

Розглянуто проблеми фінансів, інновацій, підприємницької діяльності, менеджменту, екології та окремих ринків.

Для наукових працівників, викладачів, аспірантів і студентів.

Рассмотрено проблемы финансов, инноваций, предпринимательской деятельности, менеджменту, экологии и отдельных рынков.

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For scientists, lectors, PhD and students.

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<b>Адреса редколегії</b>	03022, Київ-22, вул. Васильківська, 90-а, економічний факультет ☎ (38044) 259 71 82; <a href="http://bulletin-econom.univ.kiev.ua">http://bulletin-econom.univ.kiev.ua</a>
<b>Затверджено</b>	Вченою радою економічного факультету 04.03.2014 (протокол № 7)
<b>Атестовано</b>	Вищою атестаційною комісією України. Постанова Президії ВАК України №1-05/7 від 10.11.10
<b>Зареєстровано</b>	Державною реєстраційною службою України. Свідоцтво про державну реєстрацію КВ № 19866-9666ПР від 29.04.13
<b>Засновник та видавець</b>	Київський національний університет імені Тараса Шевченка, Видавничо-поліграфічний центр "Київський університет". Свідоцтво внесено до Державного реєстру ДК № 1103 від 31.10.02
<b>Адреса видавця</b>	01601, Київ-601, 6-р Т.Шевченка, 14, кімн. 43 ☎ (38044) 239 31 72, 239 32 22; факс 239 31 28
<b>Журнал входить до наукометричних баз / Abstracted and Indexed:</b>	РИНЦ (E-library) (з 2008 року) Ulrich's Periodicals Directory Національна бібліотека України ім. В.І. Вернадського Наукова бібліотека ім. М. Максимовича Київського національного університету імені Тараса Шевченка Google Scholar RePec (з 2014 року)

# BULLETIN

OF TARAS SHEVCHENKO NATIONAL UNIVERSITY OF KYIV

ISSN 1728-2667

**ECONOMICS**

**2(155)/2014**

**Established in 1958**

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<b>Approved by</b>	<b>the Academic Council of the Faculty of Economics, Taras Shevchenko National University of Kyiv (Protocol # 7 of 04th March 2014)</b>
<b>Accreditation</b>	<b>The journal is in the List of specialized scientific publications, which are to publish the main results of dissertations in Economic Sciences (Resolution of the Presidium of HAC of Ukraine №1-05/7 of 10.11.2010)</b>
<b>Registration</b>	<b>SRSU. Registration certificate KV No. 19866-9666PR dated 29.04.13</b>
<b>Publisher</b>	<b>Taras Shevchenko National University of Kyiv Publishing center "Kyiv University". DK №1103 of 31.10.02</b>
<b>Address of publisher</b>	<b>01601, Kyiv-601, Boulevard Shevchenko, 14, room. 43 ☎: +38 044 239-31-72, +38 044 239-32-22; fax: +38 044 239-31-28</b>

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Publishing center "Kyiv University", 2014

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УДК 338.24(574)  
JEL O31

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## PRIORITY GUIDELINES OF INNOVATIVE NATIONAL ECONOMICS' MODERNIZATION

*The theoretical basis of innovative modernization of the industry as a background for sustainable development of the national economy of Kazakhstan is reviewed. The changes, that are in process in the whole system of production relations in Kazakhstan, are related to new stage of economics reform – to ensure sustainable economic growth based on industrial and innovative development of the industry.*

**Keywords:** *innovative type of development, modernization of industry, innovation policy, innovational and technological upgrading.*

**Problem statement.** The changes, that are in process in the whole system of production relations in Kazakhstan, are related to new stage of economics reform – to ensure sustainable economic growth based on industrial and innovative development of the industry. The transition to an innovative economy stands as one of the key drivers of sustainable economic growth of the country and has a complex effect on the development of all spheres of society. For successful implementation of the designed changes related to the construction of a new economic model the objective tendencies in the world and within the country must be taken into account [1].

**Analysis of recent research and publications.** Theoretical and practical aspects of the formation and development of innovative elements in Kazakhstan industrial upgrading, in terms of the need to strengthen the industrial and innovative development, were discussed in the publications of foreign and Russian scientists L. Yongxiang [2] L. Abalkin [3], S.Yasin [4], Kazakh scientists U.Baymuratov [5], A.Esentugelov [6], M.Kenzheguzin [7], etc., but the issues of innovative modernization of industry is not considered with account for current state of the national economy.

**Selection of the unsolved aspects of the problem.** Global trends, that take place in Kazakhstan, are associated with the transition of the international community to innovative development. Innovative development, based primarily on steadfastly increasing strength, features and power of science and technology, becomes the dominant line in the development of modern civilization. Stable search process, preparation and implementation of innovations allowing improving the efficiency of social production functioning, the level of society and its members' wants satisfaction, insurance of the improvement of society vital functions is at the heart of an innovative type of development.

**The research goal** of priorities for the modernization of industry innovation is the development of adequate priorities of industrial and innovative development of Kazakhstan mechanisms for increasing the scientific and innovative potential of the "real sector" of the national economy.

**The main results of the study.** Under the influence of innovative development the economy of industrialized countries takes a qualitatively different state, the material basis of which is in the information, that transforms not only production, but also all other aspects of life, precipitously expanding the boundaries of both the national and the global level. The science and technological progress has become the system-forming factors of "information society" [8].

The development of computer science, biotechnology, new composite materials destined the process of production diversification and the flexibility improvement of all aspects of social life. There are real opportunities to not just meet a variety of needs, but also to clear their individualization. The latter fact has served as an intense pulse of economic restructuring: as a result of knowledge intensive industries, high technologies are developing rapidly, and the development of services has become a priority.

The environmental component is an essential element of economic growth in the majority of developed countries and involves solving interconnected problems: resource-saving and use of non-waste technology, on the one hand, and on the other – a harmonious blend of natural processes to production. Increasing amounts of capital volume the society directs to the reconstruction of destroyed as a result of biogeocenose, thereby increasing the biosocial costs.

One of the most important features of a new type of economic growth is to reduce the proportion of material production in the social product, which means the reduction in the proportion of direct labor, reducing the number of involved ones on the background of higher-than-anticipated growth in labor capacity. As a result, society is creating new opportunities for non-material forms of wealth: information, communication, research, culture, education, recreation and other types of social services, which, in the long run, greatly intensifies social progress. Thus, emerging technological mode requires a new paradigm of social development in tune with the concept of sustainable development – the service for a man, the harmonization of his/her interests with the interests of society and the world civilization.

Shaping a new model of Kazakhstan's economy, it is necessary to take into account the variety of forms of modern economy and at the same time, national and individual characteristics of a particular system. The influence of this factor is very high, as evidenced by the fact that in countries with a similar level of development dissimilar models are being formed inevitably. Differences of American, German, Japanese, and other models of development are determined by the influence of non-economic factors, which are formed historically and with national characteristics of these countries [9].

Among others, the structure of these factors can be isolated by geographical and other natural features of the country. The essence of any economic model is largely shaped by factors such as location, resources, mineral wealth, the spatial quantity and density of population, etc. Factors that determine the features, such as the Japanese model, are the limited natural resources and a lack of living space, predetermined the high adaptability of the economy of this country. As well as the features of Kazakhstan's economy is largely predetermined by its vast territory and abundant resources. Therefrom, the special structure of the investment, the importance of regional factors, etc. come.

Generally, it is possible to ensure equitable economic growth, to smooth cyclical fluctuations if targeted policies are held. However, such policy should not ignore the cyclic form of reproductive performance, and come out of it, as of the given. This means that the investment strategy must respond to the STP, i.e. provide by the due date the implementation of new generation technology and facilitate the rapid phasing out of the old and must make the transition to innovative development.

Today's reality is that the process of development and improvement of techniques and technologies cannot carry

out the analysis of human and social development, besides associated with the development level of the solution of social problems and the regulation of social relations, where the equipment is just one of the elements. In this context, innovation policy should include a comprehensive system of measures to stimulate, develop, maintain, manage, plan and control the processes of innovation in the fields of science, technology and production, related to adequate accompanying measures in the key areas of public life, providing design of all necessary conditions for the implementation of current and future goals of innovation policy, mainly, the creation of social and economic, organizational and economic factors for the progressive development of the efficient labor and power of society.

As the object of innovation policy the resource potential, which is a collection of stocks of social production, should be considered. There are stocks of natural, physical, financial and information resources, as well as population. The core of raw materials potential is in the productive forces of society and its size and structure determine the real capacity of the economy and society in the long run. Under the influence of innovation policy the composition, structure, quality and quantity of the resource potential of purposeful change are being modified persistently and the possibility of attaining the goals of society and the levels of satisfaction of the total amount of social and economic needs are modified too [10].

The number of ideas used to create innovations, search of engineering solutions directly dependent on the state of the intellectual potential of the country. Unfortunately, comparisons of Kazakhstan and the developed countries in terms of potential indicators are the evidence of the under run of Kazakhstan. The current state of the intellectual potential of our country is the result of a significant reduction in funding of science during the reform years and this, of course, is an objective reason, causes the lag in the area of competitiveness.

The transition to an innovative economy requires a constant growth of the scientific and technical potential, the most important factors of which should be:

- sufficient supply of properly qualified scientific personnel in the country;
- a steady increase in the level of financial support for research activities;
- availability of sufficient scientific and technical institutions and organizations engaged in the research and development processes;
- effective system of science management;
- steady improvement of the information support system of scientific work.

Considering the qualitative aspect of growth, it should be borne in mind that Kazakhstan is at a different stage of economic development than the leading Western countries, where the high consumer standards have been reached. While the developed countries spend the essential part of additional resources on the technological improvement of production and quality of living, for a long time in many sectors of the economy Kazakhstan will be forced to spend most of the extra features on the quantitative growth of production. Thus, it is extremely complicated to solve the reduction gap in the quality characteristics of economic development.

On this basis, a new economic model, focused on sustainable development, has to be both a model of innovation and efficiency. Therefore, mobilization of structural, technological and social sources of efficiency should not only be a prerequisite, but the content of growth, that is one of the key reference points [11].

Considering the multiplicity and imbalances of economic development of Kazakhstan it is important to

strengthen the positive changes and those germs of a new quality of growth that will be involved in large-scale transformation taking place in the global economy.

In the transition to an innovative economy the prerequisites and the various positive factors that would ensure the transition to an innovative economy in a fairly short period of time should be taken into consideration. In this case, the complexity of the problem lies in the fact that for sustainable technological progress underlying the innovation economy, it is required to determine not only the main areas that need the support from the state, but also the level of technology, which they have to achieve. In all sectors of our economy, there are elements of several technological ways, and they are in a unique and close interaction.

Depending on the priority development of any technological system the state will be focused, we expect a fundamentally different technological options and economic future. In order to make the right choice, you need serious analytical work, including competent feasibility of decisions. Selecting a leading priority in the technological structure of the complexity of this problem is of fundamental importance.

The new production is to be competitive, environmentally friendly, with no loss of efficiency and productivity, necessarily based on the resource, energy and labor saving technologies and high-efficiency equipment, market-oriented, quick to change and update, etc.

The development of economically important industries, such as engineering, energy, building industry, light industry, in a competitive market is not possible without the continuous product updates and modernization. According to the theory of innovation, the creation of qualitatively new products out of old, non-competitive components is impossible. In this regard, the primary objective of economic policy is to modernize the productive apparatus.

The basis of the innovation economy, providing sustainable economic growth, is updated on the basis of modern science and technology, eco-friendly manufacturing, and, first and foremost, engineering. The problem of mechanical engineering, specializing in the manufacture of both the process equipment, and equipment, contributing to a more advanced processing of raw fuel, energy and raw materials sectors, while meeting the world standards at this stage has a strategic importance for the country.

The most important requirement for the formation of the main directions of technological upgrading of enterprises is the preference of labor-saving equipment and technology of high power and labor performance. In this regard, it is necessary to start with the reorientation of design ideas to create cost-effective, reliable types of machinery and equipment that are compliant with the specific indicators of the consumption of metal, fuel and energy to the best foreign models. In the allocation of technical resources and capital for these purposes these regions, industries and production must take precedence over the others.

For modern technologies used in the industry, the imperfection, multi-waste, low complexity of raw materials, resulting in significant contamination of the environment is characterized. Thus, an innovative contribution to the economy development is insignificant.

All the shortcomings of the existing system of innovation management lead to extension of terms for creation, appreciation of the development process; reduce competitiveness and as a consequence, lead to a progressive under run of technology and production in comparison with rivals.

The experience of industrialized countries shows that economic modernization requires deliberate regulatory function of the state in the field of R & D, its responsibility for the overall strategy of technological development, with the support of high technology and basic research.

Designed for active use of innovation in the economy of Kazakhstan, in our opinion, these solutions are necessary: the creation of high-capacity internal markets for innovative products, priority government support of domestic producers in domestic and international markets, increase the share of innovative component in the development of domestic production, the formation of high-quality innovative infrastructure, and ensure organizational and economic conditions to support innovation at all stages of the life cycle of innovative products.

All these transformations, as world experience shows, have already proven technical solutions and implementation. So, mainly for domestic enterprises is to adapt to the peculiarities of foreign decisions of Kazakhstan's economy.

The reforms in Kazakhstan should be radical in nature, affect the basis of the economic and political structure of our society. Without this it is impossible to integrate into a unified whole, taking into account the regional and international issues. New reproductive mechanisms need to smoothly combine elements of market-based competition and entrepreneurial activity, with adequate state participation in the economy in order to balance the interests of different stakeholders in achieving the efficiency and competitiveness of the economy.

In the process of innovation there is a central role of industries. Scientific organizations can produce knowledge and even stimulate demand for them by offering new technology, which allows the introduction of the competitive position of businesses, but it is the latter carry out the implementation of innovation, promoting them to customers, and the formation of backward linkages.

Considering the low investment activity in the past, the scale of investment in fixed asset formation at this moment (except for the extractive industries) does not correspond to the real needs of the renovation and modernization of the production apparatus, which negatively affects the efficiency of the national economy. The problem of investment maneuver in favor of the industries that produce goods and services with a high added value that can ensure the competitiveness of the economy, is being solved slowly.

In the manufacturing industry, particularly in high-tech industries, working balances for increasing output are determined by the quality of the equipment and used technology. Significant depreciation of fixed capital in the manufacturing sector is the cause of most low-load of equipment, as well as factors limiting the growth of production [12].

**The findings of this study and the prospects for future developments in the designed area.** In general, the results of the implementation of innovative policies, the adequate principles of sustainable development should be:

- a high level of social orientation of scientific and technical progress on the basis of broad dissemination of new technological systems that meet the highest regulatory requirements;
- a new level of social standards of living as a result of productivity and the efficiency growth of production, improvement of environment of urban and rural populations;

- a new standard of cost-effective use of resources, the growth of labor productivity, capital productivity, reduced material consumption, energy consumption, capital intensity of production, the achievement of its high competitiveness, and, as a consequence, a radical transformation of the structure of the economy and foreign trade as a result of unloading of the commodity sector of the economy and increase the contribution of manufacturing industries;

- overcoming the technological underdevelopment of industry;
- implementation of a developed system of social guarantees, based on a new, higher level of economic development.

Thus, Kazakhstan's economic future depends on the ability of business, government and science to adapt to the rapidly changing internal and external conditions of development. Formation of adaptive capacity, i.e. the economy's ability to upgrade, structural changes, rapid growth, the orientation of public policy to a sharp increase in the status of science and education, the promotion of companies engaged with knowledge-intensive production, promoting the export of high-tech products will create a framework of transition to an innovative economy to the sustainable development of Kazakhstan.

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Надійшла до редакції 19.09.13

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#### ПРІОРИТЕТНІ НАПРЯМИ ІННОВАЦІЙНОЇ МОДЕРНІЗАЦІЇ НАЦІОНАЛЬНОЇ ЕКОНОМІКИ

Розглянуто теоретичні основи інноваційної модернізації промисловості як основу сталого розвитку національної економіки Казахстану. Ці зміни в даний час у всій системі виробничих відносин Казахстану пов'язані з новим етапом реформування економіки – забезпечення сталого економічного зростання на основі індустріально-інноваційного розвитку промисловості.

Ключові слова: інноваційний тип розвитку, модернізація промисловості, інноваційна політика, інноваційно-технологічна модернізація.



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### ПРИОРИТЕТНЫЕ НАПРАВЛЕНИЯ ИННОВАЦИОННОЙ МОДЕРНИЗАЦИИ НАЦИОНАЛЬНОЙ ЭКОНОМИКИ

Рассмотрены теоретические основы инновационной модернизации промышленности как основа устойчивого развития национальной экономики Казахстана. Происходящие перемены в настоящее время во всей системе производственных отношений Казахстана связаны с новым этапом реформирования экономики – обеспечение устойчивого экономического роста на основе индустриально-инновационного развития промышленности.

Ключевые слова: инновационный тип развития, модернизация промышленности, инновационная политика, инновационно-технологическая модернизация.

УДК 35.073.5 (477)  
JEL D61, L12, L13

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### ESTIMATE OF WELFARE LOSS FROM MARKET POWER IN UKRAINIAN ECONOMY

The article investigates and improves the methodology of estimate of welfare loss from market power. Basing on the improved methodology the author estimates such a loss in Ukrainian economy of 2008-2011.

Keywords: welfare loss; market power.

**Introduction.** Realizing of adverse effect of monopoly or close to monopoly structure of markets to the economy is seen by the works of Aristotle, being a hard fact of current economics. It shifts the attention of recent researchers to the problem of such an adverse effect estimate. For that purpose A. Marshall suggested to use a value of a loss of consumer surplus (later known as a deadweight loss) originated by monopolistic restricting output and price rising [1, p.540]. But the first quantitative estimates of the deadweight loss from monopoly or other degree of market power appeared only a half of the century later. Their results were rather contradictory [2, p.77-87].

The above said explains both the current scientific interest in quantitative assessment of welfare loss from market power and the variety of approaches to its estimate. Using logic of A. Lerner A. Harberger [2, p.77-87], D. Schwartzman [3, p.627-630], D. Worcester [4, p.234-245] estimated the welfare loss with the market power holders' profit margin, K. Cowling and D. Mueller [5, p.727-748] – with the value of profit, A. Dixit i N. Stern [6, p.123-143], A. Daskin [7, p.171-185] – with structural parameters of the market etc. It is only the one face of the problem of variety of approaches to an estimate of welfare loss from market power. Another one exists on the deeper theoretic level where a crucial criterion of existing diversity is not an information base or some kind of indicator, but the essence of welfare loss is. One group of researches, dealing in the tradition of A. Marshall [8, p.191-212], A. Lerner [1, p.536-566], A. Harberger [2, p.77-87], considered that the Harberger triangle was a satisfactory measure of welfare loss. Another group, consisting of G. Tullock [9, p.435-448], R. Posner [10], H. Leibenstein [11, p.447-506], Y. Lee та D. Brown [12], argued about expanding of this category and the value of its estimate as well.

The aim of this article is to optimize the existing theoretic approaches to an estimate of welfare loss from market power into the new approach and to estimate the actual value of welfare loss in Ukrainian economy of 2008-2011, basing on that approach.

**Review of welfare loss estimates evolution.** Let's begin doing this with a review of welfare loss estimates evolution. The pioneer of such an estimate was A. Harberger. He started his research with geometric formula of triangle of the loss of consumer surplus, argued by A. Marshall.

$$WL = \frac{1}{2} \Delta P \Delta Q \quad (1)$$

where  $\Delta P$  – the monopolistic price increase;  $\Delta Q$  – the monopolistic output decrease.

The impossibility and impropriety of such increases measuring by 73 sectors of American manufacturing, investigated by A. Harberger in his world famous work 'Monopoly and Resource Allocation' [2], was clear. So the researcher made some economic and mathematical transformations of the formula (1). Using the Lerner Index and price elasticity of demand he determined the formula (2 a) that became a basic one for his research.

$$WL = \frac{1}{2} PQ \varepsilon m^2 \quad (2 a)$$

where  $PQ$  – the revenue of a firm;  $\varepsilon$  – the price elasticity of demand;  $m$  – the profit margin, calculated in the way, explained below.

A. Harberger calculated the deviation of industrial profit rates from the mean one for the whole manufacturing. Then these deviations were transferred into dollars of monopoly rent and expressed as a share of sales to get the monopoly profit margins. Price elasticity of demand was deemed as unit one that transformed (2 a) into (2 b).

$$WL = \frac{1}{2} PQ m^2 \quad (2 b)$$

The sum of per industry welfare losses gave a total value of welfare loss equal to 0.1 % of US GDP [13, p.445].

Notwithstanding a novelty and relevance of Harberger approach to the estimate of welfare loss from market power it was highly criticized. The first reason for the critique was the way of rent calculation using the deviation of industrial profit rates from the mean one for the whole manufacturing. G. Stigler pointed that the level of profit rate in manufacturing was higher than in other sectors of the economy usually. Hence use of Harberger approach led to consistent underestimation of market power impact on the welfare [13, p.445-446]. Comments of K. Cowling and D. Mueller were even more critical. They argued not only against the problem of restriction of the sample, but against the incorrect methodology of analysis. Researchers wrote that there was a classic method of monopoly rent calculation. The rent was calculated by subtracting the normal profit from the value of accounting profit of a firm, while the normal profit was a long-run return in the competitive market, corrected for risk. The mean profit rate, used by A Harberger, was higher than the rate of normal profit, because of including some positive value of economic rent. K. Cowling and D. Mueller called it 'incorporated element of monopoly' [5, p.728].

Another point of Harberger approach critique was a fixing of price elasticity of demand on the unit level in all investigated industries. Such a restriction was irrelevant if no

other reasons than because it fixed the price elasticity of demand on the unit point, which was out of the monopoly character. Every textbook on economics shows that a monopoly works only on that part of linear demand curve (precisely linear demand curve was used in the Harberger model) where price elasticity of demand is higher than one [13, p.446]. While increase of price elasticity of demand up to 2, made by D. Schwartzman, didn't result in significant change of welfare loss estimate of A. Harberger and didn't bring us closer to the actual picture of social and economic loss from market power [3, p.627-630]. Price elasticity of demand is a dynamic indicator. Its fixing in a long-run period is unrealistic assumption. At the same time empirical calculating of price elasticity of demand is a really difficult and almost unsolvable task. It makes researches to abandon the use of price elasticity of demand for estimate of welfare loss.

Such a step was made by K. Cowling and D. Mueller in the end of 1970-s. They used the second part of Lerner Index formula to take price elasticity of demand out of the formula (2 a), saving its effect on the value of welfare loss. The researchers replaced the multiplication of the revenue and profit margin with its result – profit and replaced the second profit margin with inverse of price elasticity of demand. The latter let the price elasticities of demand cancel each other, giving the formula (3).

$$WL = \frac{1}{2} \Pi, \quad (3)$$

where  $\Pi$  – the economic rent, calculated by subtracting the normal profit for the market / industry from the actual accounting profit of a market power holder [5, p.728-730].

Next estimates of welfare loss expanded such an approach to welfare loss estimate from monopoly into easier forms of unperfected competition, first of all – oligopoly. For that purpose the way of transformation formula (2 a) into formula (3) was changed and the inverse of price elasticity of demand was replaced with fraction of market share and price elasticity of demand. The result of such a change was a formula of welfare loss, generated by a member of non-cooperative oligopoly:

$$WL_i = \frac{1}{2} \Pi_i \times s_i \quad (4)$$

where  $\Pi_i$  – the economic rent of firm  $i$ ;  $s_i$  – the share of firm  $i$  in the total output of the market.

Following the way of carrying the Lerner Index modifications over to formula of welfare loss estimate, let's include a degree of collusion indicator into the formula (4), making it relevant for cooperative oligopoly too.

$$WL_i = \frac{1}{2} \Pi_i (s_i (1 - \beta) + \beta) \quad (5)$$

where  $\beta$  – the degree of collusion.

For the oligopoly core of the market that is a group of oligopolists, which are operating relatively independent of competitive fringe firms, but cooperatively with each other, the formula of welfare loss estimate looks like this:

$$WL_k = \frac{1}{2} \sum_1^k \Pi_i \left( \frac{CR_k}{100} (1 - \beta) + \beta \right) \quad (6)$$

where  $k$  – the content of oligopoly core of the market, estimated by Linda Index;  $CR_k$  – the concentration ratio for  $k$  leaders of the market, which consist the oligopoly core.

One more important step in the evolution of estimate of welfare loss from market power was made by G. Tullock [9, p.435-448] and R. Posner [10]. They argued that Harberger triangle was not a relative measure for the welfare loss. There is also a range of socially wasteful costs of rent-seeking. The firms incur expenses, trying to create, maintain and augment their market power. Those costs can manifest in the investments into excessive capacities, into persuasive advertising or excessive product differentiation and patent protection as the result of the latter. They also can manifest in costs of political support, lobby and bribes. Anyway these costs make the welfare loss bigger than the area of Harberger triangle. The value of the overrun is not a random one. R. Posner argued that firms invested money into rent-seeking until the value of the investments came up to the value of the economic rent. So, welfare loss consists not only of the area of Harberger triangle ( $\Delta MCA$ ), but of the area of whole trapezoid of consumer surplus decrease ( $P_m MCP_c$ ) (Figure 1) [10, p.3-4].

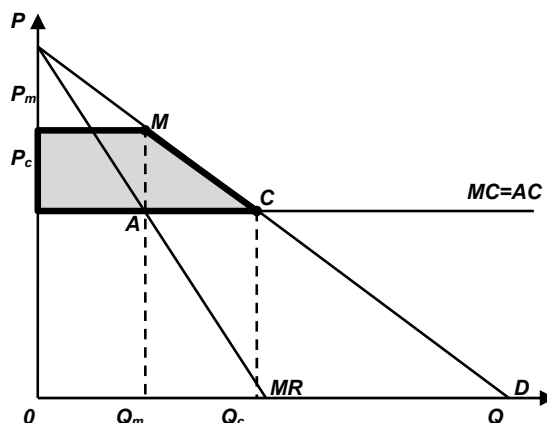


Figure 1. The Welfare Loss. R. Posner Model

Description: P – price; Q – output; D – demand curve; MR – marginal revenue curve; MC=AC – the curve of marginal costs, which are equal to average costs in the model; C – the point of competitive equilibrium; M – the point of monopolistic equilibrium.

\* Source: Posner R. *The Social Cost of Monopoly* / Richard A. Posner // NBER working paper. – 1974. – No.55. (September). – P. 3-4.

Let's revise (5) and (6)<sup>1</sup> in this view, creating the next formulas.

For the certain market power holder:

$$WL_i = \frac{1}{2} \Pi_i (s_i (1 - \beta) + \beta) + \Pi_i \quad (7 a)$$

<sup>1</sup> As degree of collusion change from 0 to 1, covering all the kinds of oligopolistic behavior from a noncooperative equilibrium of Nash-Cournot to a cartel, there is no need for modification of all formulas. It is enough to modify only (5) and (6).

For the group of colluded oligopolists:

$$WL_k = \frac{1}{2} \sum_1^k \pi_i \left( \frac{CR_k}{100} (1 - \beta) + \beta \right) + \sum_1^k \pi_i \quad (7 b)$$

**The new model of welfare loss estimate.** R. Posner approach is not considered to be perfect or even quite correct. This critique is neither about the way of the estimate of costs of rent-seeking, nor about their including into the value of welfare loss. It is about the graphic model that has become the reason of the underestimate of actual value of welfare loss from market power. In fact the costs of rent seeking are not invested from the profit. Usually they are calculated as expenses being a loss from X-inefficiency, which value is equal to the economic rent from the Figure 2 ( $P_m MAP_c = P_c ABP_x$ ).

The new model let us catch on an invisible in R. Posner model increase of Harberger triangle from area of MAC to the

area of MBX. So, the actual value of welfare loss from market power is described by the area of irregular figure  $P_c AMXP_x$ , asking about the relevant revision of (7 a) and (7 b).

As the area of  $P_c AMXP_x$  differs from the area of the depicted by R. Posner trapezoid of welfare loss ( $P_c P_m MC$  at Figure 1) by the area of trapezoid of Harberger triangle increase ( $ACXB$  at the Figure 2), the latter must be estimated as:

$$ACXB = S_{ACKB} + S_{\Delta CCK} = |\Delta P \times \Delta Q| + S_{\Delta CCK}, \quad (8)$$

where  $\Delta P$  – the price increase, caused by the market power;  $\Delta Q$  – the output decrease, caused by the market power;  $S_{\Delta CCK}$  – the area of triangle  $CCK$ .

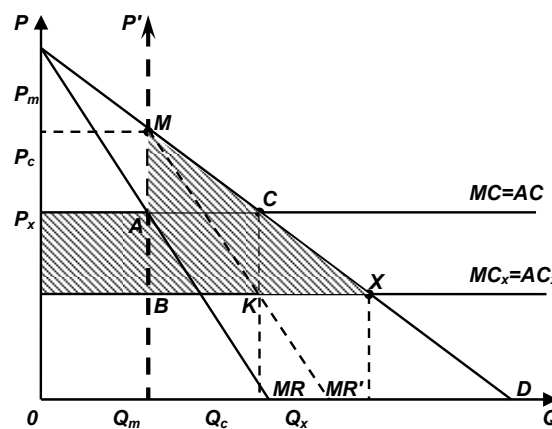


Figure 2. The Welfare Loss Correction of R. Posner Model

Description: P and P' – the prices before and after correction of the model; Q – output; D – demand curve; MR and MR' – the marginal revenue curves before and after correction of the model; MC=AC – the curve of marginal costs, which are equal to average costs in the R. Posner model; MC\_x=AC\_x – the curve of marginal costs, which are equal to average costs in the corrected model.

\* Source: Created by the author.

Using the formulas 1-6 let's calculate the first part of (8) as:  
For the certain market power holder:

$$ACKB = \pi_i (s_i (1 - \beta) + \beta) \quad (9 a)$$

For the group of colluded oligopolists:

$$ACKB = \sum_1^k \pi_i \left( \frac{CR_k}{100} (1 - \beta) + \beta \right) \quad (9 b)$$

It let us calculate the part of new Harberger triangle that is depicted by the trapezoid  $MCKB$ . Thus the only unknown is the value, depicted by the area of the triangle  $CCK$ . For its estimate let's shift the vertical axis on the Figure 2 from  $OP$  to  $Q_m P'$ . The model created in such a way is like the model of monopoly equilibrium, where  $MD$  is the curve of residual demand,  $MR'$  is the marginal revenue curve relevant to the residual demand,  $MAC$  is the consumer surplus,  $ACKB$  is the economic rent of the simulated monopolist, and  $CCK$  is the Harberger triangle, which is a half of the economic rent according to K. Cowling and D. Mueller. So, the area of  $CCK$  is a half of area  $ACKB$ , calculated with (9 a) and (9 b), according on the kind of market equilibrium.

So, the value of welfare loss from the market power is calculated with next formulas.

For the certain market power holder:

$$WL_i = 2\pi_i (s_i (1 - \beta) + \beta) + \pi_i \quad (10 a)$$

For the group of colluded oligopolists:

$$WL_k = 2 \sum_1^k \pi_i \left( \frac{CR_k}{100} (1 - \beta) + \beta \right) + \sum_1^k \pi_i \quad (10 b)$$

**Empirical estimate of the welfare loss in Ukrainian economy of 2008-2011.** Using the 10 b we have researched 135 concentrated industrial markets in Ukraine<sup>2</sup>. The calculated values of the welfare loss per industry have been summed up, giving the aggregate value of welfare loss from market power for the whole Ukrainian economy (table 1).

The data of the table 1 shows that the value of welfare loss, as a cost of market power for the domestic economy, is equal to the quarter of total economic output and the third part of Ukrainian GDP. This value is rather big not only in absolute terms, but even in terms of previous estimates of welfare loss for other economies in the world. The table 2 contains the results of previous estimates of the value of welfare loss for different economies. It shows that such a value fluctuates from 0.01 % to 27.2 % of GDP or total economic output.

<sup>2</sup> Starting with a need of separating the welfare loss from market power from other kinds of welfare loss we have taken into the research only the concentrated markets, considering that the low level of market concentration creates the insufficient market power to induce welfare loss. The level of market concentration has been estimated by Herfindal-Hirshman Index. The critical level of market concentration has been set at 1000.

Table 1. Welfare loss from market power in Ukraine, 2008-2011

Indicator	The average value(per year)
Welfare loss from market power, mln UAH	641 279,31
The share of welfare loss from market power to total economic output in Ukraine, %	25,09
The share of welfare loss from market power to Ukrainian GDP, %	33,17

\* Source: Created by the author on the results of her own estimates using the data of State Statistics Service of Ukraine – Available at: <http://www.ukrstat.gov.ua>.

