, region).

Territorial marketing system allows to extend traditional approaches of regional and local authorities' policy, supplementing them with modern elements: image formation and development, complex attractiveness formation, target audiences eliciting and consecutive orientation on their needs satisfaction, ecological and social determination, the partnership of authorities and private business. Every member of territorial community and the subject of regional economy has his own opinion on desirable territorial attractiveness and it is important to achieve adequate consensus and social agreement towards aims, strategies, approaches, tasks, values, events, mechanisms of territorial development.

Marketing policy of attractiveness is a set of measures aimed at attracting the attention of target audiences to a certain territory (country, region, city, tourist territory, etc.), is developed and implemented by the territorial authorities with the active participation of community members and as a part of territorial programs and development strategies influences on business, investment, innovation, tourism, social, migration, environmental infrastructural attractiveness of the territory. This policy forms favorable business and innovative environments, it determines the income and direction of investments, tourist flows, qualified professionals and workers, it attracts the creative class to the city, reduces the outflow of local people from the region, especially the young and the middle class etc.

Territorial marketing allows to realize in practice the idea of social partnership, when interaction, approaches of social subjects to joint decisions of the tasks on the basis of balance, consensus, regulating society united by mutual values, becomes the main idea (Sachuk, 2009). Among the examples of conceptual practical realization of marketing in particular is Dresden's (Germany) "masterplan" promotion (Vizorek, 2010). Three interested parties take part in Dresden marketing simultaneously: local business communities, tourist agencies, municipal and local administration representatives managing all the processes. Alongside with that all main stockholders are involved into common work to realize innovative ideas. At the first stages the main task is to strengthen Dresden image as the city with attractive culture and economy, target audiences here are investors (tourists and local people).

O. Vizorek (Vizorek, 2010) presents a lot of marketing programmes realized in Dresden: The creation of city guide-book, the launch of the programme "November boredom overcoming", including numerous cultural and art events (115 disk jockeys and orchestras took part in the party "Unity. Dresden. Night"). A part of these events were aimed at establishing the connections with neighbouring countries – Czech Republic ("The Days of Czech culture"), Poland; organization of family leisure (the project "Children in the city"); the programmes of involving the students from other countries and regions (to help the talented youth in their studying and future work). Further stages of Dresden marketing programmes were connected with the realization of marketing partnership conception, allowing to unite all the stockholders into one common chain.

Marketing tools provide necessary informational resources, close cooperation of the departments responsible for foreign relations, public relations and city promotion with other departments, deputies, regional and state authorities. They help to establish interactive connections with all target audiences (population, investors, business), to form adequate distributing policy connected with available municipal services, to realize effective price forming methods, to produce new kinds of services, to change employees' organizational culture.

### 3. The attractiveness of the territory and marketing tools

Nowadays in the practice of domestic and foreign territorial marketing the tools of sales conception are still actively used. It predicts directed activity of territorial authorities to satisfy the needs of external and internal subjects for territorial investment attractiveness increase. The orientation on sales conception of territorial marketing is actively applied to attract new companies and trade chains of national and international format into the region or city, to increase territorial attractiveness for legal entities to invest assets and expend their market share, and for the population to realize labour potential, and for tourist territories promotion into new markets.

Workshops are an interesting instrument of the increase of states and regions' attractiveness. For example, a representative office of the Ministry of Tourism of Israel in Ukraine alongside with the hotel Association of Jerusalem and Tel-Aviv, with the assistance of Tel-Aviv municipal Tourist office and the Company on the development of Jerusalem held in 2016 a workshop "Jerusalem and Tel-Aviv: two capitals – one country" (Israel is getting..., 2016), where they represented the program "City Break Jerusalem" as well. This program is produced especially for the tourists having arrived for more than three nights and can save greatly on the

account of this proposal. In our opinion this experience is valuable for Chernivtsi city, the tourism of which is mostly positioned as a one-day tourism.

Marketing usage in this conception and those mentioned above (industrial, trade) is based on the complex of technical methods, skills and actions which can be successfully “sold”, for example, specific territorial characteristics (especially geographic position, its resources, special objects making the territory more attractive for investors, tourists, visitors etc.). However, marketing activity within the framework of situational conceptions isn't of systematic character, marketing factors are underdeveloped, and the results of marketing research are understood as recommendations rather than the basis of territorial development strategies.

Discourses “city for tourists”, “city for investors” are rather risky, as total enthusiasm of territorial authorities (state authorities of higher level as well) concerning the strategies of increasing tourist and investment attractiveness of the country, region or city focused on external target audiences, can worsen living conditions and entrepreneurship activity of the territorial community (the pressure on public utilities increases: scavenging, watersupply and drainage system, gas and electric circuit, transport and its emissions into the air etc.). It can decrease local investors' activity (unjust access to resources, more favourable conditions, lower expenses for foreign investors), change the attitude towards tourists (in western press the so-called “Paris syndrome” was discussed not once. They mean unkind attitude of Parisians to tourists from Japan. This fact forced local authorities to work out additional programs to increase Paris tourist attractiveness. Foreign tourists can apply to police officers who are able to speak two languages (there's an emblem of the state flag, representing the language of the country on their uniform). The policemen are ready to give necessary additional information (help to find the way to places of interest) and answer more delicate questions concerning theft or assault. Active also is the program S. A. V. E. (Systeme d'Assistance des Victimes Etrangeres, the system of help to suffered foreign tourists, available in 16 languages).

For such target audience as investors the most adequate tool is personal (direct) sale – “from person to person” (P2P). Personal contacts between local authorities, local business, consulting companies, scientists are the tools potential investors prefer (Budnikevich, 2012). The increase of ukrainian cities and regions' investment attractiveness is possible only under the conditions of efficient work with investors (quickly, accurately, in a creative way), working out the events to return their trust, organizing the system of studying territorial marketing and branding for the authorities' representatives of different levels.

The tools of territorial marketing modern strategic conceptions allow to form and increase territorial

attraction. According to a classic approach, territorial marketing as the philosophy of territorial management defines and satisfies target audiences' needs through long-term competitive advantages' formation and the definition of prior approaches to develop territorial attraction. Philosophy of municipal bodies' functioning, based on social, ecological and economic attractiveness and provision of stable territorial development is founded on municipal marketing social-ethic conception.

Territorial marketing within the framework of partnership conception – is the philosophy of territorial (region, city) functioning, based on the formation, support and development of mutually beneficial long-term relations with the participants of this process, the aim of which is to create new common values to satisfy key needs of specific target audience, i.e. to form attractiveness. Marketing product consists of almost the same elements, but the demands to each element's characteristics depend on target marketing peculiarity. For example, population's demands in changing places provide public transport, pedestrian zones, parking places, airport, railway station are important for tourists and guests. Business demands to develop transport corridors, customs terminals, by-pass highways etc. Real property is useful for the population, industrial and commercial property is important for entrepreneurs, accomodations – for tourists, development for investors. Tourists evaluate natural resources available for rest and recreation, but antreprenuers appreciate all natural resources etc.

City pricing attractiveness for guests and tourists is defined by the content of their consumer basket having a lot of modifications. “ECA International Worldwide Cost of Living Ranking” ([www.eca-international.com](http://www.eca-international.com)) is held two times a year – in spring and autumn, standard consumer basket is evaluated for goods and services (the prices for 125 kinds of basic goods and servises, cost of livind included) bought by foreigners in 450 largest cities of the world. Mercer's “Worldwide Cost of Living survey” ([www.mercer.com](http://www.mercer.com)) includes fewer cities (209 cities in 2016, among them the most expensive in 2016 became Hong Kong, Kyiv occupies 176th place, among the cities of the former USSR the cheapest cities for habitation are Bishkek and Minsk). Mercer's survey is focused on large transcontinental corporations paying wages to their employees abroad, and the persons with high income. But there are different criteria of purchasing power for tourists. According to tourist portal Price of Travel ([priceoftravel.com](http://priceoftravel.com)), european tourist “econom” basket includes such expenses as the price of accomodation per night in the cheapest hotel, motel or hostel, the cost of meals three times a day and two rides in public transport, visiting one of the city sights and three not expensive local beers or wines. The portal composed three star rating among the cities for an average tourist

who neither economizes nor makes whoopee. It comprises: the cost of DBL accomodation per night in the cheapest three star hotel with good location and favourable comments, two 3 kilometer rides by taxi, cost of visiting of one of the city sights, meals in an inexpensive restaurant three times a day (drinks included, for abstainers – dessert or a local concert performance). According to the survey of 2015, Swiss Zurich has become the most expensive european city for tourists. Top five included Venice, Helsinki, London and Bergen. The cheapest city appeared to be Ukrainian Kyiv. Like the latter, Bucharest, Krakiv, Sophia and Belgrade were referred to as budget places for recreation. In 2011 searching system TripAdvisor started rating of the most expensive cities for travelers (<https://www.tripadvisor.ru>). They took into consideration the cost of accomodation in a 4 star hotel per night, pizza with cheese, onedry martini and 8 kilometer ride by taxi. The capital of Ukraine traditionally occupies high places in this rating.

Pricing attractiveness of entrepreneur sector is connected with the necessity to pay taxes (if state taxes don't depend on the city, local taxes, duties and payments have enough regulative influence), to hire employees of adequate qualification (expensive qualified workforce is an important vector of modern city development, forming consumers' demand for business product, and on account of savings allows financial sector to form investment resourses, expenses for public utilities, payments connected with running business (registration, functioning, liquidation). The regulation of prices, tariffs, income duties, licencing, benefits, subsidies, preferences, imposing penalties, granting preferential credits and secured loans are the instruments of pricing marketing policy, concerning urban business sector. Though, setting prices, for example, for hotel accomodation, is not local authorities' duty, there are some methods allowing them to regulate this field as well. For example, the creation of preferencies to open inexpensive hotels (hostels), free information about hotels with reasonable prices in local tourist informational centres, the issue of a tourist ticket (Vienna ticket gives public transport preferences, those of visiting city attractions, Vienna Opera, visiting cafes, national restaurants etc.).

The quality of municipal management influences territorial products price. Negative emotions, arising from bureaucracy counteraction, the time lost in the local departments, decrease its attractiveness (Chernaya, 2005). It is very important to solve the problem of business expences working on municipal projects or their evaluation by local administrations, concerning credit granting, warranting, to create the conditions of investment attractiveness increase. Qualified management can form such conditions even if there are no resource prerequisites.

#### 4. Promoting the attractiveness of areas

Before promoting the attractiveness of a territory it's necessary to understand its essence. We wholly agree with D Vizgalov, that "marketing for marketing" (Vizgalov, 2008) pursuing modern tendencies, has no sense. Urban community must clearly realize what should be changed in its life as a result of marketing, that's why, it's necessary to define the strategies of urban development, specific model of its future, reflecting corresponding municipal marketing conception.

To announce the city "innovative directed" without involving high technological firms, qualified employees, financial resources – is usual practice of homeland cities, strategic aims of which have innovative tinge, keeping pace with time. High salary, comfortable living conditions a specialist can get in a big city, these are classical competitive advantages (it is not marketing business, marketing can speak about it), but to transform city's disadvantages into strong points – is marketing task: to transform city's provinciality into kind atmosphere, small dementions into compact infrastructure, absence of industrial production into ecological habitation, even low level of public transport development can become the basis for development, for example, the projects "urban bicycle", "a shop round the corner", "city promenade zones" etc. Strategic aim of all Ukrainian cities is to get the status of "tourist Mecca". But a question arises: "For what target audiences?"; that's to say, the question of who we shall focus on is delayed. Though, it's this question that is significant in territorial marketing, because different marketing tools influence different target audiences. For example, to sell mass tourist product, it doesn't matter to whom, is the main task within the framework of premarket conceptions. Segmentation of specific target audiences happens within classical conception. For each audience the tourist product is worked out, the impressions are formed, adequate communicative means are chosen, varied prices are set, the attention is paid to logistic availability, the question of further visiting starts to be actual, social-ethic conception is forming "creative" tourist product, connected with events, ecological, ethic, comfort characteristics, additional social oriented value. Partnership conception actualizes interactiveness of tourist product, tourist's ability to influence its quality, quantity, characteristics, creates the efect of attraction on the basis of interaction with urban museums ("International Club of Hermitage Friends", "Great Karlovy Vary Forum"), municipality (different programs aimed at distance shortening between atourist and a resident, for example, through street performances).

Territorial marketing within the framework of modern conceptions should actively use new media platforms (social networks; microblogs; social networks' aggregation; event sites; informational sites; informational aggregators; social news sites;

social layings; comment sites; reviews; opinion sites; communicators) and base on electronic informational technologies; computer data fixing product price communicative advantages of target markets and their profile. These technologies allow a city to analyse marketing, collective specific information about consumers, form individual oriented product of the city.

Within the framework of partnership conception such factor of marketing mix as performance is also activated – presentation of municipal products to interested groups and persons. The tools of this process are: direct translation of local authorities' meetings, mayor's public report; presentation of project results, marketing research, debates, round tables, talk show, press tours, public auctions and tenders, public hearings, charity events etc. For example, NY mayor Michael Bloomberg presented personally city budget three times: for local council, for other officials, for the press. Logic is simple: if the audience is aware of the forces moving local economy, it is possible to make clear tax and budget priorities. Mayor's meetings and personal contacts help to establish relations with different initiative groups and public organizations.

Nowadays the management function, important for classic marketing, stipulates not only marketing decision management, but rather the management of interrelations between local authorities, population, business, visitors and other target audiences of the city. Management function modification for the benefit of interaction gave chance, from communicative positions, to have a look at the technology of marketing as the mutually beneficial process of establishing, support and improvement of interrelations with buyers and other subjects to satisfy the aims of the parties of the operation. It's worth stressing, that the conception of marketing interrelation involves not only specialists in this sphere, but all municipality personnel, including higher authorities (mayor, executive committee, city council deputies). Thus, municipal marketing actualizes technologies of internal marketing, connected with hiring, studying and stimulating municipal employees to grant high level facilities to population, tourists and visitors, entrepreneurs and investors, public organizations etc. There appears also an integrant function within the partnership conception of municipal marketing, it allows to harmonize separate actions and tools with the aim to guarantee composite nature of territorial programmes and strengthening of attractiveness policies.

Marketing instruments form long-term relations, favourable to increase and transformation of territorial image, provide all subjects' loyalty, objects and contact audiences of the territories (including other cities, regions and countries). They are one of the most complex and effective mechanisms of forming and increase of attractiveness of the territory, its promotion in internal and external social-economical area.

## 5. Conclusions

The system of territorial marketing allows to widen traditional approaches of regional and local authorities' policy, supplementing them with modern elements and characteristics.

According to the marketing approach the territory attraction is a reflection of the degree of satisfaction of the needs and expectations of target audiences. Attractiveness is a potential of the territory from the viewpoint of the satisfaction degree and perspective growth of the needs of target audiences in case of their choice of territory (city, region, country) for activity (visiting, habitation, investment, etc.) taking into account the objectives and their capabilities. Based upon the priority target audiences and their needs there are made not only reasonable decisions in territorial management, but also territorial development strategies are developed.

Marketing policy of the territory attractiveness is a set of measures aimed at attracting attention of target audiences to a certain territory, it is developed and implemented by the territorial authorities with the active participation of community members and is an element of territorial programs and development strategies. In our opinion, it is necessary and possible to make the transition from situational concept of territorial marketing in Ukraine, where the goal is, for example, "earning the status of tourist city" or "attracting foreign investment", to strategically oriented concepts which are aimed at: in the classical concept – the status of a comfortable city for visiting, habitation, education, management, implementation of capabilities, investment; in the social and ethical concept – environmentally, economically and socially sustainable city; in the concept of interaction – a partnership based on long-term relationships.

The marketing approach to the territory attractiveness in our opinion, should be seen as a transition to a long-term systematic management of territory development, based on a client-orientation and partnership, clear definition of the target audiences and their needs, formation of flexible regional policy, using both traditional and non-traditional tools for improving, maintaining, and sometimes decreasing attractiveness of the territory. Marketing efforts should focus on building a complex of long-term stable benefits, aimed at increasing the attractiveness of territorial product compared to other territories, not only for residents but also for other target groups – tourists, visitors, investors, population and entrepreneurs of other cities, subjects of regional, national and international level. Competitiveness of territories, in this case, provides with complementary social, business, investment, innovation, recreation, tourism, education, financial attractiveness, which will promote establishing the long-term partnerships with target audiences.



As long-term issues that we are going to examine in our further studies are demarketing or counter marketing tools that will be directed on undesirable, for certain territories, target audiences (enterprises

that reduce the ecological compatibility of territory, unfair investors, antisocial projects, sales of harmful products; radical organizations, etc.) and crisis marketing.

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## Ирина БУДНИКЕВИЧ, Ирина ГАВРИШ

### СОВРЕМЕННЫЕ КОНЦЕПЦИИ МАРКЕТИНГА КАК ОСНОВА ФОРМИРОВАНИЯ И ПОВЫШЕНИЯ ПРИВЛЕКАТЕЛЬНОСТИ ГОРОДОВ И ТЕРРИТОРИЙ

**Аннотация.** Рассмотрены инструменты формирования и повышения привлекательности территорий (регионов, городов) в рамках современных концепций маркетинга, роль элементов комплекса маркетинга в формировании привлекательности территорий, уточнены отдельные экономические категории, которые формируют понятийный аппарат привлекательности территорий и сформулированы предложения по направлениям маркетинговых усилий. *Методология.* Теоретическими и методологическими основами исследования является работа ученых по проблемам маркетинга города, теория И. Будникевич согласно которой идентифицированы характеристики территориального маркетинга (муниципального маркетинга, маркетинга города) в рамках ситуативных и стратегических концепций. Авторы в процессе научного исследования использовали комбинацию из следующих методов: обобщение и научной абстракции – для конкретизации понятийно-категориального аппарата; монографический метод – для представления мнения ученых по направлениям применения маркетинговых инструментов в процессах управления привлекательностью территорий; сравнительный анализ – для выявления особенностей использования инструментов и методов маркетинга в рамках различных концепций и на разных этапах развития территории. *Практическая ценность.* Было установлено, что система территориального маркетинга позволяет расширять традиционные направления политики привлекательности региональной и местной власти, дополняя их современными элементами и характеристиками. Сегодня в практике отечественного и зарубежного территориального маркетинга еще активно применяются инструменты ситуативных концепций, в частности сбытовой концепции, которая предусматривает ориентацию деятельности территориальных органов власти на удовлетворение потребностей внешних и внутренних субъектов для повышения инвестиционной привлекательности территории. Инструменты современных стратегических концепций территориального маркетинга позволят сформировать и повысить привлекательность территорий для определенных целевых аудиторий. Используя инструменты социально-этической концепции муниципального маркетинга можно акцентировать внимание целевых аудиторий на социальной, экологической и экономической привлекательности территории и обеспечить устойчивое развитие территории. Территориальный маркетинг в рамках партнерской концепции, как философия функционирования территории (региона, города) основанная на формировании, поддержании и развитии взаимовыгодных долгосрочных отношений с участниками процесса взаимодействия, позволит создать новые общие ценности, получать и распределять выгоду от этой деятельности. Развитие отношений между территорией и ее целевыми аудиториями определяет основу и формирует среду для принятия ими решения о проживании, посещения, ведение бизнеса, инвестирования и т.д., то есть формирует привлекательность конкретной территории (страны, региона, города или другого населенного пункта). *Оригинальность.* На основании этого исследования авторы

предложили рассматривать маркетинговый подход к привлекательности территории (региона, города) как переход к долгосрочному развитию и системному управлению, на основе клиент-ориентированности и партнерства, четкого определения целевых аудиторий и их потребностей, гибкой региональной политики, используя как традиционные так нетрадиционные инструменты для формирования, улучшения, поддержки, а иногда и для уменьшения привлекательности территории средствами демаркетинга. *Результаты.* Определено, что в соответствии с маркетинговым подходом, привлекательность территории это совокупность устойчивых представлений о свойствах и признаках, критериях и условиях, возможностях и ограничениях, средствах и инструментах, которые обеспечивают удовлетворение и перспективу роста потребностей целевых аудиторий при выборе ими данной территории (региона, города) для активной деятельности и формируют их лояльность. Предложено понимать маркетинговую политику привлекательности территории как комплекс мероприятий, направленных на привлечение внимания целевой аудитории к определенной территории, она разрабатывается и реализуется территориальными органами управления при активном участии членов сообщества и является элементом территориальных программ и стратегий развития. Маркетинговые усилия должны быть сосредоточены на повышении привлекательности территории не только для жителей и бизнеса, но и для других целевых групп – туристов, посетителей, инвесторов, населения и предпринимателей других городов, субъектов регионального, национального и международного уровней. Инвестиционная, поселенческая, социальная, деловая, инновационная, туристическая, образовательная и др. привлекательность будет способствовать установлению долгосрочных партнерских отношений с целевыми аудиториями. Маркетинговые инструменты формируют долговременные отношения, которые способствуют повышению и трансформации имиджа территории, обеспечивают лояльность всех субъектов, объектов и контактных аудиторий территории, является одним из наиболее комплексных и эффективных механизмов формирования и повышения привлекательности территорий, ее продвижения во внутреннем и внешнем социально-экономическом пространстве.

# FINANCIAL INSTRUMENTS OF THE STATE POLICY FOR THE PREVENTION OF TERRORIST ACTS IN UKRAINE

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**Abstract.** *The article's objective* is to determine the mechanism for implementing the financial instruments of the state policy to counter terrorist acts in the territory not controlled by Ukrainian authorities in Donetsk and Luhansk regions. *Methodology.* Within the scientific research, for the most effective approaches at the national level to prevent the threat of international terrorism, under the conditions of the deep internal political crisis and extremely difficult economic situation, in order to improve the efficiency of public administration in developing and implementing the anti-terrorism state policies in Ukraine, the paper analyses international and domestic regulations on preventing the terrorist financing, considers factors that affect the deterioration of the social and economic situation of the temporarily occupied parts of Donbas. *Results of the research* allow formulating the definition of financial instruments of antiterrorist policies, the paper develops and proposes a series of organizational measures in order to prevent the terrorist financing in Ukraine. *Practical implications.* Based on the above, we propose an option of classification of main illegal mechanisms that may be used to finance terrorist activities in the territories of Donetsk and Luhansk regions uncontrolled by Ukrainian authorities, dividing them into internal and external. Given the above studied factors and classification of financing of terrorist acts in eastern Ukraine, we can assume that for the purpose of evading duty payable to relevant state bodies of Ukraine, external supplies of inventories in the uncontrolled areas of the Donetsk region, which are later obtained by illegal armed groups, are possibly carried out as follows: on behalf of a commercial entity registered in a foreign country for the Ukrainian commercial entity, registered in settlements located in the uncontrolled territory; crossing of international transit traffic that moves through the Russian Federation checkpoints of the Ukrainian-Russian border on the uncontrolled Ukrainian territory. *Value/originality.* We have concluded that the introduction of financial instruments of the state policy to counter terrorism will bring the following positive results: ensure systematic implementation of the state policy in the prevention and counteraction to legalization (laundering) of proceeds from crime or terrorist financing; enhance a compliance of the national system of combating legalization (laundering) of proceeds from crime or terrorism financing with the international legal standards; improve inflow of foreign investment in order to stimulate the national economy. However, the effectiveness of the above measures should be determined in accordance with the principles of economic analysis of the state policy.

**Key words:** money laundering, state anti-terrorism policy, policy instruments, financial and economic mechanism, terrorism financing

**JEL Classification:** R13, K14, P16, H72, J18

## 1. Introduction

The search for the most effective approaches at the national level to prevent the threat of international terrorism, the identification of promising vectors of international cooperation in this area gain a particular importance for Ukraine, which is forced to rethink its external positioning and the previously declared nature of the strategic partnership in the conditions of deep internal crisis and extremely difficult foreign policy situation due to the events in the East of Ukraine and in Crimea.

In this sense, the emergence of programs to finance the fight against terrorism in a number of countries, including the improvement of measures to combat terrorist financing, attracts attention. In the future, the process of implementing reforms in the country, particularly in terms of the EU-Ukraine Association Agreement (Law of Ukraine N 1678-VII, 2014), provides for anti-terrorism cooperation based on the performance of UN Security Council Resolution N 1373 of 2001, the UN Global Counterterrorist Strategy 2006 and other UN documents (Portal UN SC) and

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the relevant international conventions and regulations, thus envisaging the deepening of cooperation in order to combat money laundering and financing of terrorism within the operation of the Financial Action Task Force (FATF).

According to the above, Ukraine should join the international practice of preventing the terrorist financing that will significantly reduce the risk of terrorist attacks with minimal costs.

Thus, at the date, scientists, politicians, and economists are facing an urgent need to develop and implement effective financial and economic measures to overcome the terrorist acts through the regulation of the hybrid military conflict in Donbas by the antiterrorist legislation.

The purpose of the article is to determine the mechanism for implementing the financial instruments of the state policy to counter terrorist acts in the territory not controlled by Ukrainian authorities in Donetsk and Luhansk regions.

## 2. Recent research and publications analysis.

A significant contribution has been made by such prominent domestic and foreign authors as A. Abadi, J. Gardeazabal, A. Vining, D. Weimer, M. Viscusi, Kh. Liang, O. Kiliievych, A. Mertens, I. Rozputenko, J. Stiglitz and others. The key attention of the authors has been paid to the analysis of social and economic factors of terrorism, financing sources, and analysis of the state policy, in particular, an efficiency of measures to protect from transnational terrorism at the national and international levels.

They have also introduced the concept of catastrophic risk from terrorism in the standard model of endogenous growth and analysed the effect of increased terrorist risk in accordance with the positions of countries on foreign direct investments. Thus, in the integrated global economy where international investors are able to diversify other risks, terrorism can cause a large movement of capital between countries (Abadie, Gardeazabal, 2006).

At the same time, scientists believe that the creation of modern forms of terrorism is brightly demonstrated by the creation of the Islamic State, the richest terrorist organization in the history with the estimated wealth of 2 billion US dollars. This has been caused by the ability of the Islamic State to take control over the autonomous territory and reign it by using the marketing tools of the 21st century to create an international brand in the strategy of attracting foreign soldiers (Schori Liang, 2015). Therefore, some international financial and economic tools, particularly to counter the Islamic State, in our opinion, may be useful when overcoming the financial problems associated with terrorist manifestations in Ukrainian Donbas.

## 3. The paper main body

The Law of Ukraine "On Prevention and Counteraction to Legalization (Laundering) of Proceeds from Crime or Terrorist Financing" states that the state financial monitoring is a set of actions taken by state financial monitoring units designed to meet the requirements of the law on the prevention and counteraction to legalization (laundering) of proceeds from crime terrorist financing (Law of Ukraine N 1702-VII, 2014).

The regulatory law also states that the main objectives of state financial monitoring units as a specially authorized body are to implement the state policy in combating legalization (laundering) of proceeds from crime or terrorist financing.

Thus, on the demand of the implementation of Article 18 of the abovementioned Law of Ukraine, by Decree No. 1407-r dated December 30, 2015, the Cabinet of Ministers of Ukraine approved the strategy of development of the system of prevention and counteraction to legalization (laundering) of proceeds from crime, terrorist financing and financing of proliferation of weapons of mass destruction by 2020 (Decree of the Cabinet Ministers Ukraine № 1407-p, 2015).

The aim of the Strategy is a legal, organizational and institutional improvement and provision of stable operation of the national system of prevention and counteraction to legalization (laundering) of proceeds from crime, terrorist financing and financing of proliferation of weapons of mass destruction.

It is expected that the implementation of this Strategy will help ensure:

- systematic implementation of the state policy in combating legalization (laundering) of proceeds from crime, terrorist financing and financing of proliferation of weapons of mass destruction in accordance with the international standards;
- harmonization of the national system of combating legalization (laundering) of proceeds from crime, terrorist financing and financing of proliferation of weapons of mass destruction with the international standards;
- reduction of the corruption level;
- effective cooperation and continuous exchange of information with executive authorities, other public bodies – state financial monitoring units, and competent authorities of foreign states and international organizations in this area;
- training of government officials in financial monitoring and employees of primary financial monitoring units;
- transparent and efficient use of the state budget;
- stimulation of the inflow of foreign investments into the national economy;
- filling of the revenue part of the state budget;

- promotion of the liberalization of the EU visa regime for Ukraine.

So, based on the legislative acts of Ukraine with the purpose of forming a monitoring system in the ATO area, combating smuggling, as well as identifying persons involved in terrorist activities, the "temporary mode of control over the movement of persons, vehicles and goods across the conflict line within the Donetsk and Luhansk regions" has been replaced by the Resolution of the Cabinet of Ministers of Ukraine dated March 1, 2017 No. 99 approving the "procedure for the movement of goods to and from the antiterrorist operation area". This procedure has been adopted pursuant to the Decision of the National Security and Defence Council of Ukraine dated February 16, 2017 "On Urgent Measures to Neutralize Threats to the Energy Security of Ukraine and Enhance the Protection of Critical Infrastructure" approved by the Decree of the President of Ukraine No. 37/2017.

Based on the above, in order to further define the characteristics of financial and economic instruments of the state counter-terrorism policy that have emerged in terms of the anti-terrorist operation in eastern Ukraine, we have determined the factors that affect the deterioration of the social and economic status of Donbas:

- destruction and transfer of production facilities of the Donetsk and Luhansk regions to the territory of the Russian Federation;
- outflow of the intellectual potential of the regions;
- lack of synchronization between the financial and banking systems of the main part of Ukraine and of the regions beyond the control (inability to provide social benefits, including pensions);
- problems of the fuel and energy sector due to the lack of gas/electricity in some areas related to the destruction of gas transmission systems and suspension of energy supply due to the lack of payments for consumption;
- decline of the coal industry through the closure of most mines and transition to illegal coal mining;
- lack of jobs for the population;
- growth of the protest potential of the population due to increased salary arrears;
- shortage of food and basic necessities and sale at an unreasonably high price;
- ban of the sale of goods, other than manufactured in Russia, in the territories outside the control of Ukraine;
- non-state control, so-called "protection racket", of certain sectors of economic activities and money laundering of the "administrative elite" of the temporarily occupied territories of Donbas.

Based on the above, we propose an option of the classification of main illegal mechanisms that may be used to finance terrorist activities in the territories of Donetsk and Luhansk regions uncontrolled by Ukrainian authorities, dividing them into internal and external.

Internal:

- hidden import of cash to conduct financial transactions using payment cards (pensions and social benefits);
- import of inventories in the violation of regulatory requirements of the procedure for movement of goods;
- concealing of profits of enterprises that have been re-registered in Ukraine, and which in fact are located in the uncontrolled territories of Donbas;
- leaving exports to the uncontrolled areas;
- a part of goods for humanitarian convoys from the main territory of Ukraine is sold for cash in the uncontrolled parts of Donbas;
- illegal payment of customs duties to "fiscal structures" of the uncontrolled areas of Donbas.

External:

- receipt of funds from the sale of marketable products and equipment of industrial enterprises outside the uncontrolled Donbas;
- no opportunity for state accounting of cash and imported goods, including military goods of the Russian Federation under the guise of humanitarian convoys;
- external funding of various programs uncontrolled by Ukraine (economic, social, military, security, etc.) for the development of the temporarily occupied territories and commercial investment projects in order to implement measures aimed at discrediting the government of Ukraine before the local population;
- establishment of foreign economic relations by certain foreign commercial entities with companies controlled by terrorist organizations.

Given the above studied factors and classification of financing of terrorist acts in eastern Ukraine, we can assume that for the purpose of evading duty payable to relevant state bodies of Ukraine, external supplies of inventories in the uncontrolled areas of the Donetsk region, which are later obtained by illegal armed groups, are possibly carried out as follows:

- on behalf of a commercial entity registered in a foreign country for the Ukrainian commercial entity, registered in settlements located in the uncontrolled territory;
- crossing of international transit traffic that moves through the Russian Federation checkpoints of the Ukrainian-Russian border on the uncontrolled Ukrainian territory.

Thus, the anti-terrorist policy tools to prevent the funding of the so-called People's Republic of Donetsk and Luhansk People's Republic are considered by us to be as follows:

- methodological and practical support in prevention and counteraction to legalization (laundering) of proceeds from crime or terrorist financing;
- use by primary financial monitoring units of measures to strengthen the requirements for reclamation/clarification of the information required for the implementation of the "know your customer" rules, including on the basis of information from public sources, namely, the Internet, social networks, etc.;

- strengthening of control over payment systems and non-bank financial institutions in terms of expansion of the internal financial monitoring requirements;
- review of the state regulations governing payments in cash, for the purpose of reduction of marginal amounts of cash transactions;
- strengthening of control over the activities of non-profit organizations;
- strengthening of interagency cooperation between state regulators, primary financial monitoring units, the State Financial Monitoring Service and law enforcement agencies;
- strengthening of international cooperation in countering terrorist and separatist activities.

Thus, given the fact that credit and financial institutions are the most "attractive" for the legalization (laundering) of money in Ukraine and worldwide, in order to prevent terrorist financing in Ukraine, it is expedient to take a number of organizational measures and, above all,

- to minimize cash flows through increased use of electronic payments;
- to introduce modern forms of accountability that would ensure strict control of money circulation;
- to provide employees of search and detective units with more powers to obtain information on financial and economic activities of individual investors;

- to unify the national legal framework; a common system to monitor the movement of cash and cashless transactions to prevent terrorist groups from concealing their capital.

#### 4. Conclusions

Considering the study of provisions of the national and international regulations, we have concluded that the introduction of financial instruments of the state policy to counter terrorism will bring the following positive results:

- ensure systematic implementation of the state policy in the prevention and counteraction to legalization (laundering) of proceeds from crime or terrorist financing;
- enhance compliance of the national system of combating legalization (laundering) of proceeds from crime or terrorism financing with the international legal standards;
- improve the inflow of foreign investment for the stimulation of the national economy.

With due regard to international standards, the urgent need to establish effective organizational and regulatory measures of prevention and counteraction to legalization (laundering) of proceeds from crime is evident (Kiliievych, 2011). However, the effectiveness of the above measures should be determined in accordance with the principles of economic analysis of the state policy.

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**Николай БУНЧУК****ФИНАНСОВЫЕ ИНСТРУМЕНТЫ ГОСУДАРСТВЕННОЙ ПОЛИТИКИ ПРЕДУПРЕЖДЕНИЯ ТЕРРОРИСТИЧЕСКИХ АКТОВ В УКРАИНЕ**

**Аннотация.** Цель статьи заключается в определении финансовых инструментов механизма реализации государственной политики противодействия террористическим проявлениям на неподконтрольных со стороны Украины территориях Донецкой и Луганской областей. *Методика.* В рамках научного поиска наиболее действенных подходов национального уровня по предупреждению угрозы международного терроризма в условиях глубокого внутривнутриполитического кризиса и чрезвычайно сложного экономического положения, с целью повышения эффективности деятельности органов государственного управления при формировании и реализации государственной политики противодействия терроризму в Украине, в работе проанализированы международные и отечественные нормативно-правовые акты относительно предотвращения финансирования терроризма, рассмотрены факторы, которые влияют на ухудшение социально-экономического состояния временно оккупированной части Донбасса. В результате сформулировано определение финансовых инструментов антитеррористической политики, разработано и предложено проведение ряда организационных мероприятий в целях предотвращения финансирования терроризма. *Практическое значение.* Разработан вариант классификации основных противоправных механизмов, которые могут быть использованы для финансирования террористической деятельности на неподконтрольной Украинской власти части Донецкой и Луганской областей, разделив их на внутренние и внешние. Учитывая исследованные факторы и классификации процессов финансирования террористических проявлений на востоке Украины, в работе раскрыты пути поставки товарно-материальных ценностей на неподконтрольные районы Донецкого региона, что в дальнейшем поступают до незаконных вооруженных формирований, с целью отклонения от уплаты пошлины соответствующим государственным органам Украины. *Значение/оригинальность.* Внедрение разработанных финансовых инструментов государственной политики противодействия терроризму позволит получить такие позитивные результаты:

- обеспечит системную реализацию государственной политики в сфере предотвращения и противодействия легализации (отмыванию) доходов, полученных преступным путем, или финансированию терроризма;
- повысит соответствие национальной системы предотвращения и противодействия легализации (отмыванию) доходов, полученных преступным путем, или финансированию терроризма с международными правовыми стандартами;
- улучшит стимулирование притока иностранных инвестиций в национальную экономику.

Однако, определение эффективности вышеизложенных мероприятий должно происходить согласно принципов методологии экономического анализа государственной политики.

# A NEW APPROACH TO THE ASSESSMENT OF EFFECTIVE MANAGEMENT OF GAS SUPPLY DIVERSIFICATION

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**Abstract.** *The purpose* of the paper is to study the current state and trends in the development of the basic indicators of the EU gas sector, to generalize the theoretical and methodological approaches to calculating the gas diversification factor, assess and analyze its level in the EU countries in 2001-2015, and study the experience of European countries in addressing the diversification problems. *Methodology.* The methodological basis of the study was the works of domestic and foreign scientists devoted to the issues of gas supply diversification. The study is based on the analysis of the gas sector indicators and used analysis, synthesis, combination grouping and statistical-economic methods. *Results* of the study showed that in the EU countries in recent years there has been a noticeable tendency to reduce natural gas reserves, reduce the level of its production and increase consumption, which leads to an increase in import dependence. The largest consumers of natural gas in the EU are the United Kingdom, Germany, Italy, the Netherlands and France. The main external importers of pipeline gas to the EU countries are the Russian Federation, Algeria and Norway, and liquefied gas – Qatar, Algeria and Nigeria. It is established that at the end of 2015, the most diversified gas supply is to countries such as France, Belgium and Italy; a low level of gas supply diversification is observed in Hungary, Poland and Greece. *Practical implications.* The analysis of basic indicators which characterize the state and development of trends of the European gas market in 2000-2015 is carried out. The assessment and analysis of the level of diversification of natural gas supplies in the EU countries in 2001-2015 have been analyzed. *Value/originality.* It was proposed an original approach to calculate the gas diversification factor, which takes into account both the number of sources and the structure of the volumes of supplies from different sources.

**Key words:** natural gas, proved reserves, extraction, consumption, gas supply, diversification, index of diversification.

**JEL Classification:** L 71, L 95, O 13, L11, F 50

## 1. Introduction

One of the main conditions for the state economical security is an effective energy policy on sustainable energy supplies. Currently, global energy sector is characterized by limitations and exhaustion of hydrocarbon reserves, an imbalance between the availability of domestic energy resources and their demand, an increasing demand for energy, fluctuations in energy prices and increasing environmental requirements for their use.

## 2. Trends of EU gas market

The current state of the EU gas market is characterized by the following trends:

- reduction of proved reserves;
- decline in natural gas production;
- the increasing demand for natural gas;
- rising import dependence;

- the attempts of some EU countries to diversify domestic gas market through alternative sources and routes of gas supply.

Proved reserves of the European Union according to the British company British Petroleum at the end of 2000 were estimated at 3.82 trillion m<sup>3</sup> (2.5% of world reserves), and at the end of 2010 they decreased to 2.44 trillion m<sup>3</sup> which is only 1.3% of world reserves and is the lowest among all regions. It should be noted that gas is extracted by only 7 countries out of the 27 countries of EU (Table 1).

As shown in Table 1, the most significant natural gas reserves, the value of which at the end of the analyzed period amounted to 0.7 trillion m<sup>3</sup> (63.6%) can be found in the Netherlands. We should note the annual negative trend towards reducing the resource base by increasing production of hydrocarbons and reducing the proportion of the finding of large fields.

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At the end of 2000 the United Kingdom had a significant share of natural gas reserves – 1.2 trillion m<sup>3</sup> (31.4%), but due to the exhaustion of gas fields during 15 years, the resource base has decreased by 6 times (to the level of 0.2 trillion).

Romania is the only EU country which during the reviewed period was characterized by the growth of the resource base. Proved natural gas reserves of the country in 2005 due to the detection of hydrocarbons in the area of Snake Island have doubled in comparing with the previous analyzed period and came up to 0.63 trillion m<sup>3</sup>. In 2005 a foreign investor, the Austrian oil company OMV, came to Romania, which had bought 35% of shares of Parent Petroleum Romanian company Petrom, and signed an agreement on developing the shelf. Thus, Romania at the end of 2010 took a second place (24.5%) among the EU countries on proved reserves.

During the analyzed period Poland had proved reserves of gas in 0,1-0,12 trln.m<sup>3</sup>. Poland is the only EU country which for the past 15 years was characterized by stabilization of the resource base. One of the largest gas fields in the EU – Przemysl-Yaksmanitse lies in this country.

Most European countries don't have their own natural gas deposits due to the unbalanced distribution of natural gas resources. The general trend during analyzed

period is stabilization of proved natural gas reserves in Poland and the decline in proved reserves in other EU countries. According to British Petroleum, the deposits of natural gas in the EU under the existing extraction volume and unchanged stocks would last only for 11 years (comparing the production volumes and proved reserves of natural gas according to the data of 2015). Thus, the limited internal resource base is typical for this region.

The major trends in the volume of extraction depend not only on natural gas reserves, but on the volume of exploration, development of new deposits and implementation of new technologies. Indicators of natural gas in the EU are shown in Table 2.

The data in Table 2 show a slight decline of extraction in 2000-2004 and increase of reduction of gas production in the coming years. In 2015, the annual natural gas extraction in Europe decreased to 120.1 billion m<sup>3</sup>, representing 3.4% of world production. This trend is due to the exhaustion of gas fields, complication of terms of gas production, reduction in exploration work and proved reserves.

The largest share of gas extraction during 2000-2008 was from the UK, but in 2000 the country produced 108.4 billion m<sup>3</sup> (46.7% of total EU production), whereas in 2015 only 39.7 billion m<sup>3</sup> (33% of total production), which is almost three times less. This

Table 1

**Proved reserves of natural gas in the EU, trillion m<sup>3</sup>**

Country	Period								
	2000	2002	2004	2006	2008	2010	2012	2014	2015
Netherlands	1,50	1,43	1,33	1,22	1,14	1,17	0,8	0,7	0,7
Great Britain	1,20	1,00	0,83	0,41	0,29	0,26	0,2	0,2	0,2
Romania	0,34	0,31	0,30	0,63	0,62	0,60	0,1	0,1	0,1
Germany	0,22	0,19	0,16	0,13	0,10	0,07	0,1	<0,05	<0,05
Italy	0,18	0,16	0,11	0,09	0,06	0,08	0,1	<0,05	<0,05
Denmark	0,14	0,13	0,12	0,12	0,06	0,05	<0,05	<0,05	<0,05
Poland	0,12	0,12	0,11	0,11	0,11	0,12	0,1	0,1	0,1

(BP Statistical Review of World Energy, June 2011 – June 2016)

Table 2

**The volume of the natural gas extraction in the EU, billion m<sup>3</sup>**

Country	Period								
	2000	2002	2004	2006	2008	2010	2012	2014	2015
Netherlands	58,1	60,3	68,5	61,6	66,6	70,5	63,8	55,7	43,0
Great Britain	108,4	103,6	96,4	80,0	69,6	57,1	38,9	36,8	39,7
Romania	13,8	13,2	12,8	11,9	11,4	10,9	10,0	9,7	10,3
Germany	16,9	17,0	16,4	15,6	13,0	10,6	9,0	7,7	7,2
Italy	15,2	13,4	11,9	10,1	8,5	7,6	7,8	6,5	6,2
Denmark	8,2	8,4	9,4	10,4	10,1	8,2	5,8	4,6	4,6
Poland	3,7	4,0	4,4	4,3	4,1	4,1	4,3	4,1	4,1
Other UE countries	7,6	7,7	7,5	7,4	6,1	5,9	7,1	5,4	5
EU	231,9	227,6	227,3	201,3	189,4	174,9	146,7	130,5	120,1

(BP Statistical Review of World Energy, June 2011 – June 2016)

negative trend is due to the exhaustion of most fields. Due to the sufficient volume of proven reserves and commissioning of new gas fields on the North Sea offshore, Netherlands managed to increase production during the years 2000-2010 by 12.4 billion m<sup>3</sup>, which brought this country to the position of the largest distributors of gas in the EU.

As shown in Table 2, the Netherlands (35.8% of production in 2015) and the UK (33%) were the largest producers of gas among European countries. These two countries account for almost 70% of the extracted natural gas in the EU. The smallest volume of natural gas is produced in Poland.

