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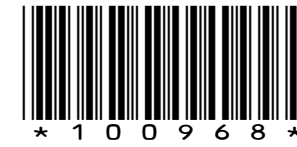
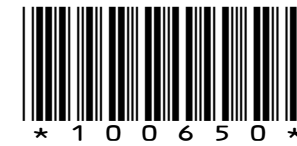
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TREŚĆ

EKONOMICZNE NAUKI

Kovalenko V., Cherkashyna E., Verbytska Y. MORAL HAZARD: DETERMINATION AND THE WAY OF DECREASING IT.....	5
Klimenko O. INSTITUTIONAL PROBLEMS OF NATURAL RESOURCES MANAGEMENT FROM THE PERSPECTIVE OF THE CONCEPTION OF SUSTAINABLE DEVELOPMENT.....	17
Koshulko O., Makazan E. GENDER PECULIARITIES OF THE PROCESS OF HUMAN CAPITAL ACCUMULATION IN UKRAINE.....	21
Babenko I. ISSUER'S CHOICE OF THE STOCK EXCHANGE FOR IPO.....	27
Teslenko I.B., Vachromeyeva M.P. CONDITIONS AND PROSPECTS OF DEVELOPMENT OF SMALL INNOVATIVE BUSINESS IN RUSSIA.....	33
Kendyuhov A., Yagelskaya E., Fayvishenko D. METHODOLOGICAL ASPECTS OF OPTIMAL DECISION MAKING SEARCH IN BRAND MANAGEMENT.....	40
Mazur I.I., Pimenova O. AN INFLUENCE OF WEB BROWSERS ON A DEVELOPMENT OF AGRICULTURE FORMS OF ECONOMY.....	45
Mezentseva E.V., Astankova E.N. THE ROLE OF SMALL FARMS IN DEVELOPING AGRO-INDUSTRIAL COMPLEX OF KUBAN.....	51
Ryabichenko D.O. DISPOSITION FACTORS OF THE BANK BRANCH NETWORK OF UKRAINE UNDER MODERN ECONOMICAL CONDITIONS.....	56
Mnushko Z.N., Pestun I.V., Bondareva I.V. THE FEATURES OF PROCESS BY CHANGES MANAGEMENT ON PRODUCTION PHARMACEUTICAL ENTERPRISES OF UKRAINE.....	64
Karpinsky B.A., Shkulka S.K. ROLE OF BUDGET-TAXES IN FORMATION EQUATION OF THE FINANCIAL SYSTEM OF THE STATE: EVALUATION AND PROGNOSTIC APPROACH.....	71

Paliashchuk Nadzeya ENTERPRISE COST MODELING ON THE BASIS OF THE APPARATUS OF PETRI NETS.....	81
Mostepaniuk A.V. GLOBAL EXPERIENCE IN IMPLEMENTING PROJECTS OF PUBLIC-PRIVATE PARTNERSHIP	91
Vuitsiv M. INTERNAL CONTROL AS A RESULT OF ACCOUNTING AND MANAGEMENT SYSTEM 'COLLABORATION'	103
Yepishyna I., Pershyna G. ELUCIDATION OF THE SOURCES OF CORRUPTION IN UKRAINE AND DEVELOPMENT OF THE MEASURES FOR ITS LEVELING.....	111
Kuchinska M., Ukrainska L. INTERPENETRATION OF COMPETITIVE AND MONOPOLISTIC PROCESS OF NATIONAL ECONOMIES IN A GLOBAL ENVIRONMENT	117
Ivanova V.V., Ivanova H.M. THE INFORMATION COMPONENT FEATURES OF MODERN STAGE OF ECONOMIC DEVELOPMENT AND KNOWLEDGE BASED ECONOMY	121

taken into account the interests of entities, worked with information (information products) as with a commodity, that is spent certain funds on working with it (structuring, processing, storage, delivering) and seek its reimbursement. The Implementation of the approach of free access to information is not completely solved only by free of charge, because even if the consumer does not pay for the information, he actually pays for the opportunity to see it, especially for the Internet use.