Table 2. Empirical estimates of the welfare loss from market power

Researcher, publication year	Investigated period	The database	The value of welfare loss	
			% to total economic output	% to GDP
Harberger A., 1954	1924-1928	US manufacturing	-	0,1
Schwartzman D., 1960	1954	US manufacturing	-	0,1
Kamerschen D., 1966	1954-1961	US manufacturing	-	5,4-7,6
Bell F., 1968	1954	US manufacturing	-	0,02-0,04
Shepherd R., 1972	1960-1969	US manufacturing	-	2-3
Worcester D. (jr), 1973	1958, 1969	US manufacturing	-	0,3
Carson R., 1975	ND	3 sectors of the economy of the USA	-	3,2
Jones J.C.H, Laudadio L., 1978	1965-1967	manufacturing of Canada	-	3,7
Cowling K., Mueller D.C., 1978	1963-1966	economy of the USA	4-13,1	-
Cowling K., Mueller D.C., 1978	1968-1969	economy of Great Britain	3,9-7,2	-
Parker R., Connor J., 1979	1975	food industry of the USA	-	25
Funahashi K., 1982	1980	manufacturing of Japan	-	0,02-3
Jenny F., Weber A., 1983	1971-1974	French economy	-	5,85-12,39
Masson R.T., Shaanan J., 1984	1950-1966	US manufacturing	2,9-11,6	-
Pezzoli, 1985	1982-1983	Italian economy	-	0,4-9,4
Gisser M., 1986	1977	US manufacturing	-	0,114
Oh S.-J., 1986	1983	Korean economy	-	1,16-6,75
Ong'olo D., 1987	1977	manufacturing of Kenya	-	0,26-4,4
Daskin A., 1991	1977	US manufacturing	6,12-27,18	-
Авдашева С., Розанова Н., 1998	1994-1995	production sector of Russia	-	0,01-10

\* Source: Created by the Avdashev S., Rozanova N. based on the data of [5, p.738-742; 7, p.179-180; 13, p.445-450; 15, p.88; 16, p.323; 17, p.3-5; 18, p.17].

These much lower values of welfare loss were the reason of the weak scientific interest in investigation of such a phenomenon in the middle of the XX century. Even A. Lerner, who is the scientific father of market power effects estimate, didn't believe in importance of negative impact of market power to the economy. This can be said basing on the concentration of his scientific heritage on the problems of socioeconomic consequences of unemployment instead of the problems of an economy's monopolization, as well as on some of his statements about overestimates of the degree of

damage done by monopolistic restrictions [19, p.260]. But let's look at the chronological dynamics of such estimates, incorporated into the intertemporal curve of empirical estimates of welfare loss from market power (Figure 3). It shows that the estimates of the value of welfare loss have been growing over time driven by the development of economic science, the improvement of the methodology of welfare loss estimate and database specification. It makes a modern economist to look much more precisely into the problem of welfare loss and its cost for the economy.

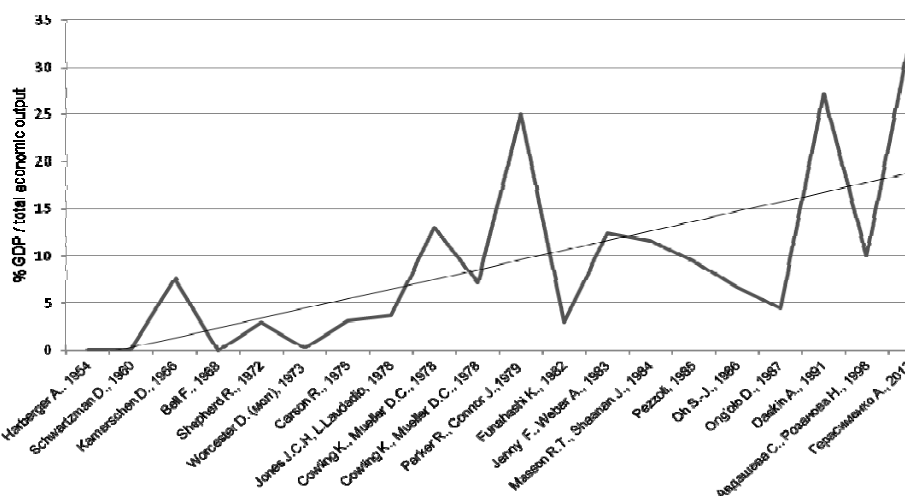


Figure 3. Intertemporal curve of empirical estimates of welfare loss from market power

\* Source: Created by the author based on the data of tables 1 and 2.

**Conclusion.** The main axiom of the economics tells us about the scarceness of the resources. Economic agents

from firms up to the economies are looking for loans to stimulate economic growth while they are wasting up to the

third part of their GDP because of ineffective using of existing resources. The calculations show that Ukrainian economy is situated on the halfway toward its production possibility frontier, crying for its leaders' market power restrictions a ticket to progress, which is called an economic growth. We can invest in innovations, hopping that they move out the quasi production possibility frontier and raise the output at fixed input. We can raise the age of retirement or aggrades and islands to expand the resource base of the economy. But we have to realize that until welfare loss from market power is a third part of the GDP every positive effect of such actions on the economy must be divided in the same proportion. At the best only two thirds of all the efforts and spent resources would go to economic growth stimulation. The remainder would provide the growth of market power holders' prosperity and the rooting of such an institutional environment, which is favorable for preserving the inefficiency of actual economic system in Ukraine.

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### ОЦІНКА ВТРАТ ДОБРОБУТУ ВІД РИНКОВОЇ ВЛАДИ В ЕКОНОМІЦІ УКРАЇНИ

В статті досліджено та удосконалено методологію оцінки величини втрат суспільного добробуту, обумовлених ринковою владою. На основі удосконаленої методології здійснено оцінку величини таких втрат для економіки України 2008-2011 років.

Ключові слова: втрати суспільного добробуту; ринкова влада.

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### ОЦЕНКА ПОТЕРЬ БЛАГОСОСТОЯНИЯ ОТ РЫНОЧНОЙ ВЛАСТИ В ЭКОНОМИКЕ УКРАИНЫ

В статье исследована и усовершенствована методология оценки величины потерь общественного благосостояния, обусловленных рыночной властью. На основе усовершенствованной методологии осуществлена оценка величины таких потерь для экономики Украины 2008-2011 годов.

Ключевые слова: потери общественного благосостояния; рыночная власть.

УДК 336.1  
JEL H 71, N 94

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### LOCAL GOVERNMENT TAX COMPETITION IN CZECHOSLOVAKIA 1918-1938

The study evaluates tax competition among local governments in Czechoslovakia during the interwar period. Using correlation and regression analysis it proves that (1) local politicians took into account the tax policies of neighbouring jurisdictions when imposing additional tax rates on top of the direct central taxes, (2) there were some regional differences, (3) migration played its role in tax rate setting and (4) the "race-to-the-bottom" did not take place.

Keywords. Tax competition; local government; Czechoslovakia

**Introduction.** Czechoslovakian local government in the 1920's and 1930's enjoyed significant tax autonomy, in many aspects absolutely unimaginable from today's point of view. Contemporary literature on tax competition confirms, that local government tax policy interaction (i.e., tax mimicking) occurs in most countries and concerns all taxes and all government levels [1, p.4].

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Надійшла до редакції 29.09.13

The purpose of the paper is to find out if tax mimicking occurred in the pre-war Czechoslovakia and if there was a relationship between local tax policy and migration. After a brief review of recent research on local government tax competition there is provided an overview of the local government tax autonomy in Czechoslovakia between 1918 and 1938 as well as its roots from pre-war Austrian – Hungarian Empire. Then there are presented data, methods

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and results of the econometric analysis (i.e., correlation and regression analysis) of the relationships between the additional tax rates in neighbouring districts and relationships between additional tax rates and migration. Finally the results are summarized.

**Local government tax competition.** Government tax policy is not determined isolated but it takes into account the tax policy of other governments. Tax mimicking is a widespread behaviour of strategic interaction of tax policy in neighbouring governments. "Strategic" refers to the fact that politicians decide upon their own tax policy with the aim to attract mobile base, i.e., "genuine tax competition" or get votes, i.e., "yardstick competition" [1, p.6]. In reality it is, however, impossible to disintegrate these two tax competition types. Number of studies, conducted in the last fifteen years, confirms spatial interactions among state and local governments mainly for property and income taxation.

Regarding the property tax Bordignon, Cerniglia and Revelli [2] found a positive spatial autocorrelation in the case of local business property tax rates in 143 adjacent municipalities in the Province of Milan, Italy. Allers and Elhorst [3] found strong evidence of tax mimicking among 496 Dutch municipalities. Delgado and Mayor [4] found a positive spatial property tax interaction evaluating data for all 78 municipalities in Spanish region Asturias. Fiva and Rattso [5] found evidence of a geographic pattern in 301 Norwegian municipal decisions about having property taxation or not. Sedmíhradská [6] confirmed that Czech municipalities which increased the property tax rates applying the local coefficient are surrounded by a higher share of municipalities with local coefficient than municipalities without it. Unlike the other studies Lyytikäinen [7] did not find any strategic interaction in property tax rates among neighbouring 411 Finish municipalities.

Studies dealing with more than one tax prove tax interactions as well. Heyndels and Vuchlen [8] conclude that local income tax and local property tax rates are copied among neighbouring Belgian municipalities. Silva Costa, Carvalho and Coimbra [9] found a positive strategic interaction among all 278 municipalities in continental Portugal in case of income tax, property tax and business tax. Delgado and Mayor [4, p.150] present several other studies which proved horizontal or vertical tax interactions among local governments in case of different taxes and countries.

The basic model of tax competition formalized by Zodrow and Mieszkowski predicts that tax policies of two jurisdictions which share one mobile base will lead to the "race to the bottom" in taxation and that the tax rates will decline and/or be too low [10, p.341]. This is in line with the claim of Oates [11, p.207-508], that tax competition may lead to inefficiently low taxes and benefits. On the other hand, Tiebout [12] argued that local governments compete among each other through different revenue and expenditure patterns, i.e., mobile individuals choose their location not only based on the tax rates, but they consider provided public services as well and hence may prefer higher taxes and better services. The results of empirical studies on fiscally induced migration are mixed and fail to produce conclusive results [13, p.810].

The grow of tax rates can be explained by the yardstick type of tax competition: In the perfect world tax rates match voters' preferences and allow financing of the preferred set of public services. In the real world there is asymmetric information between voters and politicians, who know more about the costs of providing public services. At the same time some politicians do rent-seeking, i.e., increase taxes in order to finance their whims at taxpayer's expense [14, p.25]. It is hard for voters to distinguish between good and bad politicians. The behaviour of politicians in the neighbouring local governments may give some clue: If the tax rates are growing everywhere voters may be convinced about the necessity of it, i.e., evaluate the politician as good and re-elect him. The phenomena when politicians care what politicians from other jurisdictions are doing in order to get their votes is called yardstick competition [14, p.25].

**Local tax autonomy between 1918 and 1938.** Local government system was composed of three levels, which were inherited from the times of the Austrian-Hungarian Empire: four lands (Bohemia, Moravia and Silesia, Slovakia and Subcarpathia, which is a part of today Ukraine) existed since the medieval times. Four hundred districts, the medium level, were established during the 1860s, although the number was decreased to one half during the twenties of the 20<sup>th</sup> century. Municipalities (about 15.6 thousands), the lowest and basic level, were established after the year 1848 as a result of the end of the feudal system. All three local government levels were allowed to impose autonomous levies and fees and, more important, they gained the authority to levy additional tax rates (i.e., tax surcharges) on top of central government taxes.

The additional tax rates were imposed on top of all direct taxes with the exception of personal income tax, i.e. corporate income tax, entrepreneurial tax, property taxes (various types depending on the type of the property), rental tax etc. The legislation body for settling additional tax rate was local (land, district, municipal) assembly composed of directly elected deputies. The tax rate was settled for the minimal period of one year. There were no upper limits to the tax rates. However, tax rates above a certain level had to be approved by a higher authority [15].

How did the system of additional tax rates work? The tax base was the same as the amount of the central government tax that was individual or firm obliged to pay to the state budget. Local government imposed additional rate as the percentage of the central government tax. For instance, if the state property tax burden was 100 CZK and the municipal additional rate was 200 %, the taxpayer had to send to the municipal budget additional 200 CZK.

Over the years additional tax rates grew regularly as well as the tax base influenced by the central government tax decisions and inflation during the First World War. As the result the additional tax burden per person jumped twelve times between the years of 1901 and 1922. The additional tax rates increased four times and this increase is recorded for all local government levels (Table 1). There were big differences among individual taxes: while the land tax rates doubled, the municipal tax rates rocketed almost seven times [16].

**Table 1. Additional Tax Rates, Tax Burden**

Year	Overall	Lands	Districts	Municipalities	Tax base per person	Additional tax per person
1901	140.0 %	78.0 %	26.0 %	36.0 %	8.29 CZK	11.63 CZK
1912	180.0 %	80.0 %	38.0 %	62.0 %	9.92 CZK	17.84 CZK
1922	526.0 %	150.0 %	126.0 %	250.0 %	25.74 CZK	135.41 CZK

\* Source: Zelenka (1986, p. 37).

The importance of additional taxes was growing and the taxes eventually became the main source of local government revenues as it is shown in the Table 2:

**Table 2. Proportion of Individual Types of Revenue of Sub-central Governments, 1926**

	Additional Taxes	Subsidies	Levies and Fees	Own Property Revenue
<b>Total</b>	<b>38.0 %</b>	<b>36.0 %</b>	<b>16.0 %</b>	<b>10.0 %</b>
<b>Municipalities</b>	44.0 %	9.0 %	25.5 %	21.0 %
<b>Districts</b>	70.5 %	27.0 %	5.0 %	2.0 %
<b>Lands</b>	22.5 %	66.0 %	10.0 %	1.5 %

\* Source: Zelenka (1986, p. 41).

We have to notice another considerable feature of local taxation as well. Over the years there was a huge shift in the structure of local tax base as it was created by central government revenues [17]. The most important change was the exception of the personal income tax from the tax base of the local governments in 1896. At that time the personal income tax represented only marginal share of tax revenue, however, after that its share was growing rapidly as the result of its progressive tendency. Just before the

First World War it assured around one quarter of the central government revenue from direct taxes, in the year 1930 it was responsible for two thirds of that share (Table 3). It is obvious that the exception of the personal income tax from local tax base deteriorated the receipts of all three levels of local government very badly. This narrowing of the tax base to one third of the direct taxes revenue led to the vigorous increase in the additional tax rates.

**Table 3. The Structure of Direct Taxes**

Type of tax	1913	1930	Change (percentage points)
Property, housing, rental	42.1 %	13.8 %	-28.3
Entrepreneurial	8.6 %	6.1 %	-2.5
Corporate income	21.0 %	6.7 %	-14.3
Personal income	23.5 %	65.9 %	+42.4
Rent	3.1 %	6.5 %	+3.4
High income	1.7 %	0.5 %	-1.2

\* Source: Data from Fux, Wichta (1932, passim).

The increasing importance of additional taxes has manifested itself in the form of an increased tax burden for the taxpayers. There were excessive additional taxes in the majority

of municipalities which had to be approved by a superior office (73 % in 1926) Table 4 shows the overall additional tax rates in 1926, i.e., before the ceilings were imposed.

**Table 4. Number of Municipalities According to Overall Additional Tax Rates in 1926**

Lands	Total number of Municipalities	Over 500 %	Over 600 %	Over 700 %	Over 800 %	Over 900 %	Over 1,000 %	Over 1,500 %	Over 2,000 %	Municipalities with Excessive Additional Taxes
Bohemia	8,375	1,308	1,451	1,340	985	635	1,317	215	143	88%
Moravia and Silesia	3,328	390	472	555	471	340	696	111	43	92%
Slovakia	3,467	265	182	126	96	76	120	28	9	26%
Subcarpathia	484	14	12	10	7	3	6	6	2	12%
<b>CSR in total</b>	<b>15,654</b>	<b>1,977</b>	<b>2,117</b>	<b>2,031</b>	<b>1,559</b>	<b>1,054</b>	<b>2,139</b>	<b>360</b>	<b>197</b>	<b>73%</b>

\* Source: The State Bureau of Statistics (1931), passim.

The extreme and excessive tax burden was not the only problem of the local taxation system. The unlimited tax autonomy became the reason of huge differences of tax burden even among the municipalities in one district. We easily found many examples where overall additional tax rate in one village were many times higher than in a village 10 – 20 kilometres far away. One of these examples from the district Jindřichuv Hradec from Bohemian Land is shown in Table 5. We took unknown villages with minimal and

maximal additional tax rate and hypothetical entrepreneur with taxable profit of 40,000 CZK. We see that the difference is caused only by the municipal rate because district and land rates are the same. We identify that overall tax burden is doubled for an entrepreneur from the second village if we take into account central government taxation. What is more, in the first village local taxation accounts for only one third of the tax burden, in the second village two thirds of tax burden is receipt of three levels of the local government:

**Table 5. Composition of Local Government Tax Burden**

Tax payer/year	Min./1926	Max./1926
Overall Additional Tax Rate	492 %	1918 %
Taxable Profit	40,000 CZK	40,000 CZK
State Entrepreneurial Tax (ET) = Tax Base for Additional Tax Rate	300 CZK	300 CZK
Extra Additional State Tax in addition to ET	230 CZK	230 CZK
Additional Tax	1,476 CZK	5,754 CZK
Tax Base of the Personal Income Tax (PIT)	37,994 CZK	33,716 CZK
Personal Income Tax	1,463 CZK	1,267 CZK
Extra Additional State Tax in addition to PIT	1,170 CZK	950 CZK
Overall Tax Burden	4,639 CZK	8,501 CZK
<b>Effective Rate of Taxation</b>	<b>11.6 %</b>	<b>21.3 %</b>
<b>Proportion of Sub-central Additional Tax on Overall Tax Burden</b>	<b>31.8 %</b>	<b>67.7 %</b>

\* Source: The State Bureau of Statistics (1931), own calculation

The centre-right federal government which was formed in 1926 wanted to lower the tax burden as well as high regional differences, but the high tax autonomy of sub-central governments was able to effectively thwart its efforts. Therefore, the tax reform from 1927 imposed ceilings on additional tax rates: 160 % in case of lands, 110 % in case of districts and 200 % in case of municipalities so that overall additional tax rates could be 470 % with some exceptions. Originally it was possible to surpass these ceilings but only under very strict conditions: Superior offices which approved higher rates gained significant power. However, the Great Depression caused a deterioration of the finances of the local governments and new legislation from 1930 and 1935 brought more lenient conditions for the passing of higher additional taxes. The progress and development of the rules and mechanism of approval is shown in the Table 6:

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Table 6. Rules for the Additional Tax Rates

Period	Limits	Role of the superior offices	Procedural condition
Before 1927	None	Three-stage of approval according to the rate. When disagreement occurred, Emperor, after 1918 central government, decided.	Decision of local assembly, simple majority of present members of assembly.
1927 – 1930	Municipal – 200 % (300 %, 350 %); district – 110 % (150 %); land – 160 %; half rates for rental tax	One-stage approval by the direct superior office: for municipalities the Board of district, for districts the Board of land, for lands central government.	Decision of local assembly, simple majority of present members of assembly.
1931 – 1935	Municipal – 200 % (300 %, 350 %); district – 110 % (150 %); land – 160 %; half rates for rental tax.	One-stage approval by the direct superior office: for municipalities the Board of district, for districts the Board of land, for lands central government. Possibility of lower limit (300 %) for the municipal rates without approval of the Board of district.	Decision of local assembly, simple majority of present members of assembly; for higher rates without binding constraints necessity of three quarters majority of all members of assembly: municipal (300 %) a district (150 %).
After 1935	Municipal – 200 % (300 %, 400 %), district – 110 % (200 %), land – 160 %; rental tax: municipal 125 % (200 %), district 55 % (110 %), land 80 % (160 %).	One-stage approval by the direct superior office: for municipalities the Board of district, for districts the Board of land, for lands central government. The higher rate of discretion for superior office, some binding constraints abolished.	Decision of local assembly, simple majority of present members of assembly; for higher rates without binding constraints necessity of three quarters majority of all members of assembly: municipal (350 %) a district (200 %).

\* Source: all relevant laws, passim.

**Data.** The Statistical Office of Czechoslovakia has released three publications which provide statistics for only four years – 1926, 1928, 1930 a 1933 [18, 19, 20]. They contain data for all districts and average municipal tax rates for all districts. Using those, it is possible to compute the

average additional tax rate for all districts including additional land, district and municipal rates. Unfortunately, data of migration were available only for 147 Bohemian and Moravian-Silesian districts.

Table 7. Descriptive Statistics

	No. of districts	Average overall rate in %				Average municipal rate in %			
		1926	1928	1930	1933	1926	1928	1930	1933
<b>Czechoslovakia</b>	242	552	407	417	469	281	181	179	221
<b>Bohemia</b>	103	697	461	431	474	329	191	183	217
<b>Moravia-Silesia</b>	47	710	443	438	499	354	200	195	237
<b>Slovakia</b>	78	312	322	384	444	195	160	167	219
<b>Subcarpathia</b>	14	291	354	418	464	160	151	174	212

\* Source: The State Bureau of Statistics documents, own calculations.

As it is visible from the Table 7, the average additional tax rates, both overall and municipal, converged in time. Differences were smashed by tax reform of 1927 described above. The economically more developed lands (Bohemia, Moravia-Silesia) had imposed significantly higher rates before tax reform. On the contrary, the reform had no real impact on Slovakia and Subcarpathia where the rates were remarkably lower but they were consecutively growing. Unfortunately, the inflation rate was not measured that time, so the trend might be biased by fluctuation of the price level.

The following analysis contains these variables:

**Overall additional tax rate (OATR)** – the percentage rate of additional tax burden that is imposed on tax base (central government tax burden) by the land, district and municipality together

**Municipal additional tax rate (MATR)** – the percentage rate of additional tax burden that is imposed on tax base (central government tax burden) by the municipality

**Neighbouring overall additional tax rate (NOATR)** – the average overall additional tax rate computed from all neighbouring districts

**Neighbouring municipal additional tax rate (NMATR)** – the average municipal additional tax rate computed from all neighbouring districts

**Rate of migration (RM)** – the percentage change in the number of population of each district computed as the difference between the number of immigrated and emigrated persons during specific period divided by the number of population in the previous examined year

**Correlation Analysis.** First we compare the overall and average additional municipal tax rates in a district using simple arithmetic average of the overall and additional municipal tax rates in the neighbouring districts (Table 8). Similar method was used in [21] and in [22]. As far as the whole country is concerned, every analysed year provides evidence of yardstick competition regarding the overall and additional municipal tax rates. The correlation is remarkably strong during the pre-crisis years. This relation weakens in the following years.

When examining each land separately, we have found different situation. Tax mimicking was only proved in Bohemia during each examined year, albeit it was not very strong. No statistically significant relation was found in Subcarpathia. In Slovakia, moderate relation appears during the Great Depression years for both the overall and additional municipal rates.



**Table 8. Correlation Coefficients: Overall and Neighbouring additional tax rate**

	Overall – OATR x NOATR				Municipal – MATR x NMATR			
	1926	1928	1930	1933	1926	1928	1930	1933
Czechoslovakia	0.805***	0.795***	0.571***	0.456***	0.623***	0.502***	0.440***	0.580***
Bohemia	0.200*	0.233**	0.377***	0.413***	0.193**	0.233**	0.384***	0.417***
Moravia-Silesia	0.153	-0.171	-0.015	0.231	0.172	0.225	-0.097	0.043
Slovakia	0.214*	0.121	0.421***	0.341***	0.121	0.180	0.339**	0.273**
Subcarpathia	-0.256	0.490*	-0.063	-0.413	-0.388	0.558*	-0.183	-0.164

Note: \* denotes 90%, \*\* 95 % and \*\*\* 99% of statistical significance respectively.

Next we considered migration. Migration influences the tax base, so local politicians have to take it into account in their tax rate decisions. Table 9 shows the results of analysis in 147 districts in Bohemian and Moravian-Silesian lands where the data on the rate of migration were available. In the years of 1926, 1930 and 1933 there is a statis-

tically significant negative correlation. The exception of the year 1928 can be explained by the administrative reform that changed the borders of the districts and the rate of migration is biased. What is important, the negative correlation has the tendency to become stronger.

**Table 9. Correlation Coefficients: Overall additional tax rate and Rate of Migration**

Variable	RM 1926	RM 1928	RM 1930	RM 1933
OATR 1926	<b>-0.357***</b>	0.039	-0.418***	-0.393***
OATR 1928	-0.260***	<b>0.111</b>	-0.294***	-0.261***
OATR 1930	-0.442***	0.124	<b>-0.493***</b>	-0.465***
OATR 1933	-0.502***	0.121	-0.567***	<b>-0.549***</b>

Note: \* denotes 90%, \*\* 95 % and \*\*\* 99% of statistical significance respectively.

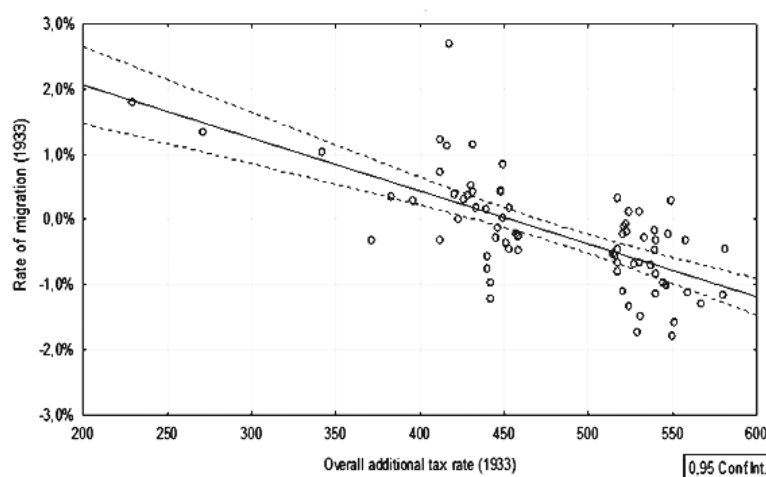
In the next step of our analysis we divided the sample into two groups: One quarter of districts with the highest rates and one quarter of districts with the lowest rates belong to the extreme group, remaining district to the others group. Table 10 shows that the correlation is statistically significant in districts with extreme OATR and it becomes

stronger over time as well. On the contrary, the relationship in the other districts is not significant in 1926, but in the course of time becomes stronger. The year of 1928 is exceptional again. Figure 1 displays the graphical example of correlation of the extreme districts in 1933.

**Table 10. Correlation Coefficients: Overall additional tax rate and Rate of Migration**

Variable	RM 1926		RM 1928		RM 1930		RM 1933	
	extreme	others	extreme	others	extreme	others	Extrem	others
OATR 1926	-0.431***	-0.005						
OATR 1928			0.194	0.086				
OATR 1930					-0.618***	-0.243**		
OATR 1933							-0.681***	-0.948***

Note: \* denotes 90%, \*\* 95 % and \*\*\* 99% of statistical significance respectively.

**Figure 1. Relation between Overall additional tax rate and Rate of Migration, Districts with Extreme Rates, 1933**

**Regression Analysis.** In order to better describe the relationship among more variables and to incorporate the time lags due to time needed for decision of both tax payers to move or local government to increase taxes we run

regression analysis for the years of 1930 and 1933 and for 147 districts, as we did not have time for the other years and districts. The results are shown in tables 11 and 12 and are very similar for both the analyzed years.

Table 11. Regression Summary for Dependent Variable: Overall additional tax rate 1930

Variable	b*	Std.Err. (of b*)	b	Std.Err. (of b)	t(142)	p-value
Intercept			35.78	42.033	0.851	0.396
NOATR 1928	-0.165	0.060	-0.32	0.118	-2.761	0.007
OATR 1928	0.697	0.047	0.68	0.046	14.881	0.000
RM 1930	-0.190	0.050	-1153.79	299.913	-3.847	0.000
NOATR 1930	0.324	0.062	0.53	0.103	5.213	0.000

$R^2 = 0,7298$ , adjusted  $R^2 = 0,7221$ ,  $F(4,142) = 95,889$ ,  $p < 0,0000$ .

Table 12. Regression Summary for Dependent Variable: Overall additional tax rate 1933

variable	b*	Std.Err. (of b*)	b	Std.Err. (of b)	t(142)	p-value
Intercept			76,91	44,5964	1,72449	0,086795
NOATR 1930	-0.276	0.072	-0.52	0.137	-3.822	0.000
OATR 1930	0.660	0.055	0.76	0.063	12.045	0.000
RM 1933	-0.207	0.053	-1428.17	366.342	-3.898	0.000
NOATR 1933	0.371	0.071	0.62	0.118	5.243	0.000

$R^2 = 0,6979$ , adjusted  $R^2 = 0,6893$ ,  $F(4,142) = 82,008$ ,  $p < 0,0000$ .

In both models all the explanatory variables are statistically significant as well as the overall F-test. Therefore the model can be used for estimation of the Overall additional tax rates. Note that the model explains about 70 % of total variation of outcome (R-squared). In case of 1933 this means that increase of the neighbouring overall additional tax rate in the previous period (1930) by 1 percentage point causes a decrease of Overall additional tax rates in 1933 by 0,27 p.p., the change of the neighbouring overall additional tax rate in the same year is followed by the 37 percent reaction of Overall additional tax rates in the same direction. Every percentage point of the net migration adjusted the Overall additional tax rates in 1933 by almost 21 p.p.

This shows that the major reasons for increasing the overall additional tax rates were the increases of these tax rates in the neighbouring districts and outflow of inhabitants (negative migration).

**Conclusions.** In case local governments are granted any fiscal autonomy it is likely that they will interact in case of their tax policy. The greater the granted tax autonomy the greater is the space for these strategic interactions, i.e. tax mimicking, and for tax competition. There are described two types of tax competition: "genuine tax competition", when politicians try to attract mobile base and "yardstick competition" when they try to get votes. In reality, however, it is impossible to disintegrate these two types of tax competition.

Local governments in the pre-war Czechoslovakia enjoyed significant fiscal autonomy as they could set additional tax rates to the centrally imposed direct taxes. Empirical analysis of the municipal and overall additional tax rates in 242 districts proved tax mimicking among them, however with significant regional differences. While the its statistical significance was very high in case of Bohemia, which represented two thirds of the economic potential of Czechoslovakia, lower but still significant presence of tax mimicking was confirmed in the Moravian-Silesian Land and the Slovakian Land and no evidence was found with regards to Subcarpathia. One of the reasons can be the fact that in Subcarpathia almost every district was at the country border, so there were less neighbouring districts they could interact with. There were no differences between overall additional taxes and additional municipal taxes. Politicians on each level of local government acted the same way. This findings are consistent with the recent empirical studies on local government tax interactions.

We also found statistically significant evidence of interaction between additional tax rates and migrations. Higher additional tax rates were in districts with higher out migration. This was probably a reason of interconnected processes: district with low tax base had to impose higher tax rates in

order to collect sufficient revenue, low tax base is associated with low economic performance which pushes people to move to wealthier districts which can at the same time impose lower tax rates because of high tax base. Continuation of this process caused increase of the differences in the additional tax rates in the districts. Taking into account the impact of the Great Depression (1930-1933) which speeded the whole process, the strength and significance of the relationships proven by our analysis is surprisingly high.

The application of contemporary approaches in the study of our history is extremely interesting because it confirms that many processes we are exploring now are present in our societies for decades or even since ever. The fear of central governments in central and eastern Europe to grant more fiscal autonomy to local governments is not justified by the fear of harmful tax competition. The example from our past clearly shows that no "race to the bottom" took place and that the possibility to generate revenues (in opposite to wait for grants) by local governments even in hard times enabled local governments to function well.

**Acknowledgements.** The paper was elaborated as an output of the project "Fiscal federalism in the Czech Republic" supported by the Internal grant agency of the University of Economics, Prague, No F1/1/2012.

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Надійшла до редакції 14.01.14

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### ПОДАТКОВА КОНКУРЕНЦІЯ МІСЦЕВОГО САМОВРЯДУВАННЯ У ЧЕХОСЛОВАЧЧИНІ 1918-1938

*Дослідження оцінює податкову конкуренцію між місцевими органами влади в Чехословаччині в міжвоєнний період. Використовувалася кореляційний і регресійний аналіз, який дозволив довести, що (1) місцеві політики враховували податкову політику сусідніх країн, при введенні додаткових податкових ставок на верхню частину прямих центральних податків, (2) були деякі регіональні відмінності, (3) міграція зіграла свою роль при виведенні ставки податку і (4) "гонка на скочування" не відбулася.*

*Ключові слова.* Податкова конкуренція; місцеве самоврядування; Чехословаччина.

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### НАЛОГОВАЯ КОНКУРЕНЦИЯ МЕСТНОГО САМОУПРАВЛЕНИЯ В ЧЕХОСЛОВАКИИ 1918-1938

*Исследование оценивает налоговую конкуренцию между местными органами власти в Чехословакии в межвоенный период. Использовался корреляционный и регрессионный анализ, который позволил доказать, что (1) местные политики учитывали налоговую политику соседних стран, при введении дополнительных налоговых ставок на верхнюю часть прямых центральных налогов, (2) были некоторые региональные различия, (3) миграция сыграла свою роль в выведении ставки налога и (4) "гонка на скатывание" не состоялась.*

*Ключевые слова.* Налоговая конкуренция; местное самоуправление; Чехословакия.