Overall in 2000-2015 gas production in the EU decreased. The largest reduction in gas production was noted in the UK. The EU is the only region in the world where over the last 15 years the extraction volume of gas has decreased.

Consumption of natural gas in the country depends on economic growth, industrialization, industrial policy and the development of other energy resources, table 3.

As shown in Table 3, overall gas demand in the EU increased by 2010 and reached the maximum level of consumption during the analyzed decade – 492.5 billion m<sup>3</sup>. During the following years there was a 22 % reduction in demand. According to the results of 2015, the volume of natural gas increased by 4.5% compared to the previous period. Overall consumption in the European Union over the last fifteen years decreased by 8.7%.

The structure of natural gas consumption in some countries remained virtually unchanged throughout the period under review, which indicates the inertia of energy sectors of these countries and dependence of national economies on the appropriate resources. Geography of gas consumption is characterized as follows: 70% gas (based on 2015) accounted for 5 European countries (UK, Germany, Italy, the Netherlands and France). At the same time, the share of gas consumption in Bulgaria, Denmark, Greece, Finland, Lithuania and Sweden is less than 1% of total EU volume.

During the period under review in the EU there was a growing imbalance between the volume of consumption and production of natural gas. Dynamics of natural gas

deficit is negative, because it has a clear upward trend. Thus, if the European Union in 2000 met the demand of gas production at 52.66%, in 2010 – only at 29.87%. Therefore, a feature of the European gas market is characterized as high level of import dependence .

According to the forecasts of a British company “British Petroleum” in the long run out of the extractive energy resources there will be an increasing demand for natural gas due to its more favorable environmental characteristics (BP world development forecast: Forecast of World Energy Development 2030).

The increase in gas demand in the EU is predetermined by (Saprykin V., 2004):

- The prospect of the nuclear power plants shutdown in some EU countries (Germany, Switzerland, Belgium). May 30, 2011 the German government announced its decision to close by 2022 all 17 nuclear reactors, which today produce about 23% of electricity. Switzerland by 2034 plans to close all five nuclear power plants, which account for about 40% of energy in the country. The gradual closure of the Belgian nuclear power plants to be completed by 2025;

- The need to supply natural gas to certain regions of the EU, which still do not receive it due to the construction of new gas pipelines;

- Increasing number of the EU member states (Croatia became the 28th member of the EU July 1, 2013, candidates for the EU membership are Albania, Iceland, Macedonia, Serbia, Turkey and Montenegro, possible candidate are Bosnia and Herzegovina, Kosovo).

Due to the absence of its own resource base, European countries have to import natural gas, Table 4.

A characteristic feature of the European gas market during the years of 2009-2015 was stable level of import dependance (except 2014), since the volume of imported natural gas was almost at the same level, although since 2011 there was a downward trend in import.

Partially deficit of natural gas is covered by domestic import – from Denmark and the Netherlands. The major foreign importers of pipeline gas to the EU are the Russian Federation, Algeria and Norway. Certain amounts of gas to European countries are transmitted from Libya. It should be noted that big share of imported

Table 3  
EU gas balance

Indicators	Period								
	2000	2002	2004	2006	2008	2010	2012	2014	2015
Consumption volume, billion. m <sup>3</sup>	440,4	451,2	486,0	486,9	489,7	492,5	439,8	384,5	402,1
Extraction volume, billion m <sup>3</sup>	231,9	227,6	227,3	201,3	189,4	174,9	146,7	130,5	120,1
Deficit, billion m <sup>3</sup>	208,5	223,6	258,7	285,6	300,3	317,6	293,1	254	282
Ratio of energy dependence, %	47,34	49,56	53,23	58,66	61,32	64,49	66,64	66,06	70,13

(BP Statistical Review of World Energy, June 2011 – June 2016)

Table 4

**Assessment of the indicators of natural gas import to the EU**

Indicator	Period						
	2009	2010	2011	2012	2013	2014	2015
Gas imports to the EU, billion m <sup>3</sup> including	411,6	418,9	405,5	404,3	396,9	362,2	409,2
- via pipelines	331,7	334,1	345	358,9	355,2	320,8	361,7
- LNG	79,8	84,9	60,5	45,4	41,7	41,4	47,5
including imports of Russian gas	110,4	117,1	105,5	136,2	136,2	120,8	133,2
The volume of gas transit through Ukraine to the EU, billion m <sup>3</sup>	92,8	95,4	101,1	81,2	83,7	59,4	64,2
The share of imported Russian gas, %	26,82	27,95	26,02	33,69	34,32	33,35	32,55
The share of Ukraine's GTS transit in import, %	22,55	22,77	24,93	20,08	21,09	16,40	15,69
The share of Ukraine's GTS transit in Russian gas, %	84,06	81,47	95,83	59,62	61,45	49,17	48,20

(BP Statistical Review of World Energy, June 2011 – June 2016)

gas during 2009-2011 came from Russia (26-28%), and in 2012 – up to 34%, therefore European countries have become more dependent on Russian gas. Thus, one third of the analyzed energy resources to EU countries comes from Russia, but due to the international standards of security energy supplies from other sources should not exceed 25% (Volovich A.).

Diversification of natural gas supply to the European Union is provided by LNG technology, which is natural gas transportation in liquefied state using special gas carriers.

Belgium, France, Greece, Italy, Spain, Portugal and the United Kingdom are the LNG consumers among the European countries. The main importers are Qatar, Algeria and Nigeria. Certain amounts of liquefied natural gas European countries get from Norway, Peru, Trinidad and Tobago, Egypt, Emena, Oman, Equatorial Guinea and Libya.

It should be noted that during the analyzed period the ratio between the volume of natural gas transportation by pipelines and by LNG technology has changed towards increasing the main pipeline transportation.

A significant deficit of energy in the EU causes the urgency of solving the problem of diversification of sources and routes of supply to domestic national markets.

### 3. Indicators of diversification of gas supply

The analysis of publications shows the lack of scientifically proved methodical approaches to evaluation of the diversification of certain types of energy resources to the national markets. Natural gas is no exception.

Considering the problem of diversification of gas supply for certain national markets, the share of the natural gas in the energy balance of the country should be taken into consideration, as well as the the number of external sources of gas supply, diversification of the

transport infrastructure for gas to supply, and the share of gas coming from different sources.

To assess the impact of the diversification of gas supply we should reasonably measure its level using quantitative and qualitative indicators. To assess the level of diversification we suggest the following indicators (Dzoba O., 2012):

The absolute level of diversification. It is determined by the total number of independent gas suppliers. For more complete idea about the nature of diversification it would be desirable to allocate the number of suppliers by gas pipelines and LNG. In accordance with international standards, energy imports is considered reliable if the supply is carried out of at least three sources (Volovich A.), thus compliance with these conditions means that gas supply is diversified.

The maximum volume of supply from one source. According to the international criteria of energy security, energy supply from one source should not exceed 25% (Volovich A.), therefore the limiting volume of supply will be:

$$Q_m = 0,25 * Q_t, \quad (1)$$

where  $Q_t$  – the total import volume of natural gas, m<sup>3</sup>.

The relative diversification coefficient, which takes into account the number of suppliers and their supply volumes.

$$C_d = \frac{\sum_{i=1}^n Q_i}{Q_t} * 100\%, \quad (2)$$

where  $Q_i$  – the amount of gas supplied by individual producer (from one source):

$$Q_i = \begin{cases} Q_i & \text{if } Q_i \leq Q_m \\ Q_m & \text{if } Q_i > Q_m \end{cases} \quad (3)$$

$n$  – the number of sources of gas supply.

We propose the following grading diversification, which covers four main areas (table 5).

Table 5

**Gradation of the diversification level of gas supply**

The diversification Coefficient	Diversification Zone
$Cd < 50\%$	Critical diversification level
$50\% \leq Cd < 75\%$	Low diversification level
$75\% \leq Cd < 90\%$	Medium diversification level
$Cd \geq 90\%$	High diversification level

(Developed by the author)

It should be noted that this factor can be considered if the minimum condition of diversification is met, namely the energy supply is carried out of at least three sources.

#### 4. Evaluation of the diversification of gas supplies in the EU

Using these indicators, we will analyze the principle of diversification of the EU countries, including the UK (table 6). The coefficients of diversification of gas supplies in Europe in the years 2001-2015 were summarized in table 7.

The analysis showed that a high diversification level is typical for France and Spain, but during the last 2-3 years the diversification of gas supply has deteriorated. Belgium has achieved a high level during 2009-2011, and Italy – in 2010-2012.

For Germany diversification coefficient by 2012 was in medium rate, and over the next two years dropped to 73%. Until 2005 the diversification rate in the UK was low, and the next four years were characterized by critical diversification, in 2010 the index moved to the average rate, but at the end of the reviewed period it was characterized by weak diversification again. For the Netherlands it was also characterized by variable diversification zones: low (2001-2002), medium (2003-2007), high (2008), medium (2009-2010) and low (2011-2014).

Critical diversification of sources and ways of natural gas supply is characteristic of Slovenia. Austria has optimized the partial gas supply since 2007 to reach a low level of diversification. In 2008 Greece also moved into this zone.

The critical diversification level of natural gas supply is observed in post-Soviet countries such as Hungary, Poland and Romania.

As for the other EU countries, the partial diversification of gas supply is typical for the Czech Republic (imports gas from Norway and Russia), Luxembourg (during 2001-2002 carried supplies from Germany and the Netherlands, and since 2003 gas was imported from Belgium instead of Netherlands) and Sweden (since 2003 – two sources of natural gas supply).

Table 6

**The volume of gas supply to the UK in 2001-2015, billion m<sup>3</sup>**

Country	Period														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium				1,2	1,8	1,8	1,8	1,12	0,74	1,26					
Germany			0,4	0,6	1,0	1,0	1,6								
Netherlands	0,5	1,1	0,5	0,5	0,3	0,6	8,2	9	6,44	8,07	6,4	7,3	9,5	6,6	3,1
Norway	2,2	3,6	6,61	9,1	11,55	14,1	16,4	25,3	23,7	25,63	21,7	26,8	29,1	25,9	25,7
Other countries of EU												1,3	3,3	0,4	0,2
USA (LNG)										0,18					
Trinidad and Tobago (LNG)					0,07	0,6	0,39	0,47	1,97	1,63	0,6		0,1	0,4	0,4
Qatar (LNG)							0,27	0,12	5,75	13,89	21,9	13,3	8,6	10,4	11,9
Yemen (LNG)										0,26	0,7				
Norway (LNG)									0,26	0,94	0,4	0,2	0,1		0,1
Egypt (LNG)						0,96	0,16	0,08	0,51	0,12	0,1	0,1	0,1		
Algeria (LNG)					0,45	2,0	0,64	0,37	1,68	1,25	0,2	0,1	0,4	0,5	0,4
Australia (LNG)									0,08						
Nigeria (LNG)										0,4	1,3	0,1			0,1
The total amount bln.m <sup>3</sup>	2,7	4,7	7,51	11,4	15,17	21,06	29,46	36,46	41,12	53,63	53,4	49,2	51,2	44,2	41,9
The absolute level of diversification of gas supply (the number of independent gas suppliers)	2	2	3	4	6	7	8	7	9	11	9	8	8	6	8
The limited vo-lume of supply, billion m <sup>3</sup>	0,68	1,18	1,88	2,85	3,79	5,27	7,37	9,12	10,28	13,41	13,33	12,30	12,80	11,05	10,48
The Coefficient of diversification, %	43,52	48,40	36,98	45,18	48,86	58,05	66,50	55,61	67,38	77,21	84,29	68,50	68,16	66,40	60,26

(BP Statistical Review of World Energy, June 2011 – June 2016)

Table 7

**Diversification ratios of gas supply of the EU countries in 2001-2015,%**

Country	Period														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Germany	81,93	82,87	81,28	80,10	79,39	78,95	79,18	78,13	80,45	79,30	76,37	75,92	73,41	72,12	72,98
Italy	74,54	81,49	82,98	83,73	83,92	88,76	88,70	86,33	89,16	90,56	94,40	94,16	81,32	83,64	82,37
France	92,17	92,61	93,08	91,47	96,04	95,75	92,67	92,72	92,49	97,10	93,66	85,57	85,56	80,20	84,53
Spain	83,30	91,29	91,51	97,37	96,62	100,00	99,95	100,00	100,00	100,00	99,39	95,61	87,38	88,84	74,82
Austria	38,58	46,80	49,32	48,08	46,66	46,53	50,13	53,40	56,83	47,45	72,92	71,05	50,00	50,00	50,0
Belgium	68,57	74,62	83,99	73,12	74,89	78,92	76,25	75,02	91,69	97,23	100,00	95,36	83,84	91,67	84,06
Great Britain	43,52	48,40	36,98	45,18	48,86	58,05	66,50	55,61	67,38	77,21	84,29	68,50	68,16	66,40	60,26
Hungary	45,26	37,80	39,47	39,89	48,11	49,02	50,10	47,61	36,11	38,39	39,93	43,63	25,0	25,0	25,0
Poland	35,71	32,79	35,57	38,19	62,32	58,77	58,33	51,53	46,86	35,54	39,68	43,18	40,79	41,04	45,72
Nether-lands	50,99	65,33	83,26	85,03	89,36	87,22	83,72	90,39	80,84	77,21	66,79	69,83	64,53	72,41	63,62
Greece	50,00	48,92	50,00	45,00	41,08	41,96	46,89	57,37	62,69	71,91	data unavailable	data unavailable	data unavailable	data unavailable	49,0
Slovenia	50,00	50,00	50,00	59,09	59,09	59,09	59,09	data unavailable	50,00	50,00	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable
Portugal	35,57	41,35	50,00	50,00	50,00	50,00	50,00	51,10	71,32	66,73	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable
Romania	31,67	30,41	33,62	47,03	61,80	61,80	70,83	47,22	25,00	25,00	data unavailable	data unavailable	data unavailable	data unavailable	data unavailable

(BP Statistical Review of World Energy, June 2011 – June 2016)

The other EU countries import the entire volume of natural gas from one supplier: Bulgaria, Finland, Lithuania, Latvia and Slovakia from Russia, and Ireland – from Britain. These countries are in a position that is internationally called critical monopoly dependence, because they are 100% depended on one gas supplier.

To increase gas diversification in EU, countries should deepen cooperation with countries – suppliers and transit countries of energy resources, conduct a search for alternative exporting countries, develop diverse routes and introduce new technologies. In addition, countries when developing their own strategies of gas supply should not only consider the pros and cons of diversification, but the ratio of supply from different sources and the risk of abusing the energy security.

## 5. Conclusions

As a result of research the original approach to the evaluation of the diversification level of gas supply to individual national markets was offered, which takes

into account the number of sources and the structure of supply from various sources, and the diversification level of natural gas supply to the EU countries was analyzed.

It was found that in EU countries in recent years there has been a noticeable tendency to depletion of natural gas reserves, reducing its production and growth of consumption, which leads to the increase of the import dependence. EU demand in natural gas by domestic production was met in 2015 only by 29.87%.

The largest consumers of natural gas in the EU are the United Kingdom, Germany, Italy, the Netherlands and France. The major foreign importers of pipeline gas to the EU are the Russian Federation, Algeria and Norway, and LNG – Qatar, Algeria and Nigeria.

To reduce energy dependence, EU countries should diversify sources and routes of energy supply to ensure their own energy security. By the end of 2015 the most diversified gas supply countries were France, Belgium and Italy; the lowest level of diversification of gas supplies can be noted in Hungary, Poland and Greece.

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**Олег ДЗЁБА, Лилия МАРИНЧАК, Александра РОМАШКО****НОВЫЙ ПОДХОД К ОЦЕНКЕ ЭФФЕКТИВНОГО УПРАВЛЕНИЯ ДИВЕРСИФИКАЦИЕЙ ГАЗОСНАБЖЕНИЯ**

**Аннотация.** *Целью статьи* является исследование современного состояния и тенденций развития базовых показателей газового сектора ЕС, обоснование теоретико-методологических подходов к расчету коэффициента диверсификации газоснабжения, оценка и анализ его уровня в странах ЕС в 2001-2015 годах, изучение опыта европейских стран в решении проблем диверсификации. *Методологической базой исследования* стали труды отечественных и зарубежных ученых, посвященные вопросам диверсификации газоснабжения. Исследование основано на проведении анализа показателей газового сектора и основывается на методах анализа, синтеза, комбинационного группирования и статистическо-экономическом методе. *Результаты исследования* показали, что в странах Евросоюза в последние годы наблюдалась заметная тенденция к сокращению запасов природного газа, снижение уровня его добычи и рост объемов потребления, что приводит к росту импортозависимости. Крупнейшими потребителями природного газа в ЕС являются Великобритания, Германия, Италия, Нидерланды и Франция. Основными внешними импортерами трубопроводного газа в страны ЕС являются Российская Федерация, Алжир и Норвегия, а сжиженного газа – Катар, Алжир и Нигерия. Установлено, что на конец 2015 года самым диверсифицированным является газоснабжение таких стран, как Франция, Бельгия и Италия; низкий уровень диверсификации газоснабжения отмечается в Венгрии, Польше и Греции. *Практическое значение.* Проведен анализ базовых показателей, характеризующих состояние и тенденции развития европейского газового рынка за 2000-2015 годы. Осуществлены оценка и анализ уровня диверсификации поставок природного газа в странах ЕС в 2001-2015 годах. *Значение/оригинальность.* Предложен оригинальный подход к расчету коэффициента диверсификации газоснабжения, который учитывает как количество источников, так и структуру объемов поставок из разных источников.

# SPATIAL DIFFERENTIATION OF THE REGIONS OF UKRAINE CONCERNING THE KNOWLEDGE ECONOMY

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**Abstract.** *The purpose* of the research is a set of theoretical and methodological, methodical and applied provisions concerning the analysis of economic development built on knowledge (KE) in the regions of Ukraine and also the determination of their integral estimation of KE development level. *Methodology.* The research methodology is based on a systematic approach, within which analysed KAM methodology (Knowledge Assessment Methodology) developed by the World Bank, identified key groups of indicators, such as the general condition of regional economies, economic stimulus and the characteristics of the institutional system, innovation, R&D sector and informational infrastructure. Considered the key factors that determine the position of knowledge in the regional development, namely: the business community, the scientific environment and the system of self-government, which forms regional policy in the light of specific conditions of areas. The possibility of this methodology's application in the regional aspect is determined. For the research are chosen all regions of Ukraine. Exceptions are temporarily occupied territory. Accordingly, histograms of each of the key indicators' groups are built that help to determine the level of development of a particular region. *Results.* Established that the symbiosis of innovative potential with the unique economic mechanisms is the catalysts that enhance the development of the regional knowledge economy. This analysis helps to see social and economic differences between the regions of Ukraine. Determined that the characteristic feature is an inadequate level of funding of science, which causes the slowdown of innovation activity in the regions because of links imbalance between industry and research industry sector. In most cases, the regions occupied similar positions in different groups of indicators. This allows us to conclude that the development of the knowledge economy components in the region is balanced. Noteworthy the fact that during analysing each of the indicators groups, the lion's share of regions was located around the median value, which points to the similarity of the condition of knowledge development in the economy of the regions. Highlighted powerful, competitive and potentially most perspective regions in terms of KE development in 2015. *The practical implication* of the results is findings and proposals for the formation of a regional knowledge economy development strategy. Found that the program support of the knowledge economy development should aim at the accelerated and harmonious growth of all triad elements "education – science – manufacturing" and their resulting components.

**Key words:** economy of knowledge, innovations, knowledge assessment methodology, Ukraine regions, spatial aspect, system analysis.

**JEL Classification:** I25, I28, O18, P40, R11

## 1. Introduction

At the current stage within the legal and political system in Ukraine, the regions are the basic units of territorial division, which have local self-administration. In an economic sense, the regions are a subsystem of the territorial economy of the country, and within their borders, the institutional processes occur. Since the regions do not have sovereignty and associated legal regulations, their nature is determined by the internal structure (e.g. number of economic subjects, the

production efficiency but, at the same time, employment and unemployment and the business environment), external structure (i.e. commodity and financial flows) and total assets (size of gross regional product – GRP).

Today the ideas of classical theories have receded into the background, and the region is only considered as a place of localization of certain types of activities. Currently, the region can be interpreted as a place where innovations are generated, and where there are processes of their absorption and diffusion. That is, the region should be considered as the fundamental

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organization level of the economy, and as a sphere for the creation of knowledge and innovations and technical and technological skills (Christopherson, 2008; Pike, Rodríguez-Pose, & Tomaney, 2016). Of course, each region has its own features inherent only in it. In different areas, there are different mechanisms of development and application of innovations, especially the mechanisms of education and qualification training, as well as the ability to cooperate and create links in the form of entire network systems.

## 2. Economy of knowledge – a feature of the regional competitiveness

Therefore, it can be argued that the innovative ability is determined by the regional potential as well as due to the ability of any spatial structure to generate and distribute innovations. The innovative sphere is developed in quite different way in those planes where there is a strong and dominant centre of the metropolis that is in planes with multi-function structure. On the territory, where separate subjects of international importance operate, the development of innovative processes is different than in those areas where the sector of small and medium enterprises is well developed. The coexistence of exceptional innovative potential together with unique mechanisms that are unique to the certain region creates the essence of the regional economy based on knowledge (Cooke & Memedovic, 2003; Cooke & Schienstock, 2000). On the base of these considerations, we focus on those catalysts, which enhance the regional economic development based on knowledge.

The first engine of the development of the regional economy based on knowledge is the business environment. Enterprises should produce knowledge themselves by obtaining and using knowledge with the aim of achieving lasting competitive advantages that increase their value in the marketplace. The second initiator of the creation of the economy based on knowledge is the scientific environment. These subjects mainly generate theoretical knowledge and their practical application will lead to significant dissemination of knowledge for the requirements of socio-economic growth. The last element in this system – the system of self-government, which forms the regional policy through the prism of a deep knowing of the special conditions of the territory, which it covers. State authorities should monitor the development of the economy based on knowledge as the most strategic process.

The knowledge-based economy is closely associated with the community of people who learn. However, education cannot be seen only as a direct transfer of information. Education is a joint process of individual interconnected elements that get an education, which, in its turn, leads to the so-called social capital. Effective

improvement of professional qualifications is connected with several postulates:

1. Continuous professional training of the employee during his entire professional career is necessary (it concerns, first of all, institutions outside the university).

2. The employee must be continuously adapted to changes in the location and nature of a job.

3. The training should also include skills training to produce own and create new knowledge.

It is considered that the increase in the efficiency of education, resulting in the social capital formation is the main factor of the regional development, and the ability of regions to adapt to the requirements of the economy based on knowledge. Education and skills become a strong attribute in a particular market. Investments in human resources are required to increase public capacity since the employees with the competence, experience, motivation and engagement are the creators of the intellectual capital of the enterprise. It is worth saying that the importance of human capital does not change in direct proportion to the change of the number of people. It is better to consider the level of this capital in the qualitative perception than in a quantitative one because it does not obey all the rules of the market.

One should pay an attention to the fact that culture in the broadest sense of this word plays an important role in the economy based on knowledge. It deals with social elites and development of cultural centres, as well as entrepreneurship and work culture. Another manifestation of the regional development is the perception of the future. These questions can be directly linked to migration, consumption and investment decisions. That is why poorer regions have the greatest problem with the shortage of people with knowledge. Even if there are highly skilled workers in this area, there is the process of migration in conditions of the lack of jobs for them. Other regions will use income generated by these workers, or, what is worse, such persons will be employed in other spheres and will not realize their inner potential.

All these aspects affect the formation of the competitiveness of the region, which creates favourable conditions for local business, and it is more competitive due to the search for investment capital, and this fact facilitates the inflow of foreign investments.

## 3. Empirical analysis

To determine the state of development of the regional economy based on knowledge in Ukraine, the input data set will contain diagnostic functions, taking into account all aspects of such an economy. It consists of 5 key groups of indexes formed in a similar way to the methodology (Chen & Dahlman, 2005):

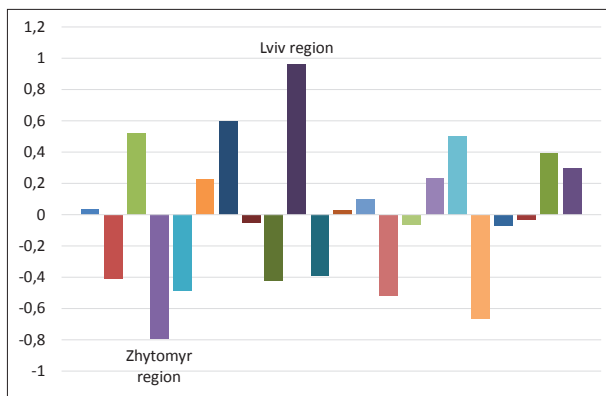
- 1) the characteristic indexes of the general state of the economy;
- 2) the indexes of economic stimulus and the characteristics of the institutional structure;



- 3) the indexes of innovation activities in the region;
- 4) the indexes of R&D sector;
- 5) the indexes of the development level of information infrastructure.

These indexes were analysed concerning regions of Ukraine in 2015. The extrapolation method was used to eliminate gaps in the dataset. This sample was divided into stimulants and destimulants, which were presented with the opposite sign. They include the following indexes: proportion of population with average person equivalent total income per month below the subsistence level (%), provision of population with medical hospital beds, number of crimes (cases per thousand persons), unemployment rate (%), unemployment rate of women (%), unemployment rate of men (%). The results of the conversions were normalized.

Selected data ("State Statistics Service of Ukraine," 2015) array of diagnostic indicators for the study is so large that it is impossible to represent it for each region in each year. Therefore, it was decided to represent each group of indexes separately for the last study period (Fig. 1–5). Each figure shows the deviation of the development level of the 22 regions (excluding the temporarily occupied territories) in the context of a specific group of classification features.

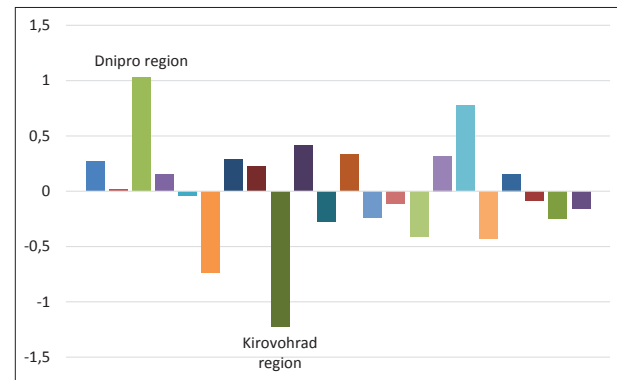


**Fig. 1. The level of characteristic indexes of the general state of the economy of Ukrainian regions in 2015**

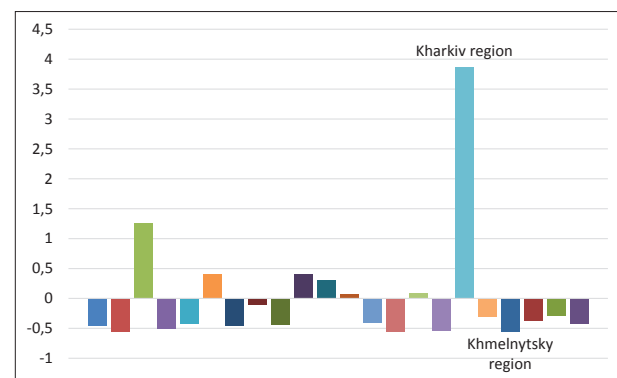
Most regions during the diagnostics of the level of economic development of regions (Fig. 1) showed a significant deviation from the medium level. The highest level is presented in the Lviv region, due to the significant growth of the gross regional product, the long life expectancy of the population among women and men, as well as the growth in the number of workplaces. The lowest level of economic development of the region is presented in the Zhytomyr region, due to a relatively weak level of industrial development, which is reflected in the GRP. In its turn, a high level of morbidity has also played its role.

Among the indexes of economic stimulus and institutional structure (Fig. 2) the Dnipro region has the highest level, but Kharkiv region has also rather high level. These results were achieved thanks to high

rates of capital formation, which was caused by a large number of loans to small and medium businesses. Also, it is worth saying that these regions are safe enough according to the crime statistics. Kirovohrad and Zaporizhzhia regions are the antagonists respectively to these regions.



**Fig. 2. The level of economic stimulus indexes and characteristics of institutional structure of the regions of Ukraine in 2015**



**Fig. 3. The level of characteristic indexes of innovative activity of the Ukrainian regions in 2015**

The level of innovation activity of the regions (Fig. 3) is directly linked to a large number of factors that influence it, for example, the number of students of educational institutions, the number of studies conducted for the R&D sector, as well as the volume of their subsidy amounts. Kharkiv and Dnipro regions are the leaders in terms of the innovative development of the regions of Ukraine. This fact is directly related to the population size and concentration of production capacities, which in its turn determined this course of events.

As to the level of indexes of R&D sector (Fig. 4), they can be divided into two groups:

- 1) education (number of students of educational institutions, researches, conducted for the R&D sector, as well as their subsidy amounts);
- 2) labour force (unemployment rate, employment rate, level of economic activity of the population of the region).

Kharkiv and Dnipro regions managed again to achieve the best results. This is because the R&D

sector is the basis for innovation activities. Therefore, without a doubt, the result was expected. But a very low level of development of scientific researches in Ternopil region was surprising. The relatively low level of population employment in the industrial sector and high unemployment level were the root causes of this phenomenon.

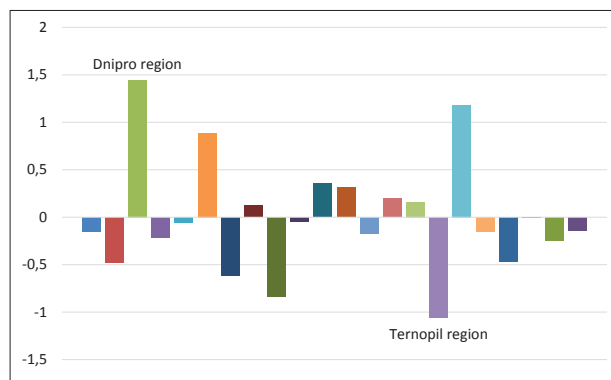


Fig. 4. The level of characteristic indexes of the R&D sector of the Ukrainian regions in 2015

Odesa region stands out with its development level of information infrastructure (Fig. 5), which is reflected in large indexes of the presence of the telephone lines, subscribers of cable television and the Internet.

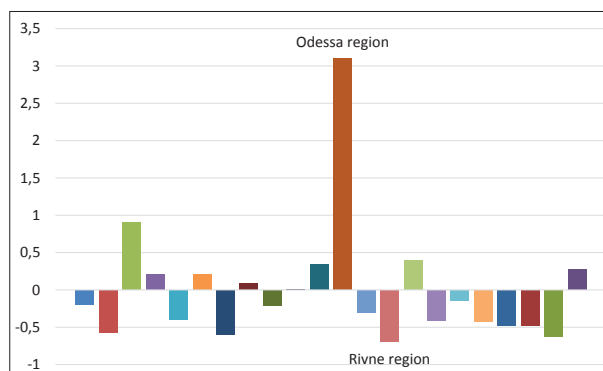


Fig. 5. The level of development indexes of informational infrastructure of the Ukrainian regions in 2015

#### 4. Conclusions

Application of spatial statistics and multivariate comparative analysis made it possible to assess the state of the regional economy based on knowledge. Noteworthy is the fact that the analysis allows seeing social and economic differences between the regions of Ukraine and could be the basis for creating and maintaining a common regional policy. The factors that served as the basis for the research are formed in accordance with the methodology, developed by the World Bank. In most cases, the regions occupied similar positions in different groups.

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#### Леся ДМИТРИШИН, Виктория БУШИНСКАЯ

#### ПРОСТРАНСТВЕННАЯ ДИФФЕРЕНЦИАЦИЯ РЕГИОНОВ УКРАИНЫ ОТНОСИТЕЛЬНО ЭКОНОМИКИ ЗНАНИЙ

**Аннотация.** Предметом исследования является комплекс теоретико-методологических, методических и прикладных положений относительно анализа развития экономики построенной на знаниях (ЭЗ) в регионах Украины, а также определение их интегральной оценки уровня развития ЭЗ. *Методика.* В основу методологии исследования положен системный подход, в пределах которого проанализирована методология КАМ (Knowledge Assessment Methodology) Мирового Банка, идентифицировано ключевые группы показателей, такие, как: общего состояния экономики регионов, экономических стимулов и характеристики институционального порядка, инновационной деятельности, сектора R&D и информационной инфраструктуры. Рассмотрены основные факторы, которые определяют место знаний в развитии региона, а именно: бизнес среда, научная среда, а также система самоуправления, которая формирует региональную политику сквозь призму особых условий развития территорий. Определены возможности адаптации данной методологии в региональном разрезе. Для проведения исследования были избраны все регионы Украины. Исключениями

служили временно оккупированные территории, а также места проведения боевых действий. Согласно этому было построено гистограммы каждой из ключевых групп показателей, с помощью которых можно определить уровень развития конкретного региона. *Результаты.* Установлено, что симбиоз инновационного потенциала с уникальными экономическими механизмами есть теми катализаторами, которые усиливают развитие региональной экономики знаний. Благодаря данному анализу удалось увидеть социальные и экономические отличия между регионами Украины. Определено, что характерной особенностью является недостаточный уровень финансирования науки, который в свою очередь предопределяет замедление инновационной деятельности в регионах через дисбаланс связей между промышленностью и отраслевым научным сектором. Доказано, что постепенное снижение инновационной деятельности регионов приведет к потере инновационного потенциала государства в целом, которое ослабляет позиции Украины в международном рейтинге и делает невозможным привлечение научных учреждений и инновационных предприятий к реализации общих проектов. В большинстве случаев регионы занимали похожие позиции в разных группах показателей. Это позволяет сделать вывод о равномерном развитии компонентов экономики знаний в регионах. Также следует заметить, что во время анализа каждой из групп показателей львиная доля областей располагалась вокруг медианного уровня, который указывает на сходство состояния развития знаний в экономике регионов. Выделены мощные, потенциально конкурентоспособные и наиболее перспективные с точки зрения развития ЭЗ регионы-лидеры по состоянию на 2015 год. *Практическое значение.* Практическое значение полученных результатов заключается в том, что можно сделать выводы и предложения относительно формирования региональной стратегии развития экономики, построенной на знаниях. Выявлено, что программная поддержка развития экономики знаний должна быть направлена на ускоренное и гармоническое развитие всех элементов триады «образование – наука – производство» и их результирующих компонентов.

# METHODICAL SUPPORT OF IMPROVING THE ORGANIZATION OF MARKETING ACTIVITY OF THE COAL-MINING ENTERPRISES OF UKRAINE\*

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**Abstract.** The purpose of the paper is to develop scientific and methodical approaches and proposals for improving the organization of marketing activity of the coal-mining enterprises of Ukraine in the conditions of instability in demand. *Methodology.* To achieve this goal used methods: statistical analysis, synthesis, comparison, structural and logical, expert evaluation, ranking. *Results.* Factors affecting the organization of the processes of sales activity of coal mining enterprises are revealed. Trends of the modern development of the domestic coal market in Ukraine are determined. The dynamics of marketing performance of coal mining enterprises is analysed. Proposals for improving the organization of marketing activity of the coal-mining enterprises are developed, principal among which are the formation and development of a system of contractual relationships with various categories of consumers of coal products; rationale for the creation of the syndicate as the organizational-economic mechanism of management of marketing activity of the coal-mining enterprises of various forms of ownership; formation of the methodical approach to the selection of an effective channel of coal sales; information support. *Practical implications.* The expected economic effect of the implementation of measures to improve the organization of marketing activity of the coal-mining enterprise is designed. It consists of cost savings on marketing by increasing the level of coherence between the enterprise and the loading and transport management at the conclusion of contracts for the provision of transport services; formation of optimal schedules of wagon movement; rational use of cars on duty; reducing maintenance time consumers of coal products. The introduction of a set of measures to improve the organization of marketing activity of enterprise through improving a service of various categories of consumers and improve the contractual relationships will contribute to the formation of evidence-based marketing strategy that will meet the requirements of modern management. *Value/originality.* The main idea of the study is to develop theoretical and scientific-methodical provisions and develop practical recommendations to improve the organization of marketing activity of the coal-mining enterprises of Ukraine.

**Key words:** coal mining enterprise, marketing activity, management, instability of demand, contractual relationships, consumers, syndicate, information support.

**JEL Classification:** D11, D80, C70, K23, L14, L30, M11, M31

## 1. Введение

На современном этапе угледобывающие предприятия Украины функционируют в условиях нестабильности спроса и снижения уровня лояльности потребителей. Ключевым компонентом создания добавленной стоимости и конкурентных преимуществ предприятий является совершенствование организации их сбытовой деятельности за счет прогнозирования спроса потребителей угольной про-

дукции, формирования реально выполненных планов и программ, постоянного контроля и регулирования процессов в сбытовых сетях, своевременного выявления проблем и оперативно принятых управленческих решений, внедрения информационных технологий.

По оценкам экспертов, внедрение мероприятий по совершенствованию организации сбытовой деятельности промышленных предприятий способствует

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сокращению затрат на реализацию, маркетинг и поддержку клиентов на 10–15% (Каринус, 2008), уменьшению стоимости и времени на обработку заказов на 20–40% (Ill'chenko, 2010), увеличению объемов отгрузки продукции на 35–40% (Posylkina, Sahaydak-Nikityuk, Zahoriy, 2011), снижению времени на перемещение товаров и уровня транспортных затрат в результате оптимизации маршрутов движения транспорта и согласования графиков поставок (Krykavs'kyu, Pokhyl'chenko, Chornopys'ka, Kostyuk, Savina, Nikshych, Yakumyshyn, 2014).

Таким образом, современные условия хозяйствования угледобывающих предприятий требуют поиска резервов повышения эффективности их функционирования, среди которых можно назвать совершенствование организации сбытовой деятельности с учетом нестабильности спроса на угольную продукцию.

В результате исследования выявлено, что ученые, как правило, под управлением сбытовой деятельности промышленных предприятий понимают организацию контрактной работы с потребителями на поставку готовой продукции, формирования каналов распределения и портфеля контрактных обязательств.

Как показывает анализ отечественной и зарубежной научной литературы, к основным направлениям повышения эффективности организации сбытовой деятельности промышленных предприятий отнесены: совершенствование законодательства о реализации угольной продукции; разработка системы обслуживания потребителей; совершенствование организации системы сбыта продукции потребителям путем создания оптимальных каналов сбыта; предложения по обоснованию целесообразности формирования сбытовых сетей.

На основе анализа научных публикаций обобщены основные положения ученых и специалистов:

– проанализированы рыночные условия функционирования предприятий угольной промышленности и сформирован организационно-экономический механизм управления ресурсным потенциалом шахт в условиях неустойчивого спроса на уголь (Vahonova, Papizh, 2013);

– предложено, что «Либерализация национального угольного рынка должна происходить путем перехода к заключению прямых контрактов между производителями и потребителями угольной продукции и внедрения биржевой (аукционной) торговли углем» (Amosha, Starychenko, Cherevats'kyu, 2013);

– исследованы современное состояние развития угольных шахт и экономические проблемы обеспечения их устойчивого функционирования (Труфанова, 2015);

– разработана эффективная модель для определения необходимости и рациональности заключения контракта с тем или иным агентом, которая должна

включать такие подходы: применение теории игр; эконометрическая модель для оценки методологии заключения гибридных контрактов; диагностика контрактной деятельности на основе построения диаграмм бизнес-процессов; метод ранжирования Харрингтона; логит-модель, особенностью которой является то, что она переводит значение функции факторов контракта в предполагаемые вероятности заключения контракта; рамочная проблемно-ориентированная методика решения организационно-экономических задач (Komarov, Vyzhitovich, 2014);

– обосновано, что соотношение предприятий государственного сектора угольной промышленности и их контрагентов – энергогенерирующих компаний и металлургических корпораций – целесообразно организовывать на принципах экономических сетей (Starychenko, Amosha, Cherevats'kyu, Zaloznova, 2016).

Несмотря на широкий круг научных разработок по выбранной теме, проблема совершенствования организации сбытовой деятельности угледобывающих предприятий с учетом особенностей их функционирования в условиях нестабильности спроса на угольную продукцию и современных тенденций развития институциональной среды требует дальнейших научных исследований. Все это в значительной степени обусловило выбор темы исследования и его целевую направленность.

Цель данной работы состоит в развитии научно-методических положений и разработке практических рекомендаций по совершенствованию организации сбытовой деятельности угледобывающих предприятий Украины в условиях нестабильности спроса.

Для достижения поставленной цели решены следующие научные задачи: выявлены факторы, влияющие на организацию процессов сбытовой деятельности угледобывающих предприятий; определены тенденции современного развития внутреннего рынка угля в Украине; проанализирована динамика показателей сбытовой деятельности угледобывающих предприятий; разработаны предложения по совершенствованию организации сбытовой деятельности угледобывающих предприятий, основными среди которых являются формирование и развитие системы контрактных взаимоотношений с различными категориями потребителей угольной продукции; обоснование целесообразности создания синдиката как организационно-экономического механизма управления сбытовой деятельностью угледобывающих предприятий различных форм собственности; формирование методического подхода к выбору эффективного канала сбыта угля; информационное обеспечение.

Для решения перечисленных научных задач использованы методы исследования: статистический анализ, синтез, сравнение, структурно-логический, экспертная оценка, ранжирование.

## 2. Особенности и тенденции развития сбытовой деятельности угледобывающих предприятий Украины

Выявлено, что отечественной угольной отрасли присущи специфические особенности организации процессов сбытовой деятельности. Среди них:

Постоянные колебания и изменения конъюнктуры рынка угля, нестабильный спрос на угольную продукцию, влияние фактора сезонности на формирование материального потока угольной продукции.

Неравномерное развитие процессов потребления и добычи угля в Украине. Так, по данным Государственной службы статистики Украины, объем потребления угля сократился за 2007–2015 гг. на 36,2%, а добычи угля – на 49,2%. При этом наблюдается рост соотношения объема потребления и добычи угля. Если в 2007 г. значение этого показателя составило 1,21, то в 2015 г. – 1,52 раза. Это свидетельствует об увеличении уровня неудовлетворения спроса потребителей угольной продукции (как правило, коксующегося и антрацитного угля) (табл. 1).

Таблица 1

### Динамика объемов добычи и потребления угля в Украине

Годы	Объем добычи угля, млн т	Объем потребления угля, млн т	Соотношение объемов потребления и добычи угля, раз
2007	58,9	71,0	1,21
2008	59,5	70,4	1,18
2009	55,0	63,0	1,15
2010	55,0	67,8	1,23
2011	62,7	72,5	1,16
2012	65,7	73,3	1,12
2013	64,4	71,3	1,11
2014	45,9	53,9	1,17
2015	29,9	45,3	1,52

Источник: Статистические сборники Украины за 2007–2015 гг.

В структуре потребления энергетических материалов удельный вес угля вырос за 2007–2015 гг. на 5,7%, или с 25,2 до 30,9%.

Сокращение объемов добычи, готовой товарной и реализованной угольной продукции государственных угледобывающих предприятий. По данным Министерства энергетики и угольной промышленности Украины, объем добычи государственных угледобывающих предприятий сократился за 2007–2015 гг. на 84,1%, готовой угольной продукции – на 82,5%, товарной – на 82,6%, реализованной угольной продукции – на 84,3% (табл. 2).

Увеличение объема остатков угля на складах государственных угледобывающих и углеперерабатывающих предприятий, то есть наблюдается тенденция профицита угольной продукции (как правило, угля

Таблица 2

### Динамика объемов добычи угля, готовой, товарной и реализованной угольной продукции государственных угледобывающих предприятий

Годы	Объем добычи угля, млн т	Объем готовой угольной продукции, млн т	Объем товарной угольной продукции, млн т	Объем реализованной угольной продукции, млн т
2007	42,2	28,6	28,2	28,1
2008	45,7	28,4	28,0	27,7
2009	38,4	25,4	25,0	25,4
2010	38,5	25,1	24,7	24,4
2011	38,4	25,3	25,0	24,7
2012	24,9	17,8	17,5	17,4
2013	24,1	18,0	17,8	15,9
2014	12,9	9,7	9,5	8,4
2015	6,7	5,0	4,9	4,4

Источник: Информационные материалы Министерства энергетики и угольной промышленности Украины

газовой марки). Так, по данным Министерства энергетики и угольной промышленности Украины, объем остатков угля в Украине вырос за 2007–2015 гг. на 114,1%, а на государственных угледобывающих предприятиях – на 68,1% (табл. 3).