IV. Conclusions

Grounded features of the information component of economy determine the role and place of information in the development of knowledge based economy.

Knowledge based economy causes more strict requirements for information and, accordingly, information support, which should cover all processes that are carried out by economic entities.

Special attention should be given to the information support of education and science, the process of human capital formation, innovation activity development, application of achievements in scientific-technical progress, the transfer of knowledge. For the establishment and development of the knowledge based economy, a complex information support is needed to facilitate the formation of knowledge and their materialization.

Ukraine's craving to build the knowledge based economy, needs to solve the problem of the organization of its information support considering its role in the economy development.

Obtained research results should be expediently used to justify the methodological basis of the organization of support the economy with information. The practical significance consists in the possibility to use them to formation of a national information space.

Among the main directions of following research it should be noted: supporting economic entities by external information flows, the real rating of information as a resource and its importance for the support of effective activity and economic development, the improvement of information support organisation.

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The level of information support of the economy depends on the availability and quality of information focused information resources and products in the entities on the base of information (information capital). Qualitative and effective support of their economic entities by them is important as a simple increase of information volume does not guarantee the possibility to satisfy their information needs concerning certain issue, if deficiencies of semantic character and information support organization are available.

Table 1. Information aspect of the features of current stage of economic development and knowledge based economy

Indicator	Current stage of economic development	Knowledge based economy
The role of information	Auxiliary, the lack of consciousness of its importance in the economic growth	Main, the recognition of a key information resource for economic growth
Types of information	Focus on economic and social (entertainment, advertising) information support	Structure change of information: shifting emphasis to the scientific, technical and technological information support
The character of information needs	Relating to particular areas of society (economic, social)	Need of information on all scope of society's activity
Informatization features	Development of program-technical component	Development of program-technical and intellectual component
	Low level of information support	High level of information support by providing reliable pertinent information
	Supporting primarily economic entities with economic information, entertainment and advertising information for the public	High level of awareness of society concerning all areas of its life
	Low level of computer support of economic entities and population	High level of computer support of economic entities and population
	Limited access of business entities and the public to Internet	Wide access of business entities and the public to Internet
	Lack of information technology use	Information technology is the foundation of the knowledge based economy

Source: by author

The organization of the meeting the information needs of business entities needs to ensure a free, including gratuitous access to information resources. But it must be

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MORAL HAZARD: DETERMINATION AND THE WAY OF DECREASING IT

Abstract

Moral hazard as a special type of risk, which presents in the all financial risks is proved in the article. There are many ways to decrease moral hazard such as compliance, control, fine and others. We suggest reducing a moral hazard by the adjustment coefficient. Adjustment coefficient depends of eight factors and the direction of deviation of each. All factors divide in two basic groups: the first includes indexes for which certainly there is a maximal size and second – those for which certainly there is a minimum size. Each of them has a level of meaningfulness. For the calculation of this index we used the method of theory of fuzzy sets and the programmatic package of Matlab. If the adjustment coefficient is more than 1, it indicates that the bank's activity is associated with increased risk. As a result it is necessary to accept measures, in our case, to increase payment to the Deposit Guarantee Fund.

Key words: moral hazard, the adjustment coefficient, regulatory capital adequacy, Deposit Guarantee Fund, bank's risk.

Introduction

There are many tapes of financial risks such as: credit, market, operation, liquid and others. But we want to describe such risk, which is presented in all financial risk. It is moral hazard.

When we analyze national legislation, there is no definition of moral hazard. In the methodical instructions for the bank's inspection «The system of estimation of risks», there are such risk: credit risk, liquidity risk, risk of change of interest rate, market risk, currency risk, operation technological risk, risk of reputation, legal risk and strategic risk [1]. There are analogical types of risk in another legislation documents. Basel committee selects three basic types of risks: credit, market and operation [2].

According to Kevin Dowd, famous academic economist, the moral hazard is when one party is responsible for the interests of another, but has an incentive to put his or her own interests first: the general example is a worker with an incentive to shirk on the job [3].