УДК 338.1  
JEL C5, Q5

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## ENVIRONMENTAL SAFETY AND ECONOMIC DEVELOPMENT OF UKRAINE: IMPACT ASSESSMENT

*The process of overcoming scientific and technical backwardness and unsustainable use of natural resources requires the development of new methods and models of ecological-economic interaction. Paper highlights main views on the environmentalization as a concept. The main vectors of environmentalization are depicted. Most broadcasted domestic mathematical models of eco-economic modeling are reviewed. VAR model approach and impulse analyses are used to identify and assess the relationship between environmental security and level of economic development of Ukraine; at the macro and regional level.*

*Keywords.* Environmental security, ecological safety, economic growth, VAR model.

**Introduction.** In many countries, the degradation of biosphere has led to large-scale natural disasters, decreasing in quality of life and health. There is a challenge for the world and the state particularly to develop methodological principles of regional and global greening of economy and, therefore, an effective mechanism for its practical implementation. Nowadays to transit the entire system of economic reproduction of humanity on the principles that correspond to the tasks of environmental conservation is the most essential for sustainable development of individual countries and the world economy as a whole.

If to consider the sense of the term "ecologization"/"greening"/ "environmentalization" we can see the diversity of notions and meanings despite general com-

mon understanding of this term's usage. If we browse Google and Google Scholar searching links using this term in title we detect different spreading of its variation: so term "ecologization" counted approx. 16800 links in Google and approx. 3800 papers in Google Scholar (that could be mostly considered as scientific search, however having some merges and limits); term "greening economy" counted approx. 6920 and just 100 respectively, and term "environmentalization" counted approx. 19000 and 604, respectively. So quite clear is the broadest usage of "environmentalization" term when we talk about the ecological aspect of economy.

There is still diversity in meaning of the "environmentalization" (Tab.1).

Table 1. "Environmentalization": meaning of the term in scientific literature

Source	Description
Shevchuk V. [1]	process of penetration of ideas, knowledge and laws of ecology, ecological thinking in the niche areas of science, production and livelihoods society
Kyslyi V. et al. [2]	the objectively caused process of transformation of the entire social work aimed at the preservation and development of socio-economic functions of the nature.
Tunytsya T. [3]	complex, multifaceted and contradictory process of maximum possible approximation of economic activity to such forms of life that exist in the natural system without human intervention. In the life of natural systems there are no wastes, therefore, such concept should be taken into the state policy.

Table 1 (continued)

Source	Description
Smirnova K. [4]	Further economic development, that takes into account the environmental dimension as one of the key in the development and operation of any component of the economy: reduce the burden on the environment; the preservation and restoration of natural resources; upgrading of production; the introduction of low-waste and non-waste technology; environmental focus investment.
Kravtsiv V. et. al. [5]	Transformation of environmental goods and services in beneficial as to the national economy products. It is implemented by means of the institutional arrangements and innovative processes, restructuring the scope of demand, technological conversion, rationalization and transformation of nature conservation activities.
Dubovich I. [6]	The increasing of national wealth through the efficient use of natural resources, labor, scientific and technical potential.
Verbitskyi Yu. [7]	can not be narrowed to some environmental measures. Its content and purpose is to protect the environment directly in a manufacturing activity so within the economic system, not outside of it. Effective environmental policy should and must be done, especially in the context of socio-economic transformation, and the conservation measures should not replace but supplement organic environmentally beneficial management regime.

\* Source: authorial computation.

Summing up the concept of environmentalization should be based on the following principals:

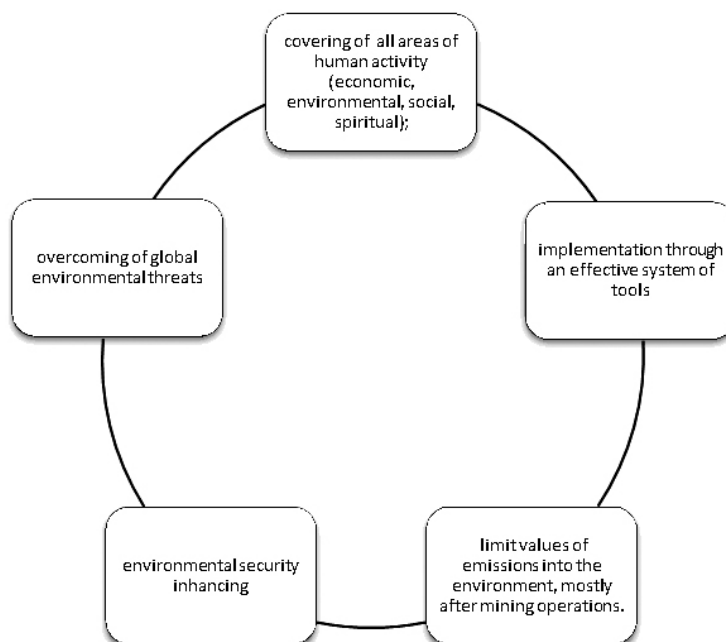


Fig.1. The concept of environmentalization

\* Source: authorial computation.

Main directions of environmentalization implementation should be following:

Table 2. Environmentalization vectors

Environmentalization of law – environmental legislation	The orientation of laws and regulations on environmental issues.
Environmentalization of the tax system	the approval of taxes and tax rates should be held so that producers have profitable reasons to reorient their activities in an environmentally safe. The tax burden should be eased for manufacturers of environmentally friendly products and companies that provide environmental services and waste technologies. Opposite option – an increase in taxes and tax rates for dangerous and environmentally unfriendly industries.
Environmentalization of production	the implementation of low-waste and non-waste technologies, upgrading of production facilities to resource-safe, a separate processing production facilities and focus on the production of environmentally friendly products. For Ukraine, this vector is one of the most important and requires significant investments due to the large-scale moral and physical deterioration of the equipment at enterprises of the country.
Environmentalization of investing	As an investor, to solve environmental problems of individual businesses, regions and the country as a whole, the state itself can act as well as some domestic and foreign companies. The main problem for Ukraine in this vector is the lack of financial resources at the domestic companies that are available for this type of investments. Attraction of investors for the construction of sewage treatment plants, creation of reserves and protected areas and restoration of land is unpromising for the most investors because of a significant payback period.
Environmentalization of education	Awareness of the importance of nature in human life and the need to store and efficiently use the available natural benefits underpins the greening of economy. It is necessary to ensure the availability of environmental information to the public. Citizens need to be informed about the environmental activities of the environmental situation in the region or the country, the existing environmental organizations and their activities.

\* Source: authorial computation.

Ukraine is moving towards the greening future, the evidence of this direction is the participation in several dozen (about 50) [8] international ecological and economic conventions and bilateral agreements. The main achievements of international cooperation of Ukraine in the environmentalization of the economy are:

- reflection of national interests in policy documents and decisions of forums of international intergovernmental organizations;
- expansion of international cooperation through the signing of new agreements, contracts and programs;
- enhancing of ecological training (legal, technological) and management methodology designed to improve the ecological situation in Ukraine;
- receiving of support in the environment safety through international cooperation.

Despite made steps in environmental policy and management, scientists [8-11] highlight that the process of environmentalization is a dynamic process that aims at a comprehensive rehabilitation of ecological, economic, social and spiritual spheres of social activity. Currently the basic approaches to the analysis of environmental security require more detailed understanding, particularly economic – mathematical methods to study the relationship between environmental security and economic growth.

**The purpose of this research** is to identify and analyze the relationship between environmental security and the level of economic development of Ukraine.

**Results.** Development of the state economy in transformation period dwells upon the growth in terms of ensuring of an environmental security. Human interaction with the environment must be considered within a single ecological-economic system. The study of economic dynamics in the construction of sustainable economic development is characterized by complexity and requires the use of mathematical modeling.

The issue of ecological and economic co-impact and its study by means of economic-mathematical methods became especially important after the signing of the Kyoto Protocol (1997). The most bright model implementation of the main objectives of the Kyoto Protocol is mathematically mentioned in a model that was developed in 2003 by scientists S. Bartz and D. Kelly [12]. This model includes the factor of labor and technological change factor, which reduces the pollution. The model considers preferences of householders to the level of environmental security.

The next generation of economic-mathematical models aimed to ensure environmental safety is the analysis of micro level of countries, i.e. industries and their separate effects on the environment. In 2004, A. Levinson and M. Taylor [13] proposed a new model of ecological and economic interactions, introducing the following assumptions:

- the country has economic sectors, each of which has a separate industry;
- consumers spend a constant share of income on goods of each sector, and these costs are distributed evenly to all industries of the sector;
- the production of each sector uses two factors: labor and factor that is specific to the particular industry;
- the production leads to pollution, but firms have access to technologies that can be used to reduce harmful emissions;
- the manufacturers may use a portion of its resources to reduce pollution;
- total revenue equals total costs, intermediate goods are not available (added value equals total revenue).

Under latter assumptions, authors came to the result: emission of pollutants is a function of the total output and reduction of emissions intensity. The main practical value

of this model is that it allows to rank industries within each sector according to the degree of contamination.

In the context of environmental safety, the ecological security management of environmentally protected sites occupies an important place. This approach generated other models of ecological-economic contradiction. Thus, the most important characteristic of environmentally protected sites, that lets to determine their current status, is a sustainability of landscape complex within the object [14]. According landscape complex approaches, the greater difference of output and allowable resources, the greater human impact this landscape complex can withstand. Based on the fact that the process of changing the landscape resource is multifactorial, it is possible to use normal Gaussian distribution, and therefore the technique for determining the sustainability of landscapes is practically effective.

The separate generation of economic-ecological models are those that base on dynamic or static production functions. The most cited in domestic literature are researches of Grygorkiv V. [15], Skraschuk L. [16], Yakutova O. [17] and Kharlamova G. [9-11]. Thus, V. Grygorkiv proposed the optimization model of a structure of diversified production in environmentally sustainable economy, which is based on a dynamic model of intersectoral ecological-economic balance (dynamic model of Leontiev-Ford [18]). His eco-economic system operates both as a producer and as a greener of production, besides the dynamics of the system is actually limited only by economic resources. Skraschuk L. upgraded this approach. In her turn, Yakutova O. considered a model of environmental-economic growth in the case of a linear production function. Her model demonstrates the potential options for the processes of accumulation and consumption in the case of linear dependence of the final production from capital. However, the assumption of a linear relationship is more theoretical than applied in nature, and therefore this concept cannot be used for modeling of current ecological – economic situation. G. Kharlamova basing on dynamic model of Leontiev-Ford [18] and other classic production functions applied econometric technique to estimate the tense and existence of the interrelationship between ecological safety and economic growth and to draw its future forecasts.

Mathematical modeling of ecological – economic production function as a model of interrelationship between the result of the manufacturing process and economic and environmental factors that contribute to it, based on the optimization approach theory provides the generation of production functions of a maximum output. These economic and mathematical models demonstrate the importance of environmental safety ensuring for the sustainability of economic growth.

However, latter eco-economic development concepts include only certain indicators of the environmental situation, leaving aside the integral indicator of environmental safety. To address this issue we will use the integral index of environmental safety in our modeling.

We chose as the method for the analysis of mutual impact of environmental security and economic growth in Ukraine – **VAR-modeling econometric technique**. Vector autoregression (VAR) is an econometric model used to capture the linear interdependencies among multiple time series [19]. VAR models generalize the univariate *autoregression* models by allowing for more than one evolving variable. All variables in a VAR are treated symmetrically in a structural sense (although the estimated quantitative response coefficients will not in general be the same); each variable has an equation explaining its evolution based on its own lags and the lags of the other model variables. VAR modeling does not require as much knowledge about the

forces influencing a variable as do structural models with simultaneous equations: The only prior knowledge required is a list of variables which can be hypothesized to affect each other intertemporally. So such VAR approach is the most appropriate for our aims.

We choose such factors for the modeling:

- as an indicator of social and economic development – GDP in prices of 1995,
- as an indicator of environmental security – Integral index of ecological security calculated on authorial method (Fig. 2).

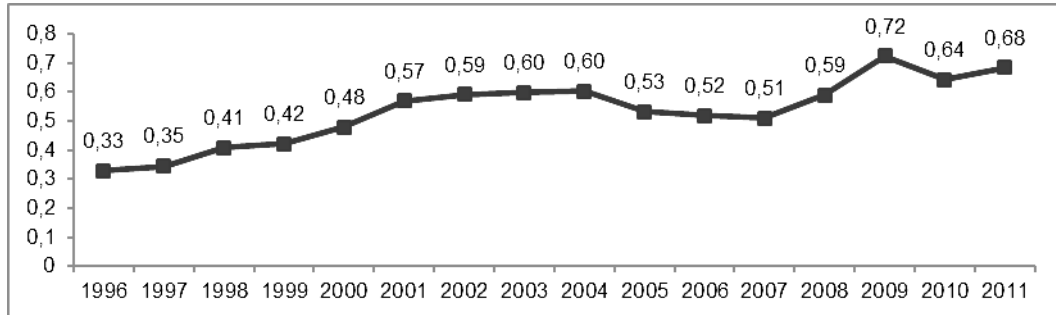


Fig.2. Integral index of ecological security of Ukraine

\* Source: authorial calculations on the base of data [20-22].

The period of observation: from 1996 to 2011 (quarterly data, n = 64). Data source: [20-22].

The *work hypothesis*: to detect the strong mutual impact between the economic sustainability and environmentalization of the economy.

Among several models built by us according to different length of lags, Schwarz criterion let to select the model with the number of lags equal to four as the most appropriate.

Time series, which are part of the system, according to the generalized Dickey-Fuller criterion are stationary. So models (1)-(2) are suitable for analysis because they correspond to the requirements of most econometric criteria: no autocorrelation and heteroscedasticity of residuals, no Granger causality, all coefficients are significant. The estimated models are:

$$\Delta GDP_t = 0,01 \cdot \Delta GDP_{t-1} + 0,19 \cdot \Delta GDP_{t-2} - 0,01 \cdot \Delta GDP_{t-3} - 0,16 \cdot \Delta GDP_{t-4} - 0,05 \cdot \Delta EI_{t-1} - 0,04 \cdot \Delta EI_{t-2} - 0,05 \cdot \Delta EI_{t-3} - 0,31 \cdot \Delta EI_{t-4} + 0,02 \quad (1)$$

$$\Delta EI_t = -0,11 \cdot \Delta GDP_{t-1} - 0,16 \cdot \Delta GDP_{t-2} - 0,11 \cdot \Delta GDP_{t-3} + 0,61 \cdot \Delta GDP_{t-4} + 0,02 \cdot \Delta EI_{t-1} + 0,04 \cdot \Delta EI_{t-2} + 0,04 \cdot \Delta EI_{t-3} + 0,15 \cdot \Delta EI_{t-4} + 0,01 \quad (2)$$

where  $\Delta GDP$  – an increase in the natural logarithm of GDP, in prices of 1995,  $\Delta EI$  – an increase in the natural logarithm of the index of ecological safety.

The model (1) detects that the growth of ecological security index would reduce GDP and it is quite logical thing for Ukraine, because currently the production is concentrated mainly in the environmentally polluting industries. Improving of environmental safety means additional investments and costs for both, the government and for companies, that will slow down the socio-economic devel-

opment in the short term. This short-term economic downturn is perfectly evident in equation model (1): if in the (t-1) period the growth of the index of ecological safety of 20 % leads to a decrease of 1% of GDP, than similar growth in the (t-4) period reduces GDP by 6%. To confirm the described effects we construct and evaluate the function of the impulse response (Fig. 3).

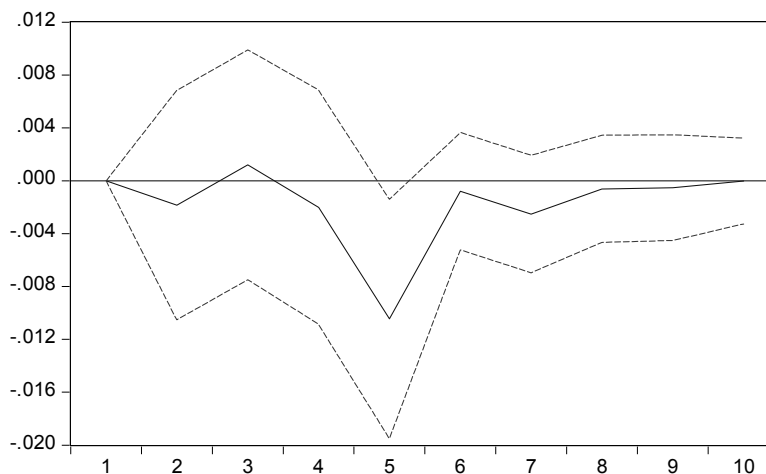


Fig.3. Reaction of GDP on impulse of environmental safety index

\* Source: authorial calculations.

Based on Fig. 3, we can argue that in the first three periods the reaction is mixed, but in the next two periods (quarters) economic development slows down, reaching its minimum in five quarters after the impulse of the environmental safety. In subsequent periods we detect the positive trend of growth, which can be explained by the efficiency of the implementation of "environmentally-friendly" technology.

We perform a similar analysis of the impact of socio-economic development on the ecological security of Ukraine – model (2). Signs of coefficients at the GDP ratios in the model (2) show that economic growth in the previous three periods would reduce the environmental safety index. While a similar growth of the (t-4) period would increase a

rate of environmental safety. At the state level, this can be explained by the fact that in any case some economic players to achieve growth and meet financial interests are inefficient in their usage of natural resources, and negatively affect the environment (pollution of water and air, and the creation of waste without their disposal). But after four periods, the economic growth will begin to have a positive impact on the environment. The reason is in availability of funds for investing in environmental protection for the state and enterprises. GDP growth in the (t-4) period by 10% would result in an increase of ecological security index by 6%. Fig. 4 illustrates the reaction of environmental safety under social and economic growth.

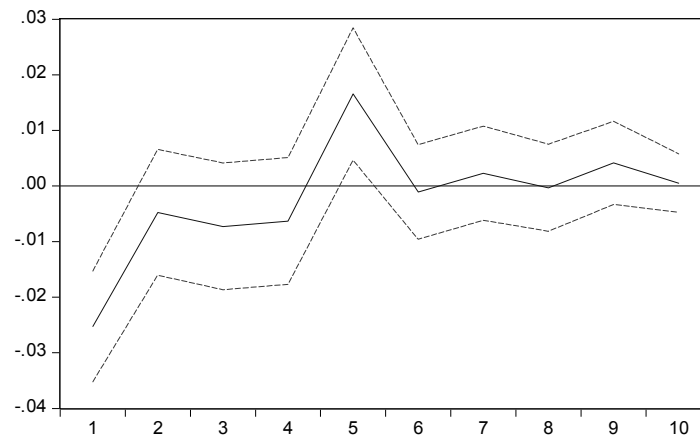


Fig.4. Impulse reaction of ecological safety index on the GDP change

\* Source: authorial calculations.

It can be noted that the response of ecological safety is in 4 stages:

- 1<sup>st</sup> period – a sharp fall in environmental safety;
- from 2<sup>nd</sup> to 4<sup>th</sup> periods – ecological security index is at the same level, but still reduced;
- 5<sup>th</sup> period – an increase of ecological security index through greening of the economy;
- after 5<sup>th</sup> period – indicator of ecological security almost stops any responding on GDP shocks.

The analysis of the model (2) focuses on the coefficients at the environmental safety index in prior periods: the growth rate of environmental safety by 20% in the previous 3 periods will increase this index by 2% in the t pe-

riod, while a similar increase in (t-4) period will stimulate the growth of the index by 3%. Therefore it can be argued that the response of ecological security index on its previous values is the most significant in the medium term.

Note that the ecological security index is composed of such structural elements as safety index of air, land, water, waste, environmental protection and energy security. So our next step is to determine the impact of economic growth on groups of indicators of environmental safety. Index of land and forest resources and safety index of waste management appeared to be not significant. Estimated models of the impact of GDP on environmental safety components are as following:

$$\Delta AIR_t = -0,78 \cdot \Delta GDP_{t-1} - 1,54 \cdot \Delta GDP_{t-2} - 0,02 \cdot \Delta AIR_{t-1} - 0,03 \cdot \Delta AIR_{t-2} + 0,02 \quad (3)$$

$$\Delta WATER_t = -0,21 \cdot \Delta GDP_{t-1} - 0,21 \cdot \Delta GDP_{t-2} - 0,02 \cdot \Delta WATER_{t-1} - 0,13 \cdot \Delta WATER_{t-2} + 0,04 \quad (4)$$

$$\Delta Eco\_inv_t = 0,72 \cdot \Delta GDP_{t-1} + 0,57 \cdot \Delta GDP_{t-2} + 0,001 \cdot \Delta Eco\_inv_{t-1} - 0,02 \cdot \Delta Eco\_inv_{t-2} + 0,01 \quad (5)$$

$$\Delta En\_index_t = -0,83 \cdot \Delta GDP_{t-1} - 0,66 \cdot \Delta GDP_{t-2} + 0,31 \cdot \Delta En\_index_{t-1} - 0,03 \cdot \Delta En\_index_{t-2} + 0,09 \quad (6)$$

where  $\Delta AIR$  – an increase of the natural logarithm of the air safety index;  $\Delta WATER$  – an increase of the natural logarithm of the water safety index;  $\Delta Eco\_inv$  – an increase of the natural logarithm of the index of environmental protection measures;  $\Delta En\_index$  – an increase of the natural logarithm of the energy safety index.

Coefficients of equation (3) show an inverse relationship between GDP growth and the index of air safety. The increase in GDP in the (t-2) period by 10% would reduce the index by 15.4%. The manufacturing, that brings the most added value, is concentrated in industries that pollute

by the air emissions, so such a sharp decrease in the index is quite adequate. Notice, that the analysis is held on retro statistics, and if there will be no qualitative changes – the forecasts will mirror regression results: the economy will stay in previous gap. Fig. 5 shows the response of air

safety index to boost in GDP, according to which, the index will decrease first three periods after the shock of GDP, reaching its minimum in the third period, but there will be the increase in the fourth period, after that the reaction will be damped. The increase of the fourth period is explained

by the ability of businesses and government to invest in the protection of air, improving the production technology and reducing of emissions of harmful materials and atmospheric carbon dioxide.

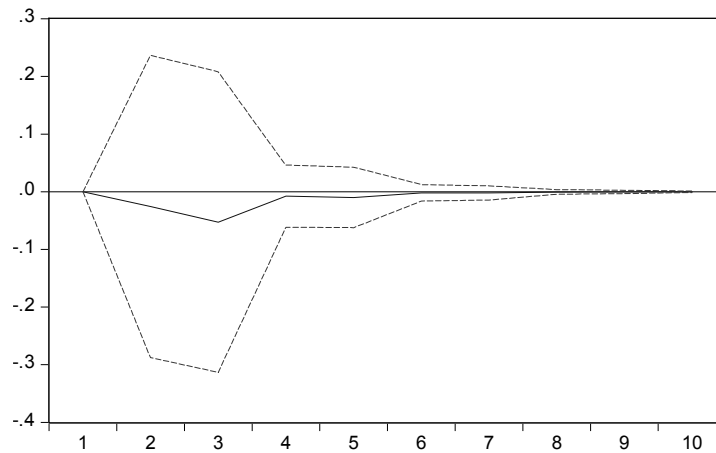


Fig.5. Impulse reaction of air safety index on GDP shocks

\* Source: authorial calculations.

Equation (4) implies that the water security index is also in the inverse dependence to economic development. The economic interpretation is the same as to the model (3), because the economic growth at the macro level leads to increased consumption of water by companies and so to water pollution by harmful substances and waste production. Model (5) shows that Ukrainian GDP growth leads to an increase in environmental activities and investments in environmental protection. Moreover, the coefficients of the model (5) show the short-term reaction in this phenomenon. If GDP growth in the (t-1) period by 10% would increase to increasing of environmental investment by 7.2 %, while a similar increase in the (t-2) period would lead to an increase of this index only by 5.7 %.

Coefficients of the model (6) show that the increase in GDP leads to a decrease in the energy security index. This is because Ukraine is dependent on imported energy. But it must be stressed that this trend is characterized by its short-term reaction. Fig. 6 shows the response of energy security index on GDP shocks: in the first three periods the energy security is deteriorating, but from the fourth period the situation is beginning to stabilize. Improvement in the long run is due to the ability to develop own electricity production and the existence of alternative forms of energy.

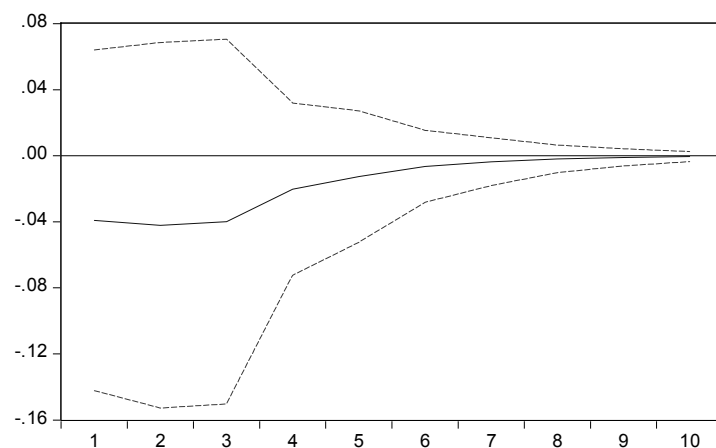


Fig.6. Impulse reaction of energy safety index on GDP shocks

\* Source: authorial calculations.

So we received the contradictory and crucial result: from one side, GDP growth stimulates environmental activities and investments in environmental protection (as model (5) proves), but statistic results of other models proves vanity of these measures as there is accompany of environment security decreasing.

To insure proved work hypothesis we held the analysis of the co-impact of environmental safety and eco-

nomic – social development at the level of regions of Ukraine (fig. 7). As indicator of economic growth in the region we choose gross regional product (GRP), and as indicator of regional environmental security – integrated ecological safety index calculated for every region on the base of authorial method.



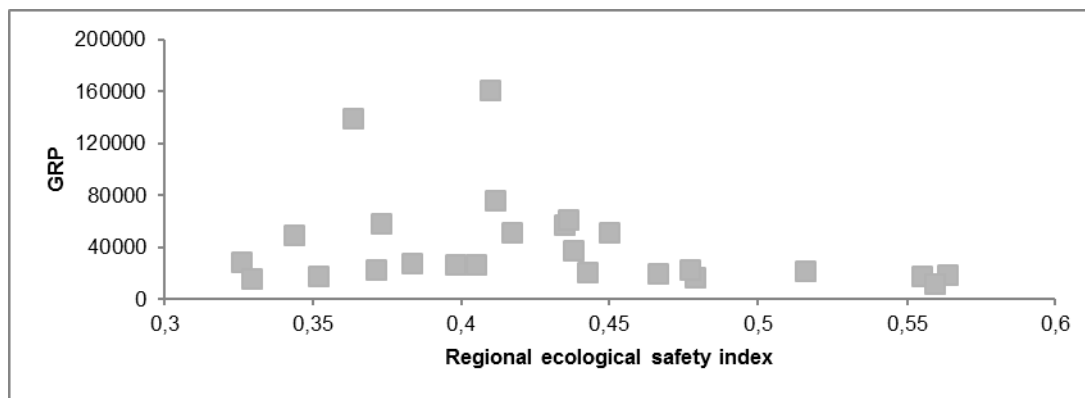


Fig.7. The relationship between regional ecological security index and GRP

\* Source: authorial calculations on the base of data [21-23].

Even slight look on the fig.7 proves the existence of quite high correlation between time series. By means of regression analysis we assessed the relationship between the regional ecological security index and GRP by the following equation:

$$\ln GRP_i = 9,19 - 1,43 \cdot \ln EI_i, \quad (7)$$

where  $GRP$  – gross regional products;  $EI$  – an index of ecological safety of a region.

Such not sophisticated regression gives interesting results to accept the work hypothesis. Thus, an equation (7) shows inverse dependence between the ecological security of the region and its economic development. The coefficient indicates that an increase in the  $EI$  by 10% would reduce the  $GRP$  by 14%. Indeed, the index of ecological safety of Donetsk and Dnipropetrovsk regions, with the highest  $GRP$  in Ukraine, is lower than the average for Ukraine. And the areas that have the highest degree of environmental safety (Rivne, Chernovtsy and Transcarpathian region) are characterized by one of the smallest  $GRP$  among Ukraine's regions.

**Conclusion.** Thus in this paper we attempted to analyze the interference between environmental security and socio-economic development of Ukraine by means of economic-mathematical methods. Constructed and estimated VAR- models reveal the intrinsic characteristics of this mutual impact. Impulse response functions show the impact of shocks in the economy on studied group of indicators of environmental safety. It was determined that the level of environmental safety is in inverse dependence to economic development according to assessed models. The work hypothesis about existing of relationships between economic impact and the ecological safety demonstrated was proved and there is estimated evidence of short-term negative effects of ecological situation impact shock on social and economic growth.

Sustainable development provides the need in mandatory coordination of economic, environmental and human development so that from generation to generation the quality of life and the environment are not deteriorating. The nature conservancy has to be one of the main priorities of Ukraine because of biological and landscape diversity is the foundation that provides the possibility of any environmental management and development of the society, which provided a balanced solution of socio-economic problems, issues related to favorable environmental and natural resource capacity to meet the vital needs of present and future generations.

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### ЕКОЛОГІЧНА БЕЗПЕКА ТА ЕКОНОМІЧНИЙ РОЗВИТОК УКРАЇНИ: ОЦІНКА ВПЛИВУ

*Процес подолання науково-технічної відсталості і нестійке використання природних ресурсів вимагають розробки нових методів і моделей еколого-економічної взаємодії. У статті розглянуті основні погляди на екологізацію як поняття. Проаналізовані основні напрямки екологізації та найбільш розповсюджені вітчизняні математичні моделі еколого-економічного моделювання. Застосовано VAR модельний підхід та імпульсний аналіз для ідентифікації та оцінки взаємозв'язку між екологічною безпекою та рівнем економічного розвитку України; на макро- та регіональному рівні.*

*Ключові слова:* Екологічна безпека, економічне зростання, VAR модель.

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### ЕКОЛОГИЧЕСКАЯ БЕЗОПАСНОСТЬ И ЭКОНОМИЧЕСКОЕ РАЗВИТИЕ УКРАИНЫ: ОЦЕНКА ВЛИЯНИЯ

*Процесс преодоления научно – технической отсталости и неустойчивое использование природных ресурсов требуют разработок новых методов и моделей эколого – экономического взаимодействия. В статье рассмотрены основные взгляды на экологизацию как понятие. Проанализированы основные направления экологизации и наиболее распространенные отечественные математические модели эколого – экономического моделирования. Применен VAR модельный подход и импульсный анализ для идентификации и оценки взаимосвязи между экологической безопасностью и уровнем экономического развития Украины, на макро – и региональном уровне.*

*Ключевые слова:* Экологическая безопасность, экономический рост, VAR модель.

УДК 330.5  
JEL H 11, H 70, K 40

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### DECENTRALISATION AND QUALITY OF GOVERNANCE: SELECTED ISSUES FROM THE CZECH AND SLOVAK REPUBLIC

*Public administration reforms in the Czech Republic and in Slovakia started almost immediately after the "Velvet Revolution" in 1989. More than two decades of concrete experience with decentralisation in the specific environment of two selected transitional countries, now provides enough material for an attempt to assess the main pros, cons and risks of decentralisation as a public administration reform tool in these conditions. The goal of the paper is to discuss some important issues connected with processes of creation of modern governance in transitional countries, focusing mainly on decentralisation, its general problems and its specific limits in the environment of accession countries in Central Europe. Both Slovakia and the Czech Republic use decentralisation as the dominant tool to change their current public administrations. decentralisation might well be a good thing to achieve better governance in accession countries in Central Europe, but only under certain circumstances. Decentralisation alone does not bring positive results, automatically and immediately.*

*Keywords.* Public administration, decentralization, governance, Czech Republic, Slovakia

**Introduction.** Public administration reforms in the Czech Republic and in Slovakia started almost immediately after the "Velvet Revolution" in 1989. From the beginning decentralisation was used as an important reform tool to achieve better performance of the system, bringing positive but also negative results. More than a decade of concrete experience with decentralisation in the specific environment of two selected transitional countries, on their way to achieve "European public administration standards", now provides enough material for an attempt to assess the main pros, cons and risks of decentralisation as a public administration reform tool in these conditions.

The main features of modern "European administration" are defined by the important White Paper on European governance (European Commission, 2001), as openness, participation, accountability, effectiveness and coherence. The contents of the White Paper represent the current trend of moving from analysis of government to governance, or further to "public leaderships" (Bouckaert, 2002), representing the next step of reforms to public administration systems, in which all stake-holders benefit from mutual co-operation.

These values of modern governance in the 21st century will be difficult to achieve in real public administration praxis even in the developed countries of the "Western world", but much more so in the transitional countries of Central Europe, even though some of them become EU members from 2004. Both countries discussed in this chapter – the Czech Republic and Slovakia – were

accepted into EU membership in 2004, having complied with all requirements of "Acquis" by the end of 2002. However, much remains to be done if 'good governance' is to be achieved, not so much in legislation, but in respect of the quality and effectiveness of functioning of institutions, including the public administration area.