Характерным является снижение объема экспорта угля и, соответственно, рост его импорта (как правило, коксующегося и антрацитного). По данным Государственной службы статистики Украины, объем экспорта угля сократился за 2007–2015 гг. на 83,8%, а объем импорта угля увеличился на 10,6%. При этом наблюдается тенденция превышения объема импорта над экспортом угля. Если в 2007 г. значение этого показателя составляло 3,57, то в 2015 г. – 24,3 раза (табл. 4).

7. Угольная продукция отгружается различным категориям потребителей: крупнооптовым (постоянная группа – металлургические, коксохимические

Таблица 3

### Динамика объемов остатков угля на складах угледобывающих и углеперерабатывающих предприятий в Украине

Годы	Объем остатков угля на складах по Украине, тыс. т	Объем остатков угля на складах государственных предприятий, тыс. т
2007	1288,3	1188,8
2008	2468,8	2315,8
2009	2101,6	1979,4
2010	2877,3	2640,0
2011	2753,0	2411,7
2012	3849,2	2114,8
2013	2675,4	1938,8
2014	2716,3	1968,1
2015	2757,9	1997,8

Источник: Информационные материалы Министерства энергетики и угольной промышленности Украины

Таблица 4

**Динамика объемов экспорта и импорта угля в Украине**

Годы	Объем экспорта угля, млн т	Объем импорта угля, млн т	Соотношение объемов импорта и экспорта угля, раз
2007	3,7	13,2	3,57
2008	4,5	12,8	2,84
2009	5,3	7,9	1,49
2010	6,2	12,2	1,97
2011	7,0	12,7	1,81
2012	6,1	14,8	2,43
2013	8,5	14,2	1,67
2014	7,1	14,7	2,07
2015	0,6	14,6	24,33

Источник: Энергетический баланс Украины за 2007–2015 гг.

заводы, теплоэлектростанции, ежемесячный объем поставки угля которым составляет от 10 тыс. т); среднеоптовым (посреднические организации, которым угля отгружается один или несколько раз в год; ежемесячный объем поставки составляет до 10 тыс. т) и мелкооптовым (население – объем поставки угля до 10 тонн).

Наблюдается неравномерность объемов отгрузки угля крупно- и среднеоптовым потребителям. Например, на одном из обследованных угледобывающих предприятий объем отгрузки угля крупнооптовым потребителям снизился за 2001–2015 гг. на 65,8%, или с 1731,7 до 592,6 тыс. т, а среднеоптовым – на 87%, или с 509,3 до 66,4 тыс. т. При этом удельный вес отгрузки угля крупнооптовым потребителям увеличился за этот период на 12,6% – с 76,7 до 89,3%, а среднеоптовым потребителям сократился на 12,6% – с 22,6 до 10%. Удельный вес отгрузки угля мелкооптовым потребителям менялся незначительно и составлял 0,7%.

Обследования показали, что в 2015 г. удельный вес поставок на ряде отечественных угледобывающих предприятий в структуре отгрузки угольной продукции крупнооптовым потребителям составил 86–90%, среднеоптовым – 3–10%, а мелкооптовым – 1–3%.

В 2007–2015 гг. наблюдался рост убыточности угледобычи в государственном секторе отрасли. В 2007 г. этот показатель составил 33,1%, в 2011 г. – 36,4, а в 2015 г. – 39,8%. В 2015 г. себестоимость 1 т товарной продукции государственных угледобывающих предприятий превышала цену 1 т товарной продукции в 1,7 раза (в 2007 г. – в 1,5 раз, в 2011 г. – в 1,6 раз).

Полная себестоимость в угольной промышленности Украины выросла в сопоставимых ценах за 2007–2015 гг. на 70,3%, средний темп роста за этот период составил 106,9%. Затраты на организацию сбытовой деятельности в сопоставимых ценах уменьшились на 19,1%, средний темп сокращения составлял 97,4%. Удельный вес затрат на сбытовую деятельность в пол-

ной себестоимости товарной продукции сократился за 2007–2015 гг. с 0,96 до 0,46%. Затраты на сбыт 1 т товарной продукции государственных угледобывающих предприятий Украины увеличились за 2007–2015 гг. на 36,5%, или 6,55 до 8,94 грн, средний темп роста составил 104,0%.

Таким образом, анализ статистических данных свидетельствует о недостаточно эффективной организации сбытовой деятельности угледобывающих предприятий Украины.

В связи с этим целесообразным является определение стратегических направлений совершенствования организации сбытовой деятельности угледобывающих предприятий Украины в условиях нестабильности спроса.

### 3. Формирование системы контрактных взаимоотношений угледобывающего предприятия с потребителями угольной продукции

Под системой контрактных взаимоотношений авторы данной статьи понимают совокупность взаимосвязанных элементов (объектов, субъектов, функций, методов, принципов, инструментов) для организации непрерывного процесса заключения и выполнения условий контрактов на поставку угольной продукции. Этот процесс должен реализовываться через весь комплекс функций управления: прогнозирование, планирование, организация, учет, контроль, анализ, регулирование. При составлении контракта на поставку угольной продукции определяются обязанности, условия действия, права сторон, гарантии защиты прав, если одна из сторон нарушает обязательства.

При организации контрактной деятельности угледобывающего предприятия с потребителями угольной продукции существует определенная специфика, которую необходимо учитывать. Так, при оформлении контрактов на поставку угольной продукции крупнооптовым потребителям целесообразным является включение такого пункта, как 30–50% предоплаты или отсрочка платежей за отгруженный уголь на определенный срок.

При этом при реализации угольной продукции крупнооптовым потребителям следует учитывать тот факт, что оплата за отгруженный уголь потребителями может осуществляться несвоевременно. В этом случае предприятие-потребитель должно заплатить штраф. Согласно Гражданскому кодексу Украины должник, который просрочил выполнение денежного обязательства, по требованию кредитора обязан уплатить сумму долга с учетом установленного индекса инфляции за все время просрочки, а также 3% годовых от просроченной суммы, если иной размер процентов не установлен договором или законом.

В соответствии со ст. 230 Хозяйственного кодекса Украины участник хозяйственных отношений обязан уплатить штрафные санкции в виде денежной суммы (неустойка, штраф, пеня) в случае нарушения им правил осуществления хозяйственной деятельности, невыполнения или ненадлежащего выполнения хозяйственного обязательства. При этом за нарушение сроков выполнения обязательства взимается пеня в размере 0,1% стоимости товаров (работ, услуг), по которым допущена просрочка выполнения за каждый день просрочки, а за просрочку свыше 30 дней дополнительно взимается штраф в размере 7% указанной стоимости. Таким образом, сумма платежа, которую должен оплатить крупнооптовый потребитель за отгруженную угольную продукцию, увеличивается на сумму штрафа за несвоевременное выполнение своих денежных обязательств. В связи с тем, что крупнооптовым потребителям необходимы значительные объемы угля, при отгрузке применяется железнодорожный транспорт. Формирование графиков транспортировки осуществляется с учетом времени в пути и времени разгрузки вагонов.

Отличием контракта на поставку угольной продукции среднеоптовым потребителям должно быть то, что условием оплаты является 100% предоплата, а также выбор вида транспортного средства в зависимости от объемов отгрузки. Особенностью контракта на поставку угля мелкооптовым потребителям является 100% предоплата за предоставленные услуги «уголь плюс поставка» или «уголь без поставки».

Таким образом, к этапам подготовки контрактов на поставку угольной продукции целесообразно включить такие пункты: прогнозирование объемов отгрузки угольной продукции потребителям; прием заказов на угольную продукцию, заключение контрактов на поставку; процедуры согласования сроков поставок, условия оплаты за угольную продукцию; выбор вида транспорта, заключение контрактов на транспортное обслуживание с погрузочно-транспортным управлением или автотранспортным предприятием; формирование графиков транспортировки с учетом времени в пути и времени разгрузки вагонов и автомобильных средств; применение взысканий штрафных санкций с потребителей в случае их несвоевременного отказа от заказа на поставку продукции.

Содержание контрактов на поставку угольной продукции требует уточнения и дополнения. Практика показывает, что, как правило, в ситуации, когда потребители несвоеременно отказываются от заказанной угольной продукции, предприятие платит за услуги погрузочно-транспортного управления за использование, представление и уборку вагонов. В связи с этим в контракты на поставку следует включить такой пункт: в случаях, когда потребители несвоеременно отказываются от заказанной угольной

продукции, они возмещают предприятию затраты, связанные с оплатой услуг погрузочно-транспортного управления за использование, представление и уборку вагонов.

#### **4. Обоснование необходимости создания угольного синдиката**

Исходя из того, что сейчас невозможно достоверно спрогнозировать изменения спроса на угольную продукцию, актуализируется вопрос о формировании организационно-экономического механизма, направленного на минимизацию рисков (связанных с нестабильностью спроса) для обеих сторон (частного и государственного сектора угольной отрасли). Таким механизмом может стать синдикат как организационная форма, объединяющая крупные вертикально интегрированные компании (которые одновременно являются производителями и потребителями угольной продукции) и отдельные государственные угледобывающие предприятия.

Актуальность данной проблемы подтверждается научными разработками ряда ученых. Так, по мнению ученых, «Основными причинами объединения предприятий в топливно-энергетическом комплексе является стремление получить и усилить синергетический эффект, который возникает в результате снижения затрат в вертикальной цепи производства продукции и проведения несколькими компаниями согласованной экономической политики» (Акмаев, Byelozertsev & Byelozertsev, 2009).

Как отмечают ученые Института экономики промышленности НАН Украины, «... для повышения эффективности хозяйствования в угольной промышленности Украины целесообразно предложить институты самоуправления отношений между угольщиками и энергетиками (металлургами) по форме экономических сетей с «площадками» выяснения интересов сторон» (Starychenko, Amosha, Cherevats'kyu, Zaloznova, 2016).

В рамках государственно-частного партнерства синдикату передается функция управления сбытовой деятельностью. Главной целью деятельности синдиката является поддержка непрерывной эксплуатации ТЭС (за счет поставки необходимого объема топлива) и обеспечение каналов сбыта угольной продукции для государственных шахт. Среди основных задач синдиката можно назвать следующие: определение необходимого объема добычи угля; обеспечение организации процессов сбытовой деятельности; формирование цен на уголь и политики работы угледобывающих предприятий.

Создание синдиката обусловлено необходимостью своевременного реагирования на изменения спроса, организации непрерывных поставок топлива на ТЭС, обеспечения гарантированных каналов сбыта продукции для государственных угледобывающих предприятий, распределения рисков.



Доход между участниками синдиката должен распределяться в соответствии с договором о совместной деятельности. Согласно ст. 1130 главы 77 Гражданского кодекса Украины по договору о совместной деятельности стороны (участники) обязуются совместно действовать без образования юридического лица для достижения определенной цели. В данном случае (на примере синдиката) без объединения вкладов участников с целью организации и регулирования совместной сбытовой деятельности.

### 5. Методический подход к выбору эффективного канала сбыта угольной продукции

В результате исследования предложен методический подход к выбору эффективного канала сбыта угольной продукции. Из определения приоритета в выборе канала сбыта продукции, предприятие может перепроектировать свою сбытовую сеть. Выбор критерия оценки степени достижения поставленной цели и ранжирование показателей, характеризующих этот критерий, устанавливается экспертным путем на основе балльной оценки (табл. 5).

Данная таблица является исходной. При этом следует рассчитать следующие показатели:

– отклонение фактического размера от оптимального:

$$\Delta F_{ij} = F_{onm} - F_{факт}; \quad (1)$$

– степень соответствия оптимальности фактическому размеру:

$$P_{kij} = 1 - \left( \frac{\Delta F_{ij}}{F_{onm}} \right); \quad (2)$$

– степень влияния показателя на эффективности сбытовой системы:

$$M_{nij} = K_b \cdot P_{kij}; \quad (3)$$

Расчетами определено значение интегральных показателей –  $\sum M_{nij}$  отдельно по каждому каналу сбыта угольной продукции. Так, значение  $\sum M_{nij}$  прямого канала сбыта составляет 99,3%, а через посредников – 69,7%. Сравнивая эти значения, выби-

рается тот канал сбыта, который имеет наибольшее значение интегрального показателя ( $\sum M_{nij}$ ).

Таким образом, анализ сбытовой системы на примере угледобывающего предприятия показывает, что варианту сбыта угольной продукции через прямой канал отдается наибольшее предпочтение. Это обусловлено одной из особенностей функционирования угледобывающих предприятий – сбыт угля, как правило, осуществляется по прямому каналу (почти 80% объема реализации угледобывающего предприятия составляют прямые поставки угольной продукции крупнооптовым потребителям).

### 6. Информационное обеспечение организации сбытовой деятельности угледобывающих предприятий Украины

Согласно Целям устойчивого развития на 2016–2030 годы первоочередными мерами по созданию устойчивой инфраструктуры, содействию постоянной индустриализации и инновациям признано усиление интеграции промышленных предприятий в производственно-сбытовые сети.

Среди особенностей современных условий хозяйствования промышленных предприятий следует указать интенсивное развитие информационно-компьютерных и логистических технологий. Это подтверждается результатами анализа статистических данных. Так, по данным Государственной службы статистики Украины, количество предприятий, пользующихся автоматизированным обменом данных для отправки или получения товарно-транспортных накладных, выросло за 2011–2015 гг. на 119,7%, или с 6398 до 14057; получения заказов от клиентов – на 70,4%, или с 13005 до 22161; отправки или получения информации о продукции – на 57,6%, или с 15038 до 23702. При этом удельный вес предприятий в общем их количестве, где осуществляется автоматизированный обмен данными, увеличился, соответственно, на 14,4% (с 24,4 до 38,5%), 11,3% (с 49,5 до 60,8%) и 7,8% (с 57,2 до 65%).

Количество предприятий, где осуществляется регулярный электронный обмен информации, по

Таблица 5

#### Критерии выбора канала сбыта угольной продукции

Критерии	Ед. изм.	«0» канал	«1» канал	Важность коэффициента влияния, %
Увеличение объемов реализации	балл	80	40	30
Сокращение уровня затрат на сбыт	балл	70	30	15
Увеличение рентабельности продаж	балл	70	60	15
Своевременная оплата за продукцию	балл	80	80	20
Передача прав собственности за товар	балл	60	40	5
Установление долгосрочных взаимоотношений с потребителями	балл	60	50	15
				$\sum K_b = 100\%$

Источник: составлено авторами

уровню технико-материального обеспечения, производственного плана или прогноза спроса клиентов увеличилось на 35,6%, или с 3840 до 5206; по развитию доставки конечной продукции потребителям – на 40,6%, или с 4331 до 6088. Удельный вес этих предприятий в общем количестве предприятий, где используется автоматизированный обмен данными, составлял в 2015 г., соответственно, 14,3% и 16,7%. На основе обследования уровня осознания преимуществ в использовании информационно-коммуникационных технологий при организации рынка сбыта выявлено, что 10,7% респондентов отмечают о значительных улучшениях (в 2011 г. – 7,7%).

К основным логистическим технологиям, применяемым для организации процессов сбытовой деятельности предприятий, можно отнести: CRM (управление взаимоотношениями с потребителями), DDT (концепции «реагирования на спрос»), DRP (системы планирования дистрибуции продукции и ресурсов в распределении).

На основе обобщения зарубежного и отечественного опыта использования информационно-коммуникационных и логистических технологий определены направления совершенствования организации сбытовой деятельности угледобывающих предприятий, которые систематизированы по 3 группам:

– *совершенствование процессов обслуживания потребителей*: внедрение системы электронной коммерции (B2B – «бизнес-к-бизнесу») – программные комплексы для осуществления коммерческой деятельности между предприятиями в сети Интернет. По этой системе осуществляется около 80% электронной коммерции; применение системы электронной коммерции (B2C – «бизнес-к-потребителю») – программные комплексы для осуществления электронной торговли; внедрение концепции CRM (управление взаимоотношениями с клиентами) – информационные технологии, которые предоставляют функциональные возможности для автоматизации полного цикла отношений с клиентами и обеспечивают необходимые средства для управления сферами маркетинга, продаж, сервиса;

– *повышение эффективности организации сбытовой деятельности на угледобывающих предприятиях*: внедрение современных информационных технологий с целью совершенствования организации дистрибуции: DRP, DRPII; разработка методики выбора эффективных каналов сбыта на основе специального программного обеспечения для осуществления расчетов с использованием экономико-математических моделей;

– *совершенствование организации транспортных операций*: оптимизация транспортного потока при внедрении систем управления грузопотоками: Gonrand (сбор информации о наличии грузов), Videotrans (информационное обслуживание предприятий транспорта), СТС (информация о наличии грузов,

вид транспортных средств, маршруты рационального движения), GIS, GPS (определение местоположения транспортных средств); разработка предложений по оптимизации загрузки транспортных средств; внедрение программного обеспечения и использования интернет-технологий для автоматизации транспортных процессов; применение автоматизированной обработки документов для оформления процесса транспортировки грузов.

## 7. Выводы

В результате исследования выявлены проблемы недостаточно эффективной организации сбытовой деятельности угледобывающих предприятий Украины. Определены тенденции и закономерности функционирования угледобывающих предприятий с позиций организации процессов сбытовой деятельности. Установлено, что резкое колебание спроса на уголь приводит к нестабильному функционированию топливно-энергетического комплекса страны в целом, то есть к возникновению таких негативных явлений, как дефицит и профицит угольной продукции. Для решения определенных проблем в современных условиях необходим поиск действенных механизмов организации сбытовой деятельности угледобывающих предприятий, одним из которых является совершенствование системы контрактных взаимоотношений с учетом специфики обслуживания крупно-, средне- и мелкооптовых потребителей.

Предлагается, что негативные последствия, вызванные нестабильностью спроса на угольную продукцию, можно преодолеть за счет объединения в синдикат крупных вертикально-интегрированных компаний (которые одновременно являются производителями и потребителями угольной продукции) и государственных угледобывающих предприятий.

На законодательном уровне предлагается внесение изменений и дополнений в ст. 120 «Организационно-правовые формы объединений предприятий» Хозяйственного кодекса Украины: «Синдикат – организационная форма существования разновидности картельного соглашения, предусматривающего реализацию продукции, произведенной участниками объединения, через создание совместного сбытового органа или сбытовой сети одного из участников синдиката. Такая форма объединения характерна для предприятий, производящих однородную продукцию».

Для обеспечения эффективной деятельности угольного синдиката в условиях отечественного топливно-энергетического комплекса Министерству энергетики и угольной промышленности Украины необходимо внести изменения и дополнения к проектам:

– Закона Украины «О рынке угольной продукции» – включить в ст. 1 определение синдиката

как организационной формы, которая объединяет угледобывающие предприятия для организации и регулирования совместной сбытовой деятельности на основе государственно-частного партнерства, а также дополнить законопроект статьей, в которой изложить нормативно-правовые основы функционирования синдиката;

– Энергетической стратегии до 2035 года «Безопасность, энергоэффективность, конкурентоспособность» – расширить цель «Развитие энергетических рынков» формированием и функционированием синдиката как инструмента внедрения рыночной модели функционирования энергетических рынков и удовлетворения потребностей национальной экономики собственной угольной продукцией в необходимых объемах с привлечением частного сектора;

– Концепции Государственной целевой экономической программы реформирования угольной промышленности на период до 2020 года – включить комплекс мероприятий по совершенствованию организации сбытовой деятельности угледобывающих предприятий с учетом нестабильности спроса на угольную продукцию.

В результате проведенных расчетов определен ожидаемый экономический эффект от реализации мероприятий по совершенствованию организации сбытовой деятельности угледобывающего предприятия, состоящий из экономии затрат на сбыт в результате повышения уровня согласованности действий между предприятием и погрузочно-транспортным управлением при заключении контрактов на ока-

зание транспортных услуг, формирования оптимальных графиков движения вагонов, рационального использования вагонов по грузоподъемности, сокращения времени на обслуживание потребителей угольной продукции.

Расчеты показывают, что ожидаемый экономический эффект от реализации мероприятий по повышению эффективности организации сбытовой деятельности на примере ПАО «Шахта имени А.Ф. Засядько» составляет 279,6 тыс. грн, на структурных подразделениях «Шахтоуправление «Павлоградское» – 46,6 тыс. грн и «Шахта «Степная» ПАО «ДТЭК Павлоградуголь» – 52,8 тыс. грн.

Таким образом, внедрение комплекса мероприятий по совершенствованию организации сбытовой деятельности угледобывающих предприятий Украины за счет повышения уровня обслуживания различных категорий потребителей, улучшения контрактных взаимоотношений, информационного обеспечения и создания синдиката будет способствовать формированию научно обоснованной маркетинговой стратегии предприятия, отвечающей современным требованиям хозяйствования.

Перспективы дальнейших разработок в этом направлении состоят в разработке модели контрактных взаимоотношений угледобывающего предприятия с различными категориями потребителей, предложений по созданию электронной биржи в Украине по торговле угольной продукцией и методического подхода к оценке эффективности управления сбытовой деятельностью угледобывающих предприятий.

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**Юлия ЗАЛОЗНОВА, Наталия ТРУШКИНА**

## МЕТОДИЧЕСКОЕ ОБЕСПЕЧЕНИЕ СОВЕРШЕНСТВОВАНИЯ ОРГАНИЗАЦИИ СБЫТОВОЙ ДЕЯТЕЛЬНОСТИ УГЛЕДОБЫВАЮЩИХ ПРЕДПРИЯТИЙ УКРАИНЫ

**Аннотация.** *Целью работы* является разработка научно-методических подходов и предложений по совершенствованию организации сбытовой деятельности угледобывающих предприятий Украины в условиях нестабильности спроса. *Методология.* Для достижения этой цели используются методы: статистический анализ, синтез, сравнение, структурно-логический, экспертная оценка, ранжирование. *Результаты.* Выявлены факторы, влияющие на организацию процессов сбытовой деятельности угледобывающих предприятий. Определены тенденции современного развития внутреннего рынка угля в Украине. Проанализирована динамика показателей сбытовой деятельности угледобывающих предприятий. Разработаны предложения по совершенствованию организации сбытовой деятельности угледобывающих предприятий, основными среди которых являются формирование и развитие системы контрактных взаимоотношений с различными категориями потребителей угольной продукции; обоснование целесообразности создания синдиката как организационно-экономического механизма управления сбытовой деятельностью угледобывающих предприятий различных форм собственности; формирование методического подхода к выбору эффективного канала сбыта угля; информационное обеспечение. *Практическое значение.* Рассчитан ожидаемый экономический эффект от реализации мероприятий по совершенствованию организации сбытовой деятельности угледобывающего предприятия, состоящий из экономии затрат на сбыт в результате повышения уровня согласованности действий между предприятием и погрузочно-транспортным управлением при заключении контрактов на оказание транспортных услуг; формирования оптимальных графиков движения вагонов; рационального использования вагонов по грузоподъемности; сокращения времени на обслуживание потребителей угольной продукции. Внедрение комплекса мероприятий по совершенствованию организации сбытовой деятельности угледобывающего предприятия за счет повышения уровня обслуживания различных категорий потребителей и улучшения контрактных взаимоотношений будет способствовать формированию научно обоснованной маркетинговой стратегии предприятия, которая будет отвечать современным требованиям хозяйствования. *Значение/оригинальность.* Основная идея исследования состоит в развитии теоретических и научно-методических положений, разработке практических рекомендаций по совершенствованию организации сбытовой деятельности угледобывающих предприятий Украины.

# BANKING ON MULTINATIONALS: THE DETERMINANTS OF CROSS-BORDER CREDITS TO CENTRAL AND EASTERN EUROPE, 1990-2015

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**Abstract.** Taking into account the rising dependence of Central and Eastern Europe on multinational banks' credits, the main *purpose* of the article is to identify and examine the determinants of cross-border credits through a *methodology* based on "push" and "pull" factors. The author presents the results of a regression analysis on the determinants of cross-border credits provided by multinational banks from EU-15 to Central and Eastern Europe over the period of 1990-2015 by using the statistical data compiled and published by the Bank for International Settlements. The obtained *results* suggest that global as well as home and host country level determinants influence cross-border credits but to a different extent. According to our results, higher stability and predictability of global economic environment contribute to higher cross-border credit growth. The results of the host country determinants analysis indicate that more effective and profitable economies receive more credits from multinational banks. We also find that multinational banks provide more credits to countries with small markets, low inflation rate, high external debt burden, high capital account deficit, fixed exchange rate regime, and developed institutional environment. Regarding home level determinants, we find the existence of a negative correlation between home country economic cycle and the amount of cross-border credits received by the host country, which can be explained by low economic growth in continental Europe over the period under consideration that stimulated European banks to expand lending on foreign markets with higher profit opportunities. Thus, cross-border credits appear to have been countercyclical to growth in home countries and procyclical to growth in host countries. Finally, it is found that host country level determinants play the most important role in explaining changes in cross-border credits on host countries in Central and Eastern Europe during 1990-2015 period, which means that host countries have a control over their own destinies and the amount of received credits depends on their economic and political performance. *Value/originality.* The results of the research make it possible to provide a better understanding of the determinants of cross-border credits and practical importance of multinational banks' lending as an important source of external finance for the catching-up process and a major component in the ongoing process of financial deepening in Central and Eastern Europe, and clarify whether these determinants differ in periods of financial stability and crisis.

**Key words:** Multinational banks, cross-border credits, Central and Eastern Europe, push factors, pull factors, regression analysis.

**JEL Classification:** F23, F37, G21, N24

## 1. Introduction

One of the key peculiarities of global financial market activity over the 1990s was the dramatic growth in multinational banks' credits to emerging markets, including the countries of Central and Eastern Europe. Essentially, multinational banks provide credits to host countries via two different ways: directly, from their parent banks abroad (so-called cross-border credits) or indirectly, through local subsidiaries or branches in host countries (Kamil & Rai, 2010). Given that most of the 1990s increase in multinational banks' credits to Central and Eastern Europe was related to the establishment of

branches and subsidiaries, most existing studies were focused on the indirect credits: their determinants and impact on the host countries. The literature on direct cross-border credits has received comparatively less attention so far, mainly because of data limitations. Although cross-border credit is an important source of external finance for the catching-up process and a major component in the ongoing process of financial deepening, understanding the driving forces of these credits in Central and Eastern Europe is of particular importance. The determinants of cross-border credits should be accurately considered when examining the transmission mechanism of financial distress from

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advanced to emerging markets, their consequences for the financial stability of the host countries. Cross-border credits can be characterized by periods of rapid growth followed by a sharp decline. This so-called “boom and bust cycle” may have devastating consequences for countries highly dependent on cross-border credits. This is especially the case for the countries of Central and Eastern Europe, which are significantly exposed to the banks from EU-15.

Researches (Jeanneau & Micu, 2002, Khattak, 2011) classify the determinants of cross-border credits by employing traditional “push vs pull” framework. The changes in the amount of credit provided by multinational banks in response to changes in economic conditions in home country and global environment are termed as “push factors” (in other words, external factors outside the control of a specific borrowing country), and the variation in the amount of credit in response to host country conditions of economic and non-economic nature referred to as “pull factors”.

Depending on the study, push and pull factors are sometimes branded as “supply-side” and “demand-side” (Amiti, McGuire & Weinstein, 2016).

The objective of the article is to identify the main determinants of cross-border credits in Central and Eastern Europe relying on the regression analysis. The implemented regression model is based on the existing researches on multinational banking and on the extensive literature on capital flows, which is too numerous to review here. Central and Eastern Europe have been chosen for the objective of our analysis for at least three reasons. First, the choice was made based on the existence and availability of comparative data base. Second, this group of countries was deliberately chosen because of its heterogeneity. The region of Central and Eastern Europe includes countries with fixed and floating exchange rate regimes, with various levels of financial liberalization and economic development, which differ from each other in the amount and importance of cross-border credits.

Our choice of home countries was driven by their relative importance as lenders to Central and Eastern Europe. We consider separate credits from multinational banks based in EU-15, which account for nearly 77% of all credits provided by BIS-reported banks to the region, and when taken together are the most important lenders to Central and Eastern Europe.

The period of 1990-2015 was chosen because during this time frame foreign financing rose sharply in the region. Moreover, during this time countries of Central and Eastern Europe have liberalized their financial systems, which led to the reorientation of multinational banks from almost purely cross-border lending to a mix that also included indirect lending.

Our contribution to the existing literature on cross-border credits is as follows: we examine the determinants of cross-border credits on longer time period than in

some of the previous studies; we investigate whether the explanatory power of different groups of determinants has changed over the time period under consideration by splitting it into two subperiods. This, in turn, will help to clarify whether these determinants differ in periods of financial stability and crisis.

## 2. Data and methodology

Our data on cross-border credits come from Consolidated banking statistics compiled and published by the Bank for International Settlements. To the best of our knowledge, data published by the Bank for International Settlements is the most comprehensive data available that is well suited to an analysis of the determinants of cross-border lending since it provides information about the nationality and location of the lending banks and borrowers.

Consolidated banking statistics include cross-border credits, local credits of the foreign affiliates in foreign currencies, and local credits of these affiliates in the local currency. Cross-border credits and local credits in foreign currencies are reported by the Bank for International Settlements as a single inseparable series only. Local credits in local currency are reported as a separate series. Given that Consolidated banking statistics is biannual until 2000 and quarterly thereafter, data availability makes us focus on annual, end-of-year statistics.

The data for explanatory variables come from different sources: International Financial Statistics (IMF), Political Risk Index Data (PRS Group), World Development Indicators (World Bank), the joint BIS-IMF-OECD-World Bank statistics on external debt.

Panel data techniques were used instead of separate time series and cross-border sections in order to collect more information and to overcome potential estimation biases resulting from possible correlations between regressors and residuals.

Following the approach used by Weller (2001), we chose the ratio of cross-border credits to GDP as the dependent variable. While using the “push vs pull” framework, we divided the independent variables into three groups: global level, home country level, host country level. The host country level determinants were further divided into determinants of economic and non-economic nature.

The expected sign of the coefficients of variables, their indicators and abbreviation are presented in Table 1.

Hence, the basic regression equation has the following specification:

$$\frac{MN\text{Bloans}_{it}}{GDP_{it}} = \alpha + \sum \beta_1 \text{Host}_{it} + \sum \beta_2 \text{Home}_{it} + \sum \beta_3 \text{Global}_{it} + \varepsilon_{jit}, \quad (1)$$

where

$MN\text{Bloans}_{it}/GDP_{it}$  – is the ratio of cross-border credits to GDP;

$\text{Host}_{it}$  – is a matrix of host country macroeconomic and non-economic variables;

Table 1

**Description of the explanatory variables**

Variable	Indicator and abbreviation	Expected sign
Global level		
Uncertainty in global financial markets	S&P500 index (S&P500)	+
Home country level		
Economic growth	GDP growth level (GDP Home)	+/-
Real interest rate	(Interest Home)	-
Host country level		
Non-economic nature		
Political stability	Voice and accountability (VA); Political stability and absence of violence (PV); Government effectiveness (GE); Regulatory quality (RQ); Rule of law (RL); Control of corruption (CC).	+
Economic nature		
Economic growth/demand for MNBs' credits	GDP growth (GDP)	+
Economic efficiency	GDP per Capita growth (GDPperCap)	+
Future economic growth	Foreign direct investment to GDP ratio (FDI)	+/-
Market size	Population (Population)	+
Interest rate	(Interest)	+
Inflation	(Inflation)	
Exchange rate	(ER)	-
Exchange rate regime	Reinhart–Rogoff index (EXregime)	-
External debt	External debt to GDP ratio (Debt)	+/-
Financial openness of the banking sector	Chinn-Ito index (Open)	+
Current account balance	Current account to GDP ratio (CAB)	+/-

Source: created by author

$Home_{jt}$  – is a matrix of home country macroeconomic variables;

$Global_t$  – is a matrix of the global level variables;

$j$  – identifies home countries;

$i$  – indicates each individual Central and Eastern European host country;

$t$  – refers to the time period considered;

$\epsilon_{ijt}$  – are stochastic disturbances.

All variables are expressed in percentage points, except S&P500 index and population, which are expressed in logarithms. Reinhart–Rogoff index ranges from 1 to 3: higher, more flexible exchange rate regime (Reinhart & Rogoff, 2004). Chinn-Ito index takes on higher values the more open the country is to cross-border capital transactions (Chinn & Ito, 2007). Political stability

indicators range from 0 to 1, where a higher value indicates more stable political environment.

It is also essential to examine if there is evidence that the determinants of cross-border credits have changed over the period under consideration. To this purpose, we estimated our basic equation over two subperiods: 1990-2002, when a number of cross-border credits were in general low and the credit activity of foreign banks was in some cases forbidden; and 2003-2015, when Central and Eastern European economies experienced credit boom. Specifically, we explore whether credits' sensitivity to global, host and home conditions has changed over time. As mentioned by Aysun and Hepp (2016), if host country factors are more important, this could suggest that a host country with high and sustainable growth would receive more credits from multinational banks and that these credits would decrease in an economy, which is performing poorly. As a consequence, countries would be in charge of their own destinies. And vice versa, if global and home country factors are more important, the state of an economy may be less related to the credits it receives and economies may be more responsive to external developments

In order to carry out this study, the research questions were broken down into several empirically testable hypotheses. Taking into account the theoretical background the following hypotheses were formulated:

1. Cross-border credits provided to a specific host country are expected to have a negative correlation with home country economic performance.

2. Cross-border credits are expected to have a positive relation to global developments as well as economic and non-economic conditions in a host country.

3. Cross-border credits' sensitivity to different groups of determinants has changed over time.

### 3. Empirical results

The results of our baseline regression equation are presented in Table 2.

We estimated the impact of three groups of explanatory variables on cross-border credits both jointly and separately, because estimated determinants may not be completely independent of each other. After that, we compared these models in terms of their significance by looking at the coefficients of determination  $R^2$  and the F-statistics. The estimated variables are robust with respect to different model specifications, so we presented the results of one large model in order to avoid double notation.

Altogether, most estimated variables have the expected signs and are statistically significant. The regression analysis shows that global as well as home and host country level determinants are significant driving forces of cross-border credits. Our estimations are in line with the results obtained in previous studies. For example,

Table 2

**The results of the regression analysis on the determinants of cross-border lending**

Indicators	Time period		
	1990-2015	1990-2002	2003-2015
Log(S&P500)	18,816 (9,876)***	18,861 (6,700)***	17,856 (5,956)***
GDP Home	-3,387 (-3,473)***	-2,468 (-2,813)**	-1,998 (-2,351)**
Interest Home	-6,654 (-8,298)***	-5,296 (-4,657)***	-4,961 (-4,184)***
VA	94,208 (2,678)**	36,469 (0,575)	21,145 (0,286)
PV	-38,511 (-2,145)*	-38,002 (-1,082)	-24,721 (-0,525)
GE	57,386 (3,597)***	34,218 (1,004)	28,501 (0,708)
RQ	20,253 (1,717)	17,305 (1,321)	14,091 (0,823)
RL	55,085 (3,358)***	94,701 (4,257)***	93,314 (3,691)***
CC	2,263 (1,316)	-35,556 (-1,386)	-41,378 (-1,486)
GDP	0,155 (2,711)**	1,866 (2,592)*	1,798 (2,531)*
GDPperCap	-1,316 (-3,308)**	-2,091 (-0,655)	-1,952 (-0,566)
FDI	0,417 (4,407)***	0,582 (3,969)***	0,642 (3,412)***
Log(Population)	-15,599 (-6,636)***	-15,666 (-3,491)***	-16,962 (-2,943)**
Interest	0,224 (1,521)	0,325 (1,559)	0,321 (1,389)
Inflation	-0,445 (-3,081)**	-0,757 (-3,098)**	-0,6886 (-2,301)*
ER	0,063 (1,999)*	0,025 (0,595)	0,039 (0,784)
EXregime	-11,375 (-4,689)***	-18,486 (-4,283)***	-15,574 (-2,654)**
Debt	0,232 (3,976)***	0,346 (5,029)***	0,359 (2,732)**
Open	2,488 (1,787)	2,648 (1,134)	2,138 (0,781)
CAB	-1,103 (-3,634)***	-0,914 (-2,643)**	-0,814 (-2,013)*
Number of observations	250	130	120
R2	0,86	0,951	0,952
Adjusted R2	0,83	0,923	0,917
F-statistics	28,18	33,97	27,85

Source: The authors' calculations

Notes: Standard errors are robust. T-statistics appear in parentheses and \*\*\*, \*\*, \* correspond to the 1%, 5%, and 10% level of significance, respectively



like Takáts (2010) and Ghosh (2011), we find that higher stability and predictability of global economic environment, measured by S&P 500 index, promotes cross-border credit growth. We also experimented with alternative global level indicators, such as world real GDP, real US interest rates, and trade volumes growth, but the results to a great extent remained unchanged.

Regarding home level determinants, our estimations confirm the results of the researches by Molyneux and Seth (1998), Haas and Lelyveld (2008) who find the existence of a negative correlation between home country economic cycle and a number of cross-border credits received by the host country. The countercyclical behaviour of cross-border credits provided by the banks from EU-15 could largely be explained by the fact that economic growth in continental Europe was generally low over the period under consideration, lending opportunities and returns in domestic markets were probably limited, driving European banks to expand lending on foreign markets with higher profit opportunities. Indeed, banks based in EU-15 were the most active lenders to Central and Eastern Europe in the 1990s. All in all, the findings from splitting the sample into the periods of pre- and post- 2002 suggest that in recent years the behaviour of banks from EU-15 tends to be less countercyclical to home country economic growth.

The results of host country determinants analysis are in line with the studies, which find out that more effective and profitable economies with higher growth perspective receive more credits (Focarelli and Pozzolo, 2004, for instance). Among the subset of host country determinants, we find that the coefficient on host country GDP growth is positive and significant, showing that multinational banks respond to host country growth, increasing and decreasing credits over the cycle. Multinational banks also direct their credits to countries with optimistic growth perspective, which is measured by foreign direct investment to GDP ratio. Besides, the positive sign of the coefficient indicates that cross-border credits and foreign direct investments are rather complementary than substitutable sources of external financing. The results of the regression analysis indicate that multinational banks provide more cross-border credits to countries with small markets, low inflation rate (which is consistent with the findings obtained by Focarelli and Pozzolo, 2004, Derviz and Podpiera, 2007), fixed exchange rate regime (which is in line with results obtained by Jeanneau and Micu, 2002). Additionally, countries with capital account deficit receive more cross-border credits. Thus, higher current account balance in the past means that less borrowing is required to finance the current account. We also find that multinational banks provide more credits to countries with higher external debt to GDP ratio: the higher the debt of a country relative to the size of the economy, the greater the need to borrow from

abroad. With regard to determinants of non-economic nature, the only significant variable for all periods under consideration is regulatory quality. The positive coefficient on this determinant indicates that countries with better regulatory quality receive more credits from multinational banks.

Using the methodology developed by Goldberg and Saunders (1981), we also experimented with the combinations of host and home level variables, as cross-border credits may not so much respond to home or host country conditions, but rather to the difference between them. Accordingly, we included two indicators: host minus home country GDP and host minus home country interest rate. However, the coefficients on those determinants appeared to be insignificant, and as the result were not included in the final regression equation.

As a next step, we analysed the explanatory power of three groups of explanatory variables. This analysis goes beyond the identification of statistically significant determinants of cross-border bank credits and provides additional information on the economic significance of estimated parameters. The contribution of each variable is calculated by using the methodology applied by Martinez Peria, Powell, and Vladkova-Hollar (2005), Zhu, and Decady (2007) who calculate the percent variance explained as  $(R^2_{full} - R^2_{constrained}) / R^2_{full} * 100$ . In other words, for each group of variables, they compute the increase in the  $R^2$ , as a proportion of the total variance of the percentage change in credits explained by all variables. The results of our calculations are presented in Table 3.

Table 3

**Explanatory power of global, home and host country level determinants of cross-border credits**

Group of determinants	Time period	
	1990-2002	2003-2015
Global level	18,49%	17,29%
Home country level	14,07%	14,28%
Host country level	67,44%	68,43%

Source: authors' calculations

The figures in Table 3 show that host country level determinants explain almost twice as much change in cross-border credits as global level and home country level taken together. Additionally, the explanatory power of all three groups of determinants has remained largely unchanged in both periods under consideration. These findings confirm that host countries are responsible for the amount of credit they may receive from multinational banks.

#### 4. Conclusions

Given that tendency toward multinational banks' credit expansion in emerging markets is likely to continue, it is important to study the determinants and

the consequences of this expansion for the host countries. In this article, we considered the Bank for International Settlements statistics and regression analysis techniques to investigate the aforementioned issues on the example of Central and Eastern Europe, a region that witnessed a substantive increase in multinational banks financing during the transition period of the 1990s.

Our results confirm two out of three hypotheses, which have been formulated in the previous section of the article: cross-border credits appear to be countercyclical to growth in EU-15, which have been chosen as home countries for the objectives of our research, and procyclical to growth in Central and Eastern Europe, which have been chosen as host countries. Additionally, the obtained results suggest that all three groups of determinants influence cross-border credits but to different extent. It is found that host country level determinants play the most important role in explaining changes in cross-border credits on

host countries in Central and Eastern Europe during 1990-2015 period, which means that host countries have a control over their own destinies and a number of received credits depends on their economic and political performance. This conclusion has important policy implications which may be the subject for further researches.

It is also important to mention that treating multinational banks as a homogenous group might be misleading; therefore, multinational banks' heterogeneity should be taken into account while examining their cross-border lending in future studies.

Moreover, the data used in this article have some restriction. For example, the Bank for International Settlements statistics does not provide separate data on "pure" cross-border credits and local credits in foreign currency, which may bias the results of our research. Although, the analysed time period is longer than in some of the previous studies, but still is relatively short.

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## **Роксолана ЗАПОТИЧНА**

### **ДЕЯТЕЛЬНОСТЬ ТРАНСНАЦИОНАЛЬНЫХ БАНКОВ: ДЕТЕРМИНАНТЫ ТРАНСГРАНИЧНОГО КРЕДИТОВАНИЯ СТРАН ЦЕНТРАЛЬНО-ВОСТОЧНОЙ ЕВРОПЫ**

**Аннотация.** Принимая во внимание растущую зависимость стран Центральной и Восточной Европы от кредитов транснациональных банков, основная *цель статьи* – выявить и изучить детерминанты трансграничных кредитов с помощью *методологии*, основанной на “пуш” и “пулл” факторах. Приведены результаты регрессионного анализа детерминантов трансграничных кредитов, предоставленных транснациональными банками из 15 стран ЕС странам Центральной и Восточной Европы за период 1990-2015 гг., с использованием статистических данных, собранных и опубликованных Банком международных расчетов. Полученные *результаты* позволяют предположить, что глобальные детерминанты, детерминанты на уровне страны происхождения, так и на уровне принимающей страны влияют на международные кредиты, но в разной степени. Согласно нашим результатам, более высокая стабильность и предсказуемость глобальной экономической среды способствуют более высокому росту трансграничного кредитования. Результаты анализа детерминантов на уровне принимающей страны свидетельствуют о том, что более эффективные и прибыльные экономики получают больше кредитов от транснациональных банков. Мы также сделали вывод о том, что транснациональные банки предоставляют больше кредитов странам с небольшими рынками, низкой инфляцией, высоким бременем внешней задолженности, высоким дефицитом счета операций с капиталом, режимом фиксированного обменного курса и развитой институциональной средой. Что касается детерминантов на уровне страны происхождения, мы обнаруживаем наличие отрицательной корреляции между экономическим циклом страны происхождения и количеством трансграничных кредитов, полученных принимающей страной, что можно объяснить низким уровнем экономического роста в континентальной Европе за рассматриваемый период, что стимулировало европейские банки расширять кредитование на внешних рынках с более высокими возможностями получения прибыли. Таким образом, трансграничные кредиты, как представляется, являются антициклическими к росту в странах происхождения и проциклическими к росту в принимающих странах. Наконец, было установлено, что детерминанты на уровне принимающей страны играют самую важную роль в объяснении изменений в трансграничных кредитах в странах Центральной и Восточной Европы в период 1990-2015 годов, а это означает, что страны пребывания контролируют свои судьбы, и сумма полученных кредитов зависит от их экономических и политических показателей. *Значение/оригинальность.* Результаты исследования позволяют лучше понять детерминанты трансграничных кредитов и практическую важность кредитования транснациональных банков в качестве важного источника внешнего финансирования и основного компонента текущего процесса финансового углубления в Центральной и Восточной Европе и уточнить, отличаются ли эти детерминанты в периоды финансовой стабильности и кризиса.