Moral hazard is determined in investopedia as the risk that a party of a deal has not entered into the contract in good faith, has provided misleading information about its assets, liabilities or credit worthiness, or has an incentive to take unusual risks in a desperate attempt to earn a profit before the contract settles [4].

Moral hazard in financial sphere

These two definitions give us the ground to present our own vision of what moral hazard is. We can give the following definition of it. The moral hazard is the risk that one party of agreement will carry out actions that are undesirable for the other party, which is unable to control the behavior of that party. Moral hazard appears when all parties have different amounts of information.

We can see the examples of moral hazard in financial sphere:

- Somebody might sell another person a financial product (e.g., mortgage) knowing that it is not in his interests to buy it.
- Somebody might pay himself excessive bonuses out of funds that he manages.
- Somebody might bear risks from the operation done by another person.

We can see the examples of moral hazard not only in financial or banking sphere, but even in our life.

The example of moral hazard in banking sphere can be a situation when the worker of the bank offers credit to another person knowing that this person has low credit worthiness. At the beginning the worker is rewarded because of one more deal, and as the result the bank can lose great sum of money. Such phenomenon was usual for banking sphere before 2007 and it became one of the reasons of World financial crisis.

The conditions of existing of moral hazard are: existing of a base for cooperation or exchange, divergence of interests, difficulty of control and checking the quality of contract's implementation and limited liability for actions undertaken [5].

There are several levels of moral hazard: the micro level and the macro level. At the level of individual bank moral hazard appears during the bank's credit operations, and from the borrowers which are clients of the bank. So the bank's moral hazard lies in the fact when it provides lending activities, it mainly focuses on increasing lending, without paying significant attention to credit worthiness of customers. As a result this can lead to losing all or a part of the funds or even to a bankruptcy. Finally the depositors do not get their money back in time or they lose them at all. To analyze a share of problem loans into total loans in different country (Pic. 1).

Human capital is knowledge, experience, abilities, skills and capabilities of personell, used by it during the activity. As the abilities, experience, skills and capabilities are factually the result of the use of knowledge by human, who owns it, the human capital is, in fact, the amount of accumulated human knowledge and its ability to transform information to knowledge with the next materialization of them in the innovative direction.

Education forms the basis of human intelligence, used in following activities for the knowledge generation. It facilitates the accumulation of specific skills and experience in certain tasks carrying out, provides continual knowledge updating.

From the factor of the simple reproduction of the productive forces knowledge turns to the engine of progress, the amount of which increases exponentially, and in accordance with this activation of an effective flow of information is needed.

Knowledge, as noted by Academician V. Heyets have information dimension, that is their basis is information and the process of dissemination [2, p. 302]. According to the statement by P. Drucker, knowledge is a person's ability to apply information to particular work [8, p. 117].

As information is the basis for scientific, research, educational activities that implement the essence of a new type of economy, it can be considered as a basic component of the knowledge based economy, information base of economic transformations used by human for knowledge generation (Fig. 1).