The transition from the old centralised model of government and economy in most CEE countries has been really fast in many respects, but it is also apparent now that the transformation process is much more complicated than was ever predicted, especially because of its human dimension. The change from a command-based to a democratic society, with associated processes of public administration reforms, is still in a relatively early stage in all transitional countries. Most of the important new formal structures were created, but public administration systems still do not function as expected, for many reasons. Moreover, the impacts and outcomes of reforms are in many cases in line with expectations, proving that adoption of more or less effective "Western" reform tools in the transitional environment is really complicated, and their careless transfer may lead to important problems (Coombes and Verheijen, 1997), because of specific characteristics of the local environment.

In this chapter we discuss some important issues connected with processes of creation of modern governance in transitional countries, focusing mainly on decentralisation, its general problems and its specific limits in the environment of accession countries in Central

Europe. In particular, we analyse the decentralisation process of these two countries from a public governance perspective and assess the effects of the recent decentralisation against the governance criteria set out in the EC White Paper.

Slovakia and the Czech Republic will serve as the source of data and examples in this chapter. Both countries almost finished massive decentralisation of national public administration systems, but positive effects on public governance are not yet very visible. Is this unexpected, or entirely predictable?

**Public administration reform trends in Slovakia and the Czech Republic:** *Administrative reform paths: similar challenges, yet different strategies:* We begin by describing the most important phases of public administration reforms in both countries, from the date of their friendly separation in January, 1st, 1993. The first important steps towards public administration reform had already started after the "Velvet Revolution" in 1989. Most of tasks of formal restructuring in line with western standards were undertaken in the early stage of the transition period. The first proposal for the reform of public administration in Czechoslovakia had defined the following most important aims for the revitalisation of democracy (Nemec, Berčík and Kukliš, 2000):

- to create real self-government institutions,
- to divide executive and legislative power at all levels,
- to reorganize the civil service, with two levels of administration,
- to change the territorial structure of Czechoslovakia,
- to restructure central government and the system of control of the civil service.

The first democratic elections were held in June 1990 and became the basis for most of changes in the public administration system in Czechoslovakia. Self-government of municipalities with a high level of independence was re-established. The system of National Committees (the "socialist" form of local government, combining in one office both local state administration and self-administration functions) was abolished and replaced by 38 district local general state administration offices and 121 subdistrict local general state administration offices.

By virtue of National Council Act 369/1990, the system of local administration authorities was replaced by a system of local state administration and local authorities. Under this legislation, local authorities were constituted in municipalities, which are territorial and legal entities with their own budgets and assets. Local authorities may issue ordinances which are binding on all individual or corporate bodies within their jurisdiction. These ordinances may be superseded or invalidated only by Parliamentary Acts. In some cases, local authorities may be responsible for delegated powers connected with administration of the state, financed by state funds. Interference with the powers of local authorities is possible only by legislation passed by the Parliament.

Local authorities are elected directly by the local population. Elected mayors head up municipal offices. As the highest executive officer, the mayor summons and conducts the sessions of local representative bodies, represents the office and the municipality and decides in all matters of local administration, except those which, according to law, are decided by municipal assembly.

Municipal offices consist of local administrative officials responsible for administrative and organisational matters in the work of the mayor and other activities of municipal bodies. In larger municipalities, the municipal office may be run by a principal appointed by the municipal assembly on the advice of the mayor. He is responsible to the mayor.

Local authorities may freely associate with other local authorities and thus may form regional or other interest

organisations. Such associations, however, may decide and organise only those matters specifically referred to them by the respective local authorities.

While in the Czech Republic no new radical changes started before 1998, Slovakia implemented from 1996 onwards a second wave of public administration reform, characterised by the parallel themes of a radical change of the territorial and administrative structure of the state, and the establishment of a uniform two-tier system of offices of general state administration, with a broad range of tasks and responsibilities.

These important changes were reflected in two important laws, Law No. 221/1996 on the territorial and administrative subdivision of the Slovak Republic and Law No. 222/1996 on organisation of local state administration. The first of these had two parts. It firstly addressed the issue of territorial subdivision, creating the legal framework for the establishment for the spatial execution of self-government functions. Municipalities were defined as the highest level in the hierarchy of territorial units, logically linked to their administration on self-government principles.

It secondly defined the administrative subdivision of Slovakia into 8 regions and 79 districts, at the same time limiting the authority of state bodies in local areas, unless these were given special powers by other laws. Regional and district offices of state administration were given a broad range of tasks in this structure. Other administration units included municipalities (and military counties, if they perform state administration responsibilities under special laws).

This "1996 reform" in Slovakia was aimed at increasing the effectiveness and quality of public administration and creating a customer-friendly and responsive system serving its citizens. The costs of reform were much higher than planned, but its results were very limited (Audit ústrednej štátnej správy, 2000).

After general elections in 1998, both the new Slovak and Czech governments came back to the issue of public administration reform, as a key goal. Because of the requirements of the EU accession processes, the main reform goals were the almost same in the two countries, particularly the creation and operationalisation of regional authorities. However some important differences in reform content and preparation processes should be stressed.

The responsibility for the reform in the Czech Republic was allocated to the Ministry of Interior, to the unit linked to the vice-minister responsible for the reform. The head of the reform unit was a member of the Social Democratic party (Yvonne Strečková). In Slovakia the position of Government Appointee for the Public Administration Reform was created, outside of formal ministerial structures, and Viktor Nižnanský, on the right wing of the political spectrum was appointed to this position.

In the first phase in the Czech Republic, a relatively comprehensive reform plan was prepared, including not only changes to territorial and administrative structures, but also other important tools – education and training strategies, informatisation strategies, effectiveness improvement strategies, etc. However, in the implementation phase the focus was on formal measures (mainly new territorial administrative structure) and the reform did not start as complex process (as originally proposed by its authors). Such developments were very much the consequence of lack of political consensus about public administration reform. Public administration was never an important issue for the first Czech Prime Minister Klaus (after 1993). Since he was willing simply to marginalise the public sector, rather than to reform it to achieve better performance, he was an opponent of any reform ideas. Social Democrats (e.g. prime minister

Zeman) on the other hand, believed that an effective public administration system could be achieved, and supported massive changes, but being more or less alone, were not able to implement them fully, as originally planned.

In Slovakia the start of the reform was much slower, and its main theme was that decentralisation would solve all inefficiencies (*Stratégia decentralizácie a reformy verejnej správy*, 1999). The start of the reform was postponed several times because of lack of political consensus between political parties, and only a major intervention by Prime Minister Dzurinda in early 2001 pushed the processes forward. A relatively small group headed by V. Nižňanský, representing the liberal wing of the political spectrum, prepared the basic concept of the reform. Proposed reform strategies were discussed at many public meetings, and there were also consultations with foreign experts (supported by a comprehensive PHARE programme). However, in practice different voices were not taken into the account. One of the main problems at this phase was exclusion of the Ministry of Interior (responsible for public administration) from the entire process. Under these circumstances, the political and parliamentary discussion about the reform strategy in Slovakia, as could be expected, focussed mainly on political rather than factual aspects of the reform, with protracted debates on the number of regions and the election system.

*The current decentralisation process in the Czech and Slovak Republics:* The most important changes in the Czech Republic took place in 2000, particularly the new laws on the new regions, on municipalities, on budgetary rules for regional authorities, on intergovernmental fiscal relations, and on ownership in the Czech Republic). At the end of 2000, elections to regional authorities took place, and from January, 1st, 2001 the new regional authorities were created. The year 2001 was a transitional year, during which transfer of ownership and responsibilities to regions were implemented. From 2002 regional authorities became fully operational, accounting for 28 % of income and 27% of expenditure at the self-government level (Helikarová, 2002).

The Czech reform fully abolished the offices of the local general state administration, with regions being self-government bodies. The scale of decentralisation of responsibilities to self-government is massive. As district offices were abolished, their functions were re-allocated either to regional authorities or to municipalities. However, only very few responsibilities were transferred from central government to local and regional levels, although these did include the right to establish hospitals, cultural and social care institutions.

In Slovakia, to "save the reform" promised to citizens, prime minister Dzurinda called in 2001 for the implementation of public administration reform as a main government priority and in a very (too) short time all the necessary basic legislation was approved by Parliament (such as the Civil Service Code, the Public Service Code, the law to create territorial authorities, the law on elections to territorial authorities, the law on transfer of competencies of the state to the regional and local self-administration, amendment of the law on municipalities, amendment of the law on municipal property, the law on the property of territorial authorities, amendment of the law on budgetary rules, and the law on financial control and audit).

The important Law on Transfer of Competencies defined the set of competencies to be transferred to regional and local authorities. According to it really large number of competencies has been transferred in 2001-2002. Municipalities got new responsibilities in areas of road communications, water management, evidence of citizen, social care, environmental protection, education

(elementary schools and similar establishments), physical culture, theatres, health care (primary and specialised ambulatory care), regional development and tourism. Regional self-government became responsible for competencies in areas of road communications, railways, road transportation, civil protection, social care, territorial planning, education (secondary education), physical culture, theatres, museums, galleries, local culture, libraries, health care (polyclinics and local and regional hospitals), pharmacies, regional development, and tourism. A large set of these competencies was re-allocated from direct ministerial responsibility (hospitals, education, etc.).

The reform continued with its second phase in 2003 and 2004. The transfer of responsibilities was fully finished in this period. District state administration offices were abolished and the system of local state administration diminished and converted from general offices (responsible for all competencies) to specialised offices (like school offices, social protection offices, etc.). However, the real fiscal decentralisation was finished only in 2005.

Maybe because of the "European" dimension, and very similar situations in the two countries, there are not very many significant differences between the last stages of these public administration reforms in Slovakia and the Czech Republic. Both countries are characterised by the use of decentralisation as the tool to increase the economic performance of the system, and by the creation of regional authorities. Both countries have embraced the rhetoric of "the European administrative space" (openness, participation, accountability, effectiveness and coherence, and also subsidiarity and flexibility) in their reform documents, as main objectives to be achieved (*Stratégia decentralizácie a reformy verejnej správy v Slovenskej Republike*, 1999, p. 17), but have problems in converting these principles into daily administrative practice. In actual practice, the "European" goals of good governance are not given priority (see later) and are not the drivers of decentralisation, which is defined as the goal on itself (as is apparent from the name of the reform document – "strategy of decentralisation and the reform").

The scale of decentralisation is very similar in both countries, with a large tranche of responsibilities being transferred to regional and local authorities. The transfer of responsibilities in the Czech Republic is more horizontal than vertical, and is very much inter-linked with the abolition of most local state administration structures. In Slovakia responsibilities are being transferred both horizontally and vertically.

In both countries the reform was not supported across the political spectrum, and so had to be implemented more or less piecemeal. During 1998-2002, the Czech Republic was characterised by 'tolerant non-co-operation' between the main parties, and the reform was a "Social Democrat product", prepared by the ministerial unit. In Slovakia the situation was even worse – the parties of the coalition and the opposition were not able to agree any co-operation, so fully comprehensive reform measures were not possible.

As mentioned, in Slovakia it was not until 2001 (when Nižňanský resigned) that the Ministry of Interior was involved in preparing the reform (because of lack of confidence by the coalition in the professionalism of the Ministry). This limited the chance of an effective and comprehensive extension of the reform, and caused a lot of implementation problems.

In both countries the new territorial structure does not reflect "European requirements". The newly established regions are too small to be accepted as NUTSII level regions. The number of municipalities is extremely high (in 1999 there were 2875 in Slovakia and 6244 in the Czech

Republic), and many are too small (68 % of municipalities are below 1000 inhabitants in Slovakia and 80% in the Czech Republic).

A lot of foreign help was sought in preparing the reforms in both Republics, particularly in the phase of analysis and need definition, but rather less in the execution phase (i.e. the preparation and implementation of concrete changes). The main foreign actors were SIGMA OECD, UNDP (mainly in Slovakia helping to prepare the starting analysis), PHARE, British Know-How Fund (especially in Slovakia), and also a number of developed countries (like Germany and Canada). "Liberal wing ideas" were much more accepted in Slovakia, where the main local body behind the reform was MESA10, clearly placed on the right wing of the political spectrum (the Democratic Party), and with a lot of foreign finance focusing on promotion of "free market" solutions.

**Assessing the process of decentralisation in the Czech and Slovak Republic from a governance perspective:** Decentralisation represents one basic and almost universally used reform approach. It generally involves transfer of powers, responsibilities and resources from central to lower levels and from state administration to self-government, but also changes in systems of management in organisational units which produce public services at local level.

Decentralisation is generally accepted as a reform tool with important potential, but also with some limitations. What are most important general pros and cons of decentralisation? From an economic point of view, following the "effectiveness" principle of the EU White Paper, "Decentralisation ... is generally desirable from the viewpoint of efficiency and local accountability. These criteria must be balanced with other elements, such as spatial externalities, economies of scale, overall fiscal efficiency, regional equity, redistributive responsibilities of the government." (Allen and Tommasi, 2001, pp. 73-74). Probably the most important principle behind decentralisation is the "subsidiarity" principle, which suggests that public administration should operate on the lowest possible level to achieve optimum quality. Being closer to citizen is expected to mean that administrators and managers can better understand specific local needs and react to them. "Decentralisation as the co-ordination mechanism for the public provision of goods and services represents an attempt to overcome information weaknesses involved on central co-ordination. When there is intergovernmental collaboration, then principals placed lower down know better how public programmes can be made to run efficiently" (Lane, 2000, p. 205).

On the other hand decentralisation may increase direct and indirect costs. Economic theories suggest that many public services evidence decreasing average costs with growing scale of delivery, at least to some extent, because of better use of fixed assets (Stiglitz, 1989). Moreover, decentralisation may be limited by insufficient local capacities – too small government units are expected to suffer from lack of competences and expertise, and also from lack of resources. "The administrative capacity of subnational governments, and the administrative and compliance costs of decentralisation must be taken into the account when

assigning expenditure among levels of government" (Allen and Tommasi, 2001, p. 74). In addition, the expected positive impacts of decentralisation might be reversed by 'transaction costs'. Increased local activity means more voices, sometimes contradicting each other – it can hardly be expected that any government intervention will have only positive impacts upon all affected. To handle a large volume of different interest groups is not simple, as is well-known, particularly as the 'ideal' mechanism, collective voting, does not exist in reality for most decisions (Bailey, 1999).

From the point of view of other EU good governance principles, there are potentially positive impacts of decentralisation on more or less all dimensions. In particular, openness and participation seem likely to be increased via effective decentralisation, because of better motivation when decisions are made where services are directly produced and their impacts are more visible. However, such impacts might significantly decrease with the growing size of decentralised units (Westerwelt, 1994).

*The decentralisation process considered from the point of view of local democracy and participation:* Decentralisation and the principle of subsidiarity are very much based on the assumption that they will further revive local democracy and stimulate higher levels of citizen participation in local issues.

However, in our opinion, citizen in transitional countries are still not well prepared to exercise effective control over politicians and bureaucrats (neither at central nor at local level) – no surprise after the long period of the former regime.

Swianiewicz and co-authors (2001) provide many interesting data concerning local democracy and participation by citizens at the local level in selected accession countries. With respect to local politicians, the responses of local mayors to LDI survey questions in 1997 are symptomatic. The most important issue for mayors from Slovakia and the Czech Republic was "to make independent decisions". In the Czechia Republic there was only moderate support for "to take into the account local priorities".. "Citizen involvement in local issues" was seen as not so important in both countries. In Slovakia (Swianiewicz, p. 24) mayors suggested as the most significant goals for local government:

- democracy: 72 %,
- autonomy: 89 %,
- effectiveness: 49%.

Thus the right of independent decision making is still the most important for local politicians, in many cases allowing them to serve small interest groups rather than the overall population. (In the Czech Republic, 35% of respondents think that local mayors serve only a small proportion of inhabitants and small interest groups (Swianiewicz, p. 25).

The trust of citizens in local governments is still limited, but much higher than in national structures (especially in the Czech Republic). The level of trust at local level has not changed much over time in both republics; supporting the hypothesis that decentralisation has not had a big effect on local democracy in any of mentioned countries (however, impacts of the recent massive decentralisation reforms will only be visible in 2-3 years' time).

**Table 1. The level of trust of citizens in different institutions Slovakia and the Czech Republic**

	1995		1998		2000		2012	
	SR	CR	SR	CR	SR	CR	SR	CR
<b>Local authorities</b>	51	57	50	50	53	60	-	59
<b>National council</b>	30	23	32	18	24	22	42	21
<b>Central government</b>	32	55	33	42	32	30	44	24

\* Source: Swianiewicz, ed., 2001, pp. 56, 231; Institute of Sociology of the Academy of Sciences of the Czech Republic, 2013 [online].

Data from different surveys show that real local democracy has not yet been created in the accession countries, and there is still a relatively low level of participation by citizens in local activities. For example, Swianiewicz (2001: 66) found that only 11% of Czech respondents in 1995 stated that they were certainly willing to participate in public activities; another 22% said that they were generally prepared to participate, while 26% said that

generally they were not prepared to participate and 12% said they were certainly not prepared to do so. These results can be compared with the views of local politicians and officials in the Czech Republic, shown in Table 2, where it is clear that they have a more negative view of how likely citizens are to get involved in community life. Interestingly, party members are particularly negative about citizens' willingness to get involved.

**Table 2. Councillors' and officials' views on citizen participation in public activities (%)**

	Position		Political affiliation		Total
	Official	Councillor	Independent	Party member	
Citizens take no active interest in community life	4	8	0	14	6
Citizens may criticise, but not willing to be proactive	56	55	49	59	55
Citizens only show interest re "personal" matters	30	26	32	22	28
Citizens are regularly active in community affairs	3	6	9	5	5
Other responses	8	5	11	2	7

\* Source: Swianiewicz, ed., 2001, p. 67.

For Slovakia, Swianiewicz (2001: 235) reported the frequency of citizen visits to their local councils in 1996. In spite of the municipality being the closest level of administration, in all the surveyed municipalities less than 10% of citizens regularly visited them, and in most over 50 % of citizens never visited them (and this was even higher – 67% – in the capital, Bratislava).

The data presented in this part show that the quality of local democracy in Slovakia and the Czech Republic (and the picture is not dissimilar in other accession countries) is still deficient and more time is needed for further improvements. While positive trends exist, usually due to initiatives by third sector organisations, changes are slow and incremental.

*The decentralisation process considered from the point of view of accountability and responsiveness of public agencies:* Accountability and responsiveness are different but inter-linked issues and we will deal with them together, showing that it is still the case that no level of government in the Czech Republic and Slovakia really respects its role to serve and to account to its stake-holders and citizens.

One very common feature of western democracies is that top-level politicians resign when problems arise connected with his/her personal behaviour or decisions in his/her branch/ministry, in order to show his/her responsiveness to voters. This is not the rule in both countries. A typical example from Slovakia is given by a former minister of defence, who was not able to demonstrate receiving legal income sufficient to cover the costs of building his new family house (TIS, 2001). He was not imprisoned, nor did he disappear from political life. The only consequence was loss of his ministerial position, while still remaining a Member of Parliament. (His party, however, was not re-elected to Parliament in the 2002 elections – perhaps citizen are starting to react to such behaviour). Indeed, most political parties still do not fulfil their legal obligations concerning disclosure of the incomes and assets of the party and its political representatives (more than half of political parties did not provide the necessary data for 2001 in time – TIS, 2002).

It might be expected that the situation at the local level would be better. However, this is not the case. The level of local democracy in large cities is limited, and in very many small municipalities there is not the professional capacity to be really responsive.

Local authorities try to protect themselves from most forms of accountability. In Slovakia local governments are still not subject of any external control (even by an Audit

Office), and lobby as much as possible to maintain this position. In the Czech Republic, municipalities over a certain number of inhabitants have to have a yearly audit, including a performance audit (Rektořík and Šelešovský, 1999).

While central government has attempted step by step improvement of its reporting to citizens, local authorities still do not feel the need to be accountable to local citizens, and some existing initiatives are more or less nominal. From 2001 all state organisations under ministerial responsibility in Slovakia (165 in total) must publish compulsory annual reports, and also make them available on the internet (Hollý, 2002). Such reports are really aimed at citizens, and shall answer important performance related questions, such as the how resources are used, what are the goals and how well are they achieved, what improvements are possible. Municipalities in Slovakia, however, have not followed this trend. Only some of them publish similar information, whether in written or in electronic form. In particular, financial performance data are still rarely shared with citizens. A brief survey of the web pages of Czech cities suggests that situation there is a bit better, and the web pages of larger cities seem to be improving significantly, thus increasing accountability.

Interesting research on responsiveness has been undertaken in two stages in Slovakia (Swianiewicz, 2001: 251-253). The question was: "Do local politicians and administrators try to learn about public preferences between elections?" The first step was a survey in 1998 of 26 (progressive) local authorities, participating in a public relations project. The second step was a survey in 2000 of 66 randomly chosen local authorities. Of the 26 municipalities in the first sample, 10 had not undertaken any survey of public opinion up to that time. Another 11 had undertaken only one survey, and only one was undertaking such surveys regularly.

In 2000 17 of the 55 municipalities which responded had not undertaken any such activity. Of the 49 municipalities which had undertaken some surveys:

- 60 surveys focused on assessment of needs in the area of delivery of local public services (30 for infrastructural services, like gas, water supply, and 30 for social and other services)
- 26 surveys focused on public opinion about the activities of the local authorities.

It is clear that responsiveness and accountability to all stake-holders are not typical features of local authorities in the Czech Republic, and the situation in Slovakia is probably even worse. This situation provides another

limiting factor on the possible advantages of decentralised government.

**The decentralisation process considered from the point of view of transparency:** Increased transparency limits possibilities for extracting private (non-ethical) benefits from serving in public positions, something which is still common practice in all accession countries (see data on corruption – Tables 3 – 5).

The problems of corruption and its sources in selected CEE countries were investigated by Miller, Grodeland and Koschechkina (1998). Table 4 indicates that the behaviour of politicians and officials might be rent seeking, rather than promoting national and local interests – the data are old, but recent pools do not show any important changes.

**Table 3. Respondent's view regarding the behaviour of politicians and officials**

	Czech Republic	Slovakia	Bulgaria	Ukraine
Most politicians behave worse now	65%	82%	40%	87%
Most officials behave worse now	47%	66%	45%	89%

\* Source: Miller, Grodeland and Koschechkina (1998).

People seeking something to which they were entitled by law, still think they have to offer money or other benefits, to get the service of expected quality. Tables 4 and 5 highlight this problem.

**Table 4. The need to use contacts, presents, and bribes**

	Czech Republic	Slovakia	Bulgaria	Ukraine
Approach officials through a contact	76%	87%	86%	90%
Offer a small present	62%	80%	84%	91%
Offer money or an expensive present	44%	62%	72%	81%

\* Source: Miller, Grodeland and Koschechkina (1998).

**Table 5. Likelihood that bribes must be offered to different officials**

	Czech Republic	Slovakia	Bulgaria	Ukraine
Officials in state ministries	70%	85%	82%	87%
Hospital doctors	47%	89%	93%	94%
Customs officials	53%	71%	92%	86%
Court officials	44%	75%	80%	87%
MPs	54%	74%	74%	80%
University staff	34%	78%	73%	89%
Officials in local government offices	49%	58%	79%	87%
Police officers	42%	64%	72%	89%
Elected officials on local councils	44%	52%	69%	80%
People working in the private sector	42%	55%	63%	61%
School teachers	10%	36%	45%	68%

\* Source: Miller, Grodeland and Koschechkina (1998).

To increase transparency both Slovakia and the Czech Republic recently adopted modern laws on free access to information. Compliance with this law at local level is unsatisfactory – e.g. several municipalities in Slovakia decided that records from municipal assembly meetings (open to public) are secret documents, not accessible by general public (after which, more municipal councils adopted a similar approach). Financial and time constraints are also used to prevent citizen to access "free" information. A survey of Czech students showed that different municipalities need different lengths of time and charge different fees for the delivery of the same information. The experience of the authors' students asking for data to prepare seminar papers is similar – the data is provided in some cases, but not in others.

To conclude, we have to stress that lack of transparency has represented one of the main weaknesses, prohibiting the achievement of generally accepted standards of local governance in some (and probably all) accession countries.

**The decentralisation process considered from the point of view of efficiency:** Good governance has to be effective, efficient and economical. The relations between decentralisation and the allocative and technical efficiency

of local public administration are very difficult to assess, especially in the specific conditions of transitional countries, where there are very limited databases of the relevant information. In this chapter, we will stress just two important "anti-decentralisation arguments".

Reforms always involve costs – for example, the estimated costs of the public administration reforms implemented in Slovakia in 1996 were estimated at more than € 0.5b, just less than 10% of the annual state budget. It is not so simple to find such resources in accession countries, but without resources many necessary preconditions for successful decentralisation cannot be achieved.

There are also important economic limits to decentralising several public services and activities, because of "scale-economics". Because exact data are scarce, we will examine the case of local taxation, because administrative costs of local taxation in the Czech Republic were recently calculated for a random sample of municipalities, using personal interviews, personal time-shots and analysis of existing statistical data. Table 6 describes the results.

Table 6. Administrative costs of taxation in selected Czech municipalities (2000)

Municipality	Number of inhabitants	Revenue from local taxes (thousands units)		Administrative costs (thousands units)		Administrative costs (%)
		CZK	EUR	CZK	EUR	
A	150	3	0.1	6	0.2	200
B	400	7.5	0.25	8.1	0.3	108
C	6400	1313	44	182	6.1	14
D	9800	970	32	307	10	32
E	23000	1365	46	243	8	18
F	33100	7750	258	243	8	3.1
G	72000	15207	507	486	16	3.2

\* Source: Vitek and Pubal (2002).

Although this is just a random sample, and the calculation might be biased by problems in calculating exact costs (e.g. the proportion of time which some officials devoted to this activity), figures clearly suggest relatively high administrative costs for any activity in very small municipalities. (Note that administrative costs for central taxation in the Czech Republic are estimated to be a bit less than 3%).

Transfer of responsibilities must not mean increased efficiency of public service delivery. The data highlight that there are large inefficiencies on communal level (for example the unit costs of delivery of local public services significantly vary between municipalities – Table 7).

Table 8. Average costs of waste collection and refusal according to respective forms of service delivery

Form of delivery	Number of municipalities	Average yearly costs per inhabitant
1. Municipal employees	2	136,29
2. Brutto budgetary organization	2	295,34
3. Netto budgetary organization	7	420,36
4. Municipal limited company	9	538,35
5. Municipal joint stock company	2	701,35
Average for internal forms	22	398,34
Contracting 1	11	351,14
Contracting 2	9	251,44
Contracting total	20	301,29

Contracting 1 – citizen pay fees only to the municipality

Contracting 2 – citizen pay fees both to municipality and to supplier

\* Source: Nemec and Merickova, 2004

**The decentralisation process considered from the point of its implementation (failures):** The potential positive impact of decentralisation is very influenced by reform preparation and reform management issues. There are many cases in accession countries showing important deficiencies connected with poor preparation and implementation of reform measures. This is no surprise – there are many objective and subjective factors impacting on reform processes and limiting their chance of success.

The science and skill of public policy is still at a very early stage of development in the region. Both in Slovakia and the Czech Republic, the necessary policy analysis capacities have started to exist only recently (Potůček and Radičová, 1998). Policy advice is not well accepted by politicians and the voice of lobby groups is usually much stronger than that of expert opinion, both at central and local levels.

In such an environment reform design and reform implementation failures are to be expected, limiting the chance of success of decentralisation approaches for improving public administration performance. We stress some such problems in the following text.

As mentioned, regional authorities in both countries include too many small regions to be accepted by the EU as NUTS II. To compete for EU pre-accession, and later structural and cohesion funds, they need to co-operate. Experience proves that this will be not so simple because of many factors – as minimum transaction costs would increase.

The reforms in both countries do not include many well-known "micro-mechanisms" which are likely to be necessary to support better quality and higher efficiency in public administration and public services, such as changes in public financial management rules, rules to manage contracts,

accountability mechanisms, real "ex-ante" audit, performance and outcomes management and audit, citizen charters, etc. Without them, decentralisation might well be not enough.

Moreover, many legislative documents were "developed" too fast. They included apparent mistakes, to be amended as soon as possible. In many cases there was no time to prepare for the execution of the relevant legislation. One apparent example of this problem for Slovakia is the Civil Service Code, in force from April, 1st, 2002, although the Office for the Civil Service was not fully established by this date. The head of the office was appointed only in March, filling other posts only later, so that there was almost no chance to perform tasks connected with the transfer of existing civil servants to the "new" civil service..

Decentralisation is an important but not a simple tool to achieve better governance and it needs to be planned and implemented very carefully. It is clear that recent conditions in the transitional countries have not allowed this to be achieved.

**Conclusions – does decentralisation help to achieve better governance in CEE countries?** Most if not all experts would agree that decentralisation is important – maybe even the most important – tool of public administration reform but also that it does not represent a unique panacea. Decentralisation has the same character as most of other reform mechanisms – it can bring both positive and negative effects, depending on local conditions and associated complementary measures. In inappropriate environments, decentralisation cannot deliver the positive improvements hoped for it, except in occasional cases, where specific factors play a favourable role. Indeed, the opposite might be expected, especially in the short term –



decentralisation, when not supported by other mechanisms, might deepen many existing problems, opening additional space for many forms of "government failure".

Both Slovakia and the Czech Republic use decentralisation as the dominant tool to change their current public administrations. As outlined above, many risks and problems accompany this approach. Not enough time was allocated to preparation and later implementation of the necessary legislation, and many necessary preconditions for success of decentralisation were not created. Of course, many short-term problems can be expected as a consequence of any reform.

Decentralisation in Slovakia and the Czech Republic has not yet created conditions, in which regional and local-self governments are able to solve their own problems without much intervention from central government. A main reason for this at the local level is too much fragmentation. Too many municipalities are smaller than 1000 inhabitants, and suffer from lack of financial and human resource capacities. Although this problem is well-known, there seems no political possibility of creating larger units (and indeed the number of municipalities is still increasing because of fragmentation processes). Processes of voluntary co-operation started only recently. At the regional authority level, it is too early to assess their performance. In both countries regional self-government is still not in full operation. However, it is apparent that regions are also too small to serve as NUTS II, which may cause problems in the future.

Two other factors might influence future of local governments in Slovakia and the Czech Republic. First, in both countries recent government do not possess majorities in the Parliament, and their political perspective is unclear. In case of political change (might happen in any moment) the processes of decentralisation may change significantly, as opposition approaches differ significantly, especially in Slovakia. Second, in the Czech Republic large activities towards standardisation of public services delivery system are realised, and first sets of standards already exist, to set minimum levels of services required. In case these processes would continue (pushed by socio-democrats), it may influence local governments in significant scale.

In spite of current problems, there is still a good chance of successful decentralisation in Slovakia and the Czech Republic. The intellectual capacity to add the additional necessary "substance of reform" already exists. The main risk factors are the approaches of future leading politicians. Newly elected leaders may misuse the inevitable implementation problems arising from decentralisation to stop the process and revert to centralisation, or alternatively they might decide to add in the missing mechanisms into the reform processes.

In the latter case, many positive outcomes could be expected, especially in the medium- and long-term perspective. In such situations the message could be that decentralisation, as important principle and tool of comprehensive and systematic public administration reform, helps very much to improve performance of public administration in our country.

These scenarios provide also some kind of answer to the question in the subtitle of this chapter. The authors believe, based on existing data and their experience that decentralisation might well be a good thing to achieve better governance in accession countries in Central Europe, but only under certain circumstances. Decentralisation alone does not bring positive results, automatically and immediately.

**Acknowledgements:** This article has been elaborated as one of the findings of specific research project

MUNI/A/0786/2012 "Quality evaluation of public policies in the context of restrictive constraints of public finances".

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Надійшла до редакції 10.01.14

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### ДЕЦЕНТРАЛІЗАЦІЯ ТА ЯКІСТЬ УПРАВЛІННЯ: ДЕЯКІ ПИТАННЯ З ДОСВІДУ ЧЕХІЇ ТА СЛОВАЦЬКОЇ РЕСПУБЛІКИ

Державні реформи управління в Чеській Республіці і в Словаччині почалися майже відразу після "оксамитової революції" в 1989 році. Більше двох десятиліть конкретного досвіду децентралізації в конкретному середовищі двох обраних країн з перехідною економікою в даний час забезпечує достатньо матеріалу для спроби оцінити основні плюси, мінуси і ризики децентралізації в якості інструменту реформування державного управління в цих умовах. Метою роботи є обговорення деяких важливих питань, пов'язаних з процесами створення сучасного управління в країнах з перехідною економікою, в основному, на основі децентралізації, своїх загальних проблем і при своїх специфічних обмеженнях усередині країн, що входять до Центральної Європи. І Словаччина, і Чеська Республіка використовували децентралізацію як домінуючий інструмент, щоб змінити свої державні адміністративні органи. Децентралізація цілком може бути гарною панацеєю для досягнення кращого управління в країнах, що входять до Центральної Європи, але тільки за певних обставин. Але лише одна децентралізація не приносить позитивних результатів, автоматично і негайно.

Ключові слова. Державне управління, децентралізація, управління, Чехія, Словаччина.