# THE RATIONALE FOR THE APPLICATION OF THE INFLATION TARGETING REGIME IN UKRAINE

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**Abstract.** The *purpose* of the paper is the consideration of the basic choices of a monetary regime of monetary policy, which include the monetary targeting regime, the regime of exchange rate targeting, the inflation targeting regime, and a strategy without an explicit nominal anchor. The article also discusses their implementation in various countries of the world and the resulting consequences. The subject of research is the consideration of the existing monetary regimes and the rationale for the selection of one of them to ensure sustainable development of the economy of Ukraine. This research examines, among other things, such unresolved parts of the general problem as the search for ways how to increase the degree of the Central Bank influence on the economy by changing the existing monetary regime to more optimal. *Methodology.* The research is based on a comparison of data on the effectiveness of monetary policy in different countries in specific time periods. Given the consequences of the implementation of certain monetary regimes in different countries, there are drawn conclusions about the appropriateness of the choice of a specific regime for the Ukrainian economy. The *results* of the comparison showed that the most suitable choice for the economy of Ukraine is the choice of the inflation targeting regime, since it generates the inflation expectations at a low level, in most cases allows reducing inflation in the short term, contributes to strengthening the Central Bank independence and credibility, allows overcoming internal and external shocks, eliminates the contradictions connected with the objectives of monetary policy, reduces the likelihood of crises, as well as creates positive conditions for the development of the economy as a whole. *Practical implications.* Thoroughly examined the advantages and disadvantages of the underlying monetary regimes, conclusions were drawn concerning the promising directions of development of monetary policy in Ukraine, as well as recommendations on further actions of the state bodies of Ukraine. *Value/originality.* The conclusions of the research substantiate the benefits of inflation targeting regime to enhance the effectiveness of monetary policy, as well as provide recommendations concerning the further implementation of the inflation targeting regime in Ukraine.

**Key words:** monetary policy, monetary regime, nominal anchor, targeting, inflation.

**JEL Classification:** E42, E52

## 1. Introduction

In conditions of low economic growth rates, inflation and devaluation of the national currency, it is extremely important to find ways to overcome the negative effects of the aforementioned processes and phenomena. Given the uncertainty factor, the influence of the Central Bank on the country's economy is quite powerful. The main direction of a monetary policy improvement is to change its regime on more effective. The research urgency is caused by the desire of the National Bank of Ukraine (NBU) to move in the near future to full-fledged inflation targeting. In the "Main Principles of Monetary Policy for 2015", it is noted that strategic objective of the NBU is to achieve and maintain in the medium term low and stable inflation (5% per year with a tolerance of  $\pm 1\%$ ) and a gradual transition to inflation targeting.

Thus, the research problem is stated as follows: is the inflation targeting regime the best choice for Ukraine? The current paper aims to demonstrate differences in an implementation of basic monetary regimes and to prove that the inflation targeting regime will be the most effective for Ukraine.

## 2. Basic monetary regimes

In most cases, central banks choose one of three basic nominal indicators characterizing the results of its activity: the existing amount of money in circulation, the value of the exchange rate or the inflation rate. Providing the stable dynamics of these variables on the level for a certain period of time is called its targeting (Koncewicz, 2012).

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We can consider three basic choices of monetary regime. The first is *the regime of monetary targeting*. It is based on the belief that the change in the money supply entails a corresponding change in the rate of inflation. In order for this regime to be effective, a necessary condition is an existence in the economy a stable connection between the change in the money supply and inflation.

The second monetary regime is based on *the exchange rate targeting*. It suggests that the Central Bank as the intermediate target of monetary policy sets the nominal exchange rate and tries to provide stability against the currencies of the so-called countries of the anchor due to interest rate changes and direct foreign exchange intervention.

The third monetary regime is based on *inflation targeting*. Also, some central banks are adopting a *strategy without an explicit nominal anchor*, which consists in establishing and achieving several goals simultaneously (Gnativ, 2009).

### 3. Monetary regimes' features and different countries' experience

The essence of *monetary targeting* is that the Central Bank, on the basis of the inflation target, estimate of potential output growth and the dynamics of money velocity within the quantitative equation of exchange ( $MV = PY$ ) determines the target rate of monetary aggregates growth and announces it to the public.

For the implementation of monetary targeting in the country, an important condition should be met: the demand for money within the country should be stable. This means that the velocity of money has to be on the same level for a certain horizon targeting. This condition is quite difficult task for the Central Bank. The reason is that the demand for money depends essentially on the changes occurring in the socio-economic relations, the stability of international financial markets, and the like. Given this, the effectiveness of this regime is low in countries with economies in transition.

During 1970-2000 the monetary targeting was tried in many countries such as the UK, Greece, Albania, Georgia, China, etc. Most of them were forced to abandon this regime due to a low efficiency of monetary aggregates influence on the ultimate goal – price stability.

Examples of effective targeting of the money supply are Germany and Switzerland. Indicators of monetary targets in these countries were achieved only by 50%; however, inflation has been kept at an average level that does not exceed 3%. The effectiveness of this regime in Germany and Switzerland was based on the confidence in the monetary authorities (Radionova, 2009).

Ukrainian scientist T. Slipchenko noted that the main advantages of monetary targeting as a monetary regime are "sovereignty" – the Central Bank chooses the inflation target, and has the ability to adjust policy depending on internal changes in the volume of production and a close

relationship with the instruments of monetary policy, that is, a high level of control by the Central Bank, since monetary aggregates are measured quickly enough, and, accordingly, reports on the implementation of monetary targets communicated to the public with relatively short time lags up to several weeks (Slipchenko, 2010).

As you can see, the advantages of this regime include a high level of coordination of monetary and overall macroeconomic policy, the ability to a rapid reaction by the Central Bank and the stability of expectations associated with full awareness.

The disadvantages include the impossibility of control over the money supply in case of a high share of cash, insolvency in case of significant fluctuations in the demand for money, the ambiguity of the relationships between changes in the money supply and its actual performance in time intervals (Prushkovskaya, 2010).

Not less than 50 economies of the world continue to rigidly fix the courses of their currency units relative to third currencies. These include, for example, Hong Kong, Malta, Latvia, Lithuania, Estonia, etc. Selection of the regime of the exchange rate targeting is an effective tool to control inflation. The effectiveness of this regime directly depends on such factors as the degree of openness of the economy measured by share of imports in consumption, the volume of foreign exchange reserves and so on (Papaika, 2010).

The disadvantages of this regime are the dependence of monetary policy on external economic factors, the possibility of an inflow of short-term speculative capital and the risk of destabilization of the financial system in the global currency crises.

As shows the analysis of the experience of individual countries, the policy of the exchange rate targeting may have different consequences. Thus, the positive results were achieved in Bulgaria, Latvia, Tunisia, Argentina. A classic example of a country that had a bad experience is Brazil, where the application of *the regime of the exchange rate targeting* led to hyperinflation.

In 1990, the Reserve Bank of New Zealand was the first to use *inflation targeting regime*. Currently, such policy is carried out in at least 26 countries, including economically developed countries (Australia, Sweden, Canada, UK), developing countries (Brazil, Chile, Mexico), and countries with emerging market economies (Poland, Czech Republic, Slovenia, Hungary). The last introduced the inflation targeting regime during the transition period, with the result that has reached the low level of inflation and sustainable economic growth, and also raised public confidence in the monetary authorities.

The concept of "inflation targeting" is defined as the monetary strategy that involves the public announcement of the inflation temps by the Central Bank that must be achieved within a certain period, and provides increased transparency and accountability of the monetary regulation bodies.

An important condition for the transition to the inflation targeting regime is a presence of the Central Bank's clear vision of how monetary policy affects the real economy. This makes it possible to determine, which instruments are appropriate to use in a given situation, a time lag of the measures of the Central Bank impact on macroeconomic indicators and how they will be effective. In the developing countries, the influence of monetary policy on the economy is characterized by a greater uncertainty due to permanent institutional and structural changes.

The technology of conducting monetary policy under inflation targeting is based on two main principles. *The first* is a forecast of how the inflation process will develop for the assumption that monetary policy will not change. *The second* is a prediction as to what will be the future inflation and other macroeconomic indicators in the case of current changes in monetary policy.

So, if the inflation forecast exceeds the inflation target, the Central Bank needs to raise interest rates, and vice versa, if the inflation forecast is below the inflation target, the Central Bank should reduce the interest rate.

It should be noted that the effects of monetary policy occur with a time lag, so the medium-term forecast of macroeconomic development, in particular, inflation, has a sufficient importance. Since the applying of inflation targeting regime, the deviation of the predicted values of inflation from the target acts as an intermediate goal, so the quality of the forecast becomes the key element of the effectiveness of monetary policy (Gritsenko, 2008). Thus, the effective system of analysis and forecasting is one of the most important preconditions for a successful transition of central banks from the exchange rate targeting regime to the inflation targeting regime.

Central banks applying inflation targeting, target out also inflation expectations, which serve as a connecting thread between operating targets and the ultimate goal of monetary policy. Not only the officially proclaimed inflation target is affected by the expectations of economic agents, but also its forecasts, which are specified by the Central Bank in periodic public reports.

The process of forecasting by the monetary authorities is a "black box" for the public and associated with the use of a number of complex macroeconomic regimes. If economic agents trust the Central Bank, even unexpected external and internal shocks, which were not considered by the Central Bank in the forecasting process, may be impaired by the influence of optimistic inflation expectations. That is, the expectations of economic agents are influenced both by the actual change of the direction of monetary policy, and just announcements about upcoming intentions of the Central Bank.

#### 4. Advantages and disadvantages of inflation targeting

Inflation targeting is implemented through *active* and *passive approaches*.

*The passive approach* includes the following monetary policy tools: a narrow corridor of the interest rates in the interbank market, the conduct of irregular transactions in the open market, the use of reserve requirements to regulate liquidity.

*The active approach*, in turn, provides for a wide interest rate corridor, the lack of regular transactions in the open market and minimal use of reserve requirements.

International experience of inflation targeting regime confirms its effectiveness, since none of the countries that have adopted this strategy, abandoned it. In these countries, today the macroeconomic situation is characterized by steady economic growth, less vulnerability to external shocks, low and stable inflation.

Application practice shows the existence of *subtypes* of this regime, as different countries use inflation targeting that was developed according to their system characteristics. Such subtypes include:

- *full-fledged inflation targeting* – full transparency lighting inflation target, strict adherence to the selected target without corrective measures from the central banks. First used in New Zealand, later it spread among developing countries, particularly in Brazil, Colombia, Hungary, Mexico and Poland;
- *disguised inflation targeting* – allows changes in the level of inflation. In this subtype of the regime, there is certain opacity. Used by the European Central Bank and by the Federal reserve system of the United States;
- *experimental inflation targeting* – means the broad inflation tasks proclamation in conditions of low public confidence in the Central Bank.

The advantages of inflation targeting are: the ease of evaluating the effectiveness of monetary policy, a flexible exchange rate policy and a creation of conditions for the balanced development of all sectors of the economy, slowed because of the negative impact of inflation.

According to domestic economist V. Gordienko, significant benefits of the monetary policy regime of inflation targeting include:

- 1) formation of inflation expectations at a low level;
- 2) in most cases allows reducing inflation in the short term;
- 3) helps to strengthen the actual Central Bank's independence and credibility;
- 4) allows overcoming internal and external shocks;
- 5) resolves contradictions associated with the objectives of monetary policy;
- 6) reduces the likelihood of crises;
- 7) creates positive conditions for the development of the economy as a whole (Gordienko, 2012).

The disadvantages of this regime you need to include are the impact of factors that are not controlled by the Central Bank (e.g., the status of the financial sector) on the inflation dynamics, as well as limiting opportunities for stimulating economic growth and reducing unemployment with monetary policy instruments.

## 5. Recommendations for Ukraine

Based on the experience of other countries, the main direction for improving the monetary policy of Ukraine is determined as a phased transition from the regime of targeting the exchange rate (which was defined as a financial priority of the monetary policy of Ukraine in 1997 (Bazilevich, 2007)) to the regime of inflation targeting.

During *the first stage*, you need to reduce utilization of foreign exchange interventions that will make the exchange rate more flexible and to increase the influence of interest rate policy, which should become the main tool of the NBU. It is also important to implement a number of measures aimed at the development of the stock market of Ukraine.

The purpose of *the second stage* is the transition to full inflation targeting by further liberalization of operations with capital movement. The main results of the second stage should be the transparency and efficiency of the impact of interest rate policy and a flexible exchange rate.

The criteria for the formation of the most favourable environment for the transition to the inflation targeting in the country are: the Central Bank independence, transparency and informational openness of the NBU, Central Bank credibility, a qualitative inflation forecast, high level of training of analysts and a robust statistical base, a developed financial market, free pricing, low level of dollarization of the economy, coordination of instruments of monetary and fiscal policy.

So, the possible positive aspects of the implementation of inflation targeting in Ukraine include:

- 1) increasing trust of the population, primarily in the National Bank of Ukraine and the Government, which is one of the factors in the formation of inflation expectations;
- 2) ensuring stable economic development of Ukraine in the long term;
- 3) increasing of foreign investment (which will affect the development of financial-credit sector and the economy as a whole);
- 4) lower prices for imported goods;
- 5) increasing transparency and efficiency of functioning of the government securities market;
- 6) creation of mechanisms to counter external shocks and manage cash flow in all sectors of the economy;
- 7) reducing the likelihood of crises.

However, according to Vishnevskaya, the implementation of the inflation targeting regime in Ukraine in the absence of basic preconditions was a necessary step, but, as practice shows, untimely, and the proof is the inability of the NBU in 2014 to ensure price stability in conditions of macro-economic instability (Vishnevskaya, 2015).

The inflation targeting regime was implemented in unfavourable for Ukraine's economy conditions, in particular with inflation almost of 24.9 % in 2014, the devaluation of hryvnia by almost 310 % (from 8.3 UAH/USD in 2013 to around 34,0 UAH/USD in February 2015) and the fall of GDP by 15.2% in 2014. The influence of the external environment will further increase the dependence of inflation targeting on the budget needs (Kornev, 2015).

## 6. Conclusions

One of the main preconditions for the effective functioning of the economy is ensuring of a stable and low inflation. The achievement of the inflation target is possible primarily due to the choice of the optimal Central Bank monetary policy. Given the socio-economic realities of Ukraine, the most expedient one is the implementation of the inflation targeting regime.

Inflation targeting should be viewed as a monetary system device, which is characterized by a public proclamation of the official quantitative inflation target in the medium term and a clear understanding and confidence that low and stable inflation is the primary goal of monetary policy in the long run. In addition, an important condition for the implementation of this monetary regime is understanding that it will stimulate positive changes concerning the implementation of monetary policy, strengthening the effectiveness of the use of its main tools to increase the independence of the Central Bank in terms of accountability and transparency and will contribute to the development of the system analysis and forecasting of the inflation target in the country.

There are the following ways to improve monetary control in conditions of implementation of the inflation targeting regime: enhancing the role of interest rates in managing inflation through adherence to the basic rules of interest policy; strengthening the capacity of the NBU to develop its own forecasts of macroeconomic indicators, which will be the basis for making monetary decisions and will enhance the independence of the regulator; improving the efficiency of the process of making monetary decisions and improving communication policy with the aim of restoring confidence in the regulatory actions; a better coordination of monetary and fiscal policy to achieve the inflation target and keeping it at low levels for a long time.

A promising direction for further research is an in-depth analysis of the transmission mechanism of monetary policy, directly connected with the inflation targeting regime and that may lead to the more effective impact of the Central Bank on the economy of Ukraine.

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## Роман КАЛИНОВСКИЙ

### ОБОСНОВАНИЕ ЦЕЛЕСООБРАЗНОСТИ ПРИМЕНЕНИЯ РЕЖИМА ИНФЛЯЦИОННОГО ТАРГЕТИРОВАНИЯ В УКРАИНЕ

**Аннотация.** *Целью работы* является рассмотрение базовых вариантов выбора монетарного режима денежно-кредитной политики, к которым относятся режим монетарного таргетирования, режим таргетирования обменного курса, режим таргетирования инфляции, а также стратегия без явного номинального якоря. *Исследуется* их внедрения различными странами мира и вызванные ими последствия. *Предметом исследования* является рассмотрение существующих монетарных режимов и обоснование выбора одного из них для обеспечения устойчивого развития экономики Украины. В данном исследовании рассматриваются, помимо прочего, такие нерешенные части общей проблемы, как поиск путей повышения степени влияния центрального банка на экономику посредством изменения существующего монетарного режима на более оптимальный. *Методика.* Исследование основано на сравнении данных о степени эффективности проведения денежно-кредитной политики разными странами мира в определённые периоды времени. Рассматривая последствия внедрения тех или иных монетарных режимов в разных мировых экономиках, делаются выводы о целесообразности выбора определённого режима для экономики Украины. *Результаты* сравнения показали, что наиболее целесообразным для экономики Украины является выбор режима инфляционного таргетирования, поскольку последний формирует инфляционные ожидания населения на низком уровне, в большинстве случаев позволяет снизить уровень инфляции в короткий срок, способствует укреплению фактической независимости центрального банка и доверия к нему, позволяет преодолеть внешние и внутренние шоки, устраняет противоречия, связанные с целями монетарной политики, снижает вероятность возникновения кризисов, а также создает положительные условия для развития экономики страны в целом. *Практическое значение.* Всесторонне исследовав преимущества и недостатки базовых монетарных режимов, были сделаны выводы относительно перспективных направлений развития монетарной политики в Украине, а также даны рекомендации относительно последующих действий государственных органов Украины. Наиболее значимыми являются такие рекомендации, как снижение степени использования валютных интервенций, что сделает обменный курс более гибким, и усиления влияния процентной политики, которая должна стать основным инструментом НБУ. Также важно осуществить ряд мероприятий, направленных на развитие фондового рынка Украины. Для перехода к режиму полного таргетирования инфляции необходима дальнейшая либерализация операций, связанных с движением капитала. Основными результатами этих действий должны стать прозрачность и эффективность влияния процентной политики и гибкий валютный курс. *Значение/оригинальность.* Полученные выводы обосновывают преимущества применения режима



инфляционного таргетирования для повышения эффективности монетарной политики государства, а также предоставляют рекомендации относительно дальнейшего внедрения режима таргетирования инфляции в Украине. Перспективным направлением дальнейших исследований является углубленный анализ трансмиссионного механизма денежно-кредитной политики, который непосредственно связан с режимом инфляционного таргетирования и может привести к более эффективному воздействию центрального банка на экономику Украины.

# THE MODEL OF INTERACTION BETWEEN INSURANCE INTERMEDIARIES AND INSURANCE COMPANIES IN THE ASSURANCE OF SUSTAINABLE DEVELOPMENT OF THE INSURANCE MARKET

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**Abstract.** *The purpose* of this paper is the investigation of the model of interaction between insurance intermediaries and insurance companies in the assurance of sustainable development of the insurance market. *The methodology* is based on the new studies and books. It is underlined the importance of potency and effectiveness of this model, its influence on the insurance market stability. It is analysed the European experience and specific of Ukrainian insurance market. The main ways for improving its model and ways of its practical realization are characterized. *Results.* The problems that exist in the broker market in general are connected with an ineffective state policy. In particular, we can say about the absence of many laws, acts, resolutions, which explain what a broker have to do in case of different problems with insurance companies, another brokers and clients. At the same time, the problem of distrust to national brokers exists. It provokes a decline of the demand for their services and so on. However, it is possible to solve these problems. *Practical implications.* For this, it is necessary to do some acts. The first one is to implement resolutions that regulate relationships between insurance brokers and insurance companies, clearly regulate the model of its interaction. This model affects the stability of the insurance market in general. The second is to find methods of solving problems of the increase in insurance culture of the population (for example, by the way of advertisement). The third one is to solve problems connected with the appearance of foreign brokers in the insurance market of Ukraine. Actually, the Ukrainian market of insurance brokers is not developed enough. That is why it needs big changes and reforms. *Value/originality.* Among alternatives of the strategic development of insurance, the method of quick liberalization and gradual development is distinguished. According to the liberal way, it is possible to transfer to the market mechanisms of functioning of insurance both in the inside and outside markets. The gradual development includes the state defence of national companies until they will be competitive.

**Key words:** interaction model, insurance market, insurance intermediary, insurance company, effectiveness, stability, European experience, specific of Ukrainian insurance market.

**JEL Classification:** R14, D18, P2

## 1. Вступление

Постановка проблемы. Модель взаимодействия страховых посредников и страховых компаний играет важную роль в обеспечении стабильного развития страхового рынка. От того, насколько рынок есть стабильным и прогнозируемым, зависит его эффективность, в частности способность привлекать страховщиков, а также возможность платить им страховые компенсации.

Отдельные аспекты исследованной проблемы анализируются в работах современных украинских ученых-экономистов. В частности, системное видение модели взаимодействия страховых посредников и страховых компаний представлено в работах В. Базилевича, О. Власенко, З. Варналий, Р. Пикус, О. Чер-

няка, А. Старостиной, Н. Крылова, В. Петровского и др. О. Гаманкова изучала рынок страховых услуг Украины с позиций роли на нем страховых посредников и страховых компаний. В. Бубенко исследовал страховые услуги как такие, что оказываются страховыми посредниками и страховыми компаниями; Д. Козенков, Л. Богачова, О. Богачова обращались к вопросам законодательного регулирования деятельности страховых посредников и страховых компаний. В. Фурман акцентировал внимание на необходимости усовершенствования государственного регулирования деятельности страховых посредников и страховых компаний в Украине путем внедрения новых нормативных актов. В общем существует ряд научных работ, посвященных изучению модели

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взаимодействия страховых посредников и страховых компаний в Украине и других государствах Европы и США. В то же время есть необходимость представить системное научное видение модели взаимодействия страховых посредников и страховых компаний в Украине, апеллируя к опыту и урокам мировых страховых рынков. Цель статьи – проанализировать специфику модели взаимодействия страховых брокеров и страховых компаний в обеспечении стабильного развития страхового рынка. Задания статьи определяются анализом специфики этой модели на просторах украинского страхового рынка, обращением к особенностям модели взаимодействия страховых посредников и страховых компаний в мире, а также определении ее влияния на стабильное развитие страхового рынка.

## 2. Страховые посредники на современном рынке

В соответствии с действующим законодательством Украины, страховые брокеры могут вести свою деятельность только после того, как они зарегистрированы в государственном реестре страховых брокеров, который формируется и контролируется Госфинулуг. В большинстве стран законодательство, которое регулирует деятельность страховых посредников, предполагает порядок их регистрации, требования к уровню профессиональной подготовки и предоставления информации, а также необходимость финансовых гарантий покрытия ответственности, которая возникает в процессе посреднической деятельности. Сам факт регистрации посредника определяет наличие предыдущего этапа получения разрешения и предшествующую ему проверку квалификации. Все зависит от критериев, которым должен соответствовать страховой посредник, а также от того, насколько сложным есть процесс прохождения регистрации. В этом понимании регистрация, что производится без постановки требований к страховому посреднику, есть очень рискованной и опасной. Ведь она, с одной стороны, дает возможность вести статистический учет, но, с другой, не может сформировать у клиента чувство защищенности и гарантированности. Смотри на это, такая ситуация дает основания вести речь о том, действительно ли посредник владеет квалификацией. Если ее нет, то это становится очевидным фактом.

То есть, на сегодняшнем страховом рынке Украины регистрация страховых посредников есть фактически формальным и условным актом. В то же время заданием регистрации есть решение, по крайней мере, двух заданий. Во-первых, дать разрешение контрольно-ревизионным службам и клиентам проверять деловые связи посредников, а также по возможности сгруппировать их за четкими категориями. Во-вторых, очень важным есть осуществле-

ние проверки того, насколько посредник отвечает определенным критериям. Реализация этих аспектов обуславливает стабильность страхового рынка.

Профессиональная компетентность страховых посредников – это существенный и определяющий элемент защиты страховиков, поэтому необходимо систематически проводить мероприятия, которые были бы направлены на получение страховыми посредниками общих, коммерческих, профессиональных навыков и знаний. Содержание квалификационных требований в разных странах есть отличным, таким, что зависит от особенностей национального страхового рынка. Так, Международное бюро страховиков и перестраховиков (объединение национальных профессиональных ассоциаций страховых посредников Европейского Союза) в своей резолюции от 7 октября 1992 г. предлагает установить программу обучения с минимальным объемом в 300 часов за период на 18 месяцев. Здесь обязательным есть сдача экзаменов после курса обучения. В Украине же сегодня такой возможности не существует (Блашук, 2012).

В том случае, когда посредники неудовлетворительно исполняют свои обязанности, и при этом их клиенты терпят финансовые лишения, последние должны обязательно получить компенсацию. Оказание таких финансовых гарантий требуется в первую очередь от брокеров. В общем принято считать, что страховые компании несут полную финансовую ответственность за профессиональные действия своих агентов. При этом возникает ряд проблем, если речь идет о тех агентах, которые работают на несколько страховых компаний. По поводу страховых брокеров, то существуют некоторые виды гарантий покрытия их профессиональной ответственности. Наиболее распространенным, а в многих странах обязательным, есть страхование профессиональной ответственности страховых брокеров. Существует также такой вид гарантии, как банковский депозит. В то же время на украинском страховом рынке до этого времени отсутствует механизм оказания финансовых гарантий со стороны страховых посредников.

Фактически в Украине, где большое количество населения осуществляет страхование только через определенную необходимость (в основном при оформлении кредитов, страховании авто, страховании поездок за границу и т.п.) институт брокерства пока что переживает процесс своего постепенного «приживания» и поиска доверия со стороны страхователей. Больших страховых брокеров на территории Украины до этого времени работает мало. Фактически все они в основном работают с корпоративными клиентами. Основному количеству обычных граждан большинство посредников предлагают самые распространенные виды страхования, в частности страховки автомобиля, недвижимости, очень редко – медицинское страхование и страхова-

ние жизни. То есть, главной отличительной чертой страхового брокера от страхового агента есть то, что агент работает непосредственно на страховую компанию, а брокер не привязан к никакой страховой компании, он действует самостоятельно, работает на себя.

### 3. Страховые компании и страховые посредники

От того, насколько эффективно будет действовать этот механизм, зависит стабильность страхового рынка. В общем, главное отличие между оказанием услуг страховой компанией и страховыми посредниками определяется тем, что посредники могут сделать скидку и дать консультацию страховику. На сегодня механизм взаимодействия страховых компаний, страховиков и страховых брокеров в Украине находится только на начальном этапе развития, он формируется.

Заданием страховых брокеров есть максимальное содействие завлечению финансовых ресурсов страховиков. Это происходит путем консультирования страховиков по поводу видов страховых продуктов, которые предлагают разные страховые компании. То есть, речь идет о продвижении страховых продуктов на рынок страхования. Урегулирование убытков дает возможность залучить больше потенциальных клиентов в страховые компании. То есть, брокер, оказывая помощь страховым компаниям в расширении и развитии своего рынка, содействует повышению уровня и культуры страхового рынка Украины, его приближению к мировым требованиям и стандартам. По поводу страховиков, то заданием страховых брокеров есть систематическое и надежное оказание гарантий за выплатами и компенсаций за страховыми случаями. Именно это может существенно изменить менталитет населения по поводу покупки страховых продуктов. Так, обратившись к брокеру, клиент может сэкономить время на поиски будущего страховика. Учитывая то, что брокер постоянно проводит отбор страховых компаний, именно от посредника клиент имеет возможность получить на выбор список из 5–10 уже проверенных брокером компаний с описанием цены, специфики их услуг. В то же время для получения такой информации самостоятельно клиент должен потратить значительное количество времени. Кроме того, брокер оказывает консультации клиенту по поводу самого процесса страхования. Учитывая то, что фактор цены имеет для клиента очень важное значение, брокер получает возможность помочь найти дешевую и в то же время надежную страховку. Если клиента больше всего интересует качество продукта страхования, то брокер может доступно объяснить ему предложенные несколькими страховыми компаниями полисы. Окончательный выбор страховой компании клиент

делает самостоятельно, после чего они с брокером подписывают страховой договор. Соответственно с этим договором, брокер берет на себя обязательства с обслуживания клиента, то есть, он не только приводит его в страховую компанию, но и обязывается консультировать и сопровождать при наступлении страхового случая. Также брокеры оказывают помощь своему клиенту на протяжении всего термина страхования. Заданием страхового брокера есть не только оказание услуг и советы, но и в случае наступления страхового случая он должен контролировать то, чтобы страховая компания исполняла свои обязательства по поводу компенсации убытков клиента. Если страховая компания не исполняет эти обязательства, то брокер должен внести эту компанию в так называемый «черный список» и больше не рекомендовать ее своим клиентам. Таким образом, своей деятельностью брокер формирует здоровую конкурентную среду между страховиками. Честная конкуренция есть важным фактором стабильности страхового рынка. В то же время такие услуги брокера могут стоить клиенту около 15–20% от цены всей страховки. Необходимо подчеркнуть, что брокер должен осознавать свою ответственность перед страховым рынком, которая заключается в том, чтобы не понижать цены до неэкономического уровня. Финансовая стабильность страховиков важна и для брокера, и для его клиента. То есть, развитие института страховых брокеров влияет на общее развитие страхового рынка в Украине, помогает стране выйти на мировой страховой рынок и занять на нем достойное место. Впрочем, сегодня очень медленно развивается процесс участия страховых брокеров в страховом рынке Украины. Для осознания причин этого необходимо провести глубокое исследование страхового брокера в Украине.

### 4. Современный брокераж в Украине

В общем, состояние развития страхового брокеража в Украине характеризуется такими аспектами, как количество брокеров, соотношение между количеством брокеров и страховых компаний, величина страховой премии, что была получена непосредственно на расчетный счет от брокера, доля рынка, которая обслуживается брокерами (Бубенко, 2010). Количество страховых брокеров в Украине на протяжении последних пяти лет постоянно уменьшается. Этот факт должен вызвать внимание со стороны страхового рынка и общества, ведь фактически постепенно исчезает очень важный для существования рыночных отношений институт страховых брокеров. В экономически развитых странах на одну страховую компанию приходится несколько десятков страховых брокеров, которые обслуживают рынок.

В то же время в Украине в конце 2005 г. в реестре Госфинуслуг было зарегистрировано 80 брокеров, в

2006 р. – уже 78 брокеров, в 2007 р. – 69 брокеров, в 2008 р. – 68 брокеров, в 2009 р. – 65 брокеров, в 2014 р. – 61 брокер, в 2015 р. – 60 брокеров, в 2016 р. – 59 брокеров. Для сравнения приведем факты по поводу других стран. Так, в маленькой Швейцарии сейчас зарегистрировано около 3000 брокеров в сфере страхования и перестрахования. Конечно, там и предложение на услуги страхования значительно выше, но разница все же существенная. Кроме того, она говорит о том, что институт брокеража в экономически успешных странах активно развивается. Таким образом, он есть важным для эффективного функционирования страхового рынка. Как свидетельствуют расчеты экспертов, страховые брокеры в Украине обслуживают только 5% страхового рынка. В то же время в США и Канаде они работают с 95% страхового рынка, в Италии – с 92%, в Германии – с 87%. В Западной Европе одну страховую компанию обслуживает 10 брокеров, а в Украине для 20 страховиков работает только один брокер.

Уменьшение страховых брокеров на рынке страхования связано в первую очередь с возникновением проблем с выплатами вознаграждения. Так, в г. Киеве и Киевской области действует 42 брокера, что составляет почти 64% от их общего количества по отношению к другим регионам Украины. В то же время существуют целые регионы, где эти институты почти полностью отсутствуют. В основном это Западная и Центральная Украина. Этот факт свидетельствует о неравномерности распространения страховых услуг в разных регионах Украины. Необходимо подчеркнуть, что в Украине развитие страхового брокеража находится по существу на начальном этапе.

## 5. Основные тенденции развития страхового брокеража в Украине

В общем, основными тенденциями есть такие. Первая – наименее развитым есть страхование жизни. Это можно объяснить тем, что страхование жизни не имеет такого широко развитого сектора рекламы и его предложение на рынке страхования есть минимальным. На протяжении 2010–2016 гг. динамика страхования жизни почти не изменилась. Вторая – личное страхование составляет 1,78% всех полисов, которые предлагают брокеры. Имея большую часть подписания договоров, чем в страховании жизни, личное страхование приносит больше прибыли непосредственно брокерам и страховым компаниям. Третья – ведущую роль в страховании занимает страхование имущества. Это можно объяснить тем, что, во-первых, при получении кредита в банке обязательно нужна страховка, во-вторых, имущество страхуется, когда существует вероятность стихийного бедствия. Четвертая – страхование ответственности есть наиболее распространенным видом стра-

хования при подписании обязательств и при наличии возможности невыполнения партнером условий договора. Его часть на рынке страхования равна почти 10%. Пятая – наиболее распространенным и прибыльным есть обязательное страхование. Имея самый большой показатель подписания договоров, оно приносит 70,7% прибыли. То есть, главную часть рынка страховых услуг составляет страхование имущества, а самую меньшую – страхование жизни. Это можно объяснить проблемами в экономическом развитии страны (в частности, на протяжении последних лет), стихийными бедствиями, предложением и спросом на страховые полисы и т.п.

Таким образом, за статистикой, около одной трети страховых полисов на страховом рынке Украины реализуют именно брокеры. Главные плюсы покупки полиса через брокеров – это оказание консультации в процессе покупки полиса. Но наиболее полезными страховые брокеры будут тогда, когда непосредственно наступает страховой случай. В некоторой степени по-другому выглядит ситуация со страховыми агентами, которые заинтересованы только в том, чтобы продлить действие максимального количества полисов. При этом их практически не интересует то, что будет происходить дальше с клиентом. Именно поэтому много страховых агентов с такой целью выдают себя за страховых брокеров (Фурман, 2006). Если агенты сегодня пытаются представить себя как брокера, то остальные, в свою очередь, пытаются приблизиться к агентам. Большинство страховых брокеров сегодня имеют и брокерскую, и агентскую структуры. В то же время необходимо подчеркнуть, что ни классические брокеры, ни брокеры-агенты сегодня не могут гарантировать своим клиентам выплаты компенсации при наступлении страхового случая. Так, в европейских странах все брокеры обязаны страховать свою ответственность. И если застрахованное лицо по их вине несет убытки, то оно может получить финансовую компенсацию за полисом ответственности. Но существуют случаи, когда брокеры добровольно страхуют свою ответственность, чтобы поддержать собственный имидж и сделать безопасной свою деятельность. Бывали случаи, когда посредники самостоятельно выплачивали компенсации клиентам. Они считают, что это дешевле, чем терять свою репутацию на рынке (Варналий, 2004).

То есть, основной проблемой в развитии страхового посредничества есть то, что сегодня на рынке страхования еще не достаточно определены проблемы с вознаграждением. В мировой практике вознаграждение согласовывается со страховиком и высчитывается из суммы страхового платежа. В то же время в Украине существуют некоторые противоречия в законодательстве по поводу комиссионного вознаграждения страховым брокерам. Так, согласно с действующим законодательством, оплата за оказан-

ную комиссионером (брокером) услугу осуществляется в порядке, определенном сторонами в договоре (Страхование, 2008). Но ему дается право отсчитать принадлежащие ему за договором суммы с денежных средств (страхового платежа), что пришло к нему. Именно здесь возникает проблема касательно расчетов с брокером, потому что для это существует много препятствий. Так, если брокер самостоятельно отсчитывает сумму с денежных средств, то он может иметь проблемы со страховой компанией или не получить вознаграждения вообще. Такие противоречия могут привести обоих представителей в суд. Это происходит потому, что, согласно с юридическими нормами и положениями, брокер не имеет права на подписание договора со страховиками и получение от них комиссионного вознаграждения.

Эти аспекты должны быть прописаны в профильных законах, которые регулируют вопросы страхования и функционирования рынка финансовых услуг. Но таких положений в Законах Украины «О страховании» и «О финансовых услугах и государственном регулировании рынка финансовых услуг» нет. Также Украина не может отделиться от мировых тенденции в развитии страхового посредничества. В связи с этим правительство Украины пытается достигнуть мировых стандартов. Так, на это время стал возможным выход отечественных страховых брокеров на международный рынок и выход иностранных брокеров на рынок Украины. Учитывая то, что, если Украина пытается «войти» в Европу, то она должна исключить требования действующего законодательства по поводу запрета работы страховых посредников в интересах страховиков-нерезидентов (Базилевич, 2006).

Так, 10 апреля 2008 г. в рамках ратификации договора о вступлении Украины в СОТ Верховная Рада приняла изменения к Закону Украины «О страховании». Этим было значительно улучшено условия входа в Украину иностранных страховых и перестраховых брокеров. В частности, была отменена норма касательно брокеров-нерезидентов, которые имели право оказывать услуги только через постоянные представительства в Украине, должны были зарегистрироваться как плательщики налогов и быть включенными в Государственный реестр страховых и перестраховых брокеров. Как считает много участников рынка страховых услуг, с одной стороны вход иностранных брокеров на украинский рынок может с него вытеснить отечественных представителей, а с другой стороны это дает возможности для выхода украинских брокеров на международный уровень (Страховые услуги, 2007).

Все эти изменения были вызваны присоединением нашей страны к СОТ. Так, нерезиденты получили право страховать авиационные, морские и космиче-

ские риски. В будущем в Украину может прийти много иностранных компаний, брокеров и финансовых групп. В то же время существуют недостатки такой политики, ведь субъекты с мировым именем могут вытеснить отечественных брокеров со страхового рынка Украины (Власенко, 2006). Уже сегодня выход на наш рынок таких мировых лидеров, как Marsh & McLennan, Willis, AON Limited, Besso Limited и Oakeshott, как правило, связан с приходом в Украину мульти-национальных компаний, а также клиентов, которые обслуживаются у них по всему миру. Такие больше иностранные брокеры размещают на протяжении года не значительное количество очень больших рисков своих клиентов. Таким образом, представительства международных брокеров на территории Украины и отечественные брокеры, как правило, занимают разные рыночные позиции и пока что не могут конкурировать друг с другом.

## 6. Выводы

Таким образом, проблемы, которые возникают на рынке брокерства, в основном связаны с неэффективной политикой государства, в частности, недостающим количеством законов, актов, положений, которые объясняют, что должен делать брокер при наступлении каких-либо противоречий со страховыми компаниями, другими брокерами, клиентами. Также существует проблема недоверия страховиков к отечественным брокерам, что ведет к уменьшению спроса на услуги, которые они оказывают и т.п. Впрочем, все эти проблемы можно решить. Для этого необходимо осуществить несколько мероприятий.

Первое – принять положения, которые регулируют отношения страховых брокеров и страховых компаний, четко регламентируют модель их взаимодействия. Ведь эта модель существенно влияет на стабильность страхового рынка в целом. Второе – найти способы решения проблемы повышения страховой культуры населения (например, путем рекламы). Третье – решить проблемы, связанные с появлением иностранных брокеров на страховом рынке Украины. По сути рынок страховых брокеров Украины еще не достаточно развит, поэтому он требует существенных изменений и реформ.

Среди альтернатив стратегического развития страхования выделяют подход быстрой либерализации и постепенного развития. Либеральный путь предусматривает полный переход на рыночные механизмы функционирования сферы как касательно внутреннего, так и касательно внешнего рынков. Постепенное развитие предусматривает защиту государством национальных компаний, пока они не станут конкурентными.

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**Наталья КУДРЯВСКАЯ****МОДЕЛЬ ВЗАИМОДЕЙСТВИЯ СТРАХОВЫХ ПОСРЕДНИКОВ И СТРАХОВЫХ КОМПАНИЙ В ОБЕСПЕЧЕНИИ СТАБИЛЬНОГО РАЗВИТИЯ СТРАХОВОГО РЫНКА**

**Аннотация.** *Целью работы* есть исследование модели взаимодействия страховых посредников и страховых компаний в обеспечении стабильного развития страхового рынка. *Методика.* Концепция статьи основана на новейших работах и исследованиях в сфере страхового рынка. Сделано акцент на важности эффективности модели взаимодействия страховых компаний и страховых посредников, ее влияния на стабильность рынка страхования. Анализируется европейский опыт и специфика украинского страхового рынка. Определяются главные пути усовершенствования этой модели и пути их практической реализации. *Результаты.* Проблемы, которые возникают на рынке брокерства, в основном связаны с неэффективной политикой государства, в частности, недостающим количеством законов, актов, положений, которые объясняют, что должен делать брокер при наступлении каких-либо противоречий со страховыми компаниями, другими брокерами, клиентами. Также существует проблема недоверия страховиков к отечественным брокерам, что ведет к уменьшению спроса на услуги, которые они оказывают и т.п. Впрочем, все эти проблемы можно решить. *Практическое значение.* Для этого необходимо осуществить несколько мероприятий. Первое – принять положения, которые регулируют отношения страховых брокеров и страховых компаний, четко регламентируют модель их взаимодействия. Ведь эта модель существенно влияет на стабильность страхового рынка в целом. Второе – найти способы решения проблемы повышения страховой культуры населения (например, путем рекламы). Третье – решить проблемы, связанные с появлением иностранных брокеров на страховом рынке Украины. По сути рынок страховых брокеров Украины еще не достаточно развит, поэтому он требует существенных изменений и реформ. *Значение/оригинальность.* Среди альтернатив стратегического развития страхования выделяют подход быстрой либерализации и постепенного развития. Либеральный путь предусматривает полный переход на рыночные механизмы функционирования сферы как касательно внутреннего, так и касательно внешнего рынков. Постепенное развитие предусматривает защиту государством национальных компаний, пока они не станут конкурентными.

# OPTIMIZATION OF SALARY CALCULATIONS AND EMPLOYEES' LABOUR PRODUCTIVITY STIMULATION AT THE ENTERPRISE

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**Abstract.** The purposes of the paper are: the detailed analysis of salary calculations, the evaluation of the effectiveness of employees' work, the development of optimizing mechanisms of salary calculations by increasing productivity and implementation of the methods of employees' labour stimulation. *Methodology.* The study is based on an analysis of different groups of enterprises, including agricultural ones. It is analysed that for today the efficiency of labour at some enterprises drops due to low wages and the lack of employees' motivation mechanism. *Results.* The study found that the process of salary calculations has a lot of problematic aspects, such as a deficient work organization, insufficient stimulation of workers, poorly composed documents, etc. To improve such a situation, it is suggested an introduction of automation in order to reduce the wasting of working time for data processing of an accounting department and to improve significantly the quality and speed of information transfer to the head of an enterprise and external users. It is offered to use a labour ball to improve employees' motivation, which is a form of accounting for the work varying on quality and quantity that was contributed to production. According to the scoring results, a mechanism of bonuses for employees is suggested. *Practical implications.* We suggested entering new documents to control the number of issued orders – "Registration Book of Issued Orders". To provide a high level of quality control of executed works, it is suggested to display data in a special primary document "Record Sheet of Performance Quality". It is offered to use partial salary payment for unprofitable enterprises through payment in kind. *Value/originality.* At first, the results will allow increasing the firm's performance quality without losing employees, and subsequently – allow increasing the profitability of the enterprise.

**Key words:** optimizing mechanisms, labour productivity, development, development, stimulation.

**JEL Classification:** C41, C83, D20, D23

## 1. Introduction

The labour productivity is an important economic category characterizing the effectiveness of the labour force. The labour productivity shows the rationality of a company's financial activity and each employee's activity. The higher labour productivity is, the higher the income of enterprises and salaries. This shows up the general economic pattern of production development.

The transition to a market economy has made changes in the forms of the labour relations' regulation. Now the direct form of legal regulation of labour relations is the tariff agreements and collective bargaining agreement. Enterprises have the right to choose the system and form of remuneration independently, based on the specifics and problems that have arisen at the enterprise.

A major role in the development of the production and increasing its efficiency is played by labour resources. The labour resources are the main productive forces of agricultural production. Their correct and complete registration, a study of their structure and motion at the

enterprises, their rational use are essential for improving the efficiency of production.

Human manufacturing abilities are the main factor of production in the society, at each enterprise and its divisions. An employee brings all the factors of economic activity and leads to their interaction to achieve the ultimate goal. On the rationality of employee's actions depend the results of worker production, its intensity, and effectiveness.

The labour and wages accounting is one of the main areas in the whole system of accounting at the enterprise. Its major objectives are: the deadline to make the buyout to pay, collect and group rates of the wages for the preparation of necessary reports and make calculations with the social insurance, pension fund and fund of employment in the new economic conditions.

Considering the problems of the wages, you will notice that only one definition of wages' size can cause significant complications for all participants of the labour relations, as employee always wants to have the highest level of income while the employer seeks to reduce costs.

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The main factor influencing the effectiveness of using the labour is the wage system. It is salary, and often it is only one reason that leads the worker to his workplace. Therefore, the significance of this problem is hard to overestimate.

The labour and wages accounting should ensure operational control over the number and the quality of work, the use of tools that are included in salary and social payments fund.

The new systems of the labour and the wages' organization should provide financial incentives for the employees. This is due to the dependence of the salary level on living standards. For the most people, the salary is the main source of income. Therefore, issues related to the salary (its size, shape of charges and payments, etc.), are among the most pressing for the workers and for the employers.

## 2. Problematic aspects of the calculations of wages

The issue of the rational use of the labour forces plays an important role in further enhancing the production efficiency. The results of the company are largely dependent on the availability of its labour force, the efficiency of its use. Insufficient availability of the labour force can lead to a failure of the planned volume of the production and its surplus can lead to partial use and to the reduced productivity (Vachevska, 2005).

The tension in maintenance of the enterprise workforce can be reduced through a better use of the labour, a productivity growth, an intensification of the production, a comprehensive mechanization and an automation of the production processes, an introduction of the new productive machines, an improvement of the technology and an organization of the production. During the analysis should be identified reserves of reducing the need for the workforce as a result of the above measures (Kolot, 2003).

The improving of labour force's productivity is a pressing problem, the solution of which depends on the rate of the expanded reproduction in agriculture and completes the needs of the country in its products.

According to many leading scientists and economists in the present socio-economic conditions, we have a lot of economic problems related to motivation, namely:

- small amounts of the cash flow from business enterprises during the year and the impossibility of the obtaining loans lead to a lack of sufficient working capital to pay salaries every month, all the more so twice a month;
- inflation and the constant threat of "collapse" of the currency do not allow using the money to objectively evaluate and compare labour costs at various stages of a long production cycle. In such a situation, money is no longer a measure of the labour costs and their evaluation;

- lack of the communication between outcomes and the level of the salary as the result of almost all major agricultural enterprises pay for the amount of the performed work or received goods, without incurred costs;

- workers' salary charged at a certain declared level (tariff rates, etc.) and the actual financial capabilities of many companies do not allow to pay that amount of money because only the material and the cash production costs (cost minus salaries) often exceed the price of the products. As a result of the mentioned is carried a constant accumulation of arrears wages without any economic support of its maturity;

- violation of the settlement principle. Thus, if the company installed the required level of payroll and the amount of the advance paid within a year is less than its actual size, at the end of the financial year a surcharge is made. If the volume of performed work exceeds the required advance of fund of the payment, it will be a cost overrun;

- replacement of monetary payment by kind. There are cases when all wages are issued in the form of products, goods and services, which is not the wages in fact. It is a complete replacement of the monetary payment by the natural issues. This way of the payments for the employees is not legally regulated or provided in the collective agreements and regulations of the pay. In addition, it leads to budget losses (Vachevska, 2005).

The organization of the work is based on legislation and other regulations, the general agreement at the national level, an industry, regional agreements and the collective labour agreements. Every citizen the right to work realizes by entering into an employment contract. The employment contract is an agreement between the employee and the owner of the enterprise, the institution, the organization or the empowered body where the employee agrees to perform the work specified in the agreement, with the subordination of the domestic labour regulations, and the business owner or the authorized body is obliged to pay the employee the wages and provide working conditions to the employment provided by the labour legislation, the collective agreement and the agreement of the parts (Kolot, 2003).

The enterprise uses the material and human resources for its activities. The amount and composition of the staff depend on its size, level of mechanization, direction of the specialization, structure and organization of production and other factors. The demand for the labour is defined in terms of economic and social development.

The development of productive forces and the steady growth of the needs of the society determine the need for the increasing productivity. At all stages of the human history, an economic law of the productivity growth operates. The achieved level and the pace of the productivity growth is an important indicator of the efficiency, a source of real income growth and welfare.

To our opinion, the wage is advisable to call a fee, which is calculated in the monetary terms, which the authority has to pay to the employee for his work. It can be concluded that scientists have studied the meaning of the wage for a long time. There are as many definitions of the salary, as many opinions about the dependence of the wages from the company's type of activity.

### 3. Terms of payments of wages

The organization of the work is based on the legislation and other regulations, the general agreement at the national level, an industry, regional agreements and the collective labour agreements.

The owner or his representative comes with the employee in the labour relations when he receives the employee for the work. The main document, which establishes the relationship, is a contract of the employment.

The employment contract is an agreement between the employee and the owner (or authorized body, person). According to the labour contract, the employee agrees to perform the work specified in the contract, observe internal regulations of the company, and the owner of the company or its authorized body or person is obliged to pay the employee the wages and provide the necessary conditions for the job.

According to the law, the wages are paid regularly in working days in the terms laid down in the collective agreement, but at least twice a month through the period of time that does not exceed sixteen days. The payment for the employees is carried out on a priority basis after paying the required fees. The wages of employees consists of the main (permanent) and additional (variable) units, as well as incentive payments.

The purpose of the rationing of the work at the enterprises is based on the introduction of new technology, the improvement of the production and the labour organization, the improving of its conditions to reduce the cost of the output, the increasing productivity, which is essential to expand the production and to increase the real incomes of the employees.

The rationing as a quantitative measure of the labour influences the qualitative differences. Disadvantages of the rationing, which are expressed in different intensity standards, the level of their performance, determine the violation of the ratio of pay, depending on the complexity of the work. Labour standards contribute to equal pay for equal work only when they reflect its equal intensity (Mayorenko, Kalyghnuyi 2000).

The organization of the wages largely depends on the quality of the legal enactments, as the use of the rules of time and understated norms of the work in the evaluation of the value of the worker's labour leads to a violation of the principle of payment depending on a number of the labour.

The connectivity of earning of the workers with quantitative and qualitative results of their work is

carried out through the forms and wages. Their rational choice and building help to provide the material interest of the workers in growing the productivity, improving the quality of the products, increasing its competitiveness, saving raw materials, etc. (Mayorenko, Kalyghnuyi 2000).

The form of extra pay for the performance of the indicators is a bonus. There is a necessity of the bonuses due to the fact that the wages for the worked hours and the number of products does not let to take into account the results of the labour, to combine personal material interest with the collective one, to stimulate increased productivity, improved utilization of assets, improve the quality of the product at the same time.

### 4. Optimization of the calculation of salary and stimulation of the employees' work

The chief accountant must carry out operational meetings concerning the accounting of all links of production and analyse the quality of submitted original documents and give the workers a rating of the work quality in order to strength the labour discipline among employees of all accounting and to monitor the workflow.

The simplification of accounting and reporting reductions are equally important. The agrarian enterprises continue to report about the production and the production costs, volumes, sales channels and revenue as for departmental reporting.

One of the main ways to improve accounting is the transition to modern computer technology. It should be noted that majority of accounting programs that apply in the country, repeats the technology that expanded in the hand forms of accounting and does not include fundamentally new approaches. The computer helps the accountant to perform calculations more quickly and accurately, to produce accounting books, payment, accounting documents and so on. In general, the level of automation of accounting in Ukraine is high, but enterprises of the agricultural sector should significantly improve the material and technical equipment and train staff to carry out accounting services in order to prepare the framework for the implementation of the automated form of accounting.

We propose to use a labour ball to improve motivation, which is a form of accounting for the work varying on quality and quantity that was contributed to production. As labour is different in quality and in quantity, then the indicators of estimation of the labour costs per working day are different too. There are prices per unit of worked time, the amount of completed work and rendered services in the labour points. The ball equal to 1 estimates a simple job that does not require training. All other activities are equal according to the coefficients of the indicator of estimation. The more complex the job, the more skills it needs, and more labour points it

has. The proposed method of scoring skill level of the employee is presented in Table 1.

It is possible to address cumulative labour costs of each individual worker and all together during the production period by using the labour points. At the end of the period, when the enterprise's business results become known, it is recommended to determine the actual level of payment (in cash and in kind) for a labour point. The specific employee receives compensation in a proportion of invested amount and the quality of the work, i.e. the number of the labour obtained points.

Table 1

**The proposed method of scoring skill level of the employee**

Labour point	Characteristics of workers
1-3	An employee who has no skills in performing their work that does not require it. They are auxiliary and service (loaders, cleaners, etc.). They have no special training.
4-5	The employees, low-skilled, who are engaged in a simple work, such as repairs, metalwork, building and so on. They have an experience for a few weeks.
6-7	Skilled employees who are engaged in challenging work (metal and woodworking, repair, locksmith, construction, etc.). They have considerable experience for a period of 1-2 years.
8-10	Employees who are highly qualified. They are employed in particularly difficult and responsible work (repair and adjustment of complex equipment, electrical work, etc.). Employees who have extensive practical experience, more than 2-3 years, and periodically probation.

The sequence of awarding employees in accordance with the rating list in Fig. 1.

The use of the proposed approach to the construction of labour relations at the enterprise provides a solution of certain economic problems, namely:

- it lets to compare and adequately assess the labour costs during the period of agricultural production;
- it promotes cessation of further growth of arrears of the wages, which is very important in the current environment;

- it helps to eliminate levelling in the wages of employees of enterprises of different economic efficiency;

- among the participants of the process, only such amount of money and volume of the products, food and feeds is distributed, which may be allocated for the salaries based on the results of the business period. The amount of payment for each employment's point is not a fixed quantity. The better results and lower labour costs, the more the amount of money for labour point, and vice versa. So, this helps to make an absolute connection between the salary and the work's result.

It is proposed to use the "Registration Book of Issued Orders" to control the number of issued orders at the company. Its purpose is to register orders, to control the assignments, outputs and worker's salary fund in the whole area. This will prevent the cases of uncontrolled orders issued and unreasoned payments. We offer data on the critical areas of the work to reflect in a special primary document "Record Sheet of Performance Quality" to ensure a high level of control over the quality of work performed at the studied company. The results of the quality of products can adjust the level of the wages of employees, raise the level of the labour discipline in units, apply financial incentives. Therefore, the primary documents to accounting products consider appropriate to reflect its quality characteristics.

At present, it is practiced in the agricultural areas to make the partial payment in kind. With the development of market relations and due to the lack of cash, it is advisable to make the payments in kind, using free products or sold at bargain prices. There is no developed document on payments in kind yet, so free-form documents are used for this purpose.

The employees sometimes want to receive the partial payment in kind for using in the private household. Although the issue of wages in kind to employees is still relevant for many farms because of their loss and insecurity of the working capital, but at the studied enterprise the improvement is needed.

However, we believe that the introduction of stimulation actions will allow the companies, including agricultural ones, to optimize their work and to establish a fair process of workers' wages. The increasing of profits

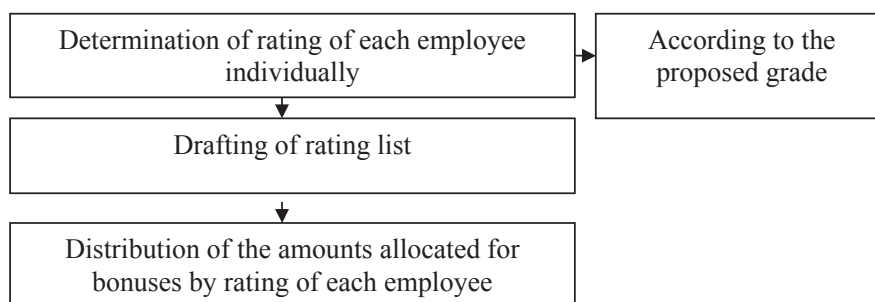


Fig. 1. The scheme of employees' awarding according to the rating list

by stimulation employees' work will increase their productivity.

## 5. Conclusions

The study found that the process of salary calculations has a lot of problematic aspects, such as the deficient work organization, insufficient stimulation of workers, poorly composed documents, etc.

To improve such a situation, there is suggested an introduction of automation in order to reduce the wasting of working time for data processing in an accounting department and to improve significantly the quality and speed of information transfer to the head of an enterprise and external users.

It is offered to use a labour ball to improve employees' motivation, which is a form of accounting for the work varying on quality and quantity that was contributed to production. According to the scoring results, a mechanism of bonuses for employees is suggested.

Also, we suggest entering new documents to control the number of issued orders – "Registration Book of Issued Orders". To provide a high level of quality control of executed works, it is suggested to display data in a special primary document "Record Sheet of Performance Quality".

It is offered to use partial salary payment for unprofitable enterprises through payment in kind. At first, this will allow increasing the firm's performance quality without losing employees.

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## Ольга ОДНОШЕВНАЯ

### ОПТИМИЗАЦИЯ РАСЧЕТОВ ПО ОПЛАТЕ ТРУДА И СТИМУЛИРОВАНИЕ ПРОДУКТИВНОСТИ РАБОТЫ СЛУЖАЩИХ НА ПРЕДПРИЯТИИ

**Аннотация.** *Целью работы* детальный является анализ состояния расчетов по заработной плате. Оценка эффективности работы сотрудников, а также разработка механизмов оптимизации расчетов за счет повышения продуктивности работы и внедрения мотивации работы служащих. *Методика.* Исследование основано на анализе работы разных групп предприятий, в том числе и сельскохозяйственных. Проанализировано, что на сегодняшний день эффективность работы в некоторых из них падает, за счет низкой оплаты труда и отсутствия мотивационного механизма сотрудников. *Результаты.* В результате проведенного исследования, выявлено, что процесс расчетов по оплате труда имеет много проблемных аспектов. Из-за несовершенной организации работы, недостаточное стимулирование работников, некачественно составленные документы. Для улучшения данной ситуации, было предложено внедрение автоматизации, что позволит сократить затраты рабочего времени бухгалтерии на обработку учетной информации и позволит значительно повысить качество ведения учета и оперативность передачи информации как руководителю предприятия, так и внешним пользователям. Для улучшения мотивации труда предложено использовать трудовой балл, является формой учета различной по качеству и количеству труда, которая вложена в производство. По результатам балльной оценки предлагаем механизм премирования работы сотрудников. *Практическое значение.* Предлагаем ввести новые документы, с целью контроля за количеством выданных нарядов – Журнал регистрации выданных нарядов и для обеспечения высокого уровня контроля качества выполненных работ отображать данные в специальном первичном документе «Учетный лист качества работ». Для предприятий, получающих убытки, предлагаем перейти на частичную выплату заработной платы частями, через оплату продукцией. *Значение/оригинальность.* Полученные результаты позволят на первых этапах повысить качество работы фирмы, при этом не потеряв работников, а в дальнейшем и повысить прибыльность предприятия.

# THE COUNTRY BRAND AS A FORM OF THE STATE ADMINISTRATION

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**Abstract.** Resolving urgent social and economic problems in Ukraine requires a special approach, choosing large-scale integration instruments of government measures implementation that can reproduce and guide the development of the country in the right direction, which include territory branding. *The subject of the study* is a system of management of the set of brands of the national economy, its subjects, objects and public connections between them. *The purpose of the article* is to define the architecture of a national brand with appropriate levels of a hierarchy and justification of the impact vector of the management system of brands at each level of the hierarchy. *Research methodology.* During the research, systematic general principles of communication and development are used, which allowed disclosing the dialectic relationship between management methods at every level of the hierarchy. To achieve the goal, there are used: a synergetic approach to the integrated use of commercial, non-commercial brands and regional brands of the country; management approach to the country brand management process in specific market conditions; situational approach to the consideration of a brand as a tool for solving complex social, economic, environmental and political problems of the country. *The object of the research* is Ukraine. *Conclusions of the research.* The success of the establishment and functioning of a brand-oriented national economy and corresponding management system depends primarily on the joint efforts of government, private business and a wide public; the integrated approach to the management process organization, as well as consideration of the current situation in the country and its potential. *Practical implications.* The implementation of a brand-oriented model of the national economy is able to overcome the current socio-economic problems of the country, ensure its economic and political security, greatly improve the welfare of citizens through the optimization of the system of its elements management at all levels of architecture.

**Key words:** national brand architecture; country brand management system; commercial, non-commercial, territorial brands.

**JEL Classification:** M38, O38, P24

## 1. Introduction

**Problem and innovation.** The world experience of branding territorial formations of a countrywide scale and the first steps in this direction of Ukraine confirmed the historical capacity and effectiveness as a brand format of the national economy management. Successful management of all objects of a territory depends on effective management of these objects and the territory within which they operate. The modern science has gained some experience in the development of the theory of national branding, and various approaches to determine the brand of the country shape its integrated vision. At the same

time, not enough attention is paid to the research of a hierarchy of management links between elements of a brand management-oriented national economy, which is today **the relevance and novelty** of the topic chosen. **The purpose of the article** – the study of the country brand architecture, management of its elements, relationships between subject and object of the management system must be achieved by addressing the following research objectives: 1. Determination of elements of the management system of the brand-oriented national economy; 2. Establishing links and their character between defined elements; 3. Justification of a number of the hierarchy of the

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country brand architecture. **The methodological approach to the study** is based on the **logical** principle of the philosophy of the learning process – from private to general.

## 2. The branding potential in the structure of the national economy

Branding of the territory is a continuous process that occurs in a particular environment that envisages the close economic links between the objects of management in general economic space within the state that is characterized by a single economic law, financial, monetary and credit system. Considering the economic conditions are the same for all objects of the territory, their success depends on effective management of territory within which they operate, which is an effective brand tool. Branding of economic objects are studied in detail in other works of authors, in this context, levels of hierarchy and regional brand management links between elements of the brand management-oriented national economy are analysed, the structure of which is shown in Fig. 1:

Institutional business sector combines the non-financial (Enterprises) and financial companies (Financial Institutes) belonging to both the public sector of the national economy and its private sector. At Fig. 1 components, which represent the business sector, are highlighted. It is this sector of the national economy, which branding is primarily; brand-oriented reference point should apply not only to economic objects, but also subjects that manage them, relations between subjects and objects of management, as well as the territory within which these processes occur. The brand-oriented relations between subjects and objects of management mean their conformity with international standards of management, efficiency, durability. The result of a successful branding is a brand association in the complex territorial system that contributes to solving current socio-economic, environmental, demographic

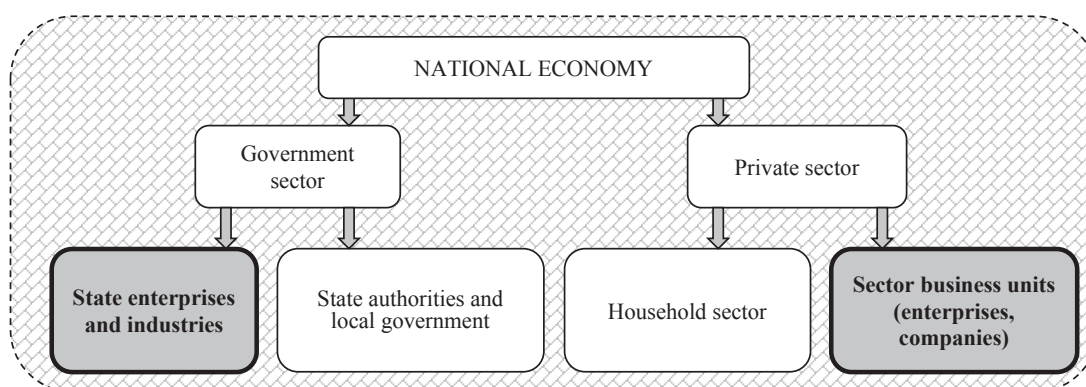
problems of the region and requires an appropriate management system. Strengthening the role of the brand in the development of the national economy and the undisputed economic potential, which brand makes possible for each object economic activity, as well as for the country as a whole, are preconditions of brand research of such a format as economic governance.

The management system of the set of brands of the national economy includes three components: a) management subjects, i.e. agencies that send impulses of the influence that carry information on the conditions of functioning of administration at different levels; b) objects of management, i.e. all forms of brand under the organizing influence of the appropriate level; c) management activities (process) that is a certain kind of social relations, through which numerous connections between subjects and objects of management are realized.

## 3. Determination of the national brand architecture

A conceptual elaboration of an integrated model of economic transformation that will promote the development of a competitive, innovative, socially and environmentally oriented national economy is optimally realized in the form of a national brand that combines trends listed in a single vector of brand-oriented development. Presented management system of five interconnected and mutually influencing dynamic elements that form the architecture of regional brand with appropriate levels of the hierarchy, namely nano, micro, meso, macro and mega levels. The hierarchical structure of brand-oriented national economy envisages connections between the various levels: forward and backward, coordination and function, as shown in Fig. 2:

In this context, the brand system of the national economy is a complex system of management at each of the above levels. Taking into account globalization,



**Fig. 1. Potential of branding in the structure of the national economy**

Source: compiled by the authors for (Kravets, 2009)

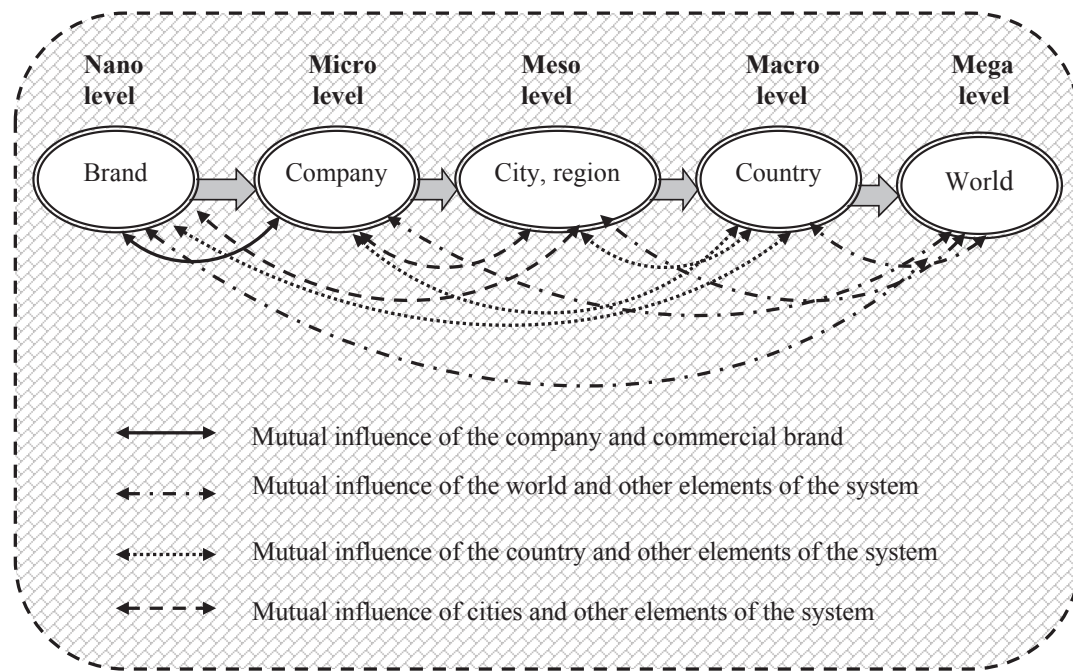


Fig. 2. Hierarchy of connections of the brand-oriented national economy

Source: compiled by the author

the brand-oriented management system of the national economy has been formed taking into account global trends, standards and legislation. Counter influence of other elements of the national system brands in the world so far is weak because of the low level of branding in Ukraine but international experience shows such influence. In particular, with the acceleration of information exchange, ensuring the effectiveness of management decisions, high-speed Internet promotes cybercrime, which corrects the appearance of new state management structures. So, this relationship is inverse and coordinated. Links between brands and private companies, where they are produced, may be reversed or functional, depending on the parties and the purpose of initiating communication.

#### 4. Nanolevel

The object of management at the nanolevel are actually the commercial brands of goods, services, events, and non-commercial brands; subjects – companies, local governments and the state; the management of the brand is called brand management. Nanolevel is characterized as the most dynamic brand influenced by all other levels of the system, in fact, the brand can be changed because of a decision of the owner, i.e. the internal changes of the system. Commercial brands must adapt to the economic environment and comply with its requirements, so changing environmental conditions automatically impact on corresponding changes in the development, promotion and brand management. For example,

changes in a development strategy of the company directly impact on a change in commodity brand development strategy; adoption of legislative decisions (economic, social, etc.) by local or state authorities can also promote a change of the brand. Communication between commercial brands and other elements of the system is mutual because their development and promotion contribute to the economic development of the city, region and country, forming corresponding budget tax deductions, creating conditions for attracting more investment flows to the development of not only the brand but also the city, region of the country. In addition, the success of commercial brands directly impact on solving social problems of the company, the city through the creation of new jobs, finances a number of social and environmental issues. The positive dynamics of the development of the commercial brands will increase consumer power, leading to GDP growth in the scale of the national economy.

The system of brand management of the national economy at the nanolevel, in our vision, includes the following vectors of influence:

1. *Administrative*, which provides for the development of commercial strategies of the brand, its control systems, evaluation and adjustments; brand choice models;
2. *Marketing*, responsible for branding systematic promotion of the brands through an optimal architecture, distribution and brand communications system;
3. *Economic*, which is aimed at providing maximum efficiency through the optimization of brand spending on each direction of development.

## 5. Micro level

The second level of system management of brands of the national economy is the microlevel of a company, firm, company (hereinafter – the Company) regardless of their size and cost. Fig. 2 shows that the development of the commercial brands has an inverse effect on the company. Thus, the success of the commercial brands can ensure the success of the company and vice versa, errors in the development of a commercial brand can have negative consequences for the company until its collapse. At this level, it is possible to form a brand of the company through the creation of back-office and front-office, harmonious development, which provides relative stability, long-term, positive image of the company in the environment. The objects of management at the macro level are companies, subjects – corporations, local governments and the state. The success of the brand company could attract talented individuals, conducting brand events. The dynamism of the brand company remains quite high, although lower than the commercial brand.

The system of brand management of the national economy at the microlevel includes the following vectors of influence:

1. *Administrative-communicative*, which provides for the development strategy of the company, its control systems (SWOT analysis) and adjustments; selection of hierarchy of management (organizational structure); creation of an internal corporate culture and foreign policy of the company; establishing contacts with local authorities and community;

2. *Marketing*, responsible for branding through the company's choice of brand communication;

3. *Economic*, which is aimed at maximizing the efficiency of the company's brand through the optimization of its costs;

4. *Social*, which provides a solution for social problems of the company and its employees by providing additional medical, educational, legal and other services; solves local environmental issues and so on.

## 6. Meso level

Considering the brand-oriented national economy as structured in sectoral and territorial space of economic activity covered by the relevant institutional system management on mesolevel city and region provides management of commercial brands and brand companies and non-commercial brands, including territorial brand, by creating legislative and administrative, financial and economic (tax) conditions and actions that facilitate the mutual benefit of increasing the efficiency of economic performance, solving social, economic and environmental issues of the city, the region, stability of their development.

The object of management at the mesolevel acts as brands of the public and private companies' tangible

and intangible production, brand of regional areas (city, region) and the management subject – the regional administration and the state itself.

The system of brand management of the national economy at the meso level provides the following vectors of influence:

1. *Administrative-communicative*, which involves the strategies form of the development areas (city, region) as a whole, its control systems (SWOT analysis) and adjustments; setting of relations with the private sector, civil society and development of joint actions and programs of promotion of the territory;

2. *Marketing*, responsible for creating the image of the region, its control and promotion system in the environment by selecting an optimal brand communication;

3. *Economic*, which is aimed at providing maximum efficiency through the territory of the brand to attract additional tourism and investment flows, qualified personnel; economic restructuring territory and its infrastructure;

4. *Social*, which provides a solution for social problems of the territory and its people by raising social standards, environmental conditions, job creation and so on.

The perception of the city, the region as a management object of relevant government authorities and uniting efforts the local government with private business and the local community will help create an optimal strategy for the effective development of the area to address its current socio-economic, environmental and other problems.

## 7. Macro level

Macrolevel management of the system of brands in brand-oriented national economy envisages the management of a list of the commercial brand, brand companies, brand personalities, events and territorial brand of the country; the mutual influence of these objects and the single economic policy of the government. We distinguish the following problems to be solved at the macro level of management of the system of brands of the national economy as steady growth in national output (GDP) and economic security of the country; ensuring a high level of employment of the population and social standards; support for the balance of payments of the country and the priority development of high-tech industries. Each of these tasks requires the use of aggregated macroeconomic management tools such as fiscal and monetary policy, foreign policy, the policy of income adjustment and so on. The system of brands of the national economy contributes to solving each problem through synergy relationships between the objects and subjects and integrated approach to the system management. Thus, the creation, development, and promotion of commercial brands, evaluation of their value, their accounting in intangible assets allow



strengthening economic stability of manufacturers, distributors, sellers, increasing capitalization of the national economy in general and the state to rise in relevant international rankings. Creation, development, and promotion of commercial brands will increase the level of employment of the population, its solvency, and provide a surplus balance of payments, which will increase the reserves of the National Bank of Ukraine. Note that a little list of domestic brands, which overcame national boundaries, do not play a significant role in exporting countries, where the majority are raw materials and natural resources and recall that the tourist industry of Ukraine as a component of private sector business units of the national economy is the first example of branding in scale of domestic industry. Another sector that can become a brand is the transport, based on the geographical location of Ukraine and passing on its territory four continental transport corridors.

The system of brand management of the national economy at the macro level includes the following vectors of influence:

1. Legislative is responsible for the operation and implementation of a number of laws and regulations that promote the creation, development, promotion of brand systems in the country; guaranteeing its protection and support for access to the international space; ensure compliance with international standards and international law;

2. Administrative-communicative, which involves the operation of the strategy of development of the national brand of Ukraine, its control systems (SWOT analysis) and adjustments; establishing relations with the territories, the private sector and the development of joint actions and programs of promotion of the state in the international space through strengthening diplomatic, economic, political, scientific and technical connections with other countries and intergovernmental formations;

3. Marketing that is responsible for creating a positive image of Ukraine and its control system and promotion of the environment through images of the country and the best selection of brand communications;

4. Economic, which is aimed at ensuring economic security, maximizing the effectiveness of its national brand through the creation of investment conditions, the development of innovative technologies and industries, attracting additional tourist flows, qualified personnel; restructuring and modernization of the economy;

5. Social, which provides an increase of social life of Ukrainian citizens to the European and world by raising social standards (living wage, average wage, pension payments, health care, etc.), environmental conditions.

## 8. Mega-level

The global or international economy as a complex system of interrelated national economies,

international and supranational economic processes, phenomena and institutions, which serve them, form a mega-level management. A special role is played by the mega-level brand personalities, image and authority of which strengthens the positive image of the country, helps build the necessary links in the field of culture, art, education, health, science and technology, environmental protection, sports and most importantly, the economy and national security. The presence of strong political brand personalities in society affects the efficiency of its development and establishes the necessary links with the country environment. The same role belongs to brand events of the national and international scale. Considering the system of the national economy brands and the appropriate elements of the management system, one could argue about the availability of the integration of communication and synergistic effect on its capacity. Each form performs brand's basic role in relation to the business management and supportive role with respect to other facilities management, building a brand-specific architecture of the city, region and country. Selection of an optimal architecture of the brand system of the national economy is in the hands of the subject of management of the corresponding level, i.e. the state. Commercial brand architecture determines the company optimal brand architecture of the city or region could be proposed by joint authority, which would consist of representatives from local government, private business sector and the public. The national brand architecture of the country should be the subject of discussion in a wide variety of specialists: brand managers, marketers, scientists, politicians, economists, all stakeholders and understanding branding process, its tools and features.

It is important that the state has become an active participant in creating a brand system of the national economy, because, without support from the state, autonomous and isolated attempts by some stakeholders to form a complete image of the territory are doomed to failure. Equally important in this regard is the absence of a formal approach to the brand creation system that can cancel the joint efforts of government, business and the public. Work on the system of brands in the national economy should not substitute propaganda campaign. It must be taken as a philosophy, to demand orientation of the entire system power management and the needs of each target consumer group's area.

First steps in this direction have already been implementing:

- Adopted the "State Program on Positive International Image of Ukraine" (State target program creating a positive international image of Ukraine till 2011);

- Created a national tourist brand of Ukraine as a result of the implementation of the social contract between the government, business and civil society;

- In order to stabilize the socio-political situation in Ukraine and to counteract the negative impact of information on the population of Ukraine and its international image of Ukraine, according to the Presidential Decree № 398/2014 on 04.12.2014, the Information and Analytical Centre was established (Decree of the President of Ukraine № 398/2014);

- According to the Decree of the President of Ukraine № 5/2015 on 01.12.2015, adopted the Sustainable Development Strategy of Ukraine 2020, which provides for the development of the Program of "Ukraine" Brand Creation within the pride vector (Decree of the President of Ukraine № 5/2015).

## 9. Conclusions

Creation of the brand-oriented national economy and an appropriate management system are a large-scale, complex problem that has social grounds, among which the most relevant aspects must be: cooperation of the administration, business and citizens, and its economic, political, social efficiency. System approach to the process of management of a set of commercial, non-commercial and territorial brands optimizes the relationship between elements of the national brand architecture, will overcome the current socio-economic problems of the country and will build a positive trend of future development of our country.

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## Сергей РОМАНЮК, Галина СТУДИНСКАЯ

### БРЕНД СТРАНЫ КАК ФОРМАТ ГОСУДАРСТВЕННОГО УПРАВЛЕНИЯ

**Аннотация.** Решение насущных социально-экономических вопросов в Украине требует особого подхода, выбора широкомасштабных интеграционных инструментов внедрения государственных мероприятий, способных воспроизвести и направить развитие страны в нужном направлении, к которым относится брендинг территории. *Предметом исследования* является система управления совокупностью брендов национальной экономики, ее субъекты, объекты и общественные связи между ними. *Целью статьи* является определение архитектуры национального бренда с соответствующими уровнями иерархии и обоснование векторов влияния системы управления брендами на каждом уровне иерархии. *Методология исследования.* В процессе исследования использовались принципы системности общего, связи и развития, которые позволили раскрыть диалектику взаимосвязи между методами управления на каждом уровне иерархии. Для достижения цели были использованы: синергетический подход к изучению интегрированного использования системы коммерческих, некоммерческих брендов и территориального бренда страны; управленческий подход к процессу управления брендом страны в конкретных рыночных условиях; ситуационный подход к рассмотрению бренда, как инструмента решения комплекса социально-экономических, экологических и политических проблем страны. Объектом исследования является Украина. *Вывод исследования.* Успех создания и функционирования бренд-ориентированной национальной экономики и соответствующей системы управления зависит, прежде всего, от объединения усилий правительства, частного бизнеса и широкой общественности; от комплексного подхода к организации управленческого процесса, а также от учета текущей ситуации в стране и ее потенциала. *Практическое значение.* Реализация бренд-ориентированной модели национальной экономики способна преодолеть текущие социально-экономические проблемы страны, обеспечить ее экономическую и политическую безопасность, существенно повысить благосостояние граждан через оптимизацию системы управления ее элементами на всех уровнях архитектуры.

# THE CONCEPTUAL FRAMEWORK OF FORMING THE PRODUCT QUALITY CONTROL STRATEGY OF ROAD-BUILDING ENGINEERING ENTERPRISES

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**Abstract.** *The purpose* of the work is the need of the theoretical justification and the development of relevant scientific and methodological approaches to the management of the road production quality of machine-building enterprises; it led to the choice of research topics. *Methodology.* Taking into account the value of existing methods of quality management of road production engineering companies, currently a particular attention requires improvement of the quality control functions: analysis, evaluation, planning and quality control during the operation of road-building equipment, because existing economic practices and quality management approaches are built on classical principles of ISO 9001, and in the practical application do not solve all of the drawbacks of traditional management models, but only smooth them a little. Therefore, the formation of the quality management strategy for the road production of mechanical engineering is essential to ensure the competitiveness of products and enterprises of the road-building complex in the period of development of market relations in the economy. *The results showed* that the current market conditions impose strict requirements to all production areas of the society. Especially stringent are requirements for the road construction, because the quality of the construction of the subgrade, covering roads and curbs, grading and soil compaction under different conditions of terrain and driving safety depends on people's lives. This factor determines the exceptional quality requirements for road-building equipment, which must be reliable, functional and able to meet the totality of the design and operational characteristics of the road. Further European integration of Ukraine, deepening of external economic relations with the European countries are responsible for the growing needs of the national economy in the development and expansion of the transport network. However, large-scale road construction and repair of roads is impossible without the organization of effective operation of the road for mechanical engineering – heavy construction and earthmoving machinery. Currently in our country present its own engineering manufacturers of road construction equipment (among large – JSC "Kredmash"), however, the domestic production of road is significantly inferior in terms of domestic consumption of products of foreign manufacturers of the road. Despite the fact that the price of domestic producers less than of imported ones an average in three times, including bulldozers, scrapers, cranes, crawler cars more than 50% (Komatsu, Hitachi, Mitsubishi and others.). *Practical implications.* The practical significance of the results of the study identifies opportunities to improve the efficiency of traffic control products quality enterprises construction and road engineering. *Value/originality.* Implementation of the proposed methods and approaches to the formation of the quality of the machine-building enterprise management strategy for road construction will improve the efficiency of quality control processes and the level of enterprise competitiveness.

**Key words:** organization of production, firm strategy, production management, quality.

**JEL Classification:** L23, L10, M11, L15

## 1. Введение

**Актуальность исследования.** Современные условия рынка предъявляют жесткие требования ко всем производственным сферам деятельности общества. Особенно жесткими эти требования предъявляются к области дорожного строительства, ведь от качества возведения земляного полотна, покрытия дороги и бордюров, профили-

рования и уплотнения грунтов в различных условиях рельефа местности зависит безопасность вождения и жизни людей. Именно этот фактор определяет исключительные требования к качеству дорожно-строительной техники, которая должна быть надежной, функциональной и способной отвечать совокупности конструктивных и эксплуатационных свойств дороги.

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Дальнейшая евроинтеграция Украины, углубление внешнеэкономических связей с европейскими странами обуславливают растущие потребности национальной экономики в развитии и расширении транспортной сети. Однако, масштабное дорожное строительство и ремонт дорог является невозможным без организации эффективной эксплуатации дорожной продукции машиностроительных предприятий – тяжелой строительной и землеройной техники. В настоящее время в нашей стране представлены собственные машиностроительные производители дорожно-строительной техники (среди крупных – ОАО «Кредмаш»), однако, отечественная дорожная продукция существенно уступает по объемам потребления на внутреннем рынке дорожной продукции зарубежных производителей. Несмотря на то, что цена собственных производителей ниже импортной в среднем в три раза, среди бульдозеров, скреперов, кранов на гусеничном ходу импорт более 50% (Komatsu, Hitachi, Mitsubishi и др.).

Данный факт объясняется низким уровнем качества и эксплуатационных характеристик отечественной дорожной продукции. Как правило, такая продукция имеет большой вес, меньшую мощность и КПД. А такой показатель как остаточный ресурс машин для обеспечения безаварийной работы в заданный промежуток времени строительства дороги ниже на 30%, чем у дорожной продукции зарубежных машиностроительных производителей. Поэтому проблемы повышения качества дорожной продукции машиностроительных предприятий актуальны. Особую актуальность эти вопросы приобретают в условиях единого на сегодняшний день варианта выигрыша в конкурентной борьбе с зарубежными производителями за потребителя – это предоставление высококачественного послепродажного обслуживания. Именно период эксплуатации дорожной техники следует рассматривать как систему управления показателями качества, на основе методов анализа, оценки, прогнозирования и контроля, обеспечивающих эффективное использование техники, поддержание ее в работоспособном состоянии с наименьшими затратами, а также уменьшение времени на вынужденные простои по техническим причинам и транспортировки дорожно-строительной техники к месту работы.

**Методология исследования.** Принимая во внимание ценность существующих методов управления качеством дорожной продукции машиностроительных предприятий, в настоящее время особого внимания требует совершенствование функций управления качеством: анализ, оценка, планирование и контроль качества в период эксплуатации дорожно-строительной техники, ведь существующие экономические методы и подходы управления качеством построены по классическим принципам стандарта ИСО 9001, и в практическом применении не решают

всех недостатков, присущих традиционным моделям управления, а лишь несколько их сглаживают.

Несмотря на то, что существует достаточное количество работ по проблемам управления качеством продукции, научные труды Траченко Л.А., Мартыновой А.В., Семчук Ж.В., Ставской Ю.В., Дубинина Е., Грозного И.С., Толпежников Р.А., Фридмана К., Кристенсена К., некоторые аспекты этой категории остаются недостаточно изученными.

Поэтому формирование стратегии управления качеством дорожной продукции машиностроительных предприятий является важнейшим условием обеспечения конкурентоспособности дорожной продукции и предприятий дорожно-строительного комплекса в период развития рыночных отношений в экономике страны.

**Цель исследования.** Необходимость теоретического обоснования и развития соответствующих научно-методических подходов к управлению качеством дорожной продукции машиностроительных предприятий, обусловила выбор темы исследования.

## **2. Предпосылки разработки концептуальных положений формирования стратегии управления качеством дорожной продукции машиностроительного предприятия**

Как свидетельствуют результаты проведенного анализа уровня обеспеченности качества продукции на ОАО «Кредмаш» в 2010-2015 гг. (табл. 1), особое внимание привлекают показатели уровня квалификации работников (среднее значение колеблется в пределах 30-40%), достаточно высоким в течение анализируемого периода является коэффициент сопротивляемости персонала организационным изменениям (более 60%), напротив низким является коэффициент вовлеченности работников в решении вопросов обеспечения качества процессов (не более 30%) и др. Эти показатели являются одними из основных в управлении качеством продукции предприятия.

Достаточно низкий уровень анализируемых показателей качества продукции на примере ОАО «Кредмаш» указывает на существование нерешенных в течение многих лет проблем в системе управления качеством, отсутствия действенных управленческих инструментов и концептуальной стратегии.

Однако, прежде чем перейти к процессу разработки стратегии, ее составляющих элементов, необходимо провести анализ существующих моделей управления качеством продукции машиностроительного предприятия для дорожного строительства, и с учетом выделенных преимуществ и ограничений в их использовании предложить авторский концептуальный подход.