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### ДЕЦЕНТРАЛИЗАЦИЯ И КАЧЕСТВО УПРАВЛЕНИЯ: НЕКОТОРЫЕ ВОПРОСЫ ИЗ ОПЫТА ЧЕХИИ И СЛОВАЦКОЙ РЕСПУБЛИКИ

Государственные реформы управления в Чешской Республике и в Словакии начались почти сразу после "бархатной революции" в 1989 году. Более двух десятилетий конкретного опыта децентрализации в конкретной среде двух выбранных стран с переходной экономикой в настоящее время обеспечивает достаточно материала для попытки оценить основные плюсы, минусы и риски децентрализации в качестве инструмента реформирования государственного управления в этих условиях. Целью работы является обсуждение некоторых важных вопросов, связанных с процессами создания современного управления в странах с переходной экономикой, в основном, на основе децентрализации, своих общих проблем и свои специфических ограничений внутри стран, входящих в Центральную Европу. И Словакия, и Чешская Республика использовали децентрализацию в качестве доминирующего инструмента, чтобы изменить свои текущие государственные административные органы. Децентрализация вполне может быть хорошей панацеей для достижения лучшего управления в странах, входящих в Центральную Европу, но только при определенных обстоятельствах. Но лишь одна децентрализация не приносит положительных результатов, автоматически и немедленно.

Ключевые слова. Государственное управление, децентрализация, управление, Чехия, Словакия.

УДК 338.2.025  
JEL M41

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### THEORY AND PRACTICE OF FORMATION OF ACCOUNTING AND TAX POLICY OF THE REPUBLIC OF KAZAKHSTAN

This article discusses the different definitions of accounting and tax policies of enterprises in modern economy. Determined that under the status of the Republic of Kazakhstan, the form and content development accounting and tax policy, has not yet been given sufficient attention. The article recommended structural elements and content of the accounting and tax policy, as a reference guide of all kinds of accounting, taking into account the specific features of business in the Republic of Kazakhstan.

Keywords: accounting and tax policy in the Republic of Kazakhstan, accounting forms and tax policy, structural elements and content of the accounting and tax policy.

**Posing of the problem.** The term "Accounting Policies" first appeared with the beginning of the reform of the national accounting system and the introduction of the Kazakhstan accounting standards (KAS) as guidelines for the management of accounting and financial reporting of specific enterprises in the Republic of Kazakhstan.

Experience with the KAS more than a dozen years in practice did not lead to significant changes in the thinking of the majority of the restructuring of accounting professionals, also do not come to understand the importance of accounting policies as the basis for accounting and financial reporting. During these years, the formation and the statement "Accounting Policies" were engaged by the accounting structure of the big business. Small and medium-sized businesses generally ignored this document, or the lack of professionalism of accounting personnel didn't allow to pay due attention to this accounting policy.

The need for accounting policy, even more apparent in the process of transformation of accounting in 2008, when the Law "On Accounting and Financial Reporting of the Republic of Kazakhstan", KAS has been replaced by IFRS in big business, and NAS (National Accounting Standards) number 1 and 2 in the small and medium businesses, and accounting policies and explanatory notes are necessary as constituent components of financial statements.

**Analysis of recent research and publications.** Theoretical and practical problems of the development of accounting and tax policies in Kazakhstan enterprises are mainly monitored by auditing companies. Many of the publications of Russian and Kazakhstani authors on this subject from the Internet are pretty old, dated the accounting reform in 2008, so I stopped at some works of authors Mikhaleva E., Horinoy L. [4,5], Skala N., Skala V/, Nam G. [6] Nurgaliyeva R. [7-10]. Continuing problems of formation of accounting and tax policy are discussed in the periodical

literature of the Republic of Kazakhstan in the development and auditing of LLP "Kazakhstanaudit" [11].

**The main objectives of the study** are to determine the location, status, and structural elements of the accounting and tax policy, the analysis of the positive and negative aspects of working in practice forms of accounting and tax policy formulation and recommendations for the creation of this document based on the currently valid regulations.

**The main results of the study.** In modern system of management of the economy of Kazakhstan have developed two levels of formation of accounting and tax policies: global (national) and local (business entity, the enterprise). At the state level policies have done through the development and implementation of the Law on accounting and financial reporting, NAS (National Accounting Standards № 1,2), IAS, the Model Chart of Accounts and other guidance and normative acts.

Tax policy at the state level is regulated by the Tax Code, which defines it as: "Tax policy – a set of measures for the establishment of new and old abolition of taxes and other obligatory payments to the budget, changing rates, the objects of taxation and objects related to taxation, the tax base for taxes and other obligatory payments to the budget in order to ensure the financial needs of the state to secure a balance of economic interests of the state and taxpayers" [1].

On the development of national accounting and tax policies of international organizations is significantly affected by the International Federation of Accountants (IFAC). When it created the Committee on International Standards of Accounting (CISA), which is governed by the Board of CISA. CISA develops accounting standards, and is working on dissemination. Therefore, the problems of the development of national accounting policies are resolved at a higher level.

Problems of the theory and practice of developing a local accounting policy we started with the first days of the occurrence of the term. At the same time, Kazakhstan's weekly paper "Accounting Bulletin" № 37 per 1997 year was published our article on the problems of the formation of the form, content and destination Accounting Policies, where in addition to this, we were not only encouraged to develop the accounting policy, but also in its structure, we recommended form of tax policy. We can boast of the fact that the proposal was implemented in the current version of the Tax Code (January 1, 2009.). Which ordered the taxpayers prepare tax accounting policy. (Unfortunately this instance we lost, and in the libraries of old editions destroyed).

To some extent, audit companies provide assistance in the preparation of the accounting and tax policy. For example, the author of this article, working part-time auditor LLP "Plus audit" of the city of Karaganda, together with the Director of LLP developed in 1998 by a standard form accounting policy for small and medium-sized businesses and Karaganda area, it was printed on a typewriter and did not have copy format. A standard form of accounting policy before the 2009 used a certain demand, and for those who wish to supplement their own this document, they can to consider specific characteristics of the business and reflect them in its version of the accounting policies. The form and content, we have developed accounting policies were based on then current normative documents, which today is the need to establish standard typographic forms of accounting and tax policies in the application of modern normative acts IFRS and NAS.

During the study, we analyzed the operating practice forms of the accounting and tax policy in the Republic of Kazakhstan: JSC "Vodocanal" Astana city, LLP "Astyk", IE "Sadikova L.I.". The main drawback of most of the studied forms of accounting and tax policies – is a large amount of

content, where each section contains all known definitions: cash, inventories, fixed assets, income, expenses, and other concepts known to those skilled of economic profile. If removed from the content of many of the concepts and known truths, then the volume of the document would be reduced by about one third of the text.

Among other shortcomings analyzed forms include:

- Absence of section "Tax accounting policies";
- Not the precise wording of the text, not recital, and has descriptive character of textbooks and teaching materials;
- in the content of the accounting and tax policies, missing separation of the required sections;
- Is absent working chart of accounts the company;
- Is present in the text of each section lists the templates of documents that could be observed by the assigned numbers of the order of the Ministry of Finance;
- Use regulations and other sources should be brought at the end of the document as a separate section.

While continuing to deal with the problems of formation of accounting and tax policies, we have repeatedly advocated and published scientific articles in international scientific conferences in the cities of Poltava (Ukraine), Gomel (Belarus), Novosibirsk (Russia), Almaty, Karaganda (Kazakhstan) at seminars meetings with employees of the Tax Committee of the Republic of Kazakhstan. During these years, proposals to solve some of the problems the accounting and tax policies have been highlighted in the three editions of the book "Tax Accounting" and in the book under the heading of MES RK "Financial Accounting 2" and scientific articles [7-10].

#### **Selection of the unsolved aspects of the problem.**

The studies show that the theory and practice of formulating accounting and tax policies amassed some experience which requires further improvement of the following outstanding issues.

In the theoretical editions of Kazakhstan, it was decided to subdivide the normative legal acts of the Republic of Kazakhstan into 4 levels:

- 1st level – the Law of the Republic of Kazakhstan "On Accounting and Financial Reporting" and the Tax Code;
- 2nd level – IFRS NAS and methodological recommendations;
- 3rd level – the orders, the Ministry of Finance of the Republic of Kazakhstan instructions and other government agencies, internal regulations and guidelines;
- 4th level – tax accounting policy of the company.

The accounting and tax policies, ranking fourth among the regulations of Kazakhstan, unfortunately, is still not widely appreciated and due place in the organization of national accounting systems. Not a professional translation and difficult to understand figures of speech in Russian and Kazakh translations adopt IFRS are creating obstacles in the implementation of IFRS in practice and in the development of local enterprises on the accounting and tax policy.

During the years of reform the accounting system have existed different definition of the accounting policies. KAS defined it this way: "Accounting Policies – set of methods adopted by the head of the subject to the accounting and disclosure of financial statements in accordance with their principles and foundations."

From 1 January 2008 Kazakh enterprises, accounting, which have switched to a different standard, divided into 3 groups:

- The companies have implemented IFRS in accounting;
- The company, accounting, implemented the NAS number 2;
- Enterprises and individual entrepreneurs in the account have implemented NAS number 1.

Companies have implemented IFRS, based on the following definition: "Accounting policies – is a specific principles, bases, regulations, rules, and regulations used by the organization for the preparation and presentation of financial statements" [1].

Companies operating on the basis of NAS number 2, based on the following definition: "Accounting policies – is a set of techniques, principles, rules and procedures of accounting and preparation on the basis of their financial statements" [2, p.32-3].

The third type of enterprise can do without special Accounting and tax policies, as they usually lead of simplified accounting and reporting, but, in our opinion, would not be amiss if they form and approve a special account and fiscal policies.

So these definitions are different in wording, but the same in meaning, have some variety into the terminology of the accounting and tax policy, but the understanding of the place and the status of the document and opened. In our opinion, the accounting and tax policies of enterprises – is the only internal regulatory document, which combines specific ways and methods of objects into account in all areas of financial, tax and management accounting.

Formation of local accounting and tax policy, is to choose one of the ways based on the conditions activities of the subject and taking as a basis for conducting the financial, business and tax accounting. In order to be effective, The accounting and tax policy should develop accounting solutions, both for the implementation of current and future tasks of accounting and taxation. In terms of market relations and the operation of modern legislation on accounting and taxation at the businesses there is a wide selection of either option accounting, methods of depreciation, of recording the sale of goods, works and services, income and expenses, etc.

An integral part of the accounting tax policy is the tax accounting policies established in the Tax Code, "Tax accounting policy – a document adopted by the taxpayer (tax agent) that establishes the procedure of tax accounting in compliance with the requirements of the Code." Tax policy should be included as a separate section in the accounting policies, developed in accordance with IFRS and the requirements of the legislation of the Republic of Kazakhstan on accounting and financial reporting.

Development of tax accounting policy should be correlated with the requirements of the accounting policy for each object in order to achieve harmonization of accounting rules tax obligations of the Tax Code, and the rules applicable IFRS or NAS. Tax accounting policy – adopted by the taxpayer (tax agent) a document establishing an order of tax accounting in compliance with the requirements of the Tax Code. In our opinion, the accounting tax policy – is a complex document on the methodology of financial and tax accounting.

In the tax accounting policies recommended to pay attention to the following:

- The form and procedure for preparation of tax registers developed by the taxpayer (tax agent) by himself;
- A list of the activities carried out under the general Classification of Economic Activities, approved by the authorized state body for standardization;
- The name of the persons responsible for compliance with the tax accounting policies;
- The order of separate tax accounting in the case of the activities for which the Tax Code provides various conditions of taxation, compliance with the rules established by Article 58 of the Code.
- The order of separate tax accounting in the case of operations on subsoil use;

- Items selected by the taxpayer methods deductibility of expenses in order to calculate the corporate income tax and the allocation to offset the value added tax, provided for by the Tax Code;

- Policy definition of the risks being hedged, hedged items and used them for hedging instruments, methods of assessing hedge effectiveness.

On Form and content of the volume of accounting and tax policies of various companies are different, but certainly should have the following sections:

1. Organizational and technical;
2. The methodological for financial accounting;
3. The methodological for management accounting;
4. Tax accounting policies;
5. Working plan of accounts based on the Model Chart of Accounts.

On the areas of accounting, Sections 2, 3 and 4 should have specific methods and techniques, calculations and forms drawn up accounting and tax documents.

Accounting and tax policies approved by the manager or business owner of the company. Accounting and tax policy should be in printed form, signed by the leaders and certified by the official stamp. On the content of accounting and tax policies of various companies should be different, but in written form it should be as a separate document and throughout the year, adopted policy should not be changed. The text of this document in respect of the required sections must be specific and meaningful.

The order of formation of accounting and tax policies in the enterprise is to be built as the development of general, specific document. At its foundation must be laid recommended by international or national standards and Tax Code independently elected techniques, methods and accounting procedures:

- Work Plan (short standard plan of accounts) that is bound to the conditions and specifics of a particular company;
- A form of accounting with the skills and availability of computer technology;
- The methods of income and expense, depreciation methods, the method of evaluation of various accounting items;
- The methods of cost accounting and product costing;
- Methods of tax accounting;
- The size of advance payments and the terms of payment of of various taxes and fees.

To the organization's accounting and tax policy should be long-term (5 years). It should be based on the real economic situation of the undertaking, organization of production, the degree of computerization of accounting. A sound accounting and tax policy must be approved by the shareholders' meeting, the founders of the company and brought to the tax authorities and other stakeholders.

**Conclusions.** In determining accounting and fiscal policies in the enterprise should be clear to the pros and cons of their chosen methods for tax purposes under the existing defaults and increasing the volume of accounting work. Selected policies in determining those or other accounting items should be observed from one reporting period to another, and when it changes necessary to put notify the local tax authority. Thus, executed and approved accounting policies should have the status of a normative document for internal use, and shall be presented for review by all regulatory authorities.

In the future, we planned to develop the accounting and tax policies LLP and RCC (rural consumer cooperatives), are part of the consumer cooperation of Kazakhstan.

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Надійшла до редакції 14.09.13

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### ТЕОРИЯ І ПРАКТИКА ФОРМУВАННЯ ОБЛІКОВОЇ І ПОДАТКОВОЇ ПОЛІТИКИ РЕСПУБЛІКИ КАЗАХСТАН

У статті розглядаються різні визначення облікової та податкової політики підприємств в сучасній економіці. Визначено, що в умовах Республіки Казахстан статусу, формою і розробці змісту облікової та податкової політики досі не приділяється достатньої уваги. У статті рекомендовані структурні елементи і зміст облікової та податкової політики, як керівництва ведення всіх видів бухгалтерського обліку, з урахуванням специфічних особливостей ведення бізнесу в Республіці Казахстан.

Ключові слова: облікова і податкова політика в Республіці Казахстан, форми облікової і податкової політики, структурні елементи і зміст облікової та податкової політики.

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### ТЕОРИЯ И ПРАКТИКА ФОРМИРОВАНИЯ УЧЕТНОЙ И НАЛОГОВОЙ ПОЛИТИКИ РЕСПУБЛИКИ КАЗАХСТАН

В статье рассматриваются разные определения учетной и налоговой политики предприятий в современной экономике. Определено, что в условиях Республики Казахстан статусу, форме и разработке содержания учетной и налоговой политики до сих пор не уделяется достаточного внимания. В статье рекомендованы структурные элементы и содержание учетной и налоговой политики, как руководства ведения всех видов бухгалтерского учета, с учетом специфических особенностей ведения бизнеса в Республике Казахстан.

Ключевые слова: учетная и налоговая политика в Республике Казахстан, формы учетной и налоговой политики, структурные элементы и содержание учетной и налоговой политики.

УДК 330  
 JEL R 41

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### THE ECONOMIC MECHANISM OF RESOURCE SAVINGS OF AIRLINE

The essence of the economic mechanism of resource savings and the reasons of the relationships between them are defined in this article. Also the place and the role of each of the blocks are analyzed.

Keywords: economic mechanism, resource savings, airline industry, functional structure.

The airline industry is a service industry with a low level of profitability because it is labor, capital, and technology intensive. The industry is also affected by external environmental changes as well as internal operations. Among other things, jet fuel is a major component of commercial airlines' operational costs. Therefore, airline companies must always make every endeavor to exercise cost control, an issue that has become even more significant during and after the dramatic increases in crude oil prices that began in 2008, as well as the on-going global financial crisis that started in the same year.

At the broadest level, global economic growth is expected to average 3.2 percent over the next 20 years, fostering 5.0 percent annual growth in passenger traffic and 5.2 percent annual growth in cargo traffic [1]. In response to market pressures, airlines are deploying capacity more strategically to help boost yields and cover higher fuel expenses. Airlines are optimizing airplane utilization more closely to seasonal demand fluctuations, and passenger load factors remain near historic highs. The number of new-generation airplanes in the parked fleet remains low, indicating that airlines are shifting utilization to their most efficient assets. These activities are projected to help the global airline industry achieve a profitable year, despite below-average economic growth and oil prices that are likely to average in the

triple digits for the full year—a scenario that would have seemed unbelievable just a decade ago.

The industry continuously adapts to varied market forces, including fuel price, economic growth and development, environmental regulation, infrastructure, market liberalization, airplane capabilities, other modes of transport, business models, and emerging markets. Each of these forces can have both positive and negative impacts on the industry. For example, on the negative side, rising fuel prices have become a major component of airline costs. On the positive side, the rise in fuel prices has prompted manufacturers to produce more fuel-efficient airplanes [2]. High fuel costs have also encouraged airlines to explore cost-cutting opportunities and new sources of revenue to help offset the effects of fuel prices.

As there search of the scientific sources and practice of management in the transport sector, particularly in aviation sector, shows, the problem of the economic mechanism of resource (EMOR), concerns to the problems which requires additional theoretical and practical research.

In economic literature the notion of "economic mechanism" is used quite widely. But there is no agreement about its definition and its components. That's why there is arises the problem about definition of the most suitable approaches of determining the merits of "economic mechanism" and the study of its main components.

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In a different context, this term is interpreted differently, from "...a set of measures" designed to study specific objectives, up to "...set of institutional and organizational structures" and complex of forms and methods that they use [3].

The world's leading scientists saying "economic mechanism" means not just a set of economic tools and instruments, but their system, their interconnected and inter-mix of particular economic regulators [4].

The economic mechanism is the part of the industry mechanism. An author of modern economic dictionary considers this category as "a set of organizational structures, concrete forms and methods of management and law, by which economic laws that operate in specific circumstances are implemented (the process of reproduction)" [5].

Based on the interconnection and interdependence of all economic processes EMOR should be considered in the context of the industry mechanism.

Economic mechanism as a complex management system combines several subsystems which are providing its functioning. There are from two up to six relevant subsystems which are allocated in different scientific literature by different researches. In particular, N.J.Konischeva notes the existence of organizational and economic units (sub-

systems) [3], and O.M. Nevyelyev and S.A.Moskvin are allocate industry mechanism in the system of organizational management structures, functional relationships and management.

N.G. Chumachenko has formulated six subsystems [4] four of which are the most important -the organizational structure of subsystem, the subsystem management processes, methods and tools of subsystem management and subsystem of the control mechanism.

In our view, this is the most acceptable point of view. Therefore, it is accepted by us as a basis of the economic mechanism of resource. This mechanism should include the following subsystems: subsystem of the organizational structure of management, functional subsystem, the subsystem of the legal provision, implementation of subsystem information. At this article, we will consider the functional subsystem as a central component of the economic mechanism of resource more widely.

Conventionally, the functional structure can be represented as a diagram (Fig. 1), which consists of six blocks. To determine the effect of economic operation mechanism EMOR, cause-effect relationships between its elements, we will analyze the place and role of each of the blocks above.

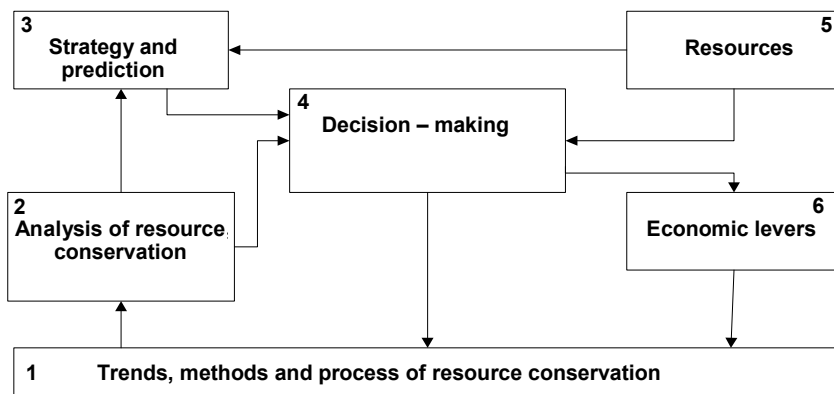


Fig.1. Scheme of the functional structure of the economic mechanism of resource\*

\*Source: Authors' elaboration.

The first block –"Directions, methods and process of the resource conservation". Scheme of the formation of guidelines and methods of resource conservation in the functional structure of EMOR is given in fig.2. Each type of resource is characterized by market of resources according

to the usual value. That kind of resources which has the highest consumers value, and the price is the most preferred object of saving, as it provides the most significant reduction in production costs for consumer.

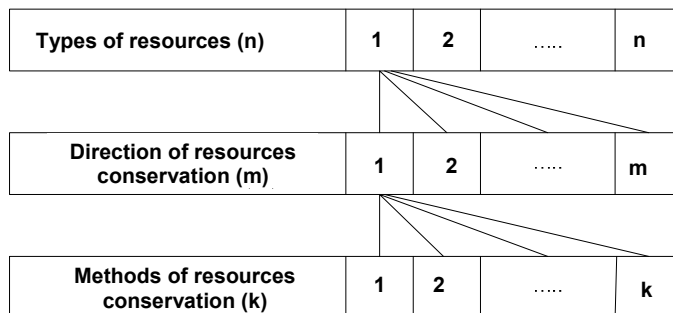


Fig.2. Scheme of the formation of guidelines and methods of resource conservation\*

\*Source: Authors' elaboration.

Therefore, in the process of resource consumption each kind of resources that has a use value should be used cost-effectively as possible (in accordance with the economic environment). The height of this economic interest in rational

resource consumption depends of the height of consumer cost which is involved in the production resource.

The action of each of the types of resources recognizes the possible areas of resource conservation (on

Fig.2. – m-lines), each of which can be implemented several of k possible ways.

So, the definition of the resources types, directions and methods of resource conservation provides substantial invariance of solutions (k option means resource conservation), acceptance of which affect on the economic environment (quantitative characteristics of the economic levels of influence) [6].

The second block – "Analysis of the resource conservation" (Fig. 3). k option means resource measurement of the

structure, rate and resource consumption proportions, also there are held the comparison level of resource consumption with the relevant characteristics of economic development in foreign countries, analyzes of the reasons that hinder efficient resource consumption.

This block provides a solution to the five main tasks. First of all – is the development and implementation in to the accounting practice the system of indicators that will more fully reflect the status of resource conservation.

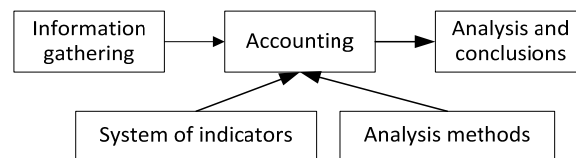


Fig.3. Scheme of the analysis of resource conservation\*

\*Source: Authors' elaboration.

The second task – is the development of methods of the analysis of resource conservation for each type of resource, explanation of the application of any method in a particular situation. During the analysis is necessary to use all his available methods – starting from methods of direct calculation up to the method of the correlation.

The third task – the development and implementation of resource accounting. Such a system should provide necessary objective information about the process of production resource consumption in specific volume and in a timely manner. The problem above is closely connected with the organization of data collection. Depending on the nature of the data been obtained can be used statistics, conducted periodic random monitoring or one-time research.

The third block – "Strategy and forecasting resource" (Fig. 4) provides for the implementation of complex research, which resulted in the variant parameters defined limits of resource conservation to conventional forecasting horizons and developing appropriate strategy resource.

The basis of this block – research on a wide range of issues in one way or another connected with the production of resource consumption, including the expected results of new resource-saving technological systems and the scale of their development, the probability of introduction of fundamentally new materials and design solutions that able to make fundamental changes in the nature of resource consumption, etc. Based on research developed forecast resource and produced in accordance with his strategy.

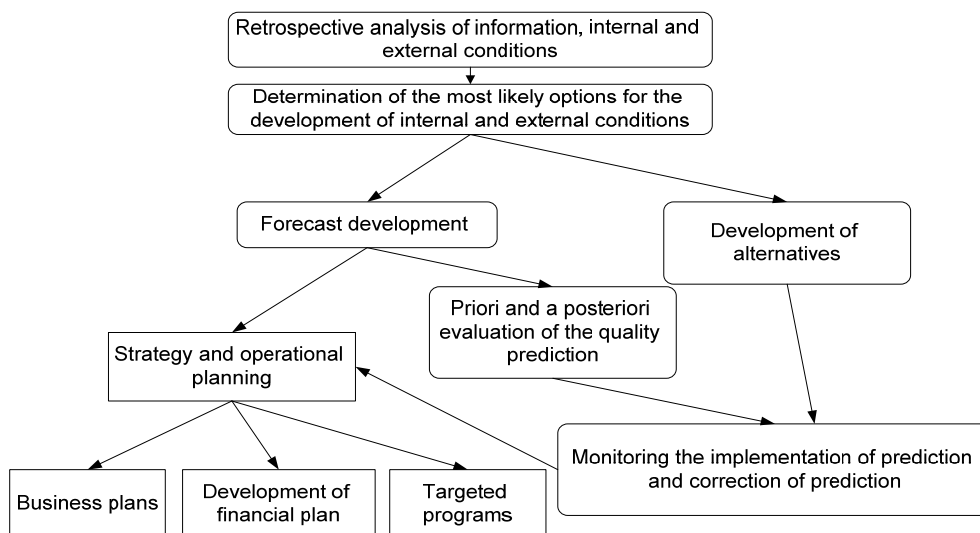


Fig.4. Strategy and forecast resource conservation\*

\*Source: Authors' elaboration.

The fourth block – "Block decision." Crucial in the functional system is EMOR block decisions. Decision making is a complex and multifaceted. To management decisions presented a number of requirements, the main of which are: validity, feasibility, timeliness, fairness, simplicity, clarity and conciseness of presentation. It includes a number of stages and operations. The question of how much and what stage should take place in decision-making that spe-

cific content of each of them, managers decided differently. It depends on the skills of managers, a situation, management style and organizational culture.

The process of decision-making is based on the analysis of resource conservation for its forecasts, according to the generated strategy. Decision-making by taking into account the available resources needed to implement the strategy and resource conservation.

The fifth "economic levers" defines the leverage, the nature, boundaries and measure the impact on businesses in matters of production and resource consumption and resource preservation. In Fig. 5 shows the block diagram of the functioning of "economic levers." It is on the principles of a closed system and has a recurring character. For assis-

tance, economic incentives might affect the process of resource conservation at all stages of the life cycle of the resource, the effect of certain results of resource conservation. These results are basis for selecting nature of the economic levers of influence on businesses to ensure the resource, which can be stimulating, compensatory or deterrent.

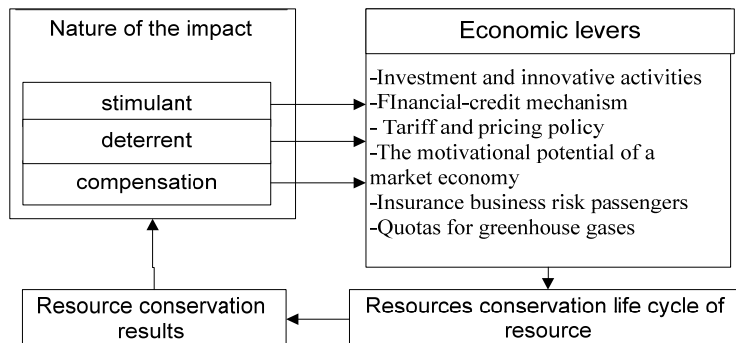


Fig. 5. Block diagram of the operation of "economic levers"

\*Source: Authors' elaboration.

Conclusions: Thus we can conclude that the concept of "economic mechanism" reveals the essence of a variety of relationships and processes functioning and development of economic objects: from the most complex economic systems of the country – to specific companies. Perfection of the mechanism, on the one hand, requires good governance entities and levels of performance leads to their functioning, successful adaptation to dynamic growth and development under unstable environment. On the other – it is this perfection is a necessary condition for effective operation of the airline, its competitiveness, financial stability, profitability, investment attractiveness and solvency.

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Надійшла до редакції 07.10.13

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#### ЕКОНОМІЧНИЙ МЕХАНІЗМ РЕСУРСОЗБЕРЕЖЕННЯ АВІАКОМПАНІЇ

В статті визначена сутність економічного механізму ресурсозбереження, показано причинно-наслідкові зв'язки між його елементами. Проаналізовано місце і роль кожного з блоків.

Ключові слова: економічний механізм, економія ресурсів, авіаційна галузь, функціональна структура

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#### ЕКОНОМИЧЕСКИЙ МЕХАНИЗМ РЕСУРСОСБЕРЕЖЕНИЯ АВИАКОМПАНИИ

В статье определена сущность экономического механизма ресурсосбережения, показаны причинно-следственные связи между его элементами. Проанализированы место и роль каждого из блоков.

Ключевые слова: экономический механизм, экономия ресурсов, авиационная отрасль, функциональная структура

УДК 303.093.7: 331.56  
JEL J 640

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#### THE DYNAMICS OF UNEMPLOYMENT IN A SELECTED GROUP OF EU COUNTRIES

In the article there are synthetically analyzed parameters which characterize labour market in chosen EU countries in view of unemployment. Analysis includes age and gender of potential employee taking into account time of being unemployed. Particular attention is paid to long-term unemployment in view of its specific social character. Database is mainly Eurostat data and local statistical centers.

Key words: European Union; unemployment; long-term unemployment.

**Introduction.** The year of 2004 was a critical year in economy and position on the market of Europe for Ten European States. It was because this was the year they

joined the union community. As a rule, together with economic changes, hope for certain changes in everyday life occurs among people. Some of those hopes were associ-

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ated with labour market, particularly with extension of possibilities to get a job and improve the living conditions. The oriented changes were to, and could, bring decrease in unemployment and increase in the level of employment. Particularly significant hopes were set on the states of the "old union". The present article includes initial results of analyses of the level of unemployment in the group of states that joined the EU in 2004. The analyses were limited to the period of time from 2000 to 2011 to show whether changes in unemployment rate occurred in the years directly preceding 2004 and in the years after accession to the EU. Establishment of occurrence of specific changes should allow for formulation of conclusions concerning the influence of economic changes associated with the accession to the EU on the condition of the labour market. The article is divided into three short parts. The first part includes general characteristics of the age structure of the population of particular countries – the new EU member states, the second includes the analyses of unemployment rate while considering the age of em-

ployees and their education, and in the third part a special attention was drawn to a particular form of unemployment, that is the long-term unemployment. Data from Eurostat provided empirical base for performed analyses. They were suitably compiled for the needs of the subject area included in the topic.

**Dynamics of unemployment rate while taking into account the age and level of education of a prospective employee.** Beside the level of unemployment, the employment rate is one of the major parameters that characterise the situation on labour market; therefore it cannot be neglected in thorough analyses of the labour market. Employment rate is most often defined as the proportion of the number of unemployed people to the number of economically active population (that is the sum of working people and those who look for work). In the case of new EU member states its level was really varied and it amounted to about 4.4 % for Cyprus and Malta and to the level of over four times higher for Poland and Slovakia.

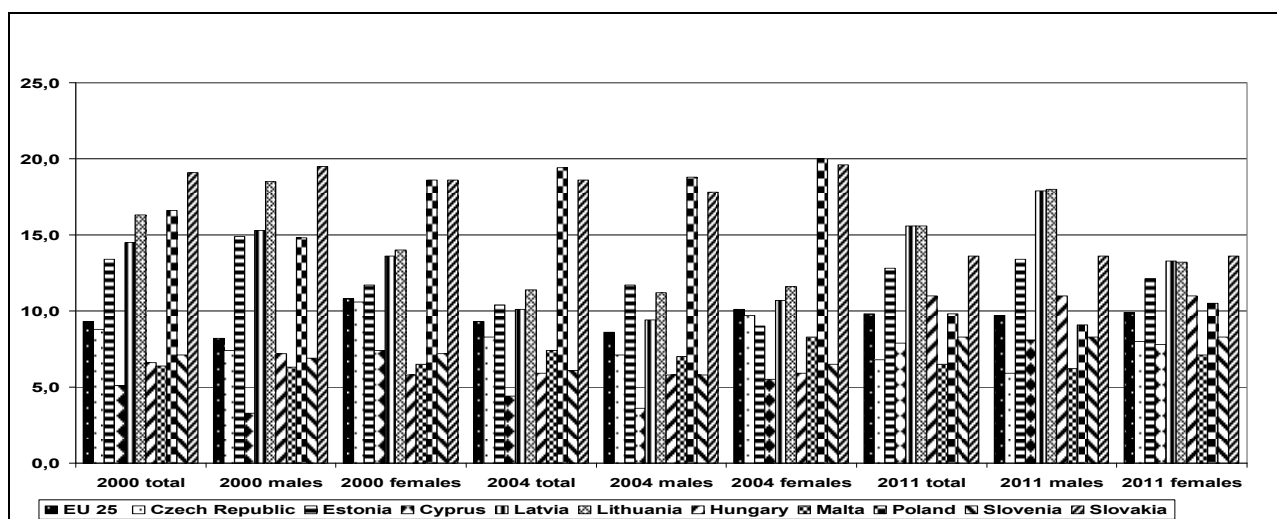


Fig. 1. Unemployment rate for selected EU member states in 2000, 2004 and 2011 with gender taken into account

\* Source: Own case study on the basis of Eurostat database (access on 15th December 2012).