Проблема управления качеством продукции решалась на протяжении многих лет. За последнее десятилетие значительный вклад внесли и отечественные

Таблица 1

**Расчет показателей, которые характеризуют состояние обеспечения качества продукции ОАО «Кредаш» за 2010-2015 гг.**

№ п/п	Показатель	Значение, %					
		2010	2011	2012	2013	2014	2015
1	Уровень рациональности трудовых процессов	3	5	8	6	5	4
2	Средний уровень квалификации сотрудников	35	32	36	40	35	31
3	Уровень компетентности сотрудников в области качества	41	39	42	35	43	38
4	Коэффициент вовлеченности работников в решении вопросов обеспечения качества процессов	29	31	30	28	34	29
5	Удельный вес дополнительных выплат в общем заработке работников	38	32	36	40	37	31
6	Уровень развития творческого потенциала	24	23	26	23	24	25
7	Уровень прогрессивности труда	51	46	48	52	53	51
8	Уровень качества труда работников	69	65	68	64	63	68
9	Уровень автоматизации и механизации труда	49	51	52	50	47	50
10	Уровень обслуживания рабочих мест	57	50	56	54	54	57
11	Уровень оптимальности производственной структуры	42	40	41	43	42	44
12	Коэффициент надежности работы оборудования (инструмента, оснастки)	39	38	36	35	37	38
13	Уровень ремонтного обслуживания технических элементов производственных процессов	47	47	45	41	44	46
14	Уровень специализации инфраструктуры	58	56	57	58	55	53
15	Коэффициент пооперационного контроля	56	54	55	58	56	51
16	Коэффициент обновления производственных процессов	46	47	46	49	51	48
17	Уровень метрологического обеспечения	49	49	52	48	53	54
18	Уровень мониторинга производственных процессов	59	63	62	64	65	61
19	Уровень ритмичности	47	46	48	51	45	44
20	Уровень технологичности процессов	64	62	63	64	66	65
21	Уровень стандартизации процессов	62	63	65	64	61	59
22	Уровень оптимальности организационной структуры управления	45	46	41	49	45	47
23	Уровень культуры труда	53	52	56	54	61	58
24	Уровень оптимальности структуры информационного обеспечения	64	64	68	62	67	61
25	Уровень интеграции процессов	61	63	61	62	68	64
26	Коэффициент своевременности корректировки процессов	60	58	57	63	61	59
27	Коэффициент сопротивляемости персонала организационным изменениям	58	64	62	59	63	60

ученые в исследовании данного вопроса. В частности, с точки зрения системного подхода, в работе (Trachenko, 2008) Траченко Л.А. была разработана технология эффективного управления качеством, что нашло внедрение в производство на предприятиях различных под отраслей промышленности. Так, автором с помощью метода статистического моделирования и прогнозирования по квартальным показателям в динамике на исследуемом предприятии было спрогнозировано браков продукции по разным его видам, а именно:

- производственный брак;
- экспедиционный брак;
- возврат продукции из торговли.

Данный подход позволил выработать стратегию по уменьшению брака продукции и повышению эффективности управления ее качеством. Впервые проведены экспериментальные исследования на предприятиях пищевой промышленности с использованием технологии эффективного управления качеством продукции. Идентифицированы параметры качества на первоочередные и второстепенные с определением степени влияния каждого параметра на ее уровень (Trachenko, 2008). Траченко Л.А. предлагает идентифицировать факторы, влияющие на качество двумя способами: первый – по стадиям технологического процесса; второй – экспертным путем. Не отрицая преимуществ предложенного подхода, по

нашему мнению, существенным ограничением в его использовании будет сложность в идентификации именно каких корректирующих мероприятий требует система управления качеством и способа их актуализации.

В другом исследовании (Martynova, 2008), Мартыновой А.В. был предложен адаптивный подход к управлению качеством продукции предприятия. В частности, автором было установлено, что качество продукции влияет на результаты деятельности предприятия, на выручку от реализации, затраты на исправление дефектов и качества. С целью определения эффективности управления качеством, Мартыновой А.В. предложено использовать индекс качества, который учитывает уровень расходов предприятия на обеспечение качества и исправления дефектов в динамике за определенный период, динамику ценности и стоимости продукции для потребителя (Martynova, 2008).

Для определения адаптивного подхода к управлению качеством продукции автором выделен уровень адаптации управления качеством продукции на предприятии. Предложен цикл адаптивного управления качеством продукции, который включает следующие этапы:

- обеспечение системного управления качеством продукции;
- соответствие системы нормативно-правовому регулированию;
- разработка внутренних стандартов и технических условий;
- обеспечение надлежащего образовательного уровня персонала;
- мотивация персонала к повышению качества;
- технологическая и техническая составляющая обеспечения качества;
- лабораторное и метрологическое сопровождение производственного процесса;
- организация системы контроля соответствия показателей качества установленному уровню;
- проведение анализа статистического массива данных по уровню качества продукции;
- соответствия требованиям стандартов, контрактов, потребителей;
- определение степени адаптации по соотношению «соответствие качества / затраты на реализацию адаптационных процессов»;
- разработка корректирующих воздействий на систему управления качеством продукции (Martynova, 2008).

К достоинствам предложенного подхода можно отнести способность системы управления качеством продукции приспосабливаться к изменениям, происходящим во внешней среде, что становится возможным в рамках разработанного адаптивного подхода. Однако, использование в «чистом виде» предложенного подхода становится сложным в силу отсутствия

алгоритма распознавания изменений, происходящих во внешнем окружении предприятия, приоритетность этих изменений и др.

В работе (Burdelna, 2010) Бурдельной Г.А. разработаны концептуальные основы формирования модели системы управления качеством продукции предприятия с учетом отраслевых особенностей, включая продолжительность циклов разработки продукции, необходимость привлечения долгосрочных банковских кредитов, современные методы и инструменты государственного регулирования отрасли, которые позволяют обеспечить комплексный подход к использованию системы менеджмента качества процесса планирования, организации и контроля качества на основании применения информационных технологий, основанных на принципах непрерывного поддержания качества на всех стадиях жизненного цикла изделий (Burdelna, 2010).

В частности, автором было проведено обоснование содержания и составляющих механизма управления качеством продукции промышленного предприятия, включая восемь основных блоков:

- маркетинговых исследований;
- разработки политики в сфере управления качеством;
- планирование качества;
- учет внешних условий влияния на качество;
- принятие решений по управлению качеством;
- учет факторов на качество в процессе производства;
- блок сбора, обработки и хранения информации о фактическом качестве;
- блок контроля качества, что позволит достичь максимального удовлетворения требований покупателей и будет способствовать повышению конкурентоспособности изделий и спроса на них.

Следует заметить, что предложенный Бурдельной Г.А. подход к управлению качеством продукции по содержанию относится к более классическим традиционным методам управления качеством, актуальность которых в современных условиях вызывает противоречия.

Комплексный подход к управлению качеством продукции промышленного предприятия предложен Семчук Ж.В. в работе (Semchuk, 2011), основу которого составляют отдельные аспекты процессного, системного и ситуационного подходов и принципа всеобъемлющего менеджмента, призванного объединить процедуры оптимизации персонала с общей системой управления деятельностью машиностроительных предприятий (Semchuk, 2011). Также автор акцентирует особое внимание на методе оптимизации системы управления качеством, которая основана на компетентности и повышении роли работников измерительных лабораторий, а также на существенное уменьшение вероятности возникновения конфликтных ситуаций в подразделениях машиностроительных

предприятий (Semchuk J., 2011). Преимуществом в использовании предложенного подхода является метод, позволяющий аккумулировать кадровые ресурсы в достижении стратегической цели организации – повышение уровня качества выпускаемой продукции. Однако, существенным ограничением во внедрении данного подхода является дефицит квалифицированных кадров, способных к управленческим нововведениям в области качества.

Настаивает на методе стандартизации в качестве основного в системе менеджмента качества продукции Ставская Ю.В. в работе (Stavska, 2011), где автором обоснована необходимость перехода от стандартизации разрозненных объектов к созданию комплекса взаимосвязанных стандартов, что позволит обеспечить возможность для повышения качества продукции предприятия с учетом требований международного рынка. Так, автором предложено создание единой полнотекстовой электронной базы стандартов, доступ к которой будут иметь все производители через телекоммуникационные сети, для обеспечения постоянной актуализации фонда стандартов в сельскохозяйственных предприятиях, удаленных от областных центров, и внедрение систем управления качеством сельскохозяйственной продукции (Stavska, 2011).

Преимуществом в использовании предложенного подхода является возможность снижения себестоимости выпускаемой продукции за счет уменьшения количества брака, однако существенной сложностью в практической реализации данного подхода является управление качеством продукции только по стандартам, без учета таких функций управления как анализ, прогнозирование и контроль качества продукции.

С точки зрения маркетингового подхода к управлению качеством, в работе (Tolpezhnikov, 2004) Толпежниковым Р.А. была разработана концепция маркетингового взаимодействия, которая предусматривает взаимодействие маркетинговой службы не только с потребителем, но и со всеми подразделениями предприятия, которые формируют качество продукции. Автором предложена комплексная модель маркетингового управления качеством, составными элементами которой являются:

- стратегический маркетинг качества продукции;
- проактивное и реактивное усовершенствование качества продукции;
- оценка результатов деятельности по качеству продукции (Tolpezhnikov, 2004).

Далее в исследовании Толпежниковым Р.А. предложены усовершенствованные методические рекомендации по:

- определению и анализу маркетинговых целей в области качества;
- предоставлено методике планирования качества, которая предусматривает определение показателей

качества, которые являются неподходящими с точки зрения потребителя;

- разработана методика определения уровня маркетинговой составляющей качества и др. (Tolpezhnikov, 2004).

В условиях усиления рыночных отношений и конкурентной борьбы за потребителя, применение маркетингового подхода к управлению качеством продукции является актуальным. Поддержание обратной связи с потребителем в процессе эксплуатации изготовленной продукции по назначению и определения уровня качества отдельных ее характеристик способствует расширению информационной базы для качественных критериев, которые необходимо учитывать при производстве. Именно некоторые аспекты предложенного маркетингового подхода могут быть использованы в рамках нашего исследования.

### **3. Концептуальные положения формирования стратегии управления качеством продукции предприятий дорожно-строительного машиностроения**

Концептуальные положения формирования стратегии управления качеством продукции предприятий дорожно-строительного машиностроения для дорожного строительства приведены на рисунке 1. Таким образом, для формирования стратегии управления качеством продукции машиностроительного предприятия для дорожного строительства, которая может быстро реагировать на изменяющиеся факторы необходимо провести следующие мероприятия:

1. Провести анализ и оценку реального состояния системы управления качеством продукции машиностроительного предприятия для дорожного строительства. Определить основные проблемы, влияющие на эффективность управления качеством предприятия, причины и природу их возникновения. На основе полученных результатов анализа и оценки состояния системы управления качеством предприятия, выявить потенциальные возможности ее совершенствования и пересмотреть цели предприятия в области качества.

2. Разработать методический подход к прогнозированию влияния внутренних и внешних факторов на достижение установленных целей качества продукции машиностроительного предприятия для дорожного строительства.

3. Проводить контроль качества на каждом этапе ЖЦ дорожно-строительных работ, контроль подготовки и принятия конструктивно-технологических и организационных решений.

4. Разработать организационное и информационное обеспечение реализации стратегии управления качеством продукции машиностроительного предприятия для дорожного строительства.



Рис. 1. Концептуальные положения формирования стратегии управления качеством продукции предприятий дорожно-строительного машиностроения

С учетом предъявляемых требований к разработке стратегии управления, специфики деятельности предприятий дорожного строительства, на рис. 1 представлена авторская разработка формирования стратегии управления качеством продукции машиностроительного предприятия для дорожного строительства.

#### 4. Выводы

Таким образом, формирование стратегии управления качеством продукции машиностроительного предприятия для дорожного строительства зависит от многих факторов и условий: степени прогрессивности конструкторских разработок и качества исходных материалов; совершенства планирования и соблюдения технологической дисциплины; механизма стимулирования, рационального подбора и расстановки кадров; организации труда, качества работы исполнителей; метрологического обеспечения производства; аттестации продукции, организации службы контроля.

Стратегия управления качеством продукции машиностроительного предприятия для дорожного строительства основывается на следующих положениях.

1. Управление качеством продукции машиностроительного предприятия для дорожного строительства осуществляется на всех стадиях жизненного цикла: ее уровень закладывается на стадии проектирования и разработки (на основе передовых достижений науки и техники), достигается в процессе производства (на основе прогрессивной технологии и принципов бездефектного изготовления и бездефектного труда) и поддерживается на стадии эксплуатации (на основе регламентированных условий и форм обслуживания).

2. Формирование стратегии происходит на основе принципов общей теории управления. Она представляет собой замкнутый контур. Основные элементы контура – планирование уровня качества; сбор, обработка информации, оценка на ее основе фактического уровня качества и сравнения его с заданным; разработка управляющих мероприятий, направленных на обеспечение заданного уровня.

Реализация предложенных методов и подходов по формированию стратегии управления качеством продукции машиностроительного предприятия для дорожного строительства позволит повысить эффективность процессов управления качеством и уровень конкурентоспособности предприятия.



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## Мария САДОВА

### КОНЦЕПТУАЛЬНЫЕ ПОЛОЖЕНИЯ ФОРМИРОВАНИЯ СТРАТЕГИИ УПРАВЛЕНИЯ КАЧЕСТВОМ ПРОДУКЦИИ ПРЕДПРИЯТИЙ ДОРОЖНО-СТРОИТЕЛЬНОГО МАШИНОСТРОЕНИЯ

**Аннотация.** *Целью работы* является необходимость теоретического обоснования и развития соответствующих научно-методических подходов к управлению качеством дорожной продукции машиностроительных предприятий, обусловила выбор темы исследования. *Методика.* Принимая во внимание ценность существующих методов управления качеством дорожной продукции машиностроительных предприятий, в настоящее время особого внимания требует совершенствование функций управления качеством: анализ, оценка, планирование и контроль качества в период эксплуатации дорожно-строительной техники, ведь существующие экономические методы и подходы управления качеством построены по классическим принципам стандарта ИСО 9001, и в практическом применении не решают всех недостатков, присущих традиционным моделям управления, а лишь несколько их сглаживают. Поэтому формирование стратегии управления качеством дорожной продукции машиностроительных предприятий является важнейшим условием обеспечения конкурентоспособности дорожной продукции и предприятий дорожно-строительного комплекса в период развития рыночных отношений в экономике страны. *Результаты исследования* показали, что современные условия рынка предъявляют жесткие требования ко всем производственным сферам деятельности общества. Особенно жесткими эти требования предъявляются к области дорожного строительства, ведь от качества возведения земляного полотна, покрытия дороги и бордюров, профилирования и уплотнения грунтов в различных условиях рельефа местности зависит безопасность вождения и жизни людей. Именно этот фактор определяет исключительные требования к качеству дорожно-строительной техники, которая должна быть надежной, функциональной и способной отвечать совокупности конструктивных и эксплуатационных свойств дороги. Дальнейшая евроинтеграция Украины, углубление внешнеэкономических связей с европейскими странами обуславливают растущие потребности национальной экономики в развитии и расширении транспортной сети. Однако, масштабное дорожное строительство и ремонт дорог является невозможным без организации эффективной эксплуатации дорожной продукции машиностроительных предприятий – тяжелой строительной и землеройной техники. В настоящее время в нашей стране представлены собственные машиностроительные производители дорожно-строительной техники (среди крупных – ОАО «Кредмаш»), однако, отечественная дорожная продукция существенно уступает по объемам потребления на внутреннем рынке дорожной продукции зарубежных производителей. Несмотря на то, что цена собственных производителей ниже импортной в среднем в три раза, среди бульдозеров, скреперов, кранов на гусеничном ходу иномарок более 50% (Komatsu, Hitachi, Mitsubishi и др.). *Практическое значение.* Практическую значимость результатов исследования определяют возможности повышения эффективности управления качеством дорожной продукции предприятий строительного-дорожного машиностроения. *Значение/оригинальность.* Реализация предложенных методов и подходов по формированию стратегии управления качеством продукции машиностроительного предприятия для дорожного строительства позволит повысить эффективность процессов управления качеством и уровень конкурентоспособности предприятия.

# TIME MANAGEMENT AND ITS IMPLEMENTATION AT PRODUCTION COMPANIES

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**Abstract.** *The purpose and objectives.* Time management is still not a very popular element in many enterprises, while its implementation significantly increases staff productivity and, ultimately, the effectiveness of the company. For this reason, the purpose of the article is to promote time management in a business environment by providing specific tools, principles, methods and systems, and to show its importance to the company and describe the influence of time management for the enterprise. *Methods.* The study used a generalization, systematization, empirical research, systematic and logical approach to the development of theoretical and methodological provisions for instrumental support management performance of the industrial enterprise. *Results.* Time management is one of the most important strategic tools of the modern manager. It can help both existing companies and companies that are just launched (the project). *Practical implications.* The current goal of time management as a mechanism to improve the efficiency of the company. *Value/originality.* To implement it, the company offered a popular time management system, allowing the company to increase the effectiveness of its activities.

**Key words:** time management, manager, time, purpose, planning, priority, plan, staff efficiency.

JEL Classification: D23, Q13, Q14

## 1. Introduction

Today, for many businesses in Ukraine, one of the key elements of management is time management, allowing efficient use of staff working time by optimally allocating available resources and using methods of prioritization. Manager as one of the key parts of the company, responsible for management decisions, needs a responsible approach to the issue of improving the management because it affects the efficiency of the enterprise. The issues of the theory and methodology of work time are considered in works of both domestic and foreign scientists such as V.R. Kucherenko, E.A. Kuznetsov, P. Drucker, D. Eisenhower, V. Pareto, G. Hunt, B. Franklin, S. Covey, D. Allen, J. Morgenstern and others. Time management is still not a very popular element in many enterprises, while its implementation significantly increases staff productivity and, ultimately, the effectiveness of the company. For this reason, the purpose of the article is to promote time management in a business environment by providing specific tools, principles, methods and systems, and to show its importance to the company and describe the influence of time management for the enterprise. The aim of the article is to outline the best known and most effective

time management tools for the implementation at production companies.

## 2. Stages of the time management process

Today, in addition to making responsible decisions, modern managers must pay an active attention to planning both their work and the company as a whole. The importance of planning as one of the functions of management is difficult to call into question, even though that is not always the goals and objectives of the company (offices, personal) are implemented in practice. Yes, these plans remain a formality, the printed document.

Managers with extensive experience not just tackle the current challenges. First, they analyse their time, then distribute it. The next stage – to reduce costs (Figure 1). It is the most difficult because it is necessary to determine unproductively used time to find the causes of its appearance, and reduce its use.

As a result, we get the same result but with less expenditure of time and thus improve the efficiency of the company as a whole and its departments and staff in particular. In addition, time is ceaseless. It plays a

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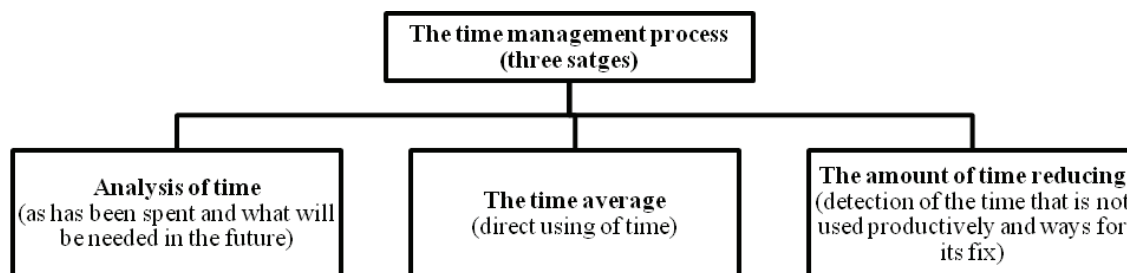


Fig. 1. Three stages of the time management process

significant role in logistics companies. For example, during the force majeure, it is impossible to stop the deterioration of products or impossible to speed up the movement of vehicles in traffic.

Also, it should be stressed that the time – this is the limit that applies to every management decision. Like the direct deciding whether there are certain time constraints, and the performance of this solution is certain deadlines.

Therefore, the time can and should be attributed to the company's resources, to unique resources of the company. Unique because time cannot be: bought; saved; accumulated; replaced; transferred; sold; increased.

Top management of the company should be a model for efficient use of the available working time. This means that the director, at least, has to spend more time on the removal of a problem or achievement of a particular task, and, best of all, seek to reduce this time. For example, a situation where a worker performs (ends) the work at home is totally unacceptable in the context of time management because time management includes setting the timeframe for the task. Also wrong is the situation when there was large hover time, but the result was not achieved. Here at work trends SMART system, indicating that the task set before the worker should be achievable. That is, it is impossible to prepare the general presentation of the company's products with all the statements in one day.

Time management is very important not only in business but also for active and ambitious people, ranging from students and ending housewives. This need arises from the fact that in modern society active (rate) life and significant information overload makes it difficult to achieve the important objectives of individual rights. It is because most of these people want to become more efficient and do not leave things for later.

### 3. Time management as a technology

Time management is a technology that allows you to organize your time and, thus, increase the efficiency of its use. In other words, an organization by a man of his time, aimed at increasing the efficiency of its use. Time management includes such activities as: goals setting;

planning and allocation of time; delegate tasks and resource management; analysis of effort; fixing time; setting priorities; preparation of lists.

If at the beginning of its existence, time management concerned only employment and business, today it is a mandatory component of any development project, as it is widely utilized in project management in the calculation and accounting of time required for this project.

Time management structure consists of the following processes: analysis; development and drawing up the strategies; targeting; planning and setting the priorities; implementation process; monitoring the achievement of the objectives.

It should be noted that while resource management is not only the efficient use of time but free time – the time it takes for the rest of the employee. In the context of time management, determining targets is a crucial element. The goal is the end result, which intentionally sent the result. The main means of goal-setting: intuition; invention; computation; selection and instruction.

The most common way is an intuitive search for purposes. Its essence: the need to closely relate to their own ideas, waiting for inspiration. The invention targets is an experimental process, based on the trial reaching destinations in the near future and (or) a reduced scale. Calculation goals – a method that consists in choosing goals that scored the most points among all. That is a table, which specifies the criteria on which the evaluation will be placed (for example, the implementation, heaviness achievements, etc.) and the end result is performed on each target. The method of choice and prescription – a method that implies a certain number of goals set by someone, and we need only choose one of them and attributed its performance. In other words – a way of imitation of someone and an attempt to act upon an already known algorithm.

### 4. Planning

An integral part of time management is planning – the process of optimal allocation of resources necessary to achieve their goals and objectives, as well as a set of processes associated with the production and sale. With skilful use, planning can significantly improve time management.

Planning is characterized by the following steps: the stage of setting goals (tasks); the stage of making a schedule of the achievement; the stage of variant design; the stage of identifying the required resources and their sources; the stage of determining individuals and briefing; the commit stage of the planning results in the physical view (plan, draft, map, etc.).

An important part of planning is the process of prioritization. It lies in the alignment of priorities – indicators that show dominance on the importance of a point over the rest of the plan. The reason for prioritizing appears that there are certain nuances and features that minimally affect the process of achieving goals, and those that take the main role. And that is an ability to prioritize one of the performances of a planning process. Modern enterprises use a variety of methods of planning, including: ABC-planning, Eisenhower's principle, Pareto principle and others.

**ABC-planning.** A prerequisite for this method serves as an experience which clearly shows that the ratio of important and unimportant affairs percentage always about equal. For distribution in importance, tasks are distributed using the letters A, B and C. Of these, A – main cause (15 percent of all cases make up 65 percent of the results). Next is B in things to do (20 percent of cases and 20 percent of the results). The last category, the letter C – things of the smallest importance (65 percent of all cases at 15 percent of results). When using this method, one takes into account the importance of the task, not the effort required for their implementation.

**The principle of Eisenhower.** This planning method, created by the American General Eisenhower, is also one of the most popular tools for sorting solutions in importance. Unlike ABC planning, allocation by category is carried out using the urgency (except of importance). The first category – the category A. It includes the most important and most urgent cases. The second category includes urgent but not important things. Category C – not urgent but important case. The latter category D includes not urgent and not important things.

**The Pareto principle.** This rule, formulated by Italian economist Vilfredo Pareto, suggests that the smallest actions bring the greatest results, and vice versa. Thus, for example, 20 percent of actions – 80 percent of the outcome, or the opposite: 80 percent of actions – 20 percent of results.

**Timing.** One of the basic but effective methods is to study the time spent. It is carried out by recording and measuring committed action – held a record of all actions to the nearest 5 minutes for 2-3 weeks. Objectives of timing – account of time spent, search for time and other reserves.

**Gantt chart.** Developed by the American specialist in management gantry Gantt bar graph, this method is widely used in the planning of projects. A diagram consisting of strips that are placed along the time axis and each of them reflects a specific task, which is a part

of the project. The vertical axis is a list of tasks. The best use of this chart – small projects.

**SMART-technology.** One of the most popular methods of goal setting system is SMART. In addition to setting the time frame for implementation purposes, there are other criteria: specific – the goal must be specific, that is my point that can be achieved; measurable – indicates a measured result. In quantitative objectives – stated target figure, while high-quality – set a standard; achievable – set a goal to be real. To be a clear mechanism to achieve, it must also be real; relevant – should be understood that performance objectives are relevant and reasonably necessary to achieve the desired; time-bound – the goal should have a clearly defined time frame to achieve it.

Algorithm of SMART-goals setting as the following: the maximum clarification of the results (S); justification of the goals as necessary or relevant goals (R); prediction and assessment of the reach of goals (A); criteria selection for assessing the goals and targets (M); for the most refined targets chosen deadline (T).

All these methods of planning can be used not only individually, but also together. After selecting goals and objectives, as well as planning, the company management should choose a system of time management. The system of time management refers to a special technique with its own tools, advice and tips on effective organization of activities. In addition to reminders and scheduling, the task of time management is to show how to effectively perform a particular job as not only complete it in time but also to achieve more.

## 5. Time management is a technology

Today there are well-known time-management systems as Franklin Covey Time Management Matrix, Alain David's GTD, and others.

**Pyramid of Franklin.** This system is a complex system with a long-term goal setting and ways how to implement them. It looks like a pyramid, where each

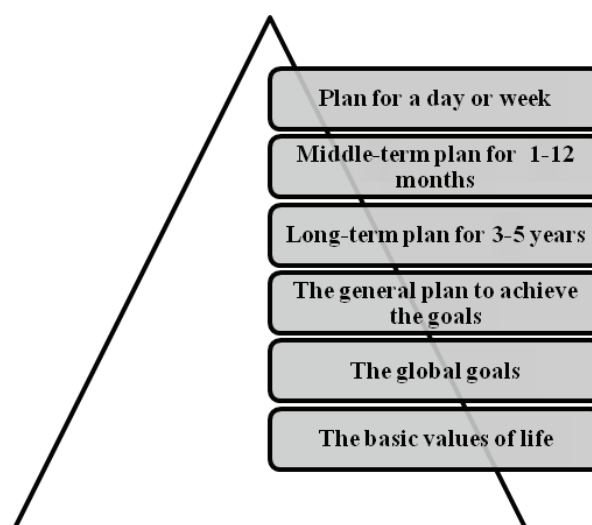


Fig. 2. The Franklin's pyramid

element depends on the previous one. The foundation of the pyramid – the basic values of life. This is what is important for the person that built it around, life concept. The next block – global goals – a concrete expression of the result, the main target based on major global master plan goals, based on their achievement. The next set is a more specific long-term plan for 3-5 years, which includes concrete steps. Short-term and medium-term plans for 1-12 months are the next block of the pyramid. As a result formed a distinct and clear picture of how to achieve goals.

The essence of this system – the gradual ascent to the intended result. This system is being built on the principle of "top-down" – from the definition of global life problems to more specific steps for success.

Stephen Covey Time Management Matrix. This system complements the Franklin Pyramid described above. A matrix is a great tool for planning of employment and determination of time being spent for nothing (Styven, 2016). This tool is a ready template, which can include a worker's problem and the case with which he is confronted daily.

Stephen Covey argues that successful managers organize their work so that their cases were in the main square II (important but non-urgent cases). He added that a competent time-management perfectly to 65-80% of the cases were concentrated in this square.

**GTD by David Alain.** To create a method of Getting Things Done (GTD), David Allen argued that the organization of work should never take longer than the time at work. That is why the foundation of this system formed the conviction that every effort should make the

practical task, not to remember everything you need to do. Unlike Covey Time Management Matrix, David Allen believes that there is no need to allocate priorities and monitor the process of implementation of tasks and, based on the results, build a vision for the future (Dévyd Allen, 2007). Yes, Allen proposes to end global plans, but not to start with them (as in the pyramid Franklin). To succeed, he identifies three distinct models, such as:

- manage a workflow that is in control of tasks and is implemented through five stages: data collection, processing, organization, review, and actions;
- perspectives, which consist of six levels: current actions, current projects, areas of responsibility, 1-2 year goals, 3-5 year goals and life;
- the only method of planning consists of a selection of objectives and principles, the vision of desired outcomes, brainstorming, organizing and defining the next concrete steps.

The advantage of GTD – this system is the most complete and offers its users a ready set of instructions. Thus, the system of Getting Things Done requires brutal self-discipline. There is also speculation that this system is not suited for creative people, as it does not give full freedom for innovation. His opinion was about time management. Thus, world famous Peter Drucker argued that the time management and management are closely linked. Time management is not possible without the management of the whole. And we have this correct goal setting, selection of priorities and how to achieve the set objectives, distribution and delegation of responsibilities.

Also, Drucker stressed that a continuous efficient operation of the brain – 2-3 hours. After this time,

Table 1

**The time-management matrix by Steven Covey (Styven, 2016)**

I	Urgent – important	T	B	II	Not urgent – important	T	B
<b>Sector of crises</b>		✓	✓	<b>Sector of quality</b>			✓
– critical situation; – urgent problems; – projects with a "burning" period; – urgent matters of high priority that require immediate participation in overcoming the crisis.		<i>Results:</i> – management in crisis conditions; – stress; – "burnout"; – "fire-fighting" and "the eternal battle"; – destruction of life.		– prevention; – clarification of values; – planning; – strengthening of ties and relations; – refreshment; – looking for new opportunities.		<i>Results:</i> – vision, perspective; – efficiency; – expediency; – balance; – satisfaction; – reducing the number of crisis situations; – control of life.	
– pressure of others; – daily obstacles and distraction; – implementation of other people's desires and goals; – common (normal) types of activities; – some meetings.		<i>Results:</i> – short-term focus; – feeling in the role of "victim"; – reputation of a chameleon; – idea of the meaninglessness of goals and plans.		– loss of time; – confusion; – trivia time-consuming; – permit time; – addiction to any activities.		<i>Results:</i> – complete irresponsibility; – dependence on core issues from other individuals or organizations; – accumulation of negative emotions, the destruction of life.	
<b>A sign of the crisis of the sector</b>		T	B	<b>Sector of degradation</b>		T	B
<b>III</b>	<b>Urgently – no matter</b>	✓		<b>IV</b>	<b>Not urgent – unimportant</b>		

the brain begins to be distracted, and for a period of time performs less productive functions. Here Peter Drucker highlights two things: time and discretionary consolidation of time (Pyter, 2014). He argued that working time must be split into time blocks, chief among them – discretionary when the greatest performance is and when to decide important matters. Another time required to consolidate and apply are equally important to address the problems.

In addition to time management system, there are tools for time management that will enhance the personal effectiveness of the worker. This is, so to speak, advice from experts in time management.

One of these experts is Julia Morgenstern and she suggested the following tools (Morhenstern, 2006):

1. Evaluation. She argues that one should start with evaluating the time spent and the evaluation of their actions. There are several reasons that hinder performing important tasks such as technical, external circumstances and psychological obstacles.

2. The time limits. A mandatory part of any task.

3. 4D technology. If over some cases the worker cannot perform the task, he has to perform one of the following:

- delete – rejection of the case;
- delay – sort tasks by priority, starting with the most important;
- delegate – involvement of colleagues by delegation;
- diminish – reducing the time spent on a task by a section of total time for short periods of time.

4. Prioritization. Includes global development goals through three stages. The first stage – the selection of six main categories for something important. The next stage – targets for each category. And the last third stage – 2-3 activities to achieve this objective.

5. SPACE technology. This special planning technique involves the organization time and of space.

- sort – sort through cases and around;
- purge – cleaning time and space of unnecessary things;
- assign – timeliness of each task;
- containerize – determining the parameters of each significant action;
- equalize – a periodic reassessment of its system.

## 6. Conclusion

Thus, time management is one of the most important strategic tools of the modern manager. It can help both existing companies and companies that are just launched (the project). In the words of the famous Peter Drucker: “Time is the scarcest resource, and unless it is managed nothing else can be managed. The analysis of one’s time, moreover, is the one easily accessible and yet systematic way to analyse one’s work and to think through what really matters in it.” (Pyter, 2014). Therefore, for the company, it is very important to analyse the time, correctly allocate it and cut. In addition, the manager has a responsible approach to planning; it is also a part of time management.

One of the problems of time management is the effective and efficient use of both working and leisure time. In order to fulfil this task, it is important to optimally allocate resources (including human). Equally important in time management is prioritizing the issue – a sort of clear cases of importance. This is a management task of the organization that wants to improve its effectiveness and this can be achieved through the above methods, principles, tools, models and time management.

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## **Юрий САФОНОВ, Евгений МАСЛЕННИКОВ, Артур КАШУБСКИЙ**

### **МЕНЕДЖМЕНТ И ЕГО ИМПЛЕМЕНТАЦИЯ НА ПРОИЗВОДСТВЕННОМ ПРЕДПРИЯТИИ**

**Аннотация.** *Цель и задачи.* Тайм-менеджмент по-прежнему не очень популярен в качестве элемента на многих предприятиях, в то время как его реализация значительно повышает производительность труда сотрудников и, в конечном счете, эффективность компании. По этой причине, цель статьи состоит в том, чтобы содействовать внедрению тайм-менеджмента в бизнес-среде, предоставляя конкретные инструменты, принципы, методы и системы, а также, чтобы показать свою значимость для компании и описать влияние управления временем для предприятия. *Методы.* В исследовании были использованы обобщение, систематизация, эмпирические исследования, систематический и логический подход к разработке теоретических и методологических положений для инструментального исполнения управления поддержки промышленного предприятия. *Результаты.* Тайм-менеджмент является одним из наиболее важных стратегических инструментов современного менеджера. Он может помочь повысить эффективность управления как существующей компании, так и компании, которая только что запущена (проект). *Практические результаты.* Текущая цель тайм-менеджмента в качестве механизма для повышения эффективности работы компании была достигнута на конкретных производственных предприятиях. *Значение/оригинальность.* Для реализации компания предложила популярную систему тайм-менеджмента, что позволило компании повысить эффективность своей деятельности.

# AREAS FOR INNOVATIVE PRODUCTS IMPLEMENTATION IN THE INSURANCE MARKET OF UKRAINE

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**Abstract.** *The aim of the article* is to assess the prospects for the implementation of the investment life insurance in Ukraine. The study analysed the experience of foreign countries in the investment life insurance market development. Also, an analysis of existing definitions for the "unit-linked" term is carried out; the result is the conclusion that they are limited to only a descriptive characteristic that relates to a particular aspect of the product. Upon that, a comprehensive definition is absent at all now. *Methods.* The study is based on a comparison of "unit-linked" products with the traditional life insurance, which exist in the world practice. *Practical importance.* Increase in the inflow of long-term resources in the Ukrainian economy through the implementation of an innovative unit-linked product. Transformation of the life insurance industry into the high-margin business sphere in Ukraine. *Importance/originality.* A technique of constructing an innovative unit-linked product depending on the specifics of the domestic insurance market performance is developed. *Results.* The article considers in depth the specific features of unit-linked products, which distinguish this life insurance type from the classic accumulative insurance. In addition, it highlights other important characteristics such as a high level of flexibility and transparency of all the components. Also, the advantages and disadvantages of unit-linked products are considered as compared to alternative products, its classification is held for the selected parameter group. The estimations of the unit-linked product development prospects, as well as its influence on the growth of the insurance market, are made. The study justifies the legislative consolidation of the investment life insurance along with a number of expansionary measures successfully implemented in Eastern European countries, which are similar to Ukraine. The result within the framework of this direction is the development of steps for the implementation and development of the unit-linked product in Ukraine.

**Key words:** life insurance, innovative insurance products, unit-linked, investment income, stock market.

**JEL Classification:** G23, H55

## 1. Introduction

The current state of the insurance market requires insurers to increase their performance standards through the introduction of innovative products. Now it is impossible to go without innovations because they are always associated with the demand for innovation in a particular situation and the availability of an investment potential. This innovative direction will enhance the scope of insurance activities, whereby there would be a trend towards the introduction of innovative approaches, conditions for attractive insurance products would be created, which, in turn, would improve the economic performance of the insurance companies and the whole insurance market (Denisenko, 2015).

So, a comprehensive unit-linked product, which is an innovation in the insurance market of Ukraine, has been developed by Western insurance companies in the process of improvement of accumulative insurance programs and in order to increase their profitability.

The orientation of insurance companies' activities to life insurance is actual in the situation of a slowdown in the growth of the insurance market, and a lot of losses in certain types of insurance activity. Despite the crisis and reduced solvency of the population, life insurance is promising due to the uniqueness of its content, providing the state long-term investments and reducing social tension.

Investment life insurance market development can play an important and multifaceted role in the economic growth of Ukraine. We should expect not only changes in the volume and structure of the insurance market but also the impact on other sectors and areas, as well as Ukraine's economy as a whole.

## 2. Genesis of unit-linked products.

Large financial institutions of the world financial market are mainly represented by the insurance companies. The prevailing type of insurance in the

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international insurance market is life insurance; it takes up to 70% of the market structure. The main flows of insurance premiums are observed in the United States, Japan, Britain and France. The experience of these countries shows that life insurance is a highly cost-effective type of business (Sharyfyanova, 2015).

The history of the origin and evolution of funded products is quite long. Back in the 1930s, the first ideas for the modification of traditional life insurance products were made. Thus, in 1928 H.E. Raynes presented the work "The Place of Ordinary Stocks and Shares (as distinct from Fixed Interest bearing Securities) in the investment of Life Assurance Funds" which has pointed to the need to find a method that could make it possible to counteract the impairment of the cash flows generated by policies of classical accumulative insurance. As a part of that work, the most suitable means for this purpose was called investment in shares, because the placement of insurance reserves in them was also possible at that time. However, the increase in the equity investment ratio in itself is not a transition to investment products, due to an availability of other, much more important properties of the action (Rodger, 2009).

Only more than 20 years after the publication of the H.E. Raynes's work, first unit-linked products began to appear in the insurance markets of developed countries. That is, the first half of the 1950s can be identified as the beginning of the first stage for developing those products. At this time, the investment component of a policy was pointed out for the first time: customers have received an opportunity to choose an object of investment (Kutty, 2011).

Further, during the 1960s and the beginning of the 1970s, other key steps were taken, which led to the formation of a full-fledged unit-linked product, the nature of which corresponded to the modern understanding of this type of products. It was at this time when a course has been held for a unit-linked product transparency for a customer in terms of both investment and insurance components (Zevnik, 2010).

Now unit-linked policies are among the most sold in the investment and insurance markets in the world. In the US, 60% of all accumulative insurance programs represent an investment life insurance. In Europe, its share in different countries makes from 30 to 70%, for example, in Lithuania – 80.5%, Hungary – 66%, Poland – 24.6% (European Insurance – key facts, CEA Insurers of Europe).

### 3. The essence of the unit-linked product and its comparison with the traditional policies of accumulative life insurance.

At the present stage of development of the insurance market, there is a huge amount of long-term life insurance programs, among which are the following:

- classical accumulative life insurance when the rate of return is taken into account in the calculation of insurance rates and is constant throughout the term of the contract;
- life insurance with the accounting of a coverage in the capital reserve (used mainly in Europe) when a part of the insurance premium includes a certain standard of savings invested by the insurance company. Thus a reserve fund for coverage is formed, but the yield on such contracts is low;

Table 1

#### Comparison of the main unit-linked parameters and traditional life insurance policies

Parameters	Traditional products	Unit-linked products
Product goal	1. Insurance cover. 2. Accumulation of funds for the time left to live without the possibility of their augmenting.	1. Full-fledged investment. 2. Insurance protection.
Investments	There is no possibility of choosing investments. A minimum guaranteed yield accrual on capital is proposed.	A policyholder has the choice of funding for investment. A policyholder assumes full or most part of the risk in return for an increase in investment yield potential.
Payments	A current amount of the policy is usually not known to the policyholder.	The price of an investment fund unit and the current value of the policy are known to the client.
Guarantees	Availability of guarantees on payments.	Availability / unavailability of some guarantees of payments depending on customer preferences.
Transparency	'Black box' for a client. Elements of the insurance premium (investments, risk premiums and costs) are usually indistinguishable. Investments are directed to the general fund of an insurance company.	Elements of the insurance premium are usually clearly presented to the insurer. Investments are strictly personal, customers are able to track the details of their return.
Flexibility	Extremely limited flexibility of the product in relation to the product parameters. Lack of flexibility concerning the investment component of the product.	Ability to select the maximum number of product parameters. Choice of investments in accordance with a risk profile, and asset growth expectations: the choice from a number of the proposed funds. The possibility of subsequent changes in investment.

Source: compiled by the author

Table 2

**Comparative analysis of a unit-linked product and a policy with sharing in company's profits**

Comparison criterion	A policy with sharing in company's profits	Police unit-linked
Investment risk	Investment risk is incurred by an insurer in connection with the need to guarantee security for the insurance policy. However, a small portion of investment risk is incurred by a policyholder through variations in the size of the insurance premium.	Mainly the investment risk is incurred by the policyholder.
Choosing an investment vehicle	Insurer	Policyholder
The size of payment in case of death	Guaranteed payout in the event of death, plus the accumulated bonus (depending on the method of profit distribution).	The guaranteed amount of payment in case of death, plus the value of the investment shares.
Accumulative part	The guaranteed yield plus a percentage of the profits of the company (based on investment income).	The cost of the investment shares.
The amount of payment in a case of early termination of a contract	The cost of purchase (is specified in the policy and is calculated using mathematical methods) plus the accumulated bonus (depending on the income distribution system).	The cost of investment shares on the date of termination of the contract.

Source: compiled by the author

- life insurance with sharing in the company's profits (with-profits policies) when after the annual assessment of insurance assets and liabilities, the company allocates a share of its profit as a bonus in favour of a policyholder. This bonus is payable only at the end of the contract;  
 - investment life insurance (unit-linked) is an investment method registered with the use of a life insurance contract taking into account investment risks. This new investment instrument with the guaranteed safety of invested funds (stability) and the expected high investment income.

Let us consider the main differences between unit-linked products and traditional life insurance policies (table 1). Also, we carry out a comparative analysis of this innovative product with life insurance with a share of company profits (table 2).

Summing up, we can say that from the point of view of an insurance company, unit-linked products are attractive for several reasons:

- 1) a higher return on investment compared to investment instruments, which are traditional for insurance companies (deposits, government securities, and so on);
- 2) a possibility to transfer an investment risk to a policyholder;
- 3) more soft-shell requirements for coverage of insurance reserves for the companies involved in unit-linked activity compared to traditional insurers of life. In recent decades, this practice is observed in many European countries (Kazakova, 2012).

There are different options for unit-linked products of the western market; their diversity is composed of various combinations of the parameters presented. In each country, there is a certain set of products popular both for insurers and policyholders. For example, in the UK, France and Spain, unit-linked market mainly consists of programs, for which an insurance premium is paid as a lump sum (Mrochkovskyy, 2008).

#### **4. Dependence of the demand for unit-linked products on a situation in the stock market.**

The sales volume of unit-linked policies significantly depends on a situation in the stock market. The fall of the stock market not only leads to a decrease in investment income but also entails the need to reduce the insurer's cost of doing business. In the long run, the unfavourable current situation in the stock market leads to a decrease in profits of insurance companies what is amplified by the lack of ability to quickly make significant changes in a structure of placement of insurance reserves and assets in connection with the long-term obligations under the contracts.

Due to the fact that the investment life insurance, as well as accumulative insurance, is a long-term project, it is difficult enough to predict the situation in the stock market for a few decades. From there, a part of the insurers come through the situation as follows: only a portion of the insurance premium is invested in investment instruments selected by the policyholder, the remaining part is invested in other instruments at the discretion of the investment department of insurance company experts (Kazakova, 2012). Thus, a risk diversification is ensured. In addition, the American version of unit-linked insurance policy assumes that a policyholder may decide to change the set of investment instruments and some other parameters of the insurance contract during the term of the contract (see table 3).

For a company, a significant share of which business comprises deals with unit-linked products, the operational risk lies in a potentially higher probability of the insurance contract termination before it expires, compared with products with sharing in the company's profits. Policyholders often consider unit-linked products more as a savings tool. Therefore, they want to make a profit in a favourable situation in the stock market, as well as to minimize

Table 3

**Alternatives for the transition from one type of life insurance contract to another (unit-linked)**

European alternative (may be implemented only after expiration of a contract)	American alternative (may be implemented during the term of a contract)	Guarantees
Guaranteed choice of converting the rent: a possibility of payment at the end of the insurance contract or a possibility of its investing in a unit-linked insurance policy.	The transition from a policy of sharing in company profits to a unit-linked policy.	Guaranteed minimum accumulated amount.
The guaranteed period of pension payment: monthly payment of pensions regardless of whether the insured person is alive (in the event of his/her death, payment should be made to the heirs up to the end of the contract).	Rejection of the unit-linked policy. The ability to move away from unit-linked insurance policy conditions for some time (for the unfavourable situation in the stock market). Guaranteed minimum amount of refund in case of early termination of the contract.	The guaranteed minimum payout for the risk of "death".

Source: compiled by the author

their losses when the market declines. Upon that, the early termination of the policy with sharing in the company's profit is unprofitable for a policyholder.

### 5. The main problems that hinder the investment life insurance implementation in Ukraine

Currently, the Ukrainian insurance companies do not offer unit-linked programs. This is related to the laws and regulations in the area of insurance. The fact is that unit-linked policies covering longevity risk do not prescribe an insured amount and do not ensure guaranteed return. Also, according to the law, an insurance company cannot pool its risks of investing to its clients. Some insurance companies sell insurance policies with an investment component, but these programs are far from what is usually called unit-linked; they are usually invited to peg the yield to quotations of certain assets. What is more, the choice is usually limited to two or three types of them. So, it is possible to purchase a fully-fledged policy of investment life insurance only abroad so far.

Thus, it is possible to specify the following main issues that do not allow the implementation of the investment life insurance programs in Ukraine:

- 1) slow pace of financial market development;
- 2) fairly significant fluctuations in the securities market, which make it impossible to predict future volumes of additional revenues as a result of investment in assets;
- 3) low volume of profitable securities traded in the domestic stock market, which can provide an acceptable return-to-risk level;
- 4) unstable macroeconomic situation in the country (an instability of the national currency, high inflation level);
- 5) rather ad hoc and unbalanced state supervision over the activities of financial intermediaries; the lack of an effective long-term strategy of financial market development, and others.

### 6. Advantages of the investment life insurance implementation in Ukraine both for insurers and for policyholders

The attractiveness of unit-linked products to customers is as follows:

- possibility of direct participation in the investment, independent choice of investment instruments;
- psychological protection. Care for children and families in difficult life situations;
- reliability and professionalism about. It requires strict control by the public authorities over the activities of investment funds;
- lower operating costs due to scale (a large number of shareholders of a fund);
- additional tax benefits under certain conditions (in particular, the minimum duration of the contract and the availability of insurance cover for the risk of "death"), which are used in unit-linked programs in most countries of the world;
- professional risk diversification. The professionalism of a management company allows timely to revise the fund's assets and monitor effectiveness of investments;
- high degree of transparency of revenues under insurance products, particularly in comparison with policies on sharing in the company's profits. In the latter case, it is often difficult to keep track for a policyholder of how company's shareholders distribute profits from investment activities;
- a possibility of additional income (much higher in comparison with other life insurance products).

### 7. Conclusions

The analysis of the problems and prospects for the introduction of the innovative unit-linked insurance product in Ukraine leads to the following main conclusions. Today, the Ukrainian insurance market is not ready for the introduction of unit-linked insurance given the insignificant pace of development of life insurance companies and the stock market. But with the solution of these problems and in the longer term,

an introduction of the investment life insurance can be a target for the development of the domestic insurance market. To do this, the following steps should be performed:

- increase transparency, capacity, and stabilize the stock market;
- form a preferential tax regime for unit-linked policy incomes;
- improve the legal framework in the financial market;
- increase the level of awareness of citizens about the possibilities of investing savings in the financial market;
- reform the pension system. Unit-linked policies will potentially ensure a higher level of return than other products on accumulative life insurance;

- control the entire production cycle, from product development to its direct sale to customers.

Also, the development of the investment life insurance in Ukraine needs the state support, at which insurers will be able to generate a significant portion of long-term financial resources to address the important problems of economic development of the country. The implementation of all the proposals and the achievement of the goals will contribute to attracting long-term resources in the Ukrainian economy, significantly increase the degree of participation of local investors in the stock market transactions, create a new category of institutional investors, ensure the long-term growth of life insurance sector, and increase its importance in the national economy.

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## Диана ТРЕТЯК

### НАПРАВЛЕНИЯ ВНЕДРЕНИЯ ИННОВАЦИОННЫХ ПРОДУКТОВ НА СТРАХОВОЙ РЫНОК УКРАИНЫ

**Аннотация.** Целью статьи является оценка перспектив внедрения инвестиционного страхования жизни в Украине. В ходе исследования был проанализирован опыт зарубежных стран в развитии рынка инвестиционного страхования жизни. Также был проведён анализ существующих определений unit-linked, результатом стал вывод о том, что они ограничиваются лишь описательной характеристикой, которая касается того или иного аспекта данного продукта. При этом полноценное определение вовсе отсутствует. **Методика.** Исследование основано на сравнении unit-linked с традиционными продуктами страхования жизни, которые существуют в мировой практике. **Практическое значение.** Повышение приплыва долгосрочных ресурсов в экономику Украины за счет внедрения инновационного страхового продукта unit-linked. Преобразование отрасли страхования жизни в высоко рентабельную сферу бизнеса в Украине. **Значение/оригинальность.** Разработано методика конструирования инновационного продукта unit-linked в зависимости от специфики функционирования отечественного страхового рынка. **Результаты.** В статье были подробно рассмотрены специфические черты unit-linked, отличающие этот вид страхования жизни от классического накопительного страхования. Помимо этого выделены иные важные его характеристики, такие как высокий уровень гибкости и прозрачности всех составляющих. Также были рассмотрены преимущества и недостатки unit-linked, в сравнении с альтернативными продуктами, проведена его классификация по выделенной группе параметров. Сделаны оценки перспектив развития unit-linked продукта, а также влияние его роста на рынок страхования. В исследовании обосновано законодательное закрепление инвестиционного страхования жизни, вместе с рядом стимулирующих мер, успешно реализованных в схожих с Украиной стран Восточной Европы. Результатом в рамках данного направления стала выработка шагов, по внедрению и развитию unit-linked продукта в Украине.

# IMPLEMENTATION OF MODERN FOREIGN APPROACHES TO UKRAINIAN PENSION SYSTEM REFORMING

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**Abstract.** *Goal.* A study of the experience of Western European countries in implementing structural reforms of the pension insurance system and the implementation of such experience in Ukraine. The main task of the pension system of any country in the world is to ensure the corresponding stable level of incomes of pensioners and at the same time maintain their financial stability. The increase in the proportion of pensioners increases the burden on pension systems, and mainly measures taken by countries are aimed at reducing pension costs and parametric reforms. *Methodology.* This article investigates the prerequisites and consequences of reforming the pension systems of the Member States of the Organization for International Cooperation and Development. Considered measures to ensure the financial stability of pension systems of the countries concerned, increased the social and stimulating role of pension insurance in the society. The methodological basis of the article is methods of scientific cognition, which enable to expose basic conformities to the law of development of the pension systems, priority ways to ensure their financial sustainability. Such methods are in particular used: analysis and synthesis – during research of financial indicators of pension systems; systematization – for revealing methods for reforming pension systems, their detailed analysis and the definition of their features; scientific abstraction – with the purpose of forming theoretical generalizations and conclusions. *Results.* The article investigates the trends of reforming pension insurance systems in some countries. It is established that today the main characteristics of pension reforms in foreign countries are increasing the retirement age, improving the solidary component of the pension system, reducing the role of state pension insurance. Some countries raise their contribution rates; the conditions for early retirement are becoming tougher. Almost nobody decided to reduce the nominal size of pensions, but some countries introduce automatic adjustment of their size depending on the growth of life expectancy, incomes and expenditures of the pension system. In recent years, a number of countries, despite budgetary problems, have introduced tax incentives or co-financing voluntary savings to increase the proportion of citizens taking part in them. Others used non-financial incentives to expand coverage. The article outlines the main directions of reforming the pension system in Ukraine, namely, the expansion of the tax base for the working population, the introduction of the second pillar of the pension system, and the popularization of individual funded programs. *Practical significance.* The necessity of changes in the pension system of Ukraine on the basis of the effects of the reform of pension systems of the leading countries of the world. This made the cardinal changes in the systems in the countries of the world: the transition from financing pensions from current receipts to the system of individual accounts and savings, raising the retirement age, reviewing tariffs and requirements for risk management in pension funds, etc. *Importance/originality:* conducted a sample of reforms in pension insurance of foreign countries and offered the possibility of implementing only the part that can be adapted and applied in the light of the individual characteristics of the Ukrainian state.

**Key words:** pension system, pension reform, pension insurance, pension schemes, Organization for International Cooperation and Development (OECD).

**JEL Classification:** G18, G21, G22, J14, E24

## 1. Introduction

The pension systems of most countries in the world have undergone significant changes during the last decade. The main factors of the reform are deterioration in demographic trends – a significant change in the ratio

between employees and those who receive pensions as well as the change in the structure of production and consumption of the national product. Aging directly influenced the financing of the solidarity system, since a smaller number of people of working age should

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maintain a sufficient level of pensions for an increasing number of older people in the world as a whole.

The economic crisis and, as a result, the slow pace of economic growth, as well as the increase in the level of public debt in many OECD countries, created additional obstacles to ensuring the financial stability of pension systems. This caused the cardinal changes in the systems in the countries of the world: the transition from financing pensions from current receipts to the system of individual accounts and savings, raising the retirement age, reviewing tariffs and requirements for risk management in pension funds, etc.

## 2. Literature review

Issues of reforming the pension system of Ukraine are in the field of vision of many scientists and practitioners. Domestic scientists, specialists on employment issues of the Ministry of Labour and Social Policy of Ukraine made a significant contribution to the study of these processes and the search for mechanisms of improving the pension insurance system in Ukraine. Among them are Libanova E.M., Malevanyi M.I. (2014), Oleksandrova G.M. (2016), Zhuk D.S. (2011), Kasich A.A. (2011), etc. The foreign experience of reforming pension systems is considered by such domestic scientists as Rudyk V.K. (2011), Yakimova L.P. (2013), Petrushka A.V. (2015), Bondaruk I.S. (2009) and others.

Without detracting from the role and importance of ongoing research, it should be noted that today the issues of foreign experience in the field of pension insurance are insufficiently studied. There is a need for scientific developments that would summarize the accumulated experience of the leading countries of the world taking into account the latest trends in social protection and on their basis would form a strategy for the development of Ukraine's pension system.

## 3. Goals and tasks of the article

Based on the analysis of foreign experience in the development of pension insurance systems, the purpose is to identify the main trends in the implementation of pension reforms by the example of OECD countries. To achieve the stated goal, the following tasks are set: to define the concept and types of pension systems, to analyse the differences in the pension systems of the OECD countries; to analyse the experience of pension reforms in the countries studied, to identify the main directions for implementing pension reforms in the conditions of the pension crisis.

## 4. The main material of the research

Pension provision of the population in various forms for many centuries played an important role in various countries but began to acquire the systemic

nature only in the late XIX – early XX century. Since then, in most countries of the world, the continuous process of the evolution of pension systems goes on. During this period, generally accepted classification was formed with the separation of the two main types of pension systems: the distribution (pension contributions go to current pension payments) and cumulative (pension contributions are formed on individual accounts and invested in various assets in the financial market, and investment income increases the final pension).

Modern international practice is such that in most countries there are combined pension systems that combine state distribution, as well as mandatory and voluntary accumulative elements (Figure 1). The mixed type of the pension system is the most effective in terms of financial stability and the level of pensions paid (Stalebrink, 2014).

In its pure form, cumulative and distribution models are seldom present in the world practice, as well as the model in which both compulsory and voluntary accumulative parts were simultaneously present.

The main task of the pension system of any country in the world is to ensure the corresponding stable level of incomes of pensioners and at the same time maintain their financial stability.

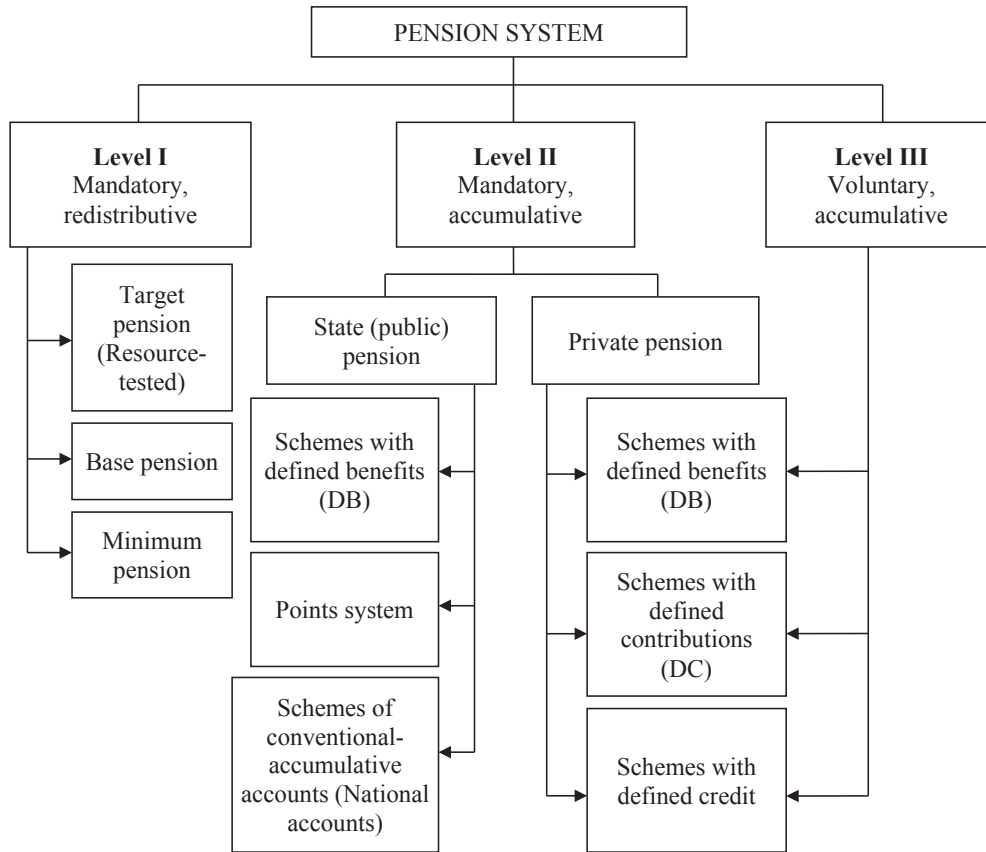
According to the Organization for Economic Cooperation and Development (OECD), from 2013 to the end of 2015, 26 countries out of 34 ones have made changes to their pension systems (OECD, 2015). In nine countries, these were reforms affecting the majority of the population. In other, the changes affected certain groups of employees (for example, private or public sector) or pensioners themselves.

The process of aging of the world population, caused by the increase in life expectancy and low birth rates, forms new challenges in the world.

According to the OICD forecast, the proportion of people aged 65 and over should increase from 8% of the total population in the world by the end of 2015, to almost 18% in 2050 (figure 2), and from 16% to 27% among countries Members of the OICD. Among the OICD countries, the share of the population, whose age will be more than 75 years in 2050, will equal the proportion of the population over 65 years of age today.

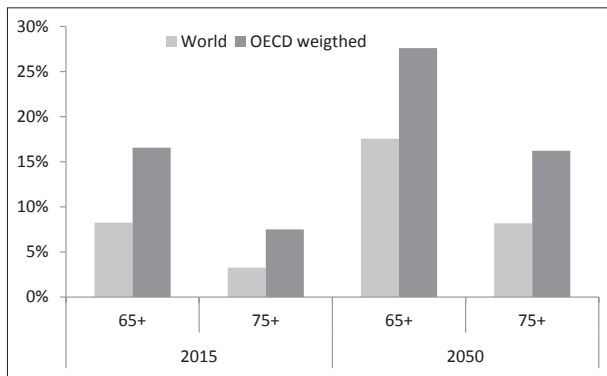
The increase in the proportion of pensioners increases the burden on pension systems, and mainly measures taken by countries are aimed at reducing pension costs and parametric reforms.

Thus, the Czech Republic and Finland reduced the indexation of pension payments, France changed the order of indexation, and Greece and Belgium temporarily froze it. Since 2017, Slovakia has been linking indexation to inflation (previously – both to inflation rates and wage growth), the same rules are applied in Sweden, Finland, Portugal and Germany. In Turkey, the indexation depends on the rate of GDP.



**Fig. 1. The overall structure of pension systems abroad**  
 Source: (Yakimova, 2013)

Luxembourg will index pensions only if pension incomes exceed expenditures (OECD, 2015).



**Fig. 2. The share of elderly older than 65 and 75 in the total population**  
 Source: (European Commission, 2015)

The retirement age is rising steadily. This was done by 30 of the 34 OECD countries (by 2015, Latvia became the 35th participant of the OECD): 20-year-olds who started working in 2014 will retire not earlier than 64 years, and in the Czech Republic, Ireland and Great Britain – in 68 years. In the countries with economies in transition, where in the mid-1990s the retirement age

was 60 for men and 55 for women, now it is on average 65 and 63, respectively.

Over the past two years, Canada, Belgium, Spain announced a gradual increase in the retirement age to 67 years, in Germany it is raised from 65 to 67 per month per year, in the Netherlands it will reach 67 years already in 2021 and in Australia in 2023. Hungary raises the age from 62 to 65, in Portugal its increase from 65 to 66 will be associated with the increase in life expectancy. In Slovenia, where the retirement age is one of the lowest – 58 years – it will rise to 60 for those who paid contributions for 40 years, if the payment time is shorter – up to 65 years. In France, the minimum necessary period for the payment of contributions will be gradually raised from the current 41.5 years to 43 years (OECD, 2015).

Some countries raise their contribution rates (for example, Canada and France). The conditions for early retirement are becoming tougher: in Finland, this opportunity was lost to private sector employees, in Portugal – for everybody, in Poland, during the 2009 reform, the number of citizens eligible for early retirement was halved. In Spain, the pension is reduced by 7% for each "premature" year of retirement. Along with this, countries introduce incentives for later retirement, expand opportunities to combine receiving a pension with the continuation of employment.

Almost nobody decided to reduce the nominal size of pensions, but some countries introduce automatic adjustment of their size (depending on the growth of life expectancy, incomes and expenditures of the pension system).

The solidarity component remains the basis of pension systems. At the same time, in almost all countries they are mixed, including a cumulative component. Participation in funded schemes can be mandatory for the employer – such conditions are typical for Korea, the Netherlands, Hong Kong, China, Singapore, Sweden, Turkey, the United Kingdom, New Zealand. In Germany, Japan, Poland, France, Slovakia, corporate pension schemes for employers are voluntary. Individual funded plans are mandatory in Chile and Mexico, voluntary in the Czech Republic; In Australia – mandatory for the employers, but voluntary for the employees.

In recent years, a number of countries, despite budgetary problems, have introduced tax incentives or co-financing voluntary savings to increase the proportion of citizens taking part in them. Others used non-financial incentives to expand coverage: for example, the UK and Canada introduced auto-subscriptions – automatically including employees with the option to opt-out; the same mechanism operates in Italy, New Zealand, the USA. Mexico expands its coverage by connecting to the mandatory savings of self-employed and civil servants.

Some countries are moving in the opposite direction: for example, Peru and Uruguay granted employees the right to return to the distribution system. In Slovakia, where in 2060, according to the forecasts of the European Commission, pension costs will be highest and pensions the lowest in the EU, in 2015 they cancelled the minimum period of savings of 10 years and allowed their inheritance, and temporarily opened the entrance to the funded part for everybody – previously it was possible to be chosen only up to 35 years. The Czech Republic, having offered the employee to co-finance a cumulative contribution at the expense of deduction from a solidarity contribution (thus the distributive part of the pension of such workers was reduced), faced an almost complete refusal of people to participate in this system. At the same time, state co-financing of voluntary savings made it possible to make them wide-scale: 4.9 million employees participate in them, compared to 0.08 million, who have chosen a cumulative contribution to state systems.

In New Zealand, by the moment of launch in 2007 the program “KiwiSaver” based on an automatic connection of employees and state subsidies, less than 10% of able-bodied citizens participated in voluntary savings, by 2010 this share increased to 55% (OECD, 2015). The German Rister program, thanks to state subsidies for 10 years from the start in 2001, increased coverage from 2.5 to 27% of working-age citizens. In Spain, despite the tax benefits, up to 2012, they managed to attract

to voluntary corporate programs no more than 3% of employees, and 15% – to individual ones.

However, even in quasi-obligatory funded systems, the percentage of employees' participation is much lower than in compulsory ones, where it reaches 70%, and in Iceland it exceeds 85%. At the same time, real payers can be significantly less than those covered by the funded system – both quasi-obligatory and mandatory – due to poor citizens' awareness and significant informal employment. For example, in Chile, where individual pension contributions are mandatory for employees, under the coverage of 70% of the able-bodied population, in reality contributions are paid by 40%, in Mexico with 60% of the attracted – 38%.

So, it can be determined that the need for pension reforms was due to a significant need for fiscal consolidation, and most countries actually implemented reforms to improve the financial sustainability of their pension systems. Some countries did this while maintaining or improving the quality of pension income, at least for some population groups.

## 5. Conclusions and recommendations for the further research

Ukraine is currently at the stage of development of the national pension system. In this context, the study of the experience of the pension systems functioning in developed countries, including the experience of their reforming and prompt response to the challenges, is of particular importance, which significantly affects the financial provision of citizens upon retirement and is also an important source of investment resources.

Analysing the experience of foreign countries, we can identify the main ways of reforming the pension system:

1. Expansion of the base of taxation of the working population by increasing the minimum age of retirement and / or the basic age of retirement, thereby increasing the contribution while maintaining the quality of payments for those who are able to work longer. However, this measure remains controversial in Ukraine due to the low life expectancy of the population – 71.38 years (for those born in 2015) (State Statistics Service of Ukraine, 2017) in comparison with the countries of Europe. An alternative to expanding the base can be an increase in the length of employed service for both men and women.

As an alternative to the retirement age increase, some countries have introduced an automatic link between the level of pension and life expectancy, that is, the amount of assistance, other things being equal, will decrease as people begin to live longer.

2. Introduction of the second pillar of the pension system – mandatory funded pension insurance.

Reforms of solidarity systems are usually aimed at reducing pension payments. This raises the need to develop private pension provision and its role in the



income of future pensioners. All OECD countries have accumulative pension systems, on average in 34 countries, the distributing part provides a pension of 41% of the average earnings, taking into account the funded part, it increases to 58%, i.e. about a third of the pension is provided by savings.

However, the efficiency of the accumulation schemes in the world, not only in Ukraine, largely depends on subjective and general economic factors. Its profitability can fluctuate in significant limits, depending on changes in the economic environment and the quality of management. There is always a risk of losing savings or reducing the level of investment income in comparison with their size, laid down in pension schemes. Already in the concept of the accumulative system, there are numerous risks. The participants of the system are fully responsible for its failures; the state guarantees the affected ones at the very best only a minimal pension. The system is ideal for well-paid employees, who can accumulate a sufficient amount of money on pension accounts.

To date, one of the most difficult issues for the budget of Ukraine is the cost of transition to cumulative insurance. There is a need to compensate for the current generation of pensioners the means that are diverted to the funded system. Taking all risks into account, the introduction of cumulative is constantly postponed.

3. Promotion of individual funded programs. With the transition to reform in developed countries, the common response to new challenges was the desire to reduce public pension payments during the modernization of pension schemes, and to encourage (sometimes forcedly) employees, especially those with medium and high earnings, to accumulate on their security in old age. A number of countries have taken measures to increase the coverage of voluntary private pension schemes.

4. According to the analysis, many countries raised pension income by increasing taxes or contribution rates to defined benefit systems. For Ukraine, this tool is not acceptable, since only in 2016 there was a reduction in the rates of a single social contribution for employers and the abolition of that for employees. An increase in taxation is possible with a compensatory approach for employees. For example, the payment of interest in the accumulation fund by reducing the tax on personal income.

Further effective reform of Ukraine's pension system will depend on two key aspects: first, on the degree of citizens' trust in accumulative pension programs; second, on the ability to ensure financial stability and the expected level of funds return invested in financial institutions related to the provision of pension services.

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**Анна ХЕМИЙ**

## РЕАЛИЗАЦИЯ СОВРЕМЕННЫХ ИНОСТРАННЫХ ПОДХОДОВ К РЕФОРМИРОВАНИЮ СИСТЕМЫ УКРАИНСКОЙ ПЕНСИОННОЙ СИСТЕМЫ

**Аннотация.** *Целью работы* является изучение опыта стран Западной Европы в проведении структурных реформ системы пенсионного страхования и имплементация такого опыта в Украине. Основной задачей пенсионной системы любой страны мира является обеспечение соответствующего стабильного уровня доходов пенсионеров и сохранения при этом своей финансовой устойчивости. Рост доли пенсионеров повышает нагрузку на пенсионные системы, и в основном меры, принятые странами, направленные на сокращение расходов на пенсии и на параметрические реформы. *Методика.* В статье проанализированы причины и последствия реформирования пенсионных систем стран-членов организации международного сотрудничества и развития. Рассмотрены меры обеспечения финансовой стабилизации пенсионных систем соответствующих стран, повышение социальной и стимулирующей роли пенсионного страхования в обществе. Методологической основой статьи являются методы научного познания, позволяющие выявить основные закономерности развития пенсионных систем стран мира, приоритетные пути обеспечения их финансовой устойчивости. В частности используются следующие методы: анализ и синтез – в ходе исследования финансовых показателей пенсионных систем; Систематизация – для выявления методов реформирования пенсионных систем, их детального анализа и определение их особенностей; Метод научной абстракции – с целью формирования теоретических обобщений и выводов. *Результаты.* В статье рассмотрены тенденции реформирования пенсионного страхования в отдельных странах мира. Определено, что на современном этапе характерными признаками пенсионных реформ в зарубежных странах является повышение пенсионного возраста, улучшение солидарной составляющей части пенсионной системы, снижение роли обязательного страхования. Некоторые страны повышают ставки взносов, ужесточаются условия для раннего выхода на пенсию. На сокращение номинального размера пенсий почти никто не решился, но некоторые страны вводят автоматическая корректировка их размера в зависимости от роста продолжительности жизни, доходов и расходов пенсионной системы. В последние годы ряд стран, несмотря на бюджетные проблемы, ввели налоговые льготы или софинансирования добровольных накоплений, чтобы увеличить долю граждан, принимающих в них участие. Другие использовали нефинансовые стимулы для расширения охвата. В статье выделены основные направления реформирования пенсионной системы Украины, а именно расширение базы налогообложения работающих слоев населения, введение второго уровня пенсионной системы, а также популяризация индивидуальных накопительных программ. *Практическое значение.* Обоснована целесообразность внесения изменений в пенсионную систему Украины, исходя из последствий реформирования пенсионных систем ведущих стран мира, так как в последних произошли кардинальные изменения в пенсионных системах стран мира: переход от финансирования пенсий за счет текущих поступлений в систему индивидуальных счетов и накоплений, повышение пенсионного возраста, пересмотр тарифов и требований по управлению рисками в пенсионных фондах и тому подобное. *Значение/оригинальность* статьи заключается в проведении выборки необходимых реформ в пенсионном страховании зарубежных стран и предложена возможность имплементации только той части, которая может быть адаптирована и применима в учетом индивидуальных особенностей украинского государства.

# THE MECHANISM OF STRATEGIC, POLITICAL AND PROCESS MANAGEMENT OF THE QUALITY OF UNIVERSITY SERVICES

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**Abstract.** The purpose of this work is to justify the need to develop and implement a mechanism for managing the quality of higher education services, which will solve a number of pressing problems that have arisen at the national level, at the level of the higher education system and the level of individual higher education institutions. **Methodology.** This study is based on the use of ENQA standards and recommendations, as well as modern general methods and practice of quality management. **Results.** The functioning of the mechanism for managing the quality of higher education services should be considered at three levels of decision-making (three hierarchically subordinate components of the mechanism), which are as follows: strategic, political and process. It is determined that the management of a higher education institution, like any organization, is carried out at three levels of decision-making: strategic, tactical, and operational. The paper substantiated the content and features of the implementation of the functions of each component of the quality management mechanism. **Practical implications.** The work determined the components of strategic management of the quality of higher education institutions' services, which include: strategic analysis of the external environment and self-assessment of the educational institution, development of strategic plans, management of the implementation of the higher educational institution strategy. **Value/originality.** It is determined that the political management of the quality of higher education services includes a broad setting of goals of the higher education institution, which in turn is determined by senior management, set forth in written, formally announced (published) and communicated to all staff and units of the higher education institution. The political goals of the education institution regarding quality are structured by functional and administrative management areas.

**Key words:** higher education, quality management, university management, development, educational services, strategy.

**JEL Classification:** I21, I23, I25, I28

## 1. Introduction

The results of an analytical research of the state and development of the quality management processes of higher education in post-soviet countries determine the loss of functioning efficiency of the higher education institute, which does not fully comply with its fundamental functions. Evidence of this are the low levels of socio-economic, humanitarian, scientific, technical and innovative development of a country. At the same time, these trends are accompanied by the rapid growth of the higher education system, which manifests itself in the sequential formation of a large network of universities with three times more large contingent of students, post-graduate students and doctoral candidates, compared to the 1990 year.

A serial analysis of quality control processes on the level of the entire higher education system and individual universities found that in modern

conditions, the solution of the issue of higher education quality improvement and the performance of its basic functions, as a public institution, is largely due to the improvement of internal management systems in universities. Experience with bureaucratic licensing and accreditation procedures shows that the quality of governance of higher education in terms of a network of accredited universities, which count more than 1000 institutions, is quite an effective mechanism in terms of the minimum requirements and the formation of formal obstacles to the entry way to the educational services market for everyone (which may ultimately discredit the public institution of higher education). At the same time, the European experience of higher education management and doctrinal documents of the Bologna process determine that the main link in the process of quality assurance in higher education are universities that are directly the operators of the education market.

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Stimulating factor for the development of activity in the sphere of quality management on the level of universities is the fact that the dynamics of the contingent of entrants each year is reduced and the network operators of the higher education services market for a long period of time will operate in the market, which shows a decrease of its capacity. However, the main fundamental factor that determines the need for intensification at the institutional level of higher education quality management is the lack of a positive effect of the functioning of the higher education system on the country's economic development, its social, innovation and humanitarian components. Such trends are a fundamental factor in the reduction of financial resources that government can spend on the functioning of higher education.

Thus, there is a situation where universities are facing two strategic threats. The first lies in the fact that customer base is reduced with an unchanged number of participants in a competitive market. Another threat is that high schools network, which is the core of a public institution of the higher education in the long term will feel a decrease in public funding, due to the lack of appropriate filling the state budget due to the effect from the functioning of higher education.

It should also be noted that the substitution of a lack of Russian matriculates by foreign students, which can be considered as one of the solutions to the problem of customer base and capacity of the higher education market increasing, is also an issue, mainly due to the quality management. In the context of the functioning of the international education market, which is characterized as a high-tech and modern type of service production, the importance of acquiring competitive advantages of individual universities and the recognition of documents on education in other countries. In this case, there is the issue of compliance with international standards of quality and availability of relevant certificates in high school. As a consequence, the quality of governance is becoming one of the most important in this case but, in this direction, it acquires a distinct utilitarian character.

## **2. Methodological aspects and methodological approaches to quality management in higher education**

The economy of the sphere of higher education is an object of numerous researches. Scientists devoted their attention to the question of higher education quality in general (Bagirov, 2005), European integration processes in the field of educational services (Gayrapetyan, 2006), socio-economic development of the education market (Kasyanov, 2004; Kratt, 2003). A separate science stream was formed in the sphere of university management (Popov, 2002) and internal quality control systems of higher education (Sobolev, Stepanov, 2004).

At the same time, a complex of questions that concern concrete aspects of the implementation of universities quality management conception is still unsolved and demands attention within the current condition of universities services market.

In these conditions, the development and implementation of higher education quality management mechanism is an important issue, which has a high potential for solving the problems that arise on the national level, the level of the higher education system and individual universities level. The most important feature of this trend of improvements and modernization of education is that the development and implementation of the control mechanism are largely associated with organizational measures and are not capital intensive. In this case, we are talking about the fact that the higher education system development is not associated with an increase in the budget or private financing (although the fundamental factors and possibilities of such an increase in current conditions are absent), and a more efficient use of existing resources, the volume of which in the tactical and strategic perspective will decrease. The lack of progressive changes in the individual university management system, in particular, the quality of the management of their services, has promising implications of a negative character, which are to eliminate institutions and radical institutional changes.

University management, as well as management of any other organization, carries out at three levels of decision-making: strategic, tactical, operational. On the basis of standards and guidelines of the ENQA, as well as modern common methodology and quality management practices, the functioning of the higher education services quality management mechanism is appropriate to consider in the plane of the three levels of decision-making (three hierarchically subordinate components of the mechanism): strategic, political and process. Strategic management of universities quality services is not a separate area of strategic planning and overall long-term institution management philosophy. The quality of services should be considered as the primary target setting in general tree university purposes. Medium-term planning is interpreted as a political level of the implementation of management functions, due to the fact that, despite the overall strategic direction of the university management quality, implementation of the strategy requires the implementation of decomposition of certain tasks and functions, with the result that there is a certain organizational structure with functional and linear units.

Positioning quality as the main and target goal of universities functioning, quality management, along with other functional areas also requires an appropriate selection (along with marketing, finance, administration and PR-accompaniment) providing a certain functional status and the corresponding organizational support (formation of separate organizational units). In turn,

the operational level of management is considered as a kind of process control due to the fact that the modern methodology of quality management and the relevant international standards require the use of a process approach to quality management. As a consequence, the individual functional areas of management and linear units in the short term are treated as institutional units, mediating systematic set of specific processes that occur at the output of university to provide services with a certain level of quality. Thus, short-term planning, organization, management and control are based on the actual results and forecasts of individual processes implementation.

### 3. The main stages of the formation and conceptual provisions of the quality management mechanism of university services

The initial conditions for a construction of the university strategic management system are some of the objective tendencies, which are formed in the external environment, which simultaneously serve as strategic guidelines that limit the scope and target arguments of control functions, threats and opportunities. The composition of these conditions includes the following:

- increase of the level of requirements for the quality of educational services from the part of consumers that is caused by the possibility of choosing from a number of similar training programs in a number of universities;
- emergence of a large number of logistics objects that can be used in the educational process, which consequently generates certain consumer expectations;
- simultaneous expanding the range of basic and additional services that are provided in one university (including regional higher education system) with increasing differentiation of consumer demand (quantitative and qualitative increase in the list of consumer needs);
- increased competition between universities on the educational services market, which is exacerbated by unfavourable demographic processes and the presence of sufficiently extensive (both in the regional and sectoral dimension) network of universities;
- significant differentiation of consumer demand and the state order for individual specialty, which is accompanied by fairly significant disparities in the labour market.

Objectivity of the demands of universities services strategic quality management development is caused by the fact that all the activities of universities should be focused on the achievement of clearly defined targets in terms of quality, thus an adaptability of universities to change character of the external environment, review the contents, directions and volumes of provided services become important.

One of the key requirements of ENQA and ISO standards is to have formulated strategic quality

objectives, which are specified by appropriate policies and procedures for quality assurance. The strategy, policy, and quality of assurance procedures should be publicly released and get an official status. The strategy, policy and procedures are conventionally combined in quality management doctrine, the development of which is based on a comprehensive study of the strategic perspectives of the labour market and educational services. Customer needs and expectations also require studying, so as needs and expectations of research staff, personal and other stakeholders. The structure of university quality doctrine should be put in this form:

- quality management policy of educational, scientific, methodical and educational activities of the university;
- strategic development targets of the university in the projection of quality service management;
- mechanisms, instruments, arrangements and implementation measures of the strategic targets achievement policy.

Public displays of universities doctrine in the field of quality are formulated and promulgated: mission, vision, strategic goals and objectives of the university with the appropriate decomposition of the task in the organizational dimension (between different departments and organizational units). Consistent formulation of these provisions will ensure the understanding of the strategy and quality policy within the university and to reach the awareness of staff on certain key issues, in particular:

- vision (positioning) of universities in the education market and the wider society;
- key objectives of the university's functioning;
- key stakeholder groups and consumers, on the needs satisfaction of which university operates;
- Quality Management Objects (specific characteristics of educational services and the content of universities obligations concerning their long-term provision), and ways to ensure their future state.

At the same time, doctrine in the field of quality and its external manifestation in the form of a succinct mission is a means of identification and differentiation of university in the market. With the help of mission, there is an opportunity to highlight and demonstrate the uniqueness, identity and customer value of services of a particular university. Identification of high schools in the market environment can also be achieved by determining the value for schools: consumers of its services and society in general; Faculty and staff; image at the regional, national and international level; material and technical equipment and innovative teaching techniques.

All of the above provisions on the strategic positioning of universities fit quite well in the overall economic concept of the strategic management in the organization. Generalized, the process of strategic management of the higher education services quality should be divided into three components (a strategic

analysis of the environment and the university self-assessment, formulation of strategic plans, managing the implementation of the university strategy), the implementation of each of them determines reaching a certain higher level of service quality (Fig. 1).

A strategic analysis of the environment and the university self-assessment is the initial element of the strategic management of the university. The main purpose of the self-assessment is to identify opportunities and problematic issues at the stage of the development and implementation of quality management systems, as

well as the evaluation of the functioning of individual processes and needs in their improvement at the stage of development of the quality management system. In this case, the work explores the organizational units of universities in functional areas based on grounded index systems that identify problem areas, assesses the state of the internal and external environment.

On the basis of this formulation, there is carried out an analysis of strategic development priorities in the field of quality. The basis of this kind of analysis is methodical bases of strategic intra studies (SWOT, STEP, ABC,

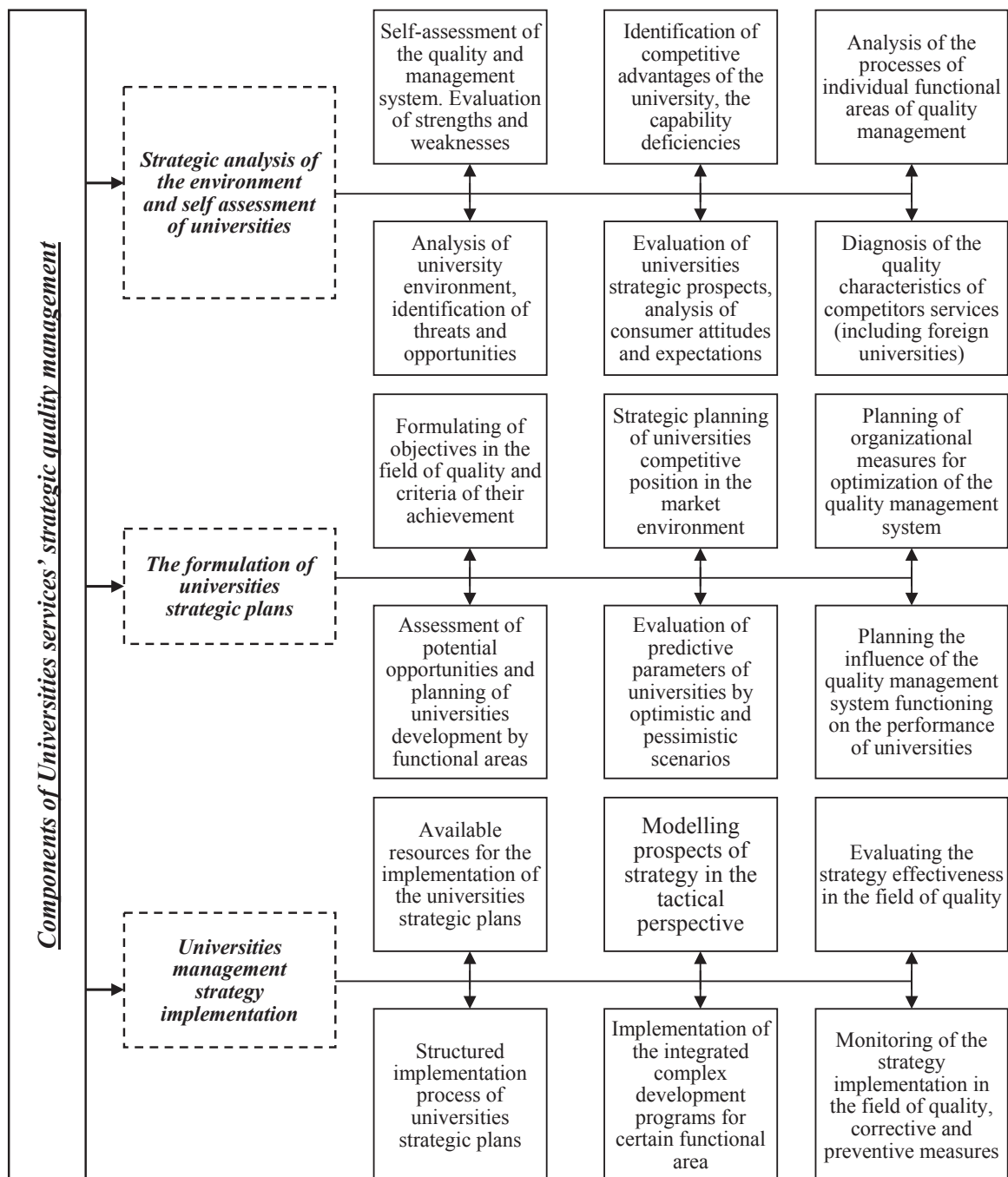


Fig. 1. Elements of Universities services strategic quality management

PEST analysis), systematic approach, method of expert assessments and sociological method (involving internal and, if necessary, external experts), economic analysis, graphical method, modelling method.

As a result of this kind of self-generated report documents, some of which are intended for internal use in the process of management decision-making, the other part is made as a report on the quality of self-assessment and is open to public access document that declared the status quo of a quality management system and the results of its operation (it is desirable that both of these parts of the report information as much as possible to match).

The strategic planning of a university in the field of quality is to develop a strategic plan designed to increase customer value and enhance the university educational services customer's satisfaction. This plan consists of a series of long-term university's objectives, set out specifying tasks and responsibilities aimed at their solution. Taken together, this is a strategic vision of the university in the field of quality. It is also necessary to note the importance of choosing the basic positioning strategies in the market and assess the effectiveness of planning and forecasting.

Strategic planning in the field of university's services quality management covers a number of important questions, the generalized sense of which is the following:

- formulation of development objectives and specifying aims in the field of quality, assessment monitoring and control parameters;
- scheduling of key indicators of university's work in functional (studying process, research activities, development of methodical support, educational activities and additional services for students) and administrative (finance, marketing, PR-support and international relations) directions;
- planning of the university's quality management system development and its impact on competitive position;
- evaluation of university's development forecast indicators according to optimistic and pessimistic scenarios.

The planning process of quality management strategies in the higher education is associated with a number of complications in its development. The main obstacle is connected with a problem of preliminary decisions making process that is dependent on the structure of authority in high school. A new strategy usually destroys a type of relationship, which was developed in an educational institution, and may enter into conflict with the policy guidance. The natural reaction on this is the fight against any innovation that breaks traditional relationships and structure of the authority. Another significant problem is that the introduction of strategic planning in general and in the field of quality management in particular, leads to a conflict between

the former activities (operational control), providing a profit, and the new, that carry strategic advantage in the future. In universities on the early stages of the implementation of strategic planning in the field of quality management is no corresponding motivation of personnel, there is any reliable information about the external environment of universities, and the available statistics on competitors is not sufficient to develop a strategy. Programme-oriented planning is an important method of forming the strategic objectives and criteria of quality management, as it allows formulating priorities for future development of the university in the field of quality. There is a possibility of adapting a standard set of goals and criteria specific to the university environment. The essence of this kind of adaptation is to analyse the existing objectives of the functional areas of the university quality control and selection of the most important management criteria, based on the specifics of the university, as well as the composition used endpoints of the educational and scientific sphere (Shapovalova, 2002).

Among the objects of university's strategic quality management planning, it is worth to distinguish the following:

- quantitative and qualitative composition of the teaching staff, its age and sex structure;
- logistical support (training and laboratory facilities, equipment, communications)
- procedure for the reception and the contingent of students stuff coming to study;
- development and improvement of methodical maintenance technology of the educational process;
- research and development work, innovation process;
- university's international relations, scientific cooperation, exchange programs;
- indicators of financial and economic activity, a situation in the education market, the competitive position of the university.