Analysing the values of the rate presented in fig. 1 in detail, we can state that 2004 was for majority of the states (apart from Poland and Slovenia) the year of decreased level of unemployment. Maybe, the EU requirements influenced activation of economic mechanisms, the goal of which was to increase the employment, and prevent and fight unemployment. Effectiveness of active employment policies was maintained after the period of accession to the EU, because in 2011 in a part of the states unemployment rate decreased, like for example in Poland, the Czech Republic or Slovenia, but in majority of states, especially small states such as Hungary, Lithuania, Latvia, Cyprus or Estonia, the direction of changes was opposite and the level of unemployment increased as compared with 2004. A specific regularity of the level of unemployment, that is the fact that employment affected more significantly women than men, was maintained at the same time. In each of the states selected for the analysis in 2000, 2004 and 2011 female unemployment rate was a few per cent higher than male unemployment rate. The level of unemployment is also determined by the age of prospective employee. Table 1 shows the level of unemployment in division into age groups with distinc-

tion of three major groups that is, a group of school-leavers (15 – 24 years of age), employees at occupationally mobile age (25 – 49 years of age) and employees at pre-old age, that is at pre-retirement age (50 – 64 years of age)<sup>3</sup>. However, it appears that the youngest group of people, that is school-leavers and university graduates are most affected by unemployment. Employers' trust in young employees is very small and they offer employment to them very unwillingly. It is also related to smaller and smaller dynamics, or job rotation at workplaces. A growing wave of young people's unemployment which was observed clearly in the first years after accession to the EU was the effect of the lack of workplaces for young employees.

<sup>3</sup> In the case of analyses concerning unemployment rate, 50+ age group is more frequently indicated than 55+ age group, and thus appropriate analyses are going to be performed for this age group.

**Table 1. Unemployment rate by age in selected EU states in 2004**

GEO/TIME	15-64	15-24	25-49	50-64
EU 25	9.3	18.3	8.4	7.0
Czech Rep.	8.3	19.9	7.2	5.7
Estonia	10.4	23.5	9.1	9.3
Cyprus	4.4	8.7	3.8	4.4
Latvia	10.1	19.3	8.0	9.1
Lithuania	11.4	21.2	9.8	11.9
Hungary	5.9	14.4	5.5	3.8
Malta	7.4	18.3	4.5	-
Poland	19.4	40.1	17.0	14.7
Slovenia	6.1	14.0	5.3	5.4
Slovakia	18.6	32.8	16.4	16.3

\* Source: Own case study on the basis of Eurostat database (access on 15th December 2012).

Comparing the level of unemployment in the group of school-leavers we can state that in 2004 the highest rate of young unemployed people, reaching the level of 40.1 % was reported in Poland and Slovakia (32.8 %) and the lowest, only 8.7 %, in Cyprus. High level of unemployment in the youngest age group directly affects the general unemployment rate because in other age groups the level of unemployment is rather equal in every state with a slight predominance of older generations. This is somehow surprising because labour potential of the oldest age groups is definitely weakened with reference to other age groups. Within reductions in employment related to economy restructuring, the oldest employees were dismissed regardless of their seniority and professional experience. New technologies required additional skills and professional experience was not always enough to cope with them. Additional knowledge, or at least the will to complete it, was necessary, which, in the case of older-age employees, was not always possible. Therefore, dismissals from jobs in some economy sectors that had quite an extensive character were the consequence of new tendencies in economy. On the other hand, pre-retirement allowances that let maintain, at least in a minimum degree, the standard of living achieved before were a form of escape in the case of a lot of employees.

If we analyse the dynamics of changes in the level of unemployment in selected age groups in the years from 2000 to 2011 (tab. 2) it appears that expected decrease in the level of unemployment not always could be achieved. Lack of data for Malta in tab. 1 and 2 for 50+ age group is caused by limitations of source data <sup>4</sup>.

**Table 2. Mean pace of changes in unemployment rate in selected states for the period from 2000 to 2011 (in per cent)**

GEO/AGE	15-64	15-24	25-49	50-64
EU 25	0.48	1.45	2.13	-0.39
Czech Rep.	-2.32	0.52	-2.58	-0.15
Estonia	-0.42	-0.48	-1.58	0.59
Cyprus	4.06	7.41	8.62	2.52
Latvia	0.67	2.88	0.83	1.61
Lithuania	-0.40	1.28	-0.43	0.83
Hungary	4.75	7.08	3.85	8.04
Malta	0.14	1.37	0.51	-
Poland	-4.68	-2.91	-4.61	-2.43
Slovenia	1.43	-0.40	3.16	-0.38
Slovakia	-3.04	-0.96	-2.60	-1.99

\* Source: Own case study on the basis of Eurostat database.

The largest decrease in unemployment rate is observed, without division into age groups, in Poland, Slovakia and the Czech Republic, and the largest increase is observed in Hungary and Cyprus.

Apart from age, education of a prospective employee is the factor that definitely influences the possibilities to find a job. Adopting a three-level division of education into: pre-school education, primary school and lower secondary, that is junior high school education (level 0-2), high school education and post-high school education but not college (levels 3 and 4) and first and second stage of university education (levels 5 and 6), we can state that people with the lowest level of education made definitely the highest proportion of the unemployed (fig. 2). Among the ten EU states, in this group of education, in Slovakia unemployment was reaching the level from 40 % in 2000 to over 50 % in 2004, and then, in 2011 it reached the level of over 40 % again.

The situation of people with university education is the most favourable on labour market. This is shown by the lowest level of unemployment rate. In each of indicated three years, unemployment among people with university education only in few cases was over 7 %, and in the Czech Republic, Slovenia and Cyprus it was not higher than 3 %. Hungary is a specific "leader" where unemployment rate of the people with university education in 2000 was only 1.4 % and in 2004 it was 2.2 %.

**Long-term unemployment as a specific form of unemployment.** Long-term unemployment, that is a situation where an employee ineffectively looks for work for a period of time that is longer than a year, is a separate problem in analyses concerning the sphere of unemployment. Long-term unemployment is a specific form of unemployment and is significantly different from its other forms. According to sociologists a specific "professionalization" of the status of the unemployed, is observed. This means that unemployment is becoming more and more frequently a way of life and activation of the long-term unemployed is more difficult than of those who are temporarily unemployed. Long-term unemployment is significantly determined by gender. Women make a remarkable part of the group of unemployed people because they are considered by the employers to be employees who are less available and more troublesome (maternity leaves, leaves to look after a sick child) and the range of occupational availability is narrower in the case of women (they work in fewer number of professions, especially related to heavy industry). In Polish reality, age and seniority, as values are correlated as they have the same impact on the period of unemployment. Among the unemployed, a large group is made of young people who are not older than 25 years of age and people who are not older than 50 years of age. People who worked previously constitute a definite majority of the long-term unemployed. In predominant part they lost a job due to liquidation of a company or a position in a company. They were mostly employed in industry or constructions and less frequently in private trade. Long period of unemployment results from inadequate qualifications or even lack of them, or from mismatch between qualifications and requirements of the labour market. Long-term unemployment is a problem of not only a Polish labour market but actually, it also influences the labour markets of all the European states. In the case of the analysed group of states, the level of long-term unemployment with respect to the total population of occupationally active people in 2000, 2004 and 2011 is shown respectively in fig. 3 and tab. 3. The last column of tab. 3 includes the measure of mean pace of changes.

<sup>4</sup> In Eurostat database, data for Malta are not available in all surveys.

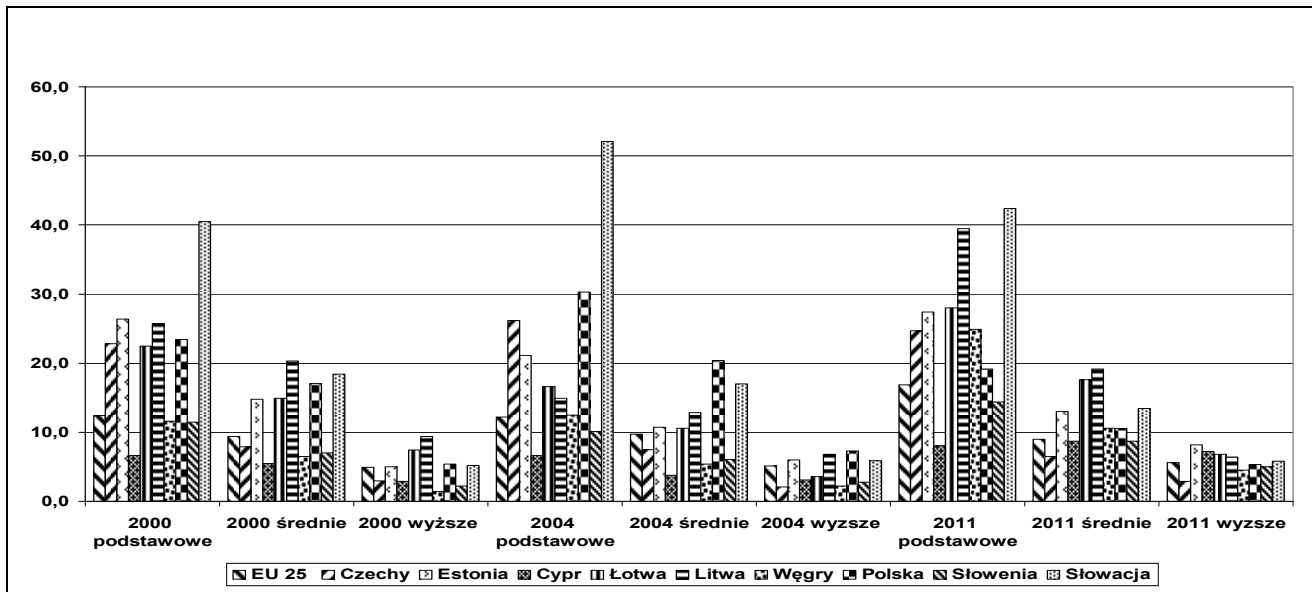


Fig. 2. Unemployment rate by age in the 2000, 2004 and 2011 in selected EU states

\* Source: Own case study on the basis of Eurostat database.

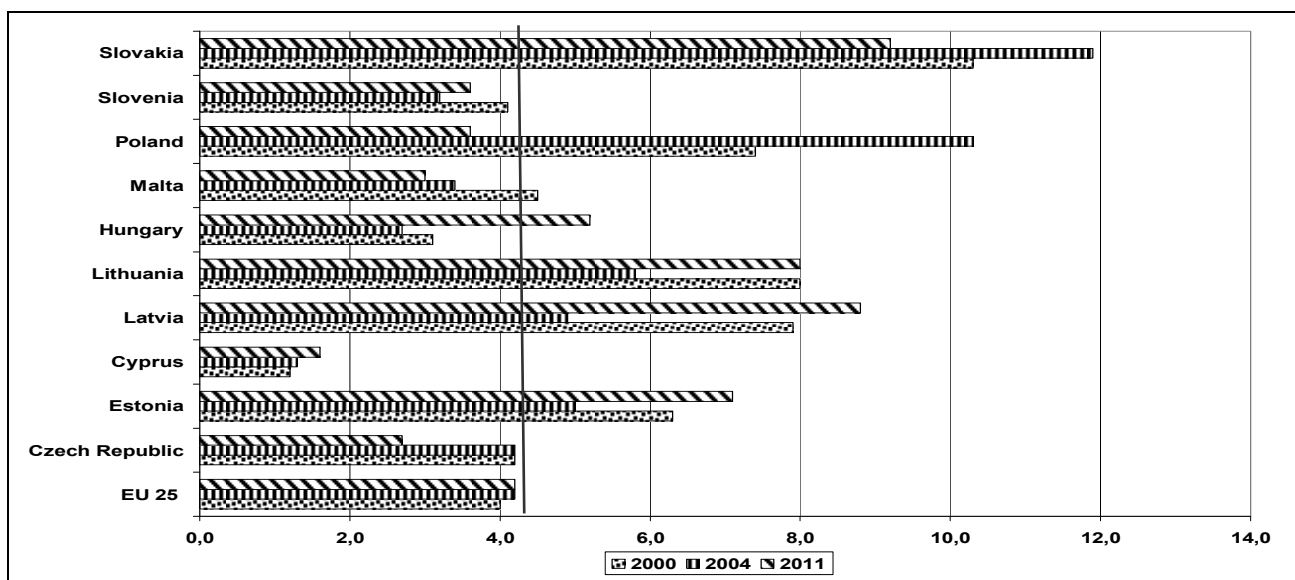


Fig. 3. Long-term unemployed people as the percentage of the total number of occupationally active people in selected years

\* Source: Own case study on the basis of Eurostat database (access on 15th March 2013).

Table 3. Long-term unemployed people as the percentage of the total number of occupationally active people in selected years.

GEO/TIME	2000	2004	2011	
EU 25	4.0	4.2	4.2	0.44
Czech Rep.	4.2	4.2	2.7	-3.94
Estonia	6.3	5.0	7.1	1.09
Cyprus	1.2	1.3	1.6	2.65
Latvia	7.9	4.9	8.8	0.99
Lithuania	8.0	5.8	8.0	0.00
Hungary	3.1	2.7	5.2	4.81
Malta	4.5	3.4	3.0	-3.62
Poland	7.4	10.3	3.6	-6.34
Slovenia	4.1	3.2	3.6	-1.18
Slovakia	10.3	11.9	9.2	-1.02

\* Source: Own case study on the basis of Eurostat database (access on 15th March 2013).

Thorough analyses of the values in the last column let us state that there occurs a clear differentiation in both the long-term unemployment rate and the pace of

changes. The largest decrease in the level of unemployment was observed in the years from 2000 to 2011 in Poland and in the Czech Republic. The increase is ob-

served in Cyprus and Hungary, but considering its absolute level, it ought to be noticed that despite relatively high pace of increase in employment in Cyprus, its level is in the whole group of states the lowest, and in comparison with the EU it is almost three times lower.

Analysing additionally the rate of long term unemployed people with respect to the total number of unemployed people (fig. 4 and tab. 4) we can state that in the analysed range of time the dynamics of changes in unemployment rate in the whole EU and in majority of the "ten states" shows a falling tendency and only in the case of Lithuania, Estonia and Slovakia it shows a slight increase. However,

the scale of this phenomenon is alarming because long-term unemployed people make a significant percentage of the total number of the unemployed reaching the value of about 45 % in majority of states (similarly to the whole EU). This confirms previous observations related to specific character of the phenomenon when the status of the unemployed allows to obtain a series of social benefits starting from insurance and finishing with benefits in the form of money. Benefits may not be enough to live affluently, but they let survive and possibly look for unregistered employment in underground economy.

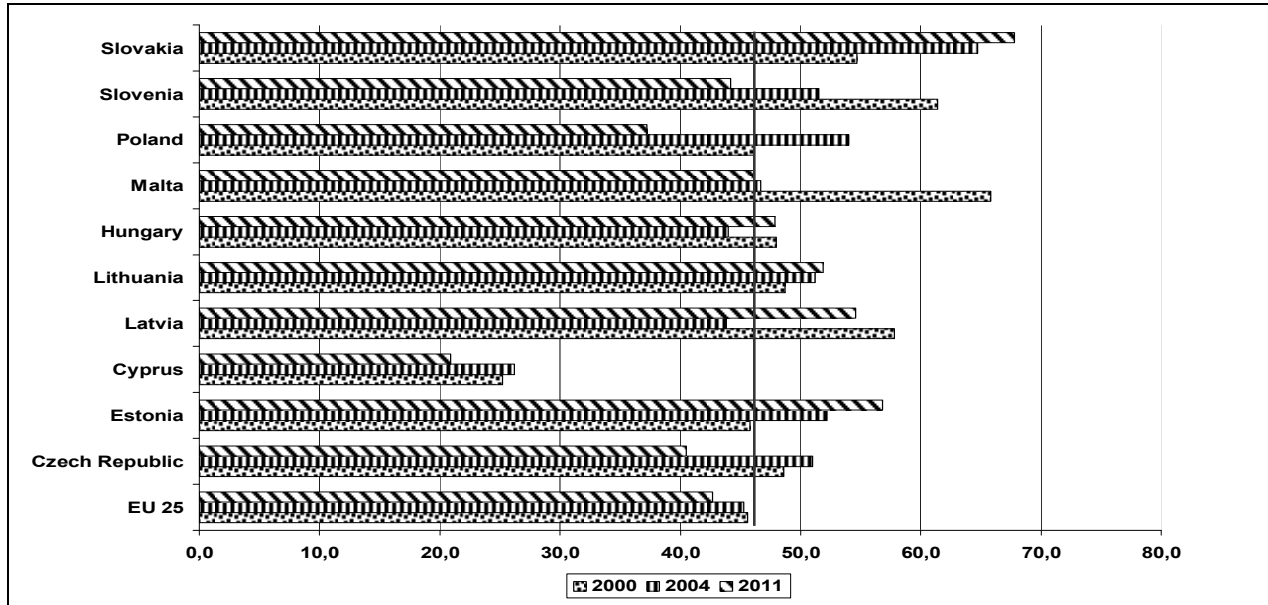


Fig. 4 Share of long-term unemployed people in the group of total number of unemployed in selected years

\* Source: Own case study on the basis of Eurostat database.

However, we ought to draw attention to the fact that in the first years of transformation in some states, including Poland, there was a social acceptance for unemployment, but it was treated as a specific "hygienic procedure" in reformed economy. Unfortunately, after 1989 the scale of unemployment "went out" of any control and significantly af-

fected the condition of economy (the phenomenon of limited global market demand) and caused threat to people's well-being. The growth of the problem caused expansion of this phenomenon over a long period of time, and as a result of mismatch between economy structures and market requirements, it turned into long-term unemployment.

Table 4. Long-term unemployed as the percentage of the total number of unemployed in selected years

GEO/TIME	2000	2004	2011	
EU 25	45.6	45.3	42.7	-0.60
Czech Rep.	48.6	51.0	40.5	-1.64
Estonia	45.8	52.2	56.8	1.98
Cyprus	25.2	26.2	20.9	-1.69
Latvia	57.8	43.8	54.6	-0.52
Lithuania	48.7	51.2	51.9	0.58
Hungary	48.0	44.0	47.9	-0.02
Malta	65.8	46.7	46.1	-3.18
Poland	46.1	54.0	37.2	-1.93
Slovenia	61.4	51.5	44.2	-2.94
Slovakia	54.7	64.7	67.8	1.97

\* Source: Own case study on the basis of Eurostat database.

The reasons for the fall in long-term unemployment rate observed in recent years seem interesting. Certainly it cannot be explained by rapid growth in the number of workplaces. More reasonable causes ought to be looked for in growing wage-earning migration and in the outflow of labour force from national labour market. In this case, in Offices of Employment the number of registered unemployed people is decreasing and at the same time appropriate

statistical parameters that illustrate the particular phenomenon are changing.

**Final remarks.** In the session of the European Committee, the European Union agreed that, they should aim to achieve, a 75 per cent employment rate of males and females that belong to the group of 20 – 64 years of age by 2020. This ambitious responsibility shall contribute to per-

sistency of European social model, social welfare systems, economic growth and public finances.

EU can rise to the challenges and remarkably increase the employment rate, particularly of females and elderly employees, but only on condition of undertaking vigorous activities focused on four priorities:

Firstly, better functioning labour markets ought to be cared of. Persistently high rates of unemployment of a structural character are an unacceptable loss of human assets: this discourages and leads the employees to early withdrawal from labour market and to social exclusion. The policy based on the model of flexible labour market and social security described as flexicurity is the best instrument of labour market modernisation. The principles of this policy should be re-analysed and adjusted to post-crisis conditions, to accelerate the pace of changes, reduce segmentation of labour market, support equality of genders and make changes of status in labour market profitable.

Secondly we ought to provide better qualified labour force that should be able to make contribution to technological evolution and adjust to it through new systems of labour organisation. It is a big challenge because of rapidly changing requirements in the sphere of skills, and constant mismatch between skills and EU labour market. Investments in systems of education and trainings, predicting requirements in the sphere of skills and services in the field of adjustment and counselling are of fundamental importance for the increase in productivity, competitiveness, economic growth, and consequently in employment. EU bound itself to improve the level of education through reducing the number of people who finish education early to the level that is not higher than 10 % and through increase in the rate of university education or equivalent to at least 40 % before 2020. In spite of the fact that migrants contribute to employment and economic growth is significant, the potential related to mobility in the EU and inflow of migrants from third countries is neither fully exploited nor directed in the way that satisfies the requirements of the labour market.

Thirdly, it is necessary to create a higher quality workplaces and better working conditions. The quality of workplaces does not affect negatively their number: high quality of workplaces in EU is associated with equally high labour productivity and share in employment. Working conditions as well as physical and mental health need to be taken into consideration in order to meet the requirements that nowadays professional life is related to. It is characterised by frequent changes of employment, more intensive and more demanding work and new forms of its organisation.

Fourthly, the policy stimulating creation of places of work and demand for work should be more efficient. It is not enough to make people stay active and gain skills that make it possible to get a job. Overcoming crisis must be based on economic growth and also associated with creation of places

of work. Appropriate conditions for creation of a larger number of workplaces, including enterprises the functioning of which is based on high skills and business models that are advanced with respect to research and development ought to be created. Selective reduction of labour costs other than salary or appropriately oriented employment subsidies might be the factor encouraging employers to recruit employees who are unemployed for a long term and who disappear from the labour market. The policy that makes it possible to use the major sources of new workplaces and to promote entrepreneurship and self-employment is also important for increasing the rates of employment.

Responsibility for the achievement of those aims is first of all born by member states; they have at their disposal most of instruments that are necessary in this sphere. However, the target EU employment rate, 75 % for females and males can only be achieved before 2020 if both efforts and instruments are involved.

**Conclusions** Unemployment, particularly long-term unemployment, is a serious social problem. Being unemployed for a long time starts the process of destruction that is expressed in social isolation, lack of trust in oneself, stress in the family, decrease in intellectual and spiritual condition and scanty degree of occupational mobility. It is a serious problem of both social and economic character. People who are unemployed for a long time have weaker chances to find a job due to three reasons – their qualifications get worse, skills and experience gradually expire and optimism and enthusiasm to look for work decreases. Being unemployed for a long time leads to social pathologies, and fighting pathologies is the most difficult and most expensive methods of fighting the negative results of unemployment. Therefore, there occurs the necessity to prepare a common program that could be used in majority of EU states that would aim at professional activation of unemployed people with reference to Lisbon Strategy of 2000, particularly in the 50+ age group.

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Надійшла до редакції 15.10.13

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#### ДИНАМІКА БЕЗРОБІТТЯ В ГРУПІ НОВИХ ЧЛЕНІВ ЄС

*У статті здійснено статистичне моделювання параметрів, які характеризують стан та тенденції розвитку ринку праці певних країн-членів ЄС, шляхом виявлення співвідношень між віком, статтю та періодом безробіття потенційного зайнятого. Особливу увагу приділено аналізу довгострокового безробіття через його соціальну специфічність. В роботі використано дані Євростату та регіональних статистичних центрів.*

*Ключові слова:* Європейський Союз; безробіття; довгострокове безробіття.

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#### ДИНАМІКА БЕЗРАБОТИЦЫ В ГРУППЕ НОВЫХ ЧЛЕНОВ ЕС

*В статье проведено статистическое моделирование параметров, которые характеризуют состояние и тенденции развития рынка труда некоторых стран-членов ЕС, путем выявления соотношений между возрастом, полом и периодом безработицы потенциального занятого. Особенное внимание уделено анализу долгосрочной безработицы из-за ее социальной специфичности. В работе использованы данные Евростата и региональных статистических центров.*

*Ключевые слова:* Европейский Союз; безработица; долгосрочная безработица.

УДК 332:504  
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## ENVIRONMENTAL AUDIT AS ELEMENT OF THE ECO-MANAGEMENT SYSTEM OF UKRAINIAN IRON ORE MINING INDUSTRY

*Main principals, methods and juridical procedures of ecological audit of mining plants were considered in context of international practice. Research of mining plants production particularities in ecologisation context was carried out. Main nature pollution factors of mining plants were considered.*

**Keywords:** nature pollution; mining industry; mining plants; ecologisation of production; environmental audit.

**Introduction.** One of the problems of management and its part referring to environmental management is to preserve it as a tool-kit implementing the principles of sustainable development. This requires the adaptation of the basic management functions to these conditions, which in particular should include accounting and controlling. Environmental audit adjoins to the mentioned functions. This is due to the fact that enterprises, especially mining, have negative environmental characteristics, and are not directly interested in the implementation of these management functions [1].

Environmental audit as an independent market instrument of environmental regulation has evolved in the U.S. in the early 70's, when some of the largest industrial corporations began to develop their own programs of independent assessment carried out by industrial production companies of environmental legislation. Almost at the same time, the programs of environmental audit began to be implemented at the European companies [2].

The issue of environmental audit in Ukraine attracts more attention of scientists. Ukrainian scientists, such as V.J. Shevchuk, Y.M. Satalin, V.M. Navrotskyj (2007), L.I. Maksymiv, A.A.(2011), A.A. Sadekov (2002), G.P. Serov (2000) and others work fruitfully in this direction.

**Objectives and methodology.** However, the analysis of recent publications indicates that the peculiarities of the mining industry of Ukraine are not enough studied and measures for its improvement are not formulated. Therefore, the aim of this article is to identify the main areas for improvement of environmental audit techniques and the conditions for sustainable development.

The main theoretical methods of research are analysis, synthesis and formalization. The method of expert assessments is used for the determination of the legal provisions regulating environmental audit in Ukraine.

In many countries, especially in Member States of the European Union (EU), legislation contains requirements for conducting environmental audits in enterprises, among other market instruments of environmental regulation. Most of them are designed to encourage voluntary environmental performance of businesses, improve their performance by implementing environmental management. However, an appropriate attention to the promotion of environmental audit has not been given. The implementation of Eco-Management and Audit Scheme gave the greatest impetus to its development in the EU (EMAS, 2013) [3,4].

**theoretical solutions and legal basis.** As defined by the International Chamber of Commerce, an environmental audit is a tool of management that covers a systematic, documented, periodic and objective evaluation of organizational structure functioning, management and equipment in order to protect the environment. This means that one can use it to analyse the environmental activities and assess environmental policies, including regulatory compliance and standards.

In the Member States of the European Union environmental audit is seen as a market tool of environmental man-

agement, which is used by management organizations on a voluntary basis. Through this, several management problems of environmental audit can be solved, like the following:

- acquiring the information about the level of company compliance with established environmental requirements (both legislative and developed by the organization);
- risk analysis and internal investigation of accidents or emergency situations reasons that result (or could lead) to the environmental impacts and identification of damage inflicted to human health;
- acquiring the information about improving the environmental performance, reduce of costs associated with the use of natural resources, raw materials, energy etc.;
- an estimate of current state to a desired (during the design, implementation and certification of environmental management systems);
- completion of financial institutions' requirements (presenting the results of environmental audits in obtaining credit, insurance, etc.);
- identification of cases that may lead to liability of organization committed (including earlier committed) violations;
- acquiring the information that could affect the value of assets during the buying and selling procedures (including on environmental pollution and changes in the natural resources that are the result of the past performance)[5].

The Law "On Environmental Audit" [6] and the State Standard of Ukraine (DSTU) ISO 14001-2006 "Environmental Management Systems. Requirements and guidelines for usage" [7, 8] are the main Ukrainian legislations on regulations of environmental audit issue.

The legislation stipulates that an environmental audit is a documented systematic, independent assessment process of environmental audit object. It includes the collection and objective assessment of evidence to match certain activities, events, conditions, systems of environmental management and information on these issues according to the legislation of Ukraine on environmental protection and other environmental audit criteria [5].

**Main Results.** The main goals and objectives in the field of environmental audits based on international best practices include:

- gathering reliable information on the environmental aspects of the production activities of the facility and the formation of the environmental audit findings;
- installation of amenability according to the legislation requirements on environmental protection and other environmental audit criteria;
- evaluation of the environmental auditing facility impact on the environment;
- evaluation of the effectiveness, completeness and validity of measures for environmental protection at the site of environmental audit;
- assistance for the business entities in the self-regulation of internal environmental policy, shaping the priorities of preventive measures for the implementation of environmental requirements, rules and regulations;

- creation of tools for implementation the key environmental management means and provision of sustainable development;

- the integration of activities in the field of environmental protection and other spheres of activity.

The law provides two types of environmental audit in Ukraine: voluntary and mandatory. Voluntary audit is conducted on the audited entity management request or by consultation with management, if the client is the third audit stakeholder. Mandatory audit is commissioned by the concerned state authorities for facilities or activities that are highly hazardous for environment.

Legislation also defines a list of cases in which a mandatory environmental audit in Ukraine is conducted. It can be bankruptcy, privatization, transfer to the concession objects of state and municipal ownership, transfer or acquisition of state or municipal property, the transfer of long-term lease of state or municipal property, the creation of objects based on state and municipal property joint ventures, environmental insurance facilities, completion of the

production sharing agreement under the law, in other cases provided by law.

Currently, an environmental audit is carried as an order from business entity (industries and companies, international financial institutions and private investors) to obtain an objective assessment of the environmental aspects of the company, including the planning, selection of the optimal strategy, deciding on predictable investment. Ultimately, the results of an environmental audit are the basis for the decisions about:

- appropriateness or non-appropriateness of the company's activity to the applicable regulatory requirements;
- the effectiveness of the management system;
- the value of the potential environmental risks and the importance of their consequences;
- ecological and economic efficiency of implemented measures;
- the possibility of self-overcoming the consequences of their activities.

**Table 1. The dynamics of main products of mining industry production in Ukraine in 2005 – 2011, million tons**

Amount of production	2005	2006	2007	2008	2009	2010	2011
Iron ores and concentrates, non- agglomerated	69,5	74	77,9	72,7	66,5	78,5	80,9
Iron ores and concentrates, agglomerated	65	68,8	72,8	64,1	55,9	61,8	64,6

\* Source: Compiled by the author according to the data from <http://www.ukrstat.gov.ua>

An environmental audit in the business of mining industry has a particular importance. Most of the Ukrainian mining enterprises specialize in the production of one type of iron ore, ore pellets, and iron ore concentrate, or mined ore. The biggest extractor in Ukraine is Kriviy Rih Iron Ore Factory that annually produces about 7 million tons of raw materials. The share of enterprises in total output reaches 43%. Kriviy Rih Iron Ore Factory is controlled by "Metinvest" holding and the group "Privat".

Iron ore concentrate (enriched ore) is produced by six plants: Inguletskiy, Pivdennyj, Pivnychnyj, Tsentralnyj, Poltava Mining Factories and Arcelor Mittal Kriviy Rih. Inguletskiy

skiy GZK (Mining Factory) is the largest manufacturer in this market is controlled by Metinvest.

In recent years, enterprises of mining industry increase volumes of production (table 2).

Market research of iron ore indicates the presence of significant natural potential for the development of the mining sub-sector and reserve capacity for growth in its production. At the same time, the domestic demand for the products listed in the analysed period was reduced significantly influenced by changes in the external and internal marketing environment.

**Table 2. Consolidated emission of hazardous air pollutants by sector in Ukraine for 2008-2010, thousand tons**

Kind of economic activity	2008	2009	2010
Mining and quarrying	968,9	824,5	851,7
Manufacturing	1510,7	1204	1347,5
Production and distribution Electricity, gas and water	1632,1	1571,7	1601,9
Transport and communication	227,3	203,2	195,8

\* Source: Compiled by the author according to the data from <http://www.ukrstat.gov.ua>

Specificity of iron ore consumption underlies that raw material is fully used within the same industry: steel manufacture for the production of almost one type of item such as cast iron. Thus a significant role in the shaping of the demand for it plays the demand for cast iron, and the other the ratio between primary and processed iron ore and some of its species.

Presented data confirms the capacity of production of iron ore, which is a positive development for the economy and for social and economic development of the country. Meanwhile, against the backdrop of these positive trends the threat of excessive load on the environment is emerging.

Mining industry in Ukraine significantly pollutes the environment by harmful emissions which affect the health of population; flora and fauna in Ukraine. Unfortunately, official statistics do not disclose this information on sub-ore mining and metallurgy in general, although it is possible to evaluate

its effect on total pollution by extrapolating its share in GDP (35%). Following this hypothesis, it can be argued that a third of waste and toxins created in the metal industry.

Nowadays, at the metallurgical complex of Ukraine environmental audit is conducted at the request of creditors, including the EBRD (European Bank for Reconstruction and Development) and to obtain certification under ISO 14000. These activities are conducted primarily to enhance the prestige and image of the company by the customer and for the customer, without having any preferences from the state.

Owners of the companies do not want to show the most of the data and try to make it classified as confidential, and the state authorities are not legally required to disclose fixed demand values, arguing that this reporting is not required to disclose to the public.