Speaking about the implementation of strategic plans in the field of universities quality management services, we should note that this issue is largely related to the market positions of university within the framework of regional, sectoral and national higher education system. Despite the overall imperative of total quality management and continuous improvement, resource, market and human resource capacity of universities in a variety of situations are characterized by difference, which determines the need to choose different strategies for implementing long-term plans in the field of quality management. Among a sufficiently large number of standard strategies, in terms of planning and for a particular control object, we have identified four species strategies (strategy attack, defence, concentration diversify), which will be described below (Cherkasov, Radionov, 2013).

Universities quality policy is a common intention and the direction of the university in the field of quality

management, which manifest themselves in the medium-term goals and objectives, formally expressed by top management and appropriately disclosed. Publication of universities quality policy requires reporting to the public about the results of its implementation. Such statements should be formal and based on the results of self-assessment or the assessment carried out by third parties. In both cases, such an assessment must be made on the basis of clear diagnostic systems and indicators.

Based on the content, position in the structure of educational services governing quality management systems and features of the policy in universities, in the composition of its main characteristics should be included:

- compliance with the strategic goals and objectives of the university in the field of quality management;
- availability of the provisions governing the continuous improvement of individual processes of the university;
- ability to assess the validity of the provisions of the quality policy;
- provision of a quality policy should be communicated to all members of the faculty and staff of the university.

On this basis, it should be noted that the political control of the quality of higher education services includes a broad statement of intentions and objectives of the school. It is determined by the top management of universities, made in writing, shall be officially proclaimed (published) by management and communicated to all staff of the university (in particular its subdivisions). Mission, vision, and policy in the field of quality management should be understood and accepted by all. It is important to set goals to be a concrete expression in the form of some of the measured parameters and characteristics, which allows precise control of the degree of achievement of objectives. The goal in terms of quality is what achieves or aspires a university in the field of quality. It is necessary to develop achievable and measurable goals related to quality policy. The formulation of the objectives should be carried out so specifically that they can be understood, to put into practice and assess the extent of their achievement (Zhuravsky, 2003). Fig. 2 shows an example of the formulation of the political objectives of universities in the field of quality management system and political objectives with an appropriate assessment of their achievement criteria.

The main political goal of the university in the field of quality (one of its variants) is proposed to be determined as the provision of universities services of high customer value, satisfaction of all stakeholders (students, employers, faculty, university staff), as well as the fulfilment of all basic functions of universities in the regional (branch) socio-economic system. This kind of policy formulation takes into account the objectives of universities entrepreneurial component, which is to provide such services, which would be characterized

by relatively high consumer qualities and in the future given the option to convert the cost of training students in far exceeding their cash flows. The social component of the university is also important.

The thing is in provided services that are first of all designed on the base of the needs of satisfaction of all stakeholders, both in internal and external environment. Another important issue is a consideration of the need to ensure implementation of the role of universities, in the environment in which they operate (region, industry, professional sphere). In this case, we are talking about the fact that functioning of universities should act as a catalyst of scientific and technical, social, innovative development of the humanitarian sphere, which is defined as a priority target area of the university range of services.

The political objectives of the university in the field of quality are structured in functional and administrative areas of university management, or in other words, the key functional areas of quality management. In this kind of functional zones, there are marked educational process, scientific-technical and innovative activity, methodological support. Among the administrative functions of services quality assurance, allocated are universities administration, marketing and PR-support, finance, resources and logistical support.

For each of the functional areas of management and administration offered certain groups of performance indicators to be used as criteria of political goals achieving. These indicators are quantitative, relatively easily calculated internal services of universities and are quite informative.

Quality management of university services on the basis of the process approach is one of the key requirements of ISO standards, which are the basic and the most general methodological basis for the application of specific educational standards of quality management. ISO standards are documented and regulate secure expression of process-oriented management philosophy. At the same time within the said concept of the quality, this control is total (TQM, Total Quality Management), that is, the object of control is the whole system of services provision at all stages preceding their provision, and stages that occur after the end of the educational services providing process. Thus, the whole manufacturing process and service providing process are considered as a systematic collection of related processes, a more specific level, which in turn may also have an atomic structure.

In general, the term of a process is fundamental, as for modern management and quality management, in particular. The process in the broad sense means some sequence of interrelated or interacting activities (work, operations), whose aim is to turn the "inputs" of the process in its "outputs" in order to achieve a certain result, as a rule – the creation of certain products or provision of certain services to consumers (Kratt, 2003).



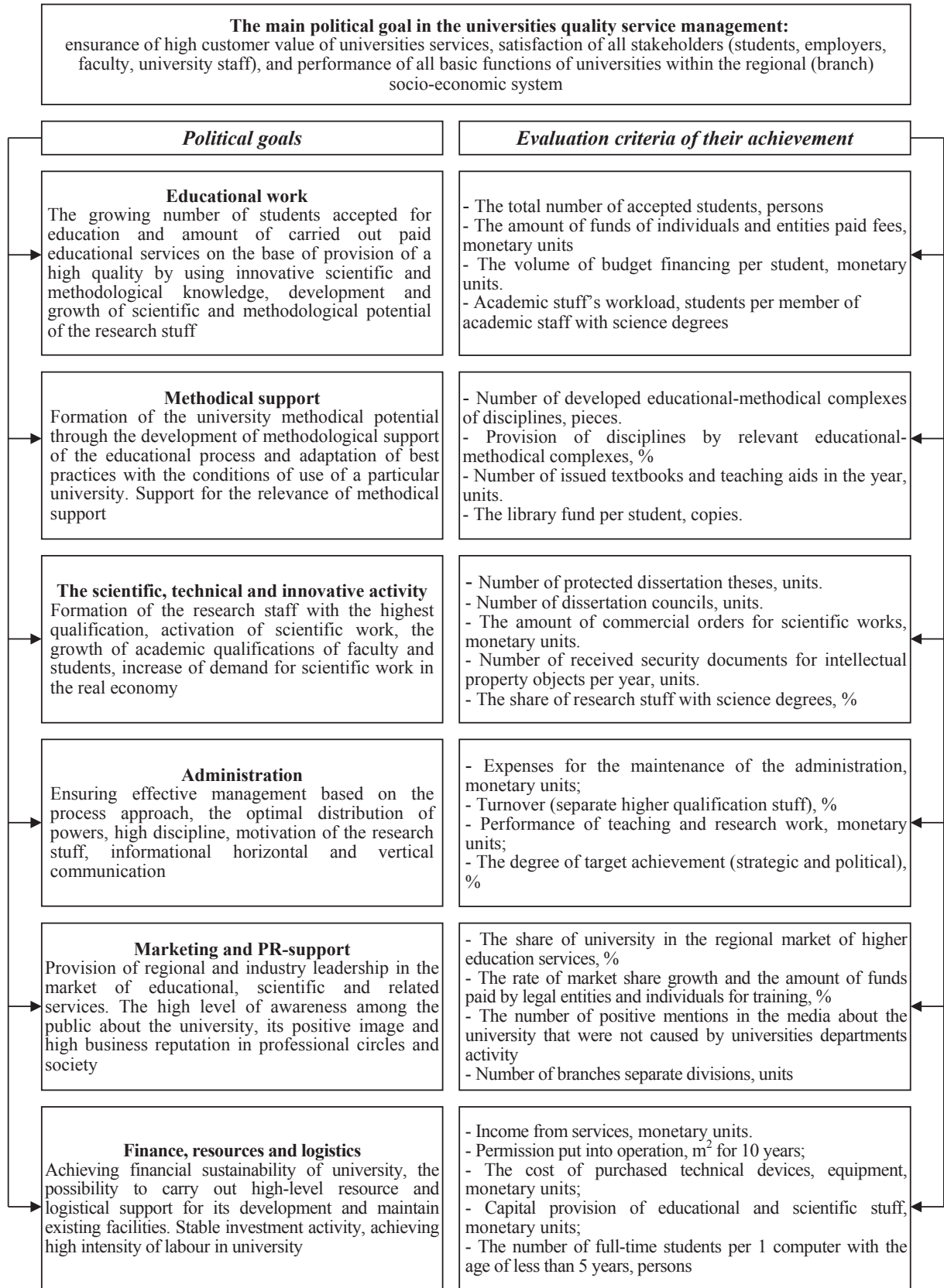


Fig. 2. The policy objectives in the field of Universities quality management services and benchmarks of their achievement

As a part of the process, including facilities management, one often identifies certain resources that are divided by the criteria of long-term and short-term usage. Here a resource in general is understood as a wide range of production facilities factors and logistics used in the provision of educational services: faculty, staff, buildings, technologies and teaching methods, equipment, technology, intellectual property, etc. Each one is considered as a separate system with a certain level of autonomy, as a consequence, the analysis process requires the external environment, which affects it. But the most important issue is that each of the processes should be controlled. In other words, each of the processes is a specific area of management authority and responsibility. Using modern quality management philosophy, the official responsible for the implementation of a separate process quality management system is a process owner or manager.

The activities of the organization traditionally speak about workflows or business processes. The latter term is currently used in respect of any organizations that are not necessarily commercial, including universities. One of the key properties required of any workflow is its so-called "capability", which is understood as the ability of the process to perform the desired function from it and produce the output result or services to the established and expected properties. Process control loop is typically included to ensure that properties in the process scheme. The scope of the concept of "process" is not limited to technological and production processes or service processes. In fact, any work performed by humans or machines is a process. Thus, the process can be considered, on the one hand, in a very general sense,

as the totality of people, equipment, materials, methods of measurement and the external environment, which interact with each other to produce "output" of required quality, and on the other, a narrower sense, as a kind of limited employment or operation performed by a specific person or a machine (Erokhin, 2004).

Modern quality management philosophy is based on a process-oriented thinking, which, in turn, requires a clear information base, provided by evaluation and diagnostic systems. Such diagnostic and evaluation systems are typically statistical database analysis, which determines the list of corrective and control actions, as well as being the basis for management decisions. The information on the functioning of all processes is a certain code, a function that describes the work of universities in a certain time interval, the use of an operational impact on the arguments of this function later change the state of the entire system of universities. To put these provisions more specifically, all of the key activities within the university (teaching process, scientific-technical and innovative activity, methodological support, administration, universities, marketing and PR-support, finance, resource and logistics) are modelled as processes, which are characterized by certain inputs and results (outputs) and management features (Fig. 3).

The purpose of the functioning of the quality management system is the problem of control and remedial action on the input streams and the internal operations of their processing. The purpose of this control action is to obtain the desired output (planned) result, with this kind of outputs must get sustainable (since all the processes are cyclical, and the cycle of

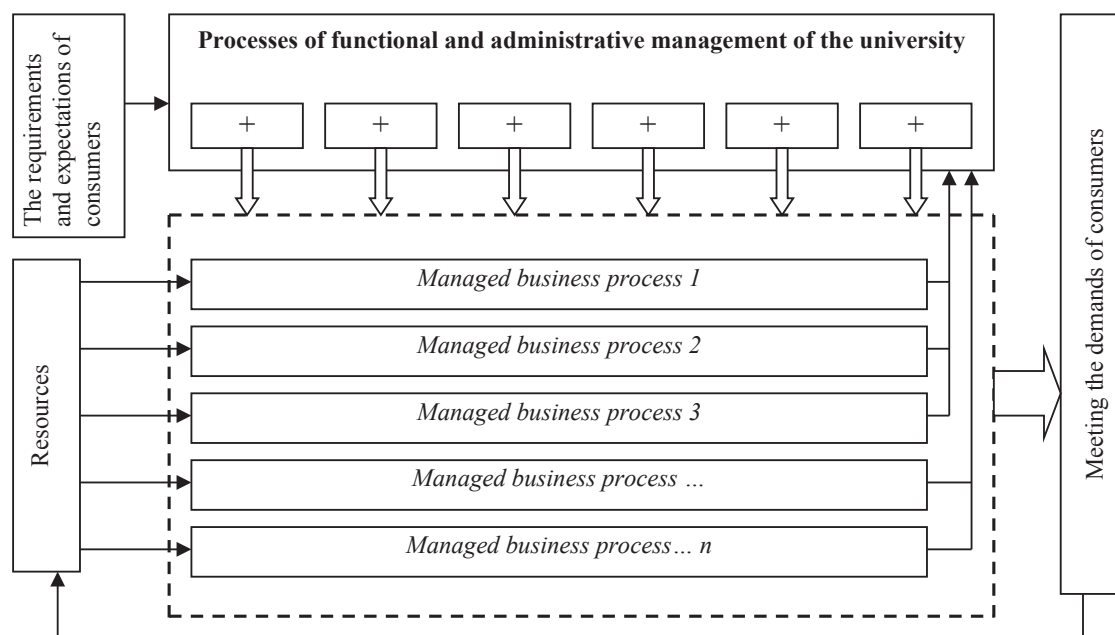


Fig. 3. System of the universities services process-oriented quality management

some processes can be very short). Such a resistance can be statistically evaluated as a low variation of planned and actually received indicators characterizing the process output. Another important issue is to ensure the qualitative characteristics of the process output, which also require consideration and support.

#### 4. Conclusion

Thus, effective process of management of universities services quality is based on the following: identification of management processes, main working (control processes) and auxiliary processes of the organization; a clear subordination of each process to responsible person – the owner or manager of the process; development of continuous monitoring and

improvement of each process system, including the evaluation system of process parameters; carrying out (if necessary) a radical restructuring process – Business Process Reengineering; reorientation of all important control systems: financial, personnel, procurement and other processes to support.

The implementation of the process approach and quality management as a whole is largely dependent on its organizational support. Anyway, each process requires identification. Another important issue is that within each process working staff, organization, and management of which, within the specificity of the functioning of universities, is the main component of process management. As a consequence, strictly organizational support processes are the key to managing the quality of university services.

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#### Андрей ЧЕРКАСОВ, Ирина КОЛЕСНИК

#### МЕХАНИЗМ СТРАТЕГИЧЕСКОГО, ПОЛИТИЧЕСКОГО И ПРОЦЕССНОГО УПРАВЛЕНИЯ КАЧЕСТВОМ УНИВЕРСИТЕТСКИХ УСЛУГ

**Аннотация.** Целью работы является обоснование необходимости разработки и внедрения механизма управления качеством услуг высшего образования, что позволит решить ряд актуальных проблем, возникших на общегосударственном уровне, уровне системы высшего образования и уровне отдельных высших учебных заведений. *Методика.* Исследование основано на использовании положений стандартов и рекомендаций ENQA, а также современной общей методологии и практики управления качеством. *Результаты.* Функционирование механизма управления качеством услуг высшего образования следует рассматривать в плоскости трех уровней принятия решений (трех иерархически подчиненных составляющих механизма): стратегического, политического и процессного. Определено, что управление высшим учебным заведением, как и любой организацией, осуществляется на трех уровнях принятия управленческих решений стратегическом, тактическом, оперативном. Обосновано содержание и особенности реализации функций каждой из составляющих механизма управления качеством. *Практическое значение.* Определены составляющие процесса стратегического управления качеством услуг высших учебных заведений, в состав которых входит: стратегический анализ внешней среды и самооценка учебного заведения, разработка стратегических планов, управление реализацией

стратегии высшего учебного заведения. *Значение/оригинальность.* Определено, что политическое управление качеством услуг высшего образования включает широкую постановку целей высшего учебного заведения, которые в свою очередь определяются высшим руководством, излагаются в письменной форме, должны быть официально провозглашены (опубликованы) и доведены до всего персонала и подразделений высшего учебного заведения. Политические цели учебного заведения в области качества структурированы по функциональным и административным направлениям управленческой деятельности.

# REGULATORY POLICY AND OPTIMIZATION OF INVESTMENT RESOURCE ALLOCATION IN THE MODEL OF FUNCTIONING OF RECREATION INDUSTRY\*

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**Abstract.** *The research objective* is the rationale of the theoretical and methodical approach concerning the improvement of regulatory policy as well as the process of distribution of financial investments using the model of the functioning of a recreational sector of the national economy. *The methodology* of the study includes the use of optimal control theory for the model formation of the functioning of the recreational industry as well as determining the behaviour of regulatory authorities and capabilities to optimize the allocation of investment resources in the recreational sector of the national economy. *Results.* The issue of equilibration of regulatory policy in the recreational sector of the national economy is actualized, including the question of targeted distribution of state and external financial investments. Also, it is proved that regulatory policy should establish the frameworks that on the one hand, do not allow public authorities to exercise extra influence on the economy of recreation, on the other hand, to keep the behaviour of the recreational business entities within the limits of normal socio-economic activity – on the basis of analysis of the continuum “recreation – work” by means of modified Brennan-Buchanan model. It is revealed that even with the condition of the tax reduction, the situation when the population resting less and works more than in the background of a developed economy is observed. However, according to the optimistic forecast, eventually on condition when the economy is emerging from the shade, we will obtain an official mode of the work in which, while maintaining taxes on proposed more advantageous for the population level, ultimately the ratio leisure and work will be established which is corresponding to the principles of sustainable development. *Practical value.* On the basis of methodical principles of the theory of optimal control, the model of the functioning of the recreational industry under the conditions of transitivity of the national economy is developed, particularly includes a component of the management of investment resources. As a part of the proposed model, the peculiarities of the functioning of the recreational sector as a combination of recreational enterprises are explored as well as the factors of a behaviour of relevant regulatory authorities are analysed that can be used in the practical activities of recreational business entities. *Originality.* The paper developed a fundamentally new approach to the analysis of the functioning and management of enterprises in the recreational sector on the basis of economic-mathematical modelling using elements of the optimal control theory. The methodological approach to the rationale of the regulatory policy’s role in establishing optimal points on the continuum “recreation – work” is also improved.

**Key words:** recreational industry, economic regulatory policy, allocation, investment, model, optimal control theory, Ukraine.

**JEL Classification:** D72, H76, L83, R53

## 1. Introduction

The recreational sector of the national economy in Ukraine in conditions of uncertainty and incompleteness of the final stage of formation of the market of recreational services, and the overall impact of socio-political crisis, requires a revision of the state policy towards the industry, particularly in the form of regulative influence, including those regarding the allocation of very limited investment resources. Particularly actual are the issues

of equilibrating the regulatory policy, including the definition of proportions of the state intervention and non-interference in the affairs of the recreational sphere. At the same time, undeniable is a question about the central role of regulatory authorities in determining the directions and objects for the financial investment of the industry, in socially and ecologically oriented directions of sustainable development of the national economy.

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To the question of recreational activity in its socio-economic aspects devoted are the works of scientists of the Institute for Market Problems and Economic-and-Ecological Research under the direction of B. V. Burkynskyi, Council for Ukraine's Productive Forces Studies under the direction of S. I. Dorohuntsov, B. M. Danylyshyn, M. A. Khvesyuk, Institute of Regional Research named after M. I. Dolishniy, V. S. Kravtsiv and so on. Investments in interrelated spheres of recreation, tourism, sports and resort treatment, including their ecological context, are analysed in the works of A. Hadzik, M. Grabara (2014), L. J. Sonter, K. B. Watson, S. A. Wood, and T. H. Ricketts (2016) et al. Regulatory policy issues are explored in the works of I. V. Kolupaev (2013), V. I. Liashenko (2014) and many others. New political economy approaches aimed at forming the rules of the game of economic agents are outlined in the works of A. Breton (1974), G. Brennan, J. M. Buchanan (1980), D. C. Mueller (2002), R. M. Nureev (2005); aimed at the application of the theory of optimal control in studying the features of the social and economic processes – in the works of R. Bellman (1961), N. N. Moses (2003), S. Izmalkov, K. Sonin, and M. Yudkevych (2008) and others. At the same time, questions of modelling the functioning of the recreational industry as well as the behaviour of regulatory authorities concerning the activity of recreational business entities need to be further explored.

Thus, the research objective is a justification of the theoretical and methodical approach concerning the improvement of regulatory policy as well as the process of distribution of financial investments using the model of the functioning of the recreational sector of the national economy. The methodology of the study includes the use of optimal control theory for the model formation of the functioning of the recreational industry as well as determining the behaviour of regulatory authorities and capabilities to optimize the allocation of investment resources in the recreational sector of the national economy. The logic of presentation of research materials as follows: 1) the rationale for an equilibrated approach to regulatory policy in the scope of recreational socio-economic relations; 2) the construction of the model of dynamic of recreational industry in three stages: the functioning of the sector; the determination of behaviour of regulatory authorities; the optimization of investment allocation by the enterprises of the recreational sphere.

## 2. Regulatory policy of the state in the recreational sector

Economic regulation or government regulation of the economy (primarily fiscal, currency and tax regulation) is caused by the following factors:

- the availability of objective contradictions between public and private forms of ownership and, accordingly, the nature of production and provision of services;

- the availability of public goods, including recreation, and, therefore, the potential of conflict relations for limited resources, by which these benefits are satisfied;
- the inability of the market independently resolve internal problems, generally because of monopolistic tendencies and due to complications of the economic processes with the social and ecological components;
- the necessity to create the prerequisites for a compliance of technical-scientific progress and international competition, etc.

Under the Law of Ukraine “On Principles of Regulatory Policy in Economic Activity” (Zakon, 2004), state regulatory policy in the area of economic activity shall be the direction of state policy aimed at improving legal regulation of commercial relations, as well as administrative relations between regulatory bodies or other state bodies and business entities. The regulatory activity in its turn is seen as an activity aimed at preparing, adopting, monitoring of efficiency and revision of regulatory acts in accordance with the principles of the state regulatory policy (appropriateness, adequacy, effectiveness, balance, predictability, transparency and consideration of public opinion).

In the work (Kolupayeva, 2013), the opinions on the concept and essence of the regulatory policy are generalized, which is examined from the state, legal and economic views. State regulatory policy is defined as “the direction of state policy that envisages the synthesis of legal and economic regulation ... administrative and economic relations between regulatory authorities and other bodies of power and business entities.” It is noted that it is unacceptable to adopt economically inexpedient and inefficient regulatory acts; the main instrument of regulatory policy is tax leverage aimed at stimulating legitimate economic activity.

The known researcher of regulatory processes V. I. Lyashenko (Pershey, 2014: 526) considers a part of the state regulatory policy in small business, in our opinion, the following most complete list of constituents (which certainly are all relevant and on an industry basis, e.g. regarding the recreational entrepreneurship), namely:

- the creation and liquidation of entrepreneurial structures;
- the system of permits on the conduct of certain type of entrepreneurial activities, as well as rules and procedures that govern it;
- the rules and procedures of market entry and exit from it of business entities, its clotting in case of none profitability or inexpediency;
- the mechanisms of regulating the pricing;
- the regulation of employment and use of manpower;
- the modes of taxation of entrepreneurial activity and the mechanisms of control over the payment taxes to the budget;
- the rules on the volumes and procedures for the provision of mandatory statistical, accounting and tax reporting;

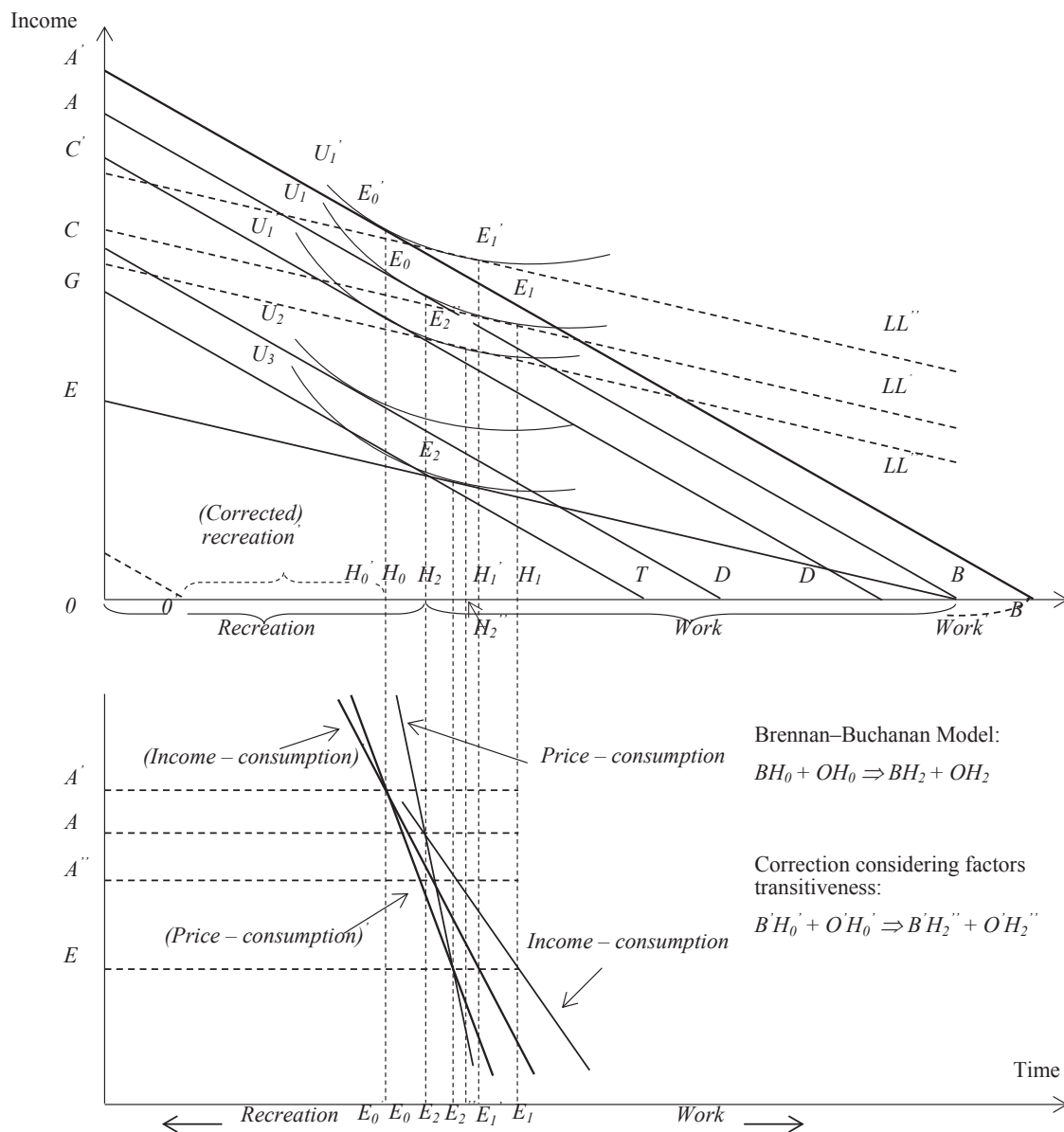
- the control on safety and quality of products and services;
- the modes of attraction of loans and investment;
- the modes and mechanisms for stimulating the innovation activity and others.

Generally, the regulatory policy should focus not so much on creation of maximally favourable conditions for economic entities but to establish the equilibrium framework that on the one hand, do not allow public authorities to exercise an extra impact on the economy, on the other hand, hold the behaviour of economic players within the limits of normal socio-economic activity as a prerequisite for long-term development of the national economy.

For the detailed explanation of this approach, we will conduct analyses of continuum “recreation – work” by using a modified model of Brennan-Buchanan (Breton, 1974; Brennan, 1980; McNutt, 2002: 146–148; Mueller, 2002: 380–383; Nureev, 2005: 369–371), Fig. 1.

As of 2017, the “salary” tax in Ukraine is 2 times higher than in European countries; by rating of Paying Taxes Ukraine occupies the 83 place in the world (Zheltukhin, 2016).

Therefore, there is no doubt that the issue of taxation is certainly currently most actual in the context of regulatory policy in our country that directly intersects with the content of the model stated above.



**Fig. 1. Rationale for balanced approach to regulatory policy in the plane of recreational socio-economic relations**

Source: Developed by the author on the basis on Brennan-Buchanan Model, 1980

Hence, the representatives of the economic theory of public choice G. Brennan and J. M. Buchanan (1980) suggested that the public may limit the actions of the government-monopolist by lowering the tax base.

For a basis, they took the idea of A. Breton (1974) that the government is completely controlled by legislation and at the same time is a monopolist in the production of public goods. In their model, the scientists accentuate on the possibility of restricting the actions of government officials by using the tax laws i.e. the limitation of incomes received by the state.

As of the beginning of 2017, as well throughout the years of independence of our state, the question of taxes reduction for the Ukrainians rises. Reasonably, the theoretical question arises of how low these taxes can be in general, not being attached to a specific country and how it can affect the correlation of such benefits as work and leisure. According to (Nureev, 2005: 369–370), assuming that the marginal taxes have a linear character, and then ideal prerequisites for taxation are the following factors:

- the “work” and “leisure” is the normal benefits that are mutually substituted;
- the population maximizes the utility within budgetary limitations, if it is relevant, comparing time on labour and time for rest;
- the public expenditures are the transfers that are directed in favour of the taxpayers;
- the balanced budget exists, in which the taxes are allocated between the public authorities (“bureaucrats”, i.e. the public servants) and the recipients of transfer payments.

First, consider the how the model works according to given factors. By abscissa axis, let's defer the total time of an individual, including the time on labour and time for rest. (Note that overall tendencies and results obtained based on the model in Fig. 1, can be transferred to macrolevel through their prior aggregation, taking into account an individual unified, that is a unit of population). By ordinate axis, let's defer the income of the individual. Then  $AB$  is a budgetary limitation, the point  $E_0$  on the line  $AB$  is the status quo of an individual in terms of the time distribution on working time ( $BH_0$ ) and leisure time ( $OH_0$ ). The line  $CD$  ( $CD // AB$ ) reflects the perfect tax.  $EB$  is a budget line of a higher marginal tax ( $(AE / AO) > (AC / AO)$ ). Then points  $E_0$  and  $E_2$  are optimal for the population (in the case of marginal tax –  $E_0$  and  $E_3$  respectively).

The population chooses the perfect tax with less distorted tax base because of indifference curves are  $U_2 > U_3$ . Recall that the model of G. Brennan and J. M. Buchanan in the context of the analysis the dynamics of correlation “working time – leisure time” demonstrates not so much taxation as a financial tool and process, but as part of a regulatory policy that reflects the conflictual relationship of taxpayers and public bodies that distribute these taxes are not always

properly from the standpoint of population. Thus, according to this thesis, the regulatory body in order to maximize the budget will raise the tax to  $AG$ , as soon as the population will be ready to reduce the utility to  $U_3$  (respectively, the marginal tax will be installed at the level  $AE / AO$ ). As a result, the optimum point (in our interpretation – a point of status quo) will shift from  $E_0$  to  $E_2$ .

If the regulatory body will introduce the undistorted tax simultaneously, the budget line  $EB$  will shift in position  $LL'$ , and the optimal point from  $E_2$  to  $E_1$  respectively. Distance  $E_0E_1$  corresponds to the effect of substitution and  $E_0E_2$  – to the effect of income. Since the  $E_0E_1 > E_0E_2$  (the curve “price – consumption” will pass through the projection of points  $E_0$  and  $E_2$ , and the curve “income – consumption” – through the points  $E_0$  and  $E_1$ ) then working hours will be reduced from  $BH_0$  to  $BH_2$  ( $E_0E_1 - E_0E_2 = H_0H_2$ ). That is, at higher taxes the population will reduce their working hours on the value  $E_1E_2$ , which eventually will cause a decline in tax payments.

Now proceed to provisions which, in our opinion, require to make certain changes to the specified model in order to obtain additional results of analysis of correlation “work – rest” taking into account the national socio-economic specifics, namely:

- if to consider the situation depicted in accordance with the description above to Fig. 1, in the context of the current state of recreational relations in Ukraine as a state with transitive economy and high level of shadowing of socio-economic processes, then it not displayed the proportion of time that is not fixed in a direct relationship with the official incomes of the population;

- similarly, the level of income taxation of the population that at present is topical in Ukraine, in theory, can be changed in the direction desirable for the population, that it is likely to facilitate the process of taxation, not its complication as it has shown in Fig. 1.

Thus, according to these two provisions, let's display the following amendments in Fig. 1:

- $AB$  is displaced in  $A'B'$ , because the parts of the income of the population are not official and therefore the time spent to work is not officially counted. Accordingly,  $LL'$  is shifted to  $LL''$ . We obtain new optimization points that lie on the indifference curve  $U_1'$ :  $E_0'$  and  $E_1'$ ;

- at the same time, we reduce tax loading:  $CD$  is shifted to the right to  $C'D'$ . We obtain  $E_2''$  – the point of intersection the indifference curve  $U_1''$  and the budget line  $LL'''$ .

Projecting the points  $E_0', E_2'', E_1'$  on the time axis, we get a situation in which the substitution effect exceeds the income effect ( $E_0'E_1' > E_0'E_2''$ ), as in the original model formulation ( $E_0E_1 > E_0E_2$ ).

However, even with the condition of tax reduction ( $CD \Rightarrow C'D'$ ), we observe a situation where the



population is resting less than in the background of developed economy:  $O'H_2'' < OH_2$ , but employs over:  $H_2''B' > H_2B$ ; despite the fact that officially works less by the amount  $BB'$ , from which taxes are not paid.

However, according to the optimistic forecast, eventually on condition when the economy is emerging from the shade (in general terms, a switch from the transitive to developed status) we will obtain official mode of the work in which, while maintaining taxes on proposed more advantageous for the population level, ultimately the ratio leisure and work will be established, which is corresponding to the principles of sustainable development and the conditions of a healthy lifestyle.

### 3. The model of functioning of the recreational sector of the national economy

The investment in the recreational sector in Ukraine as of 2015 is virtually absent in absolute terms and in relative terms – compared to the industries of production sector (Table 1).

Table 1

#### The percentage of investment to the recreation in Ukraine in the structure of economic activity at the end of 2015\*

Type of economic activity	The volume of foreign direct investment (equity), million USD	The structure of investment, %
Total	43371,4	100,0
Agriculture, forestry and fishing	500,6	1,2
Industry	13280,1	30,6
Education	10,7	0,0
Healthcare and social assistance provision	46,2	0,1
Arts, sports, entertainment and recreation	117,4	0,3
Other types (transport, trade, finance etc.)	29416,4	67,8

\*Compiled based on the (Ukrayna, 2005: 186)

One of the major factors that explain the low activity of investors and the lack of wide national program of investment in recreation is the imperfection of mechanism for the distribution of investment resources, which, in turn, is linked to the stochasticity of transformational process in the recreational sector and disequilibrium of the behaviour of relevant regulatory bodies of the state.

The model of the recreational sector dynamics in general form (based on the recommendations in the works of Moiseev, 2003: 248–253; Bellman, 1961; Izmalkov, 2008) can be represented by following way, namely, in three stages: the functioning of the

recreational sector, behaviour of regulatory authorities regarding recreational business entities, allocation of investment recreational resources.

The functioning of the sector. Consider the recreational industry in certain territorial limits (across the country, some regions, one region separately given area, etc.) as a socio-economic system, which includes  $N$  of recreational enterprises, dynamic state of each of them (stability, sustainable development, survival, etc.) is denoted by the vector  $ri$ . Construct the system of differential equations:

$$\dot{r}_i = f_i(v_i, u_i, m_i(u_i), \xi_i), \quad (1)$$

where  $i = 1, \dots, N$ ;

$v_i(t)$  – state and/or external financial investments of  $i$ -th recreational enterprise the direction of which is carried out by a coordination of contest of projects for the development of recreation, million UAH;

$(v_1, \dots, v_N) \in G_v$  – the volume of financial investments limited at the time of the contest by the magnitude  $G_v$ , million UAH;

$u_i$  – the vector of management of the recreational enterprise (a set of managerial organizational-economic, administrative and socio-psychological instruments),  $u_i \in R_{ui}$ , where  $R_{ui}$  – the managerial potential of  $i$ -th recreational enterprise (the ability to conduct an effective management, using human and social potentials of human resources and making possible impact to external constraints);

$m_i(u_i)$  – the incentives that motivate  $i$ -th recreational enterprise to a socially and ecologically equilibrated activity (such as privileged taxation, interest-free lending, etc.),  $\{m_1(u_1), \dots, m_N(u_N)\} \in G_m$ , where  $G_m$  – the state budget constraints that may be aimed at stimulating the equilibrated recreation;

$\xi_i(t)$  – some random function of time that is explained firstly, by the impact of a human factor on the course of any socio-economic processes, especially such as recreation, where the social component has a high significance. Secondly, by multilevel of recreational processes realization and managing them, as well as the relevant information asymmetry. Third, by instability and availability of crisis phenomena in the development of macroeconomics, politics, international relations, etc. that may have at least an indirect and sometimes direct impact on the functioning of the recreational sector of the national economy.

The levels of awareness of the state and enterprises of the recreational sector concerning values  $\xi_i(t)$  are different, hence  $\xi_i \in R_\xi$ , where  $R_\xi$  – amount of information on strengths and weaknesses, opportunities and threats of its activities, which has  $i$ -th recreational enterprise;  $\xi_i \in G_\xi$ , where  $G_\xi$  – the total scope of all recreation relevant information held by the relevant public authority. It is clear that  $R_\xi \neq G_\xi$ .

Given the above, an entity of the recreational business will manage its activities in this way, including the

responding to the impact from the side of the state in order to maximize the functional:

$$J_i = \int_0^{T_i} F_i(r_i, u_i, v_i, m_i(u_i), \xi_i, t) \partial t. \quad (2)$$

Equation (2) is the problem of optimal control. Herewith operation  $F_i$  over  $\xi_i$  can be approximated operation of mathematical expectation or operation of minimization, i.e.:

$$F_i = \min_{\xi_i \in R_i} \widehat{F}(r_i, u_i, v_i, m_i(u_i), \xi_i, t). \quad (3)$$

*The behaviour of regulators.* The regulatory authorities, on the basis of the foregoing constraints, have the following possibilities to influence on some recreational enterprises and industry in general:

- to distribute the investments  $v_i$  within their total volume  $G_v$ ;
- to form a motivational mechanism and some motivational instruments that are displayed in the character of functions  $m_i(u_i)$ ;
- to determine the structure and strength of impacts on management opportunities on actors of the recreational business  $R_{ur}$ .

Accordingly, the objective function of regulatory authorities regarding the functioning of the recreational sector can be written as follows:

$$J = \int_0^T F(r_1, \dots, r_N, u_1, \dots, u_N, v_1, \dots, v_N, m_1(u_1), \dots, m_N(u_N), \xi_1, \dots, \xi_N, t) \partial t. \quad (4)$$

Provided a transparent regulatory policy the values  $r_i$  and  $u_i$  will be some operators from  $v_i(t)$ ,  $m_i$  and  $\xi_i$ , i.e.

$$J^* = \int_0^T F^*(v_1, \dots, v_N, m_1, \dots, m_N, \xi_1, \dots, \xi_N, t) \partial t. \quad (5)$$

In the equation (5), as in previous equations (1–4) the random factor  $\xi_i$  is present because recreation as a socio-economic process cannot be fully managed, especially in transitivity conditions that are strengthened by the scale crisis situations in almost all aspects of society life.

An approximation of the stochastic factor to determined factor is required: the rule of formalization the parameter  $\xi_i$  should be regulated in a certain way. Thus, according to the principle of foresight prediction (denoted as Q), we can assume the possibility of optimization of the state regulation and better coordination of joint action of the state and of the recreational business, for example, in the form of public-private partnerships and so on. Accordingly, a certain possibility arises to mathematically formalized stochastic factor in the equation presented above, for example, through the operation of mathematical expectation or the operation of minimization (similar to the equation 3). Then the functional (5) can be written as follows:

$$J^* = \min_{\xi_i \in Q} \int_0^T F^*(v_1, \dots, v_N, m_1, \dots, m_N, \xi_1, \dots, \xi_N, t) \partial t. \quad (6)$$

*The allocation of investment recreational resources.* Subject to the relative elimination of the randomness factor in decision-making by regulators (in terms of collegial

discussion and general conduct of public tenders) regarding the distribution of financial investment resources among the enterprises of the recreational sector that are planning to implement their socially oriented and cost-effective projects simultaneously, – the objective function of operation of the recreational sector (according to the concept of sustainable development in Ukraine) is reduced to the determination of vector and the implementation of effective management of  $u_i(t)$  and, therefore, appears in the form of the first equation (second equation is a limitation of the objective function) in the following system:

$$\left\{ \begin{array}{l} J_i = \int_0^{T_i} F_i(r_i, u_i, v_i, t) \partial t \\ r_i = f_i(r_i, v_i, u_i, t), u_i \in R_{u_i} \end{array} \right. \quad (7)$$

#### 4. Conclusions

So, as a result of conducted research, the following conclusions can be made. Firstly, the issue of equilibration of regulatory policy in the recreational sector of the national economy is actualized, including the question of targeted distribution of state and external financial investments. Secondly, it is proved that regulatory policy should establish the frameworks that on the one hand, do not allow public authorities to exercise extra influence on the economy of recreation, on the other hand, to keep the behaviour of the recreational business entities within the limits of normal socio-economic activity – on the basis of analysis of the continuum “recreation – work” by means of modified Brennan-Buchanan model. It is revealed that even with the condition of the tax reduction, the situation when the population rests less and works more than in the background of the developed economy is observed. However, according to the optimistic forecast, eventually on condition when the economy is emerging from the shade, we will obtain official mode of the work in which, while maintaining taxes on proposed more advantageous for the population level, ultimately the ratio leisure and work will be established, which is corresponding to the principles of sustainable development. Thirdly, on the basis of methodical principles of the theory of optimal control, the model of the functioning of the recreational industry under the conditions of transitivity of the national economy is developed, particularly includes a component of the management of investment resources. As a part of the proposed model, the peculiarities of the functioning of the recreational sector as a combination of recreational enterprises are explored as well as the factors of behaviour of relevant regulatory authorities are analysed. *Further developments* will be devoted to issues of the implementation of competition policy as well as state investment policy in the recreational sector of the national economy.

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## Анна ШЕВЧЕНКО

### РЕГУЛЯТОРНАЯ ПОЛИТИКА И ОПТИМИЗАЦИЯ РАСПРЕДЕЛЕНИЯ ИНВЕСТИЦИОННЫХ РЕСУРСОВ В МОДЕЛИ ФУНКЦИОНИРОВАНИЯ РЕКРЕАЦИОННОЙ ОТРАСЛИ

**Аннотация.** Целью исследования является обоснование теоретико-методического подхода к усовершенствованию регуляторной политики, а также процесса распределения финансовых инвестиций с помощью модели функционирования рекреационной отрасли национальной экономики. *Методология исследования* включает применение теории оптимального управления для формирования модели функционирования рекреационной отрасли, а также определения поведения регуляторных органов и возможностей оптимизации распределения инвестиционных ресурсов в рекреационном секторе национальной экономики. *Результаты.* Актуализирован вопрос уравновешенности регуляторной политики в рекреационной отрасли национального хозяйства, в том числе и в отношении целевого распределения государственных и внешних финансовых инвестиций. Также доказано, что регуляторная политика должна устанавливать рамки, которые, с одной стороны, не позволяют государственным органам осуществлять излишнее влияние на экономику рекреации, а с другой стороны, удерживают поведение субъектов рекреационного бизнеса в пределах нормальной социально-экономической деятельности – на основе анализа континуума "рекреация – труд" с помощью модифицированной модели Бреннана–Бьюкенена. Выявлено, что даже при снижении налогов наблюдается ситуация, когда население отдыхает меньше, а работает больше, чем в условиях развитой экономики. Однако согласно оптимистическому прогнозу, со временем при условии выхода экономики из тени можно получить официальный режим работы, в котором при сохранении налогов на предложенном более выгодном для населения уровне наконец-то установится соотношение отдыха и труда, отвечающее принципам устойчивого развития общества. *Практическое значение.* На основе применения методических положений теории оптимального управления разработана модель функционирования рекреационной отрасли в условиях транзитивности национальной экономики, которая, в частности, включает компоненту управления инвестиционными ресурсами. В рамках предложенной модели исследованы особенности функционирования рекреационной отрасли как совокупности рекреационных предприятий, а также проанализированы факторы поведения соответствующих регуляторных органов, что может быть использовано в практической деятельности субъектов рекреационного бизнеса. *Оригинальность.* В работе разработан принципиально новый подход к анализу функционирования и управления предприятиями рекреационной отрасли на основе экономико-математического моделирования с использованием элементов теории оптимального управления. Также усовершенствован методологический подход к обоснованию роли регуляторной политики в установлении оптимальных точек на континууме "отдых – рабочее время".

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