Given the heavy workload of these companies on the ecology of Ukraine, it is necessary to control and monitor

iron factories for the compliance with environmental legislation, the implementation of environmental protection measures, planning, taking into account environmental factors, including environmental costs in the cost of production.

Herewith an environmental audit on mining companies has to be carried out not only at the stage of the nomination and approval of a project, but also in the operation of enterprises and the implementation of various programs and activities. It has to be performed at the initiative of that body that directly controls the environmental conditions and activities that potentially affect it.

**Conclusion and discussion.** The main purpose of the audit should be to identify adverse impacts on the environment as a result of operation of sampled enterprises and identify ways to overcome them.

Thus, the implementation of environmental audits requires the improvement of legislation and regulation. Given the interest of stakeholders it must be open to the public. Specific indicators must be identified and released without fail.

Environmental audit of mining companies certainly has its specifics and can also be used for the development of environmental monitoring to assess the impact of companies on the environment for the development of sectoral and regional environmental programs, the implementation of environmental insurance.

Among the main objectives of environmental audit mining companies are the following:

- obtaining the reliable information about the entities on natural resources and environmental protection issues;
- search for untapped reserves for efficiency measures and monitoring their full implementation in accordance with applicable legislation;
- identification of ways of reducing the negative impact of mining activities on the environment and the financial risk of entities, insurance and financial-credit organizations;
- analysis of compliance with environmental legislation, legislation on mineral resources, mining legislation and reducing penalties.

Besides, single scientific method of environmental audit in the business of mining complex has not been created. Exceptions are the companies that are members of the holding "Metinvest". Not-financial statements are prepared

on the basis of GRI, with the following components: materials, energy, water, bio diversity, emissions, waste products and services, compliance, transport, and general aspects (Global Report Initiatives, 2013). There is also a publication of key indicators of environmental performance which are displayed in the report.

The results, of the conducted by the author the legal provisions regulating environmental audit in Ukraine, showed that the basic principles of this type of audit in general is normalized, the basic terms and concepts, types and stages are established. Besides that, introducing the International Standard ISO 14001-2006 "Environmental Management Systems. Requirements and guidelines for use" will regulate this matter more at the level of regulations [7].

Environmental audits at ore mining sub-sector in Ukraine are generally not systematic, and information about its results often is in the conference character and not disclosed publicly.

Improving the environmental audit in the business of mining complex will facilitate the development and implementation of a unified scientific methods of its realization based on industry characteristics and requirements of international standards. It will involve qualified professionals, greater environmental and social responsibility of metal industry.

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Надійшла до редакції 05.11.13

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### АУДИТ НАВКОЛИШНЬОГО СЕРЕДОВИЩА ЯК СЕГМЕНТ СИСТЕМИ ЕКО-МЕНЕДЖМЕНТУ В ГАЛУЗІ ВИДОБУТКУ ЗАЛІЗНЯКУ

*Розглянуто основні принципи проведення екологічного аудиту підприємств гірничодобувної промисловості. Вивчено нормативно-правове регулювання та міжнародний досвід проведення екологічного аудиту. Вивчено особливості природоохоронної діяльності гірничо-збагачувальних підприємств України в контексті екологізації їх діяльності.*

*Ключові слова: забруднення навколишнього середовища, гірничодобувна промисловість, державний бюджет, гірничо-збагачувальний підприємства, екологізація виробництва, екологічний аудит.*

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### АУДИТ ОКРУЖАЮЩЕЙ СРЕДЫ КАК СЕГМЕНТ СИСТЕМЫ ЭКО-МЕНЕДЖМЕНТА В ОБЛАСТИ ДОБЫЧИ ЖЕЛЕЗНОЙ РУДЫ

*Рассмотрены основные принципы проведения экологического аудита предприятий горнодобывающей промышленности. Изучены нормативно-правовое регулирование и международный опыт проведения экологического аудита. Изучены особенности природоохранной деятельности горно-обогатительных предприятий Украины в контексте экологизации их деятельности.*

*Ключевые слова: загрязнение окружающей среды, горнодобывающая промышленность, государственный бюджет, горно-обогатительный предприятия, экологизация производства, экологический аудит.*



УДК 330.1  
JEL O 17, E 26, N 14

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## PRECONDITIONS AND DETERMINING CAUSES OF THE SHADOW ECONOMY IN UKRAINE

*The article analyzes the main processes that led to the high level of the economy shadowing. The historical aspects of the formation of the shadow economy in Ukraine are highlighted. The socio-economic aspects of the shadow economy of Ukraine causality are discussed. The theoretical contribution of foreign and domestic researchers on the preconditions of formation of the shadow economy in transition economies is studied. Theoretical perspective on the factors of the shadowing processes in the economy of Ukraine from the standpoint of modern scientific researches is analyzed. The paper also provides scientific vectors for further development of researches aimed at studying the causes and preconditions of the shadow economy.*

**Keywords:** shadowing processes, shadow economy, deshadowing of the economy, transformation economy, economic freedom, corruption.

**Statement of the problem.** The economic realities of today confirm the fact of spreading of the shadow sector of the Ukrainian economy beyond the threshold values. This situation makes it necessary to enhance theoretical and practical studies on the nature of the economy shadowing process, limitation of the negative manifestations of this phenomenon, the introduction of instruments of direct and indirect influence on the size of the shadow economy of Ukraine, provision of the theoretical achievements for the formation of a national concept of deshadowing the economy. The development of the effective national policy of the economy deshadowing implies an in-depth study of the causes that lead economy into the shadow, its hierarchical structure, determination of their interaction mechanisms and countermeasures to their formation.

**Analysis of recent researches and publications.** Scientists, researchers and representatives of foreign and national economic thought since the mid-late twentieth century actively work out the problems of the shadow economy existence, identification of its factors and ways of countering. Among the scientists which research the problems of the shadow economy the following should be highlighted: D. Blades, B. Dallago, S. Johnson, D. Anstey, P. Zoido-Lobaton, A. Isaksen, M. Kabir, D. Kaufmann, H. Kvist, M. Lako, P. Mauro, G. Mogensen, S. Rose-Ackerman, S. Storm, W. Tanzi, E. Feig, B. Frey, R. Hill, F. Schneider and others.

Research of this problem is reflected in scientific papers of the whole strata of Ukrainian scientists, including, in particular, T. Vasylytsiv, A. Vlasjuk, V. Geets, A. Goncharuk, M. Yermoshenko, J. Zhaliilo, V. Zhuk, T. Kovalchuk, I. Lutyi, V. Mandybura, A. Moki, S. Moshenskyy, V. Muntian, A. Sukhorukov, Y. Pakhomov, A. Yarova and others.

Various theoretical aspects of the problem of the shadow economy, particularly in the context of causality of the shadowing processes, are studied by such Ukrainian researches as V. Bazylevych, A. Baranowski, I. Mazur, P. Nicolenko, B. Predborskyi, I. Tyvonchuk, M. Fleychuk, S. Yurii and others.

**Unsolved aspects of the problem.** At the current stage of theoretical development, the essence of the measures on countering the shadow economy of Ukraine, unfortunately, lies in fighting the consequences rather than the causes of the shadowing processes, and thus is ideologically wrong. Causality of shadow processes in the context of local realities requires in-depth study, considering the specifics of the shadow economy in Ukraine, socio-economic and historical preconditions of its formation.

**The aim of the article** lies in distinguishing causal tendencies of the shadow economy, the study of the system of interaction and interdependence between social and economic processes that "stimulate" the shadowing of the national economy.

**The main material of the study.** Shadow economy can act both as a buffer, mitigating the devastating impact of the economic crises, and as a restricting factor that 'mutes' or makes the often constructive influence of economic reforms impossible. Inability to identify and assess the actual size of the shadow economy, its motives and driving forces, sets the wrong goals and vectors for the economic reforms, thereby minimizing their usefulness.

According to calculations by Professor of the University of Linz Friedrich Schneider, which are used by the influential International Monetary Fund and the World Bank, the size of the shadow economy in Ukraine beats all European records, reaching 44% of the official GDP in 2012. In turn, The Ministry of Economic Development and Trade of Ukraine gives the figure of 34%. Even the approximate calculations lead to the conclusion that due to the highest level of the economy shadowing in Europe Ukrainian budget loses billions of dollars that are so much needed in the current economic situation.

Despite the existence of many methods of the illegal economic activities analysis, a unified definition of 'shadow economic activities' has not been formed yet. Thus, Y. Latov defines shadow economy as a set of illegal economic activities that contradict the current legislation [10, p.15-16]. The shadow economy can be interpreted as a complex socio-economic phenomenon, presented a set of uncontrolled and unregulated economic relations, both illegal and legal, but immoral, between economic agents concerning the obtainment of the excess profits by hiding income and tax evasion [2, p. 430]. F. Schneider argues that shadow economy should include the share of gross domestic product, which is not reflected in the official reports [3, p. 194]. E. de Soto defines shadow economy as a so-called 'shelter' for those, whose expenses on complying with the law while conducting the economic activities exceed the gains from achieving their goal [1, p. 27].

For a more precise description of the essential characteristics of the shadow economy, it will be appropriate to consider its separate components or types: (1) the informal sector – activities of the households that produce and consume goods and services of their own production for their own needs or needs of their family members, (2) criminal sector – manufacturing and sale of the illicit goods and services (drugs, explosives, weapons, human trafficking etc.), (3) illegal sector – illegal manufacturing and sale of the legal goods without appropriate legal documentation or company registration.

Shadow economy is not a threat to the national security if its size does not exceed 10% of the official GDP. If the share of the informal sector exceeds the specified value, it is transformed into the illegal sector that threatens the economic security of the state. Informal economy, that is also called "survival economy", "poverty economy" or "moral shadow economy", can be considered a social, rather than

a purely economic phenomenon, the main motive of which is a certain strategy aimed at the improvement of the socio-economic development level (of the individual, household, particular ethnic or social group) [6, p. 214].

In the researches of the Ukrainian economists on the problems of the shadow economy the focus was on the methodology, analysis of the legislation, providing a rationale for the countermeasures to the shadowing of the economic activities, specifics of implementing these measures in the Ukrainian realities. Consequently, we can state that there is a shift of the national economic thought focus to the practical aspects of the deshadowing processes and, at the same time, ignorance of the obvious need for a deep theoretical understanding of this phenomenon.

It should be noted that shadow economic activities, causes that give rise to it, are not just the attributes of the modern states only: with the emergence of the first state formations, i.e. with the division of the society into classes a certain contradiction arises, conflict of interests between its members and the state. Historical experience shows that while there is a state form of the public life organization and the state, in one way or another, affects the ensuring of its interests by distributing restrictions, requirements and prohibitions, the shadow economy will remain [3, p. 161]. Such economic phenomenon is characteristic for all countries regardless of the level and model of the economic development.

Following this idea, Y. Latov notes that the shadow economy development is, on the one hand, a reaction to the fact of government regulation itself. Regulation, in turn, is impossible without restrictions and the unreasonable restrictions provoke their violation, especially if it is profitable. A considerable number of the shadow economic activities' types (e.g., tax evasion) is explained by a number of defects in government regulation such as management bureaucracy, excessive taxes etc. [11, p. 17].

In other words, we can state that the root cause of the shadow economy formation is existing requirements and restrictions imposed by the state to economic agents. In turn, the violation of these requirements, restrictions and prohibitions is a base for the emergence and existence of any kind of the shadow economic activities. The more intensive are these requirements and restrictions, the greater is the space of the potential opportunities for the effective functioning of the shadow economy. This statement determines the significance of distinguishing and structuring of all types of government restrictions and prohibitions in the context of studying the causality of the shadowing processes.

Restriction of economic activity by the state, the requirements and prohibitions imposed by it, significantly differ in their target setting, functions, tasks and, ultimately, socio-economic effects. Some researchers of the shadow economy, in particular, O. Turchynov, offer to nominally divide the whole set of governmental prohibitions, restrictions and requirements that regulate economic activity into three groups.

The first group includes positive restrictions and requirements. The aim of these restrictions lies in maintaining and developing the socio-economic foundations of the society. This group of restrictions includes social memory, experience in the moral, ethical and religious settings of the public life organization. In the current restrictions and prohibitions, this function is realized through the following tasks:

- protection and preservation of life and health of the society members;
- protection and preservation of the property, material and cultural values of the society;

- protection and preservation of the moral and ethical foundations of the society;

- protection and transfer of the social memory of the society, socio-economic information, mechanisms of acquiring new knowledge and education.

This group includes those requirements and restrictions that contain basic generally accepted standards of moral and ethical behavior of the society members, are not reflected in the legal regulations, and, in turn, comprise a distinctive informal (shadow) system of the normative values that are safeguarded and cultivated as a traditional system of the customary law in the social and religious institutions. The essence of the shadowing causes, generated by this group of restrictions, is in the lack of conviction in the members of the society in the need of obeying the prevailing moral and ethical standards.

The second group of the state restrictions and requirements includes those limitations, the purpose of which lies in maintaining and developing the state itself, i.e. providing the conditions for its functioning. The implementation of this function involves performing the following tasks:

- facilitation of the state activities with material, financial and human resources;
- protection of the state integrity and interests;
- creation of the mechanisms and systems of the state socio-economic processes management;
- provision of the conditions for the social, political and economic stability and development of the society.

The basis of this group is formed by the requirements, restrictions and prohibitions associated with the compulsory nature of income taxation, labor and military conscription, prohibition of activities where there is a state monopoly – printing of money, distribution of the military technology, the performance of the military and law enforcement functions, and so on; regulation of the foreign economic activities, requirements of the mandatory participation in the implementation of state social programs etc.. As a result, failure to comply with this group of restrictions and prohibitions causes the confrontation with the state governance and the shadowing of these activities constitutes a significant segment of the modern shadow economy.

According to O. Turchynov, among the main causes of the shadowing that are generated by this group of restrictions are:

- inadequate execution of its functions and obligations by the state;
- complexity, unsystematic and contradictory nature of the legislation that regulates economic activity;
- lack of public control over the state apparatus activities;
- low efficiency of public administration, inaccuracy and futility of the programs implemented by the state;
- the economic benefits of violating regulations and restrictions etc.

The structure of this group may include causes from the first group of the state restrictions.

The third group, according to O. Turchynov, includes excessive or negative state restrictions and requirements. Selfishness of the ruling elite pushes it to carry out the regulation of economic activities in favor of their own interests that essentially dominate the public interests. The outcome of this type of regulation is the dominance of GDP that is redistributed according to the interests of oligarchic circles and the higher strata of the ruling bureaucracy. This group of requirements sets the aim in executing the following tasks:

- creation of the GDP redistribution mechanisms in favor of the ruling elite, whose interests come into conflict with the interests of society;

- protection and expansion of the elite groups' privileged position boundaries;
- protection and preservation of the ruling elite authority and its control over the society.

The implementation of these tasks is carried out by the available to the elite economy levers of economic impact such as increasing business entities' tax burden and the excessive regulation of their activities, using state budget resources for selfish purposes of the ruling elite, legislative, e.g. constitutional fixing of the elite groups' privileges and authorities. Moreover, as the author of the research notes, to ensure their privileged economic and political positions the representatives of the ruling elite turn to informal, i.e. shadow methods: creation of the artificial constraints for the economic and political activities of the political opposition groups and usage of the state authority for their persecution, creation of the favorable economic conditions and lobbying of the economic interests for the protected economic subjects, loyal to the government etc. This list of the destructive faults of the state apparatus of economic processes regulation gives the average businessman a moral right to perform economic activity within the informal sector. The set of requirements and restrictions presented by this group is particularly common in transitional economies where the lack of transparency in the political process is observed, the dialogue between the government and the people is missing and where a large number of oligarchic groups, whose interests are heavily lobbied by the ruling elite, is present.

The main causes of the economy shadowing that are generated by this group of restrictions contain both components of the previous two groups, and the following:

- economic opposition to the ruling regime;
- compensatory reaction to the force coercion;
- competition between different economic groups for the political and economic domination;
- economic necessity [9, p. 21-31].

The presented typology of determining causes of the economy shadowing with regards to the restrictions and requirements set by the state, highlights the common factors that in one way or another are present in the economies of most countries and form a valuable framework for further studies of the shadowing processes causality.

There is a perception among the foreign shadow economy experts that the main reason for the existence of the shadow economy in the developed world is a violation of the current legislation, thereby confirming the development of the crime and punishment economics as a sector of economics. In the developed countries the criminal part of the shadow economy takes a primary place among the other segments of the shadow economy, such as informal and hidden economy.

While explaining the reasons of the shadow economy growth in the developed countries, experts talk about the high tax and governmental social expenditures that are directly related to the increasing state regulation of the economy. According to the fact that tax rates affect the level of the population employment in terms of its involvement in the shadow economy, it remains a major problem. That is, the higher the difference between the total cost of labor in the formal economy and the net income of the employee, the greater is the incentive to refrain from paying this difference and work in the shadow sector. That is why tax and social systems' reforms are carried out in the developed countries in order to destroy such a pressure and create more efficient conditions for the employment in the formal economy compared to the shadow sector.

According to the research provided by F. Schneider there are several determinants that cause the economy shadowing process:

1) Tax and social security contribution burdens: the distortion of the overall tax burden affects labor-leisure choices and may stimulate labor supply in the shadow economy. The bigger the difference between the total labor cost in the official economy and the after-tax earnings (from employment), the greater is the incentive to reduce the tax wedge and work in the shadow economy. This tax wedge depends on the social security burden/payments and the overall tax burden, making them the key factors of the shadow economy existence.

2) Quality of institutions: the quality of public institutions is another key factor of the development of the informal sector. The efficient and discretionary application of the tax code and regulations by the government plays a crucial role in the decision of conducting undeclared work, even more important than the actual burden of taxes and regulations. In particular, a bureaucracy with highly corrupt government officials seems to be associated with the larger unofficial activity, while a good rule of law by securing property rights and contract enforceability increases the benefits of being formal. A certain level of taxation, mostly spent in productive public services, characterizes efficient policies. In fact, the production in the formal sector benefits from a higher provision of the productive public services and is negatively affected by taxation, while the shadow economy reacts in the opposite way. An informal sector developing as a consequence of the failure of political institutions in promoting an efficient market economy, and entrepreneurs going underground, as there is an inefficient public goods provision, may be reduced if institutions can be strengthened and fiscal policy is conducted closer to the median voter's preferences.

3) Regulations, for example labor market regulations or trade barriers, are another important factor that reduces the freedom (of choice) for individuals in the official economy. They lead to a substantial increase in labor costs in the official economy and thus provide another incentive to work in the shadow economy: countries that are more heavily regulated tend to have a higher share of the unofficial economy in total GDP.

4) Public sector services: an increase of the shadow economy may lead to lower state revenues, which, in turn, reduce the quality and quantity of publicly provided goods and services. Ultimately, this may lead to increasing tax rates for firms and individuals, although the deterioration in the quality of the public goods (such as the public infrastructure) and of the administration continues. The consequence is an even stronger incentive to participate in the shadow economy. Countries with higher tax revenues achieved by lower tax rates, fewer laws and regulations, a better rule of law and lower corruption levels, should thus have smaller shadow economies.

5) Tax morale: the efficiency of the public sector also has an indirect effect on the size of the shadow economy because it affects tax morale. Tax compliance is driven by a psychological tax contract that entails rights and obligations from taxpayers and citizens on the one hand, but also from the state and its tax authorities on the other hand. Taxpayers are more heavily inclined to pay their taxes honestly if they get valuable public services in exchange. However, taxpayers are honest even in cases when the benefit principle of taxation does not hold, i.e. for redistributive policies, if such political decisions follow fair procedures. The treatment of taxpayers by the tax authority also plays a role. If taxpayers are treated like partners in a tax contract instead of subordinates in a hierarchical relation-

ship, taxpayers will stick to their obligations of the psychological tax contract more easily. Hence, better tax morale and stronger social norms may reduce the probability of individuals to conduct undeclared work.

6) Deterrence: despite the strong focus on deterrence in policies fighting the shadow economy and the unambiguous insights of the traditional economic theory of tax non-compliance, surprisingly little is known about the effects of deterrence from empirical studies. This is due to the fact that data on the legal background and the frequency of audits are not available on an international basis; even for the OECD countries such data is difficult to collect. Either is the legal background quite complicated in differentiating fines and punishment according to the severity of the offense and the true income of the non-complier, or tax authorities do not reveal how intensively auditing is taking place. The little empirical survey evidence available demonstrates that fines and punishment do not exert a negative influence on the shadow economy, while the subjectively perceived risk of detection does. However, the results are often weak and Granger causality tests show that the size of the shadow economy can impact deterrence instead of deterrence reducing the shadow economy [2, p. 5-7].

Further analysis and determination of the current trends in the shadowing of the Ukrainian economy is impossible without an analysis of its historical preconditions and justification of the shadowing processes causality in transformation economies. It seems reasonable to identify the causes of the shadow economy existence in the Soviet period and provide the theoretical justification of the mechanism of its self-organization and transformation in the present conditions that have developed as a result of the inherited and new forms of manifestation.

The development of the shadow economy in Ukraine and empirical studies of its development over the last half of the century passed the following two phases:

- 1) until the early 1990's – shadow economic relations as a product of the Soviet command economy system;
- 2) since the early 1990's to the present day – shadow economic relations generated by the market reforms as a phenomenon of the Ukrainian transition economy.

Shadow economy is almost always associated with tax evasion. However, in Soviet times, the exit in the "shadow" was caused not by the high tax burdens, but rather ideological and practical prohibitions. Thus, the Soviet shadow economy participants worked to fill a market shortage.

Leading specialists of the Institute of Economics of the Academy of Sciences of the USSR provided us with an example of the scientific argumentation of the causes of the shadow economy existence in the Soviet Union and the crisis of the socialistic way of conducting economic activities: "The basis for the shadow economy spreading was a constant increasing of nationalization, uniformity, inflexibility of the system of economic relations, their increasing disruption from the needs and interests of the person... There are two forces that have created such a monotony of the social relations – a rigid administrative centralization and total nationalization... The highly centralized economy was unable to not only mobilize and include all available resources to the economic turnover, but generally cover all areas of the production development and economic relations. Under these conditions not only the base, but the direct inevitability for the appearance of the private sector of the economy within the Soviet Union emerged. Forms and social structure of this sector, the share of illegal economic formations in it were determined by the state's attitude to it. Obviously, this sector was incompatible with the fully centralized formal economic system. The latter should have not only to limit, but also to reject non-state forms of economic activity that was the main

reason for the emergence and dissemination of the shadow economy" [7, p. 165-166].

The shadow economy of the Soviet times was characterized by specific features, namely, it:

- 1) softened the existing shortage of economic resources;
- 2) balanced the potential inflation of a centralized economy. With the rigidly controlled prices for goods and services and their deficit conditions were created for concentration of the unsecured money in the hands of the population. However, there was the "black" market, where prices were free. At the same time, the access to the goods and services involved additional costs in the form of bribes. A balanced distribution of goods and services on the one hand and money on the other took place thanks to this.
- 3) created opportunities for the realization of the population's relevant skills, income differentiation in the conditions of social equality;
- 4) inhibited social explosion.

At the same time, the shadow economy of the Soviet model performed several important functions, including:

- economic – compensation of the official Soviet economy shortcomings. Most of the shadow operations were carried out to solve problem situations, in which Soviet enterprises found themselves, thereby preventing such production from stopping, and, as a result, retaining jobs. In addition, informal economy made it possible to implement innovations which were not sanctioned by the political elite, into the obsolete technologies and thus making it possible to obtain income that was higher than guaranteed by the official economy.

- social – providing a social niche for the enterprising individuals who were unable to realize themselves in the official structures. The reason for this situation was low motivation for self-realization and low possibility of receiving adequate compensation for their work.

On the basis of a research by a group of scientists V. Predborskyi formulated a set of factors that caused the shadowing processes in the USSR economy with regards to the dominance of the command-administrative system: 1) chronic imbalance of supply and demand, a massive deficit of goods and services; 2) an abrupt increase in the money supply in the conditions of trade deficit and launch of the large-scale mechanisms for the redistribution of immense funds; 3) the imperfection of the economic mechanism, its lack of mobility and flexibility; 4) prohibition of the non-state forms of economic activity, self-employment and commercial activities that are based on private property; 5) the inadequacy and inefficiency of the legal regulation of economic activity that create significant opportunities for illegal and criminal activities or provoke them; 6) the general ineffectiveness of the official economic mechanism, its inability to provide incentives and positive motivation for the individual labor activity of the citizens and economic activity of the main production units of the economy – the enterprises [7, p. 166].

With the obtainment of independence, the tendencies in the shadow economy of Ukraine gained new forms. Instead of the expected improvement, an opposite tendency of deepening of the inherited shadow economy forms and their evolution in the market conditions took place. According to the Nobel laureate D. North, who devoted several works to the analysis of transitional economies of the former Soviet Union countries, the economy and finances of countries which have accepted formal norms and rules of the game that were developed in other economic and financial systems were bound to fail from the very beginning. Moreover, the so-called "shock therapy" and hasty, ill-conceived privatization, have destroyed not only the old

(command) economic system, but also the main motivational incentives for the development, led to the unprecedented corruption in all echelons of the government and criminalization of the society. The most acute contradictions manifested themselves in the institutions of the finance and credit sphere, causing high inflation and galloping devaluation of the national currencies, imbalances in the state budgets and balances of payments that were accompanied by the collapse of investment programs and a high level of the national economy shadowing.

Among the major reasons, both objective and subjective, which contributed to a large-scale proliferation of the Ukrainian shadow economy at the turn of the economic systems, V. Mandybura names the two main ones:

"Firstly, objectively, according to the theory of transformation, the collapse of any system in the early stages of the new one's development can facilitate significant multiplication of the main disadvantages and drawbacks that were immanent to a system that disintegrated. That is why the actual preservation in Ukraine of the most characteristic parameters of the economic mechanism based on the uncontrolled state property and state monopoly, accompanied by a dramatic weakening and, in the future, by the complete elimination of the directive principle of planning and distribution of material, financial and human resources, greatly exacerbated the shortcomings of the old economic system, as it required immense growth of the "shadow lubricant" of the old hypertrophied decision-making mechanisms, which began to operate on a "new", so to speak, "market" basis.

Secondly, subjectively, although the old power structures of the former state broke, the social groups that had been structured in the past and personified them, did not. Consequently, there were people left who were a part of these structures and who had not only retained close ties they have established between themselves, but until now continue to maintain in inviolability precisely the specific relationships that are still built on the principles and relations of the corporate collective responsibility, fraternity, patronage, nepotism and cronyism.

Both old and the new bureaucracy, genetically born by the former, were in the epicenter of market reforms in the transformation period. Moreover, this unique 'family' community became a leading subject of realizing the 'plans' of transforming social and public policy of market reformation [5, p. 30-31].

Therefore, the specificity of the shadowing processes in the transformational period showed itself in:

- the peculiarities of its functioning in the previous command-administrative system conditions with its systematic defects: deficit, potential inflation, ideology, etc.;
- further evolution of the acquired forms of the shadow economy;
- the impact of the globalizational processes on national mentality of the countries, that creates new specific forms of the shadow economy manifestation;
- excessive increase in the level of government corruption;
- rapid development of the criminal sector and its gradual integration into the state apparatus.

When focusing on the specifics of the Ukrainian economy shadowing, we should note that the main traditionally considered cause of the national economies' shadowing is the excessive tax burden, while tax policy systematic defects are virtually the most important factor of the shadowing processes. As stated by D. Burkal'tseva, despite the adoption of the Tax Code of Ukraine on December 2nd,

2010 and its enactment on January 1st, 2011, the tax system is actually still focused on maximizing budget revenues and does not take into account the possible negative consequences of excessive fiscal pressure on the subjects of economic activities and the citizens. Existing tax burden and inefficient tax administration lead to the situation when the state's aspirations on legalizing the shadow capital and attracting them to the real economy do not receive effective embodiment [4, p. 216].

In support of this statement, it should be noted that, referring to the classics of the economic thought, one of the four principles of taxation provided by Adam Smith does not find its realization in the fiscal realities of Ukraine. According to Smith, taxes shall be charged at the time and in a way, most convenient for the payer, i.e. it should ease the fulfillment of the economic agents' obligations as much as possible. Instead, according to the World Bank calculations, the average entrepreneur in Ukraine spends about 491 hours a year to carry out their tax obligations. In Moldova this figure is smaller by more than a half – 220 hours, in Russia – 177 hours and in Switzerland – 63 hours.

Contrary to this statement, Ukrainian researchers Y. Prylypko and Y. Harazishvili state, that this idea, in spite of being dominant, does not fully reflect the Ukrainian economic realities. For example, in Ukraine the overall tax burden on the enterprise amounts to 55.5%, which is quite high. However, France has the largest figure among the European countries – 65.8%. In Austria it is 55.5%, in Sweden – 54.6%. However, the scale of the shadow economy in OECD countries is between 10% and 25% [8, p. 15]. It is clear that taxation is not the primary cause. In addition, reduction of the tax burden may also not necessarily lead to the reduction of the shadow sector.

According to the analytical estimations by M. Fleychuk, based on the model calculations, the most significant determinants of the shadow economy in Ukraine are:

- 1) contradictions and duplications of the legislative and regulatory framework in specific sectors that reflect a low level of economic freedom indexes' structural components (Figure 1) and the growth of the shadow economy;
- 2) inefficiency of the institutional and organizational mechanisms of the anti-corruption legislation. According to the international non-governmental organization "Transparency International" in 2012 the Corruption Perceptions Index in Ukraine reached 26 points, that corresponds to the 144th place among 174 countries, sharing it with Bangladesh, Cameroon, Central African Republic, Congo Republic and Syria [12].
- 3) the ineffectiveness of the judicial and law enforcement system functioning, which affects the low estimates of judicial independence and confidence in the law enforcement authorities by the experts of the World Economic Forum;
- 4) inefficient tax administration, that is confirmed by the rating assessments of the tax administration effectiveness. According to the World Bank experts, despite the introduction of the Tax Code tax administration system remains complicated due to a high number of tax benefits;
- 5) a high crime rate. Established criminal connections form the conditions for the spread of the economic crimes and other illegal activities;
- 6) lack of historical practice of adhering to the norms and moral standards of the law-abiding behavior while carrying out economic activities and the payment of taxes by the businesses and individuals [8, p. 16-18].

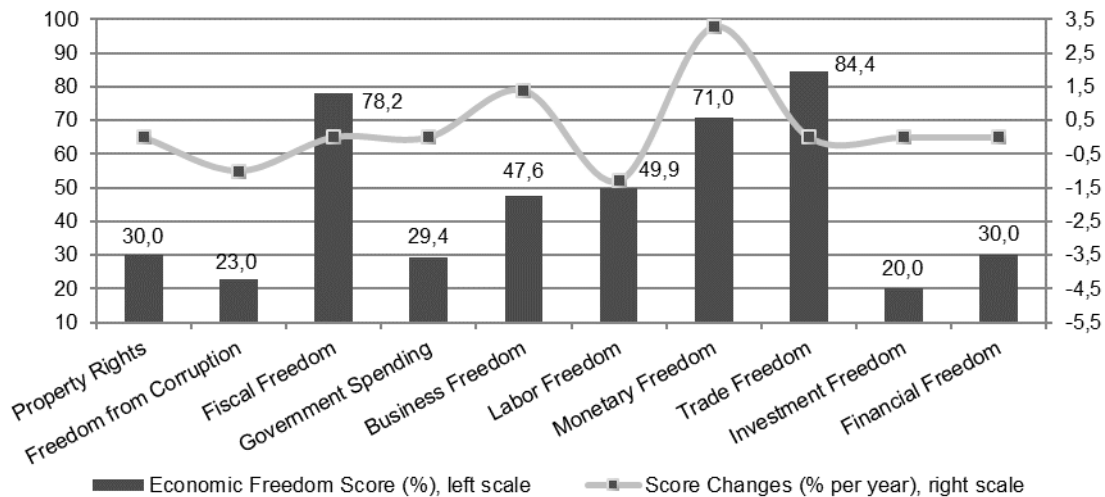


Figure 1. Index of economic freedom

\* Source: The Heritage Foundation [13].

Consequently, as the authors of the research argue, the high level of the economy shadowing in Ukraine is caused by unfavorable institutional environment for doing business.

Specific attention should be given to the results of the studies dedicated to the causation of the modern shadow economy, conducted by the legal scholars who have made significant contributions to the development of the deshadowing processes research. For instance, V. Popovych determines the following causes of the modern socio-economic relations' shadowing in Ukraine:

- shadow economic and legal policy of the initiators and performers of the economic reforms aimed at the primary accumulation of the private capital in any way in order to form a private owner – the pillar of the socio-economic transformations;
- spontaneous transition to the market relations saturated with numerous risks (entrepreneurial, credit, currency and others, namely, criminogenic) without adequate organizational and legal support;
- further implementation of the market relations, financial and economic instruments was performed without their proper adaptation to the economic and legal environment of the country;
- weak scientific, and accordingly organizational and legal framework of the economic transformations, which leads to failures in credit, monetary, fiscal, foreign trade and other directions of the state's economic policy;
- weak scientific and theoretical basis for developing preventive mechanisms of organizational and legal facilitation of the deshadowing infrastructure in the new economic conditions [6, p. 179-180].

**Conclusions.** Thus, the main cause of the shadowing of the Ukrainian economic system is not just the violation of the current legislation, but rather its imperfection, mismatch to the realities of life, known as the gaps in the legislation. While in the Soviet times the shadowing was caused mostly not by the tax burden, but because of the bureaucratic and ideological prohibitions, in transformation conditions the cause of the shadow economy spreading is the imperfection of the institutional environment, namely the lack of normal "rules of the game" for entrepreneurs due to the lobbying of the corporate interests of businesses in the law-making, as well as an overall legal nihilism.

Results of the conducted research are definitely valuable from the viewpoint of their possible impact, creation of the

necessary conditions for the further development of the deshadowing theory. However, it is clear that this set of reasons is only an intermediate link in the causal series of tendencies associated with the more fundamental layers of social relations. The given causal set itself needs to answer the question about the causes of its origin and development.

Further development of the problem of researching the shadow socio-economic relations in Ukraine should be based on the usage of the causality theory apparatus to analyze historical model of the Ukrainian society and the laws of its development in the modern conditions, which have their own specificity and are largely different from the known models of the European societies.

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Надійшла до редакції 17.09.13

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### ПЕРЕДУМОВИ ТА ЧИННИКИ ФОРМУВАННЯ ТІНЬОВОГО СЕКТОРУ ЕКОНОМІКИ УКРАЇНИ

*В статті розглядаються соціально-економічні аспекти причинності мінізації національної економіки. Досліджено теоретичний внесок зарубіжних та вітчизняних вчених щодо передумов становлення тіньового сектору економіки в трансформаційних економічних системах. Проаналізовано теоретичний погляд на чинники мінізаційних процесів в економіці України з точки зору сучасних наукових досліджень.*

*Ключові слова: мінізаційні процеси, тіньова економіка, протидія мінізації, трансформаційна економіка, економічна свобода, корупція.*

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### ПРЕДПОСЫЛКИ И ФАКТОРЫ ФОРМИРОВАНИЯ ТЕНЕВОГО СЕКТОРА ЭКОНОМИКИ УКРАИНЫ

*В статье рассматриваются социально-экономические аспекты причинности тенизации национальной экономики. Исследован теоретический вклад зарубежных и отечественных ученых относительно предпосылок становления теневого сектора экономики в трансформационных экономических системах. Проанализированы теоретические взгляды на факторы тенизационных процессов в экономике Украины с точки зрения современных научных исследований.*

*Ключевые слова: тенизационные процессы, теневая экономика, противодействие тенизации, трансформационная экономика, экономическая свобода, коррупция.*

УДК 338:658.012.23  
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### THE STRATEGIC MANAGEMENT TOOLS FOR HIGHER EDUCATION INSTITUTIONS

*The strategic management tools have been investigated in the article. Their definition and classification has been improved. The strategic management tools for use in higher education institutions have been singled out in the study according to the stages of strategic management.*

*Keywords: Higher education institution, competitiveness, strategic management tool.*

"The most important area for developing new concepts, methods, and practices will be in the management of society's knowledge resources – specifically, education and health care, both of which are today overadministered and undermanaged."  
Peter Drucker, 1997

**Problem statement.** Higher education organizations around the world have always faced environmental changes. However, in the past decade altered societal expectations, new public policies, and technological innovations have created an unprecedented set of challenges for universities. Although the borders of universities have opened in new ways for their services and products, they have been the subject of increased public scrutiny from diverse constituencies. While under such scrutiny, higher education institutions have been simultaneously identified for their potential as a key catalyst in the development of new knowledge organizations and the "digital" economy, especially in the Western world.

In recent years, the development of higher education is closely related to its restructuring. Changes in the structure of the education system, development of market relations in education, increased competition in the education market and many other factors have a significant impact on the conditions of higher education institutions (hereinafter referred to as HEIs) activity. The HEIs external environment has undergone radical changes, which is characterized by a high level of uncertainty and risk. Significant changes have occurred in the management of the higher education system, regulation of its state, public schools funding, and formation of private sector of higher education. The majority of the universities were involved in the market-oriented activities based on the competition for public resources and peoples' money studying on a paid basis. These changes cannot be ignored; therefore, HEIs are forced to apply new methods of strategic management. To achieve real change of the HEIs' internal management, more specifically to move from the operational management to the strategic

one, it is necessary to conduct a quality planning of development, implementations, evaluation and other key aspects of strategic management, that are all interrelated, as well as to form an effective management mechanism.

**Analysis of the latest studies and publications.** The issue of higher education institutions' management has been investigated in the works of Lukashenko, Maysakov, Shlykov, Arzhenovsky, Balyhin, Bailey, Gorelik, Johnston, Yehorshyn, Zhiltsova, Kachalova, Klyuyeva, Knyazev, Korotkov, Kuz'minov, Morgan, Skarzhinsky and others.

The problem of strategic analysis tools classification has been studied by such domestic and foreign scholars as Gordienko, Didkovska, Ignatiev, Osovska, Persia-Verhunencko, Redchenko, Saienko, Fishchuk, Yashkina and others. Barancheyeva, Demyanova, Pastukhova, Skibitskyi etc. have attempted to systematize the methods, models and techniques of strategic management.

Most of the abovementioned scientists did not set the classification of strategic analysis tools as the main goal, which is why some of them made their grouping without distinguishing criteria of classification.

**Research objective.** To reveal the essence of strategic management and its tools. To single out the strategic management tools, which can be used for higher education institution according to the strategic management stages.

**Main results of the research.** Nowadays the world economy is changing rapidly. Because of the growing competitiveness, technological change and globalization, organizations have to adapt quickly to fast changing market conditions. They have to become more flexible and adaptable in order to be more competitive. Otherwise, they will collide with difficulties and problems, and in the long run

cease to exist. In recent years, strategic management has become very essential among the HEIs.

The first works that mention the concept of strategic analysis belong to such famous scientists as Ansoff, Thompson and Strickland. The Ansoff's classic evolutionary concept of strategic management is very popular, and is supported by such scholars as Shershenova, Aaker, Grant, Vihansky, Kovtun.

Ansoff was the first to put forward the strategic management in his book "From Strategic Planning to Strategic Management". Later he defines strategic management as an activity associated with setting goals and objectives of the organization, maintenance of relationships between the organization and its surrounding that help it to reach its goals, correspond to its internal capabilities and let it remain susceptible to external demands [11]. Strategic management can be defined not only as a process but also as a system: a set of decisions and actions of policy

formulation and implementation designed to achieve the goals of the organization [7].

Thus, strategic management can be defined as the process of managing an organization based on its potential, that directs its activities towards consumer requests, provides flexible management and timely changes in the organization, meets the challenges of the surroundings and allows to create and maintain competitive advantages, all of which make it possible for the organization to survive and achieve its objectives in the long term.

The basic model of strategic management includes external and internal analysis, strategy formulation, strategy implementation, evaluation and control. Strategic management process creates a new level of competitive advantage (Figure 1).

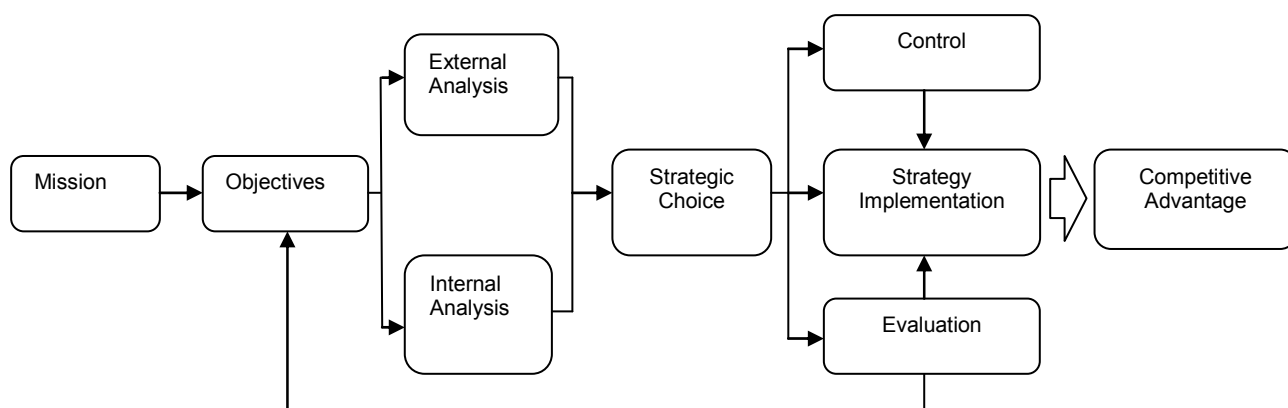


Figure 1. The strategic management process\*

\* Source: Compiled by the author.

The development (or degradation) of the latter forms a so-called spiral of competitiveness (Figure 2). Its every step, for the sake of effective implementation, should be provided with appropriate tools of strategic management.

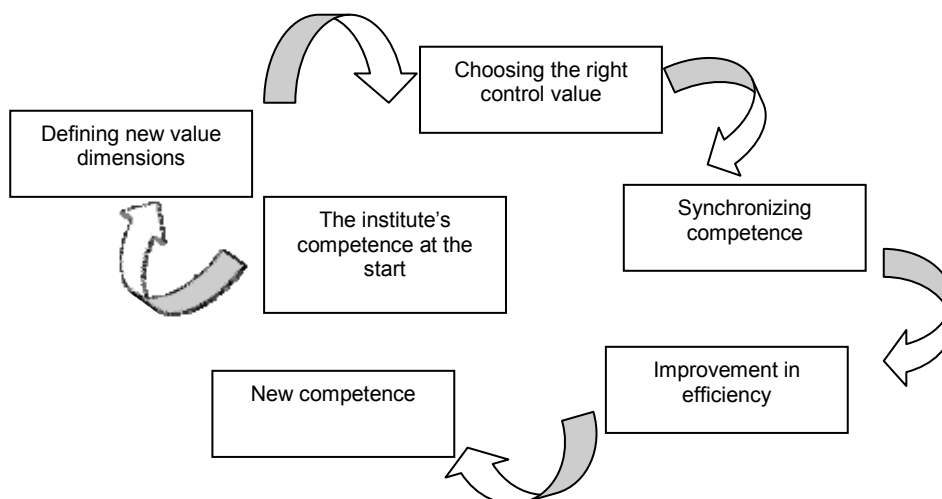


Figure 2. Competitiveness spiral\*

\*Source: [6, p. 5.65].

The environment of university and society in general has been recently undergoing significant changes in demographic, economic, social, technological, as well as national and international competitiveness. Obviously, these changes also affect organization and management of

HEIs. Faced with these challenges, institutions have begun to adapt and use strategic management tools, in order to facilitate continuous adjustment to these new situations. Consequently, the number of universities, which have initiated the application of some kind of tool to support their



strategic management, has increased significantly. However, this growth has occurred in a scattered way, in terms of both content and processes, which has not been accompanied by specific studies.

Despite the fact that academics and practitioners have increasing interest in strategic management, there is no clear definition of strategic management tools and techniques.

For example, Knott [5, p. 1091] defines that the term "strategy tool" is used to encompass the full range of concepts, ideas, techniques and approaches that structure or influence strategic thinking, decision-making and strategy implementation activity. Strategy tools act as a guide to thinking and a starting point for structuring strategic management activity. Stenfors and Tanner give another definition: "strategic management tools and techniques – heterogeneous group of products designed to support organizations in dealing with the complex demands of competitive markets and the quest to create and maintain strategic advantages" [9, p. 637].

The analysis of the definitions suggests that strategic management tools and techniques are:

- various techniques, approaches, methods, tools and concepts;
- supporting strategic decision-making;
- simplifying and representing a complex situation;
- supporting different phases of strategic management process.

Thereby, according to the above mentioned features we can formulate the following definition: strategic management tools (hereinafter SMTT) are the means of organization that serve to achieve the set task within the existing real situation, resource and other limitations and support managers in all phases of strategic analysis (starting from mission and objectives analysis, strategic decision making and up to implementation). For instance, some of the tools and techniques help managers to view the business portfolios; others to analyze market situation and predict the future development of the company.

The potential contribution of strategic management tools and techniques should not be underestimated, because they:

- claim to support solving a wide range of strategic problems;
- provide diversity by creating points of view;
- aid individual and corporate communication;
- claim to be designed for executives to help them make decisions, analyze environment, understand relations, predict future, and find solutions to management problems; [13, p. 635-645];
- arrange information and present it in different forms that helps to increase awareness, reduce the risk involved in making certain decisions;
- provide a framework for evaluating the relative importance of different business portfolios.

According to the literature review, the number of the SMTT is constantly increasing while new tools are added. It should be noted that there is no universal classification of the tools. Hence, to understand their nature and to help managers in making a right choice we need to classify the SMTT.

The first classification of strategic management tools was done by Prescott and Grant who estimated 21 techniques according to 11 dimensions. They selected such criteria as:

time, required to implement technique; financial sources, required to conduct an analysis with the given techniques; managerial skills, which were classified according to the five groups (technical, interpersonal, conceptual, diagnostic, and analytic); sources (people, products, written materials, etc. where the information can be obtained from); availability ("off-the-shelf", "derived from analysis", and "customized"); timeliness; accuracy constraints; updating requirements; advantages and limitations [8, p. 10-22].

An attempt to classify the tools of strategic analysis was undertaken by I.A. Ignatieva who emphasized the following classification criteria:

- 1) the object of analysis (method of the external and internal environment analysis, business objectives);
- 2) the nature of indicators and their information support (quantitative and qualitative methods);
- 3) methods of indicators research (dynamic analysis of indicators, comparative analysis, reference);
- 4) information processing tools (automated and non-automated) [14, p. 93].

O.M. Skibitskyi, V.P. Barancheyeva and V.V. Pastukhova grouped the tools according to the strategic analysis stages [15, p.133-134; 17, p. 125; 8]:

1. analysis of the internal environment (the method of product life cycle, life cycle of an enterprise, the Porter's generic strategies model, the experience curve, etc.);
2. analysis of the external environment (the Porter's concept of "five competitive forces", PEST analysis, etc.);
3. analysis of the mission and goals (the objectives tree method, the model of enterprise management system);
4. identification of the strategic potential (the comparison method, descriptive analysis);
5. evaluation of the market attractiveness (the concept of strategic business unit, extrapolation, expert evaluation, modeling);
6. evaluation of the strategic position (statistical analysis and McKinsey matrix);

But unlike V.P. Barancheyeva, O.M. Skibitskyi and V.V. Pastukhova suggested other phases of strategic analysis that significantly differ in their content.

It is difficult to compare the existing classifications because of the different dimensions, methodologies, time issues as well as different sets of tools and techniques. However, it can be argued that the classification in the recent studies is more sophisticated than in the early ones, because academics focus more on the specific features related to the SMTT and on reflecting their role in the strategic decision making process.

Nowadays, in the conditions of the environmental turbulence and market globalization the managers of HEIs increasingly focus their attention on the utilization of different tools and techniques. The organization should understand that the manager's perception of SMTT is very important. According to Hussey "techniques do not make a strategy: this is the role of managers" [4, p. 97].

Therefore, it is convenient for descriptive purposes to illustrate the sphere of application of the most used tools for HEIs at every stage of the strategic management (Table 1).

Table 1. The most common strategic management tools for HEIs (with respect to the strategic management stages)\*

The main stages of strategic management  Strategic management tools	→Strategic analysis →			→Strategy development, decision-making →	→ Strategy implementation and control →
	Mission and objectives analysis	Analysis of the company's potential, its environment and their interaction	Analysis of the strategic portfolio	Development and analysis of alternative strategies (strategic decisions) and the choice of optimal strategies (strategic decisions)	Analysis of the chosen strategy's effectiveness (strategic decisions)
SWOT analysis		+		+	
PEST(+ EFAS) analysis		+			
Porter's 5 forces		+			
Shell / DPM matrix		+	+	+	
GE / McKinsey Matrix		+	+	+	
PIMS matrix		+		+	
SNW analysis		+			
Gap analysis		+			
ADL Matrix		+	+	+	
SPACE matrix		+		+	
Balanced Scorecard	+	+		+	+
Ansoff Matrix				+	
Market analysis		+			
Benchmarking	+	+	+	+	+
BCG Matrix		+	+	+	
MCC Matrix	+		+		
Competence analysis VRIO		+	+	+	
EFQM		+	+	+	+
APPMC		+	+	+	
Disaggregation method	+				
Method of providing conditions	+				

\*Source: Compiled by the author based on [1; 2; 3; 4; 6; 10; 13; 14; 16].

The differentiation of strategic management tools according to the main stages of analysis and tasks will enable: 1) to compare them more clearly in order to identify relationships between the indicators, which they are based on; 2) to evaluate coincidence of the results obtained by different methods (models, approaches).

Each of the strategic management tools has its advantages and disadvantages, thus its choice should be based on the needs, available resources (including information)

and the type of individual HEI. Among the common disadvantages of the strategic analysis tools there are: ignoring the investigated object features that set it apart from the competitors; the lack of complete and accurate information for analysis; subjectivity; diversity of the indicators which are subject to evaluation.

To create the synergistic effect and compensate the disadvantages the strategic management tools should be integrated. An example of such integration is shown in Figure 3.

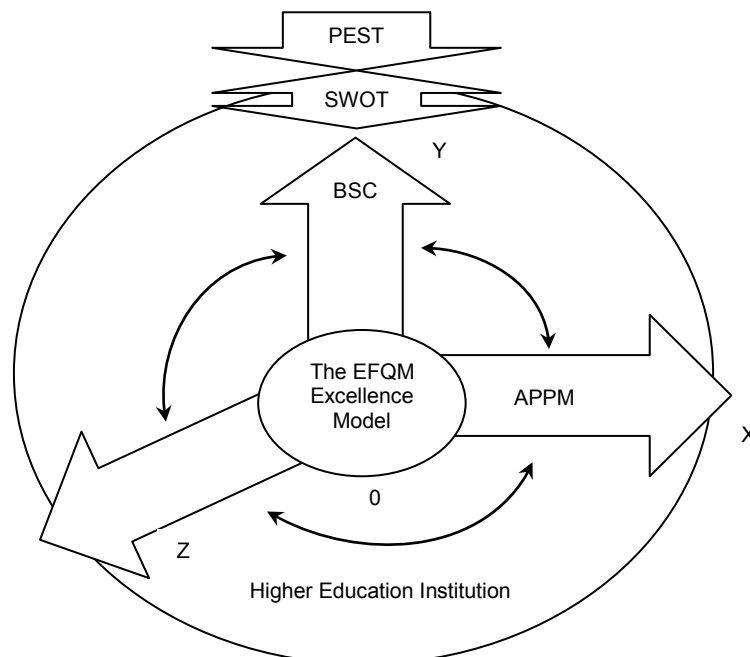


Figure 3. Model of the integrated strategic management tools\*

\*Source: Compiled by the author.

Under the influence of globalization, transfer of knowledge to the society and commercialization of educational services sphere, the quality of the latter (educational services) becomes one of the main criteria of competitiveness not only of HEIs but also the economy in general. Therefore the quality management principles are the basis of this complex. The EFQM Excellence Model is a non-prescriptive framework for organizational management systems, promoted by EFQM (formerly known as the European Foundation for Quality Management) [6, p. 5.67]. It is based on the assumption that excellence is achieved through leadership driving policy and strategy, that is delivered through people, partnership, resources, and processes. The fundamental concepts which underpin the EFQM Excellence Model are: results orientation, customer focus, leadership and constancy of purpose, management by processes and facts, people development and involvement, continuous learning, innovation and improvement, partnership development, and corporate social responsibility.

The study of the influence of external and internal factors/capabilities using PEST (political, economic, social and technological factors, which are used to assess the market for a business or organizational unit) and SWOT (analysis of strengths, weaknesses as internal factors and opportunities, threats – as external factors) analysis tools provides the information for management decisions and formulating strategic goals.

The balanced scorecard (hereinafter BSC) is a conceptual framework for translating an organization's vision into a set of performance indicators, which is distributed among four perspectives: financial, customer, internal business processes and learning and growth. Considering the clockwise stream from mission to business results in the model of strategic management and the downstream from vision to action plan in BSC, it is concluded that the use of BSC provides the means of vertical decomposition of vision to action plan.

The Academic Program Portfolio Model (hereinafter APPM) is a product portfolio strategic analysis tool customized for universities [4, p. 6]. It is adapted from traditional product portfolio models in widespread use by business organizations. The two dimensions, the program's marketplace attractiveness and capabilities of the program and institution, define the APPM and incorporate characteristics of the academic/research program, academic institution, and marketplace in which they operate. The APPM's systematic analysis guides administrators in the determination of strategic direction, resource allocation, and performance expectations. Its use provides a horizontal analysis of the structural units (departments, academic and research programs, fields of activity).

Benchmarking is an ongoing, systematic process for measuring and comparing work processes of one organization to those of another intended to identify best practices. The use of benchmarking in its turn integrates compatible items of BSC in the strategic management model (namely, in the evaluation) and provides deep analysis of the results and the management itself both inside the organization (between faculties, departments, institutes, projects) and outside (between competitors and/or organizations of other fields of activity).

The integrated model not only provides a holistic approach for performance evaluation, it reduces information asymmetry and consequently minimizes the possibility of adverse selection and related costs. This system has great flexibility to be further extended and integrated with other management approaches.

However, using these tools you must consider a number of problems that hinder the application of strategic management in HEIs:

- 1) high degree of turbulence in the HEIs' external environment;
- 2) lack of methods of internal and external surroundings analysis and procedures for identification and coordination of the environment and HEI's interests;
- 3) insufficiently developed methodological background of the information component of the HEI strategic management;
- 4) dearth of accurate and timely information, up-to-date with the problems of gaining the strategic priorities;
- 5) most of participants in the strategic management process do not have the strategic vision;
- 6) significant complication of the strategic planning in the HEI through the contradictory positions of authority towards the development and management of higher education.

Consequently, there are many approaches to combining tools of strategic management, based on needs, goals and opportunities of the HEIs. However, the discussed approaches alone seem to be insufficient for strategic performance measurement in organizations. They have to be accompanied by new efforts, and they should be viewed from a new, much more integrative and comprehensive perspective.

**Conclusions and prospects of further research on the issue.** Universities are operating in a turbulent environment characterized by difficult economic conditions, instability in financial markets, decreased federal and state funding, constraints on employment opportunities, and fluctuating student demand. University administrators face the same strategic planning challenges as the top managers in a business organization. Administrators, like corporate managers, are responsible for the allocation and alignment of limited resources so that the university serves its mission and meets its objectives. Faced with changes in the environment that are completely outside the control of the institution (macro trends), university administrators must rely on strategic analysis to guide the allocation of scarce and valuable resources. Therefore, one should select the most situation-appropriate complex of integrated strategic management tools. Through strategic management, university administrators are able to sustain a clear and meaningful differential advantage relative to competition and to increase the likelihood of meeting long-term organizational objectives consistent with the institution's mission.

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Надійшла до редакції 10.06.13

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### ІНСТРУМЕНТИ СТРАТЕГІЧНОГО УПРАВЛІННЯ ДЛЯ ВИЩИХ НАВЧАЛЬНИХ ЗАКЛАДІВ

*У статті досліджуються інструменти стратегічного управління. Поліпшується визначення та їх класифікація. Виділяються інструменти для використання у вищих навчальних закладах відповідно до етапів стратегічного управління.*

*Ключові слова: Вищий навчальний заклад, конкурентоспроможність, інструменти стратегічного управління.*

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### ИНСТРУМЕНТЫ СТРАТЕГИЧЕСКОГО УПРАВЛЕНИЯ ДЛЯ ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЙ

*В статье исследуются инструменты стратегического управления. Улучшается определение и их классификация. Выделяются инструменты для использования в высших учебных заведениях в соответствии с этапами стратегического управления.*

*Ключевые слова: Высшее учебное заведение, конкурентоспособность, инструменты стратегического управления.*

## Appendix 1

# ANNOTATION AND REFERENCES (IN LATIN): TRANSLATION/ TRANSLITERATION/ TRANSCRIPTION

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## PRIORITY GUIDELINES OF INNOVATIVE NATIONAL ECONOMICS' MODERNIZATION

*The theoretical basis of innovative modernization of the industry as a background for sustainable development of the national economy of Kazakhstan is reviewed. Found that the state innovation policy should include an integrated system of measures to stimulate, develop, maintain, manage, plan and control processes of innovation in the country. The experience of industrialized countries shows that economic modernization requires focused guiding function of the state in the field of R & D, its responsibility for the overall strategy of technological development, with the support of high technology and fundamental research. For active use of economic innovation in Kazakhstan it is necessary to: design of receptive internal market with innovative products, prioritize government support of domestic producers in domestic and international markets, increase the share of innovative component in the development of domestic production, form high-quality innovation infrastructure, and provide organizational and economic conditions to support innovation at all stages of the life cycle of innovative products.*

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## ESTIMATE OF WELFARE LOSS FROM MARKET POWER IN UKRAINIAN ECONOMY

*The article investigates the evolution of approaches to estimate welfare loss from market power. Basing on the analysis of advantages and disadvantages of the approaches, the author develops another approach to estimate welfare loss from market power. It uses indicators of market concentration, profitability and interfirm cooperation. Unlike the other approaches it includes not only the estimate of Harberger triangle and an economic rent value, which is an alternative indicator of rent-seeking cost, but also a value of welfare loss increase due to X-inefficiency. Using this approach the author estimates the actual value of welfare loss from market power in Ukrainian economy of 2008-2011. The results of the estimate show that such a value is equal to one third of Ukrainian GDP. Adding this result to the intertemporal curve of empirical estimates of welfare loss from market power testifies its validity, while the curve shows up the upward trend of welfare loss estimates change. Concluding the author makes the resume about actual status of Ukrainian economy and the risks for its next development.*

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#### LOCAL GOVERNMENT TAX COMPETITION IN CZECHOSLOVAKIA 1918-1938

*The study evaluates tax competition among local governments in Czechoslovakia during the interwar period. They enjoyed significant tax autonomy, in many aspects absolutely unimaginable from today's point of view. The purpose of the paper is to find out if tax mimicking occurred in the pre-war Czechoslovakia and if there was a relationship between local tax policy and migration. Empirical analysis of the municipal and overall additional tax rates in 242 districts proved tax mimicking among them, however with significant regional differences. These findings are consistent with the recent empirical studies on local government tax interactions. There were also found statistically significant evidence of interaction between additional tax rates and migrations. Higher additional tax rates were in districts with higher out migration. District with low tax base had to impose higher tax rates in order to collect sufficient revenues, low tax base is associated with low economic performance which pushes people to move to wealthier districts which can at the same time impose lower tax rates because of high tax base. The example from the history shows that no "race to the bottom" took place and that the possibility to generate revenues by local governments even in hard times enabled local governments to function well.*

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## ENVIRONMENTAL SAFETY AND ECONOMIC DEVELOPMENT OF UKRAINE: IMPACT ASSESSMENT

*The process of overcoming scientific and technical backwardness and unsustainable use of natural resources requires the development of new methods and models of ecological-economic interaction. Paper highlights main views on the environmentalization as a concept. The main vectors of environmentalization are depicted. Most broadcasted domestic mathematical models of eco-economic modeling are reviewed. VAR model approach and impulse analyses are used to identify and assess the relationship between environmental security and level of economic development of Ukraine; at the macro and regional level.*

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## DECENTRALISATION AND QUALITY OF GOVERNANCE: SELECTED ISSUES FROM THE CZECH AND SLOVAK REPUBLIC

*Public administration reforms in the Czech Republic and in Slovakia started almost immediately after the "Velvet Revolution" in 1989. More than two decades of concrete experience with decentralisation in the specific environment of two selected transitional countries, now provides enough material for an attempt to assess the main pros, cons and risks of decentralisation as a public administration reform tool in these conditions. The goal of the paper is to discuss some important issues connected with processes of creation of modern governance in transitional countries, focusing mainly on decentralisation, its general problems and its specific limits in the environment of accession countries in Central Europe. Both Slovakia and the Czech Republic use decentralisation as the dominant tool to change their current public administrations. decentralisation might well be a good thing to achieve better governance in accession countries in Central Europe, but only under certain circumstances. Decentralisation alone does not bring positive results, automatically and immediately.*

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#### THEORY AND PRACTICE OF FORMATION OF ACCOUNTING AND TAX POLICY OF THE REPUBLIC OF KAZAKHSTAN

*The article discusses various definitions of accounting and tax policies of enterprises in modern economy. Determined that under the status of the Republic of Kazakhstan, the form and content development accounting and tax policy, has not yet been given sufficient attention. Despite the extensive work of international organizations to promote the transition of enterprises and organizations in Kazakhstan, international financial reporting standards and the content of your tax policy does not meet modern requirements. An analysis of currently valid forms accounting and tax policy, which determined that in this matter there are significant weaknesses and gaps. The article recommended structural elements and content of the accounting and tax policy, as a reference guide of all kinds of accounting, taking into account the specific features of business in the Republic of Kazakhstan.*

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### THE ECONOMIC MECHANISM OF RESOURCE SAVINGS OF AIRLINE

*As there search of the scientific sources and practice of management in the transport sector, particularly in aviation sector, shows, the problem of the economic mechanism of resource, concerns to the problems which requires additional theoretical and practical research. The essence of the economic mechanism of resource savings and the reasons of the relationships between them are defined in this article. Economic mechanism as a complex management system combines several subsystems which are providing its functioning. The place and the role of each of the blocks are analyzed.*

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### THE DYNAMICS OF UNEMPLOYMENT IN A SELECTED GROUP OF EU COUNTRIES

*In the article there are synthetically analyzed parameters which characterize labour market in chosen EU countries in view of unemployment. Analysis includes age and gender of potential employee taking into account time of being unemployed. Particular attention is paid to long-term unemployment in view of its specific social character. Database is mainly Eurostat data and statistical centers. Analysis due to age were undertaken for three groups- 15-24, 25-49 and 50-64. Unemployment level is very diversified in given groups and the strongest among the youngest and the oldest workers. Another important element which influences unemployment rate is education level and it is also mentioned in the article. In turns out that the smallest problems with finding a workplace have persons with higher education; these problems have generally persons with basic education. Another factor is time of staying without a work which leads to long-term unemployment. In the article every single factor is analysed for every new EU member state and there are underlined states with the highest and the lowest level of those factors*

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### ENVIRONMENTAL AUDIT AS ELEMENT OF THE ECO-MANAGEMENT SYSTEM OF UKRAINIAN IRON ORE MINING INDUSTRY

*Environmental audit of iron ore mining plants was considered as the main object of economic research in context of its anthropogenic essence and key role in enterprise actions. The goal of our research is to identify the main areas for improvement of environmental audit techniques and the conditions for sustainable development. The main methods of research is sum of analysis, synthesis and formalizing. The method of expert assessments is used for determination of the legal provisions regulating environmental audit in Ukraine. The review of scientific sources for defining of an essence of the Environmental audit as element of the eco-management system was considered. An author's adaptation of the concept "Environmental audit" in the context of industrial activity iron ore mining plants and its processing was developed. The improvement Environmental audit local legislation and regulation was suggested and given specific indicators for identification and evaluation.*

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### PRECONDITIONS AND DETERMINING CAUSES OF THE SHADOW ECONOMY IN UKRAINE

*The article analyzes the main processes that led to the high level of the economy shadowing. The historical aspects of the formation of the shadow economy in Ukraine are highlighted. The socio-economic aspects of the shadow economy of Ukraine causality are discussed. The theoretical contribution of foreign and domestic researchers on the preconditions of formation of the shadow economy in transition economies is studied. Theoretical perspective on the factors of the shadowing processes in the economy of Ukraine from the standpoint of modern scientific researches is analyzed. The paper also provides scientific vectors for further development of researches aimed at studying the causes and preconditions of the shadow economy.*

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## THE STRATEGIC MANAGEMENT TOOLS FOR HIGHER EDUCATION INSTITUTIONS

*The strategic management tools have been investigated in the article. Their definition and classification has been improved. The strategic management tools for use in higher education institutions have been singled out in the study according to the stages of strategic management.*

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Наукове видання



**ВІСНИК**  
**КИЇВСЬКОГО НАЦІОНАЛЬНОГО УНІВЕРСИТЕТУ ІМЕНІ ТАРАСА ШЕВЧЕНКА**  
**ЕКОНОМІКА**  
**Випуск 2(155)**

**Друкується за авторською редакцією**

**Оригінал-макет виготовлено Видавничо-поліграфічним центром "Київський університет"**

Автори опублікованих матеріалів несуть повну відповідальність за підбір, точність наведених фактів, цитат, економіко-статистичних даних, власних імен та інших відомостей. Редколегія залишає за собою право скорочувати та редагувати подані матеріали. Рукописи та дискети не повертаються.



Формат 60x84<sup>1/8</sup>. Ум. друк. арк. 8,13. Наклад 300. Зам. № 214-7004.  
Гарнітура Arial. Папір офсетний. Друк офсетний. Вид. № Е2.  
Підписано до друку 17.04.14

Видавець і виготовлювач  
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Свідоцтво суб'єкта видавничої справи ДК № 1103 від 31.10.02