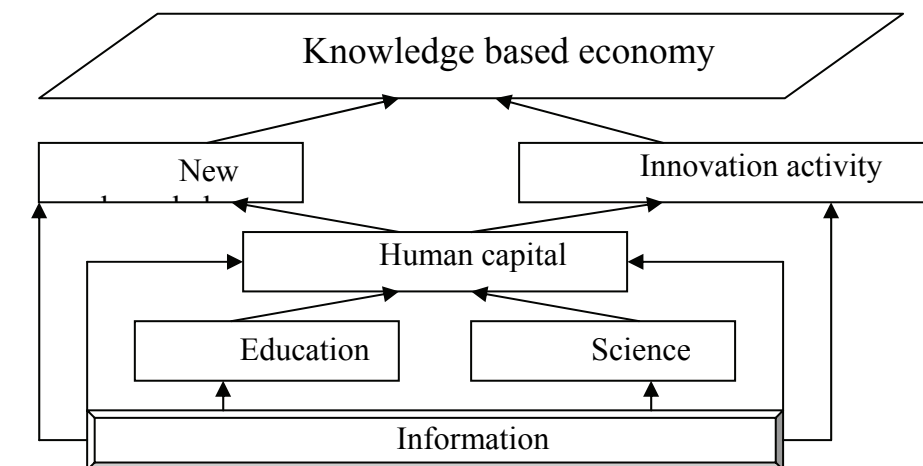


Fig. 1. Information as a basis for economic transformation

Source: by author

Information is the attribute of the object or phenomenon that takes the form of number or text after human or computer processing. It is inseparable from human consciousness, produces and consumes by human, and becomes knowledge after mastering [9]. Information is the data about events, facts and phenomena that are transmitted in time and space, are used to maintain existing knowledge and to get a new one [10]. Information becomes the main component of this process, that requires a high level of information support.

So, in society, particularly in the economy, the processes associated with information and information support, get some changes (Table 1).

Information support is the creation of the conditions for meeting the needs in information through the use of combination of methods and means of its obtaining, processing, storage and usage [11].

increasing dependence on human capital, innovation activity development, the transformation of knowledge and information to the foundation of economic processes, the active knowledge generation by human as a result of information rethinking, which is their main resource, the need for a high level of human intelligence, its maturity and intellectualization of all spheres of society activity, strengthening education role and training need within the span of whole life, the growing importance of science, activation of knowledge transfer, increasing the dependence of the economy on the level of society activity. These characteristics intensify the need of information and promote the growth of its volume and the activization of information flows. This information is suggested to be the basis of economic transformation that stipulates the research currency of information aspect of the formation and development of the knowledge based economy, especially taking into account the lack of attention of researchers for its examination.

II. Statement of the problem

The aim of the article is the research of the features of informational component of the current stage of economic development and knowledge based economy.

III. Results

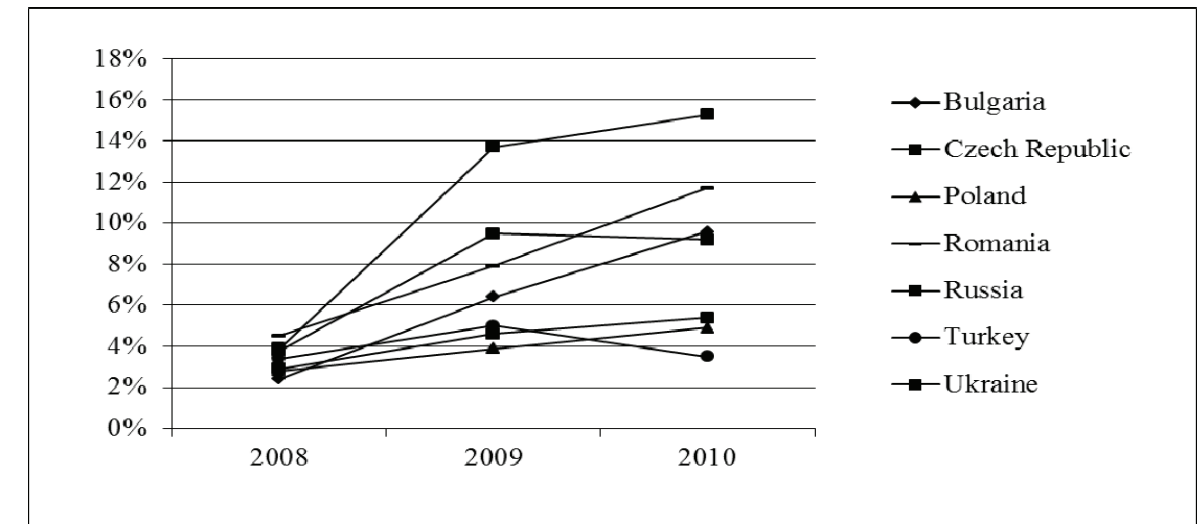
Knowledge based economy is the economy, the development of which is stimulated by knowledge that becomes the basis of material production due to the constant design and application of innovation, the basis of which is information resources, products, services, technologies and communications [4].

According to this essence of knowledge based economy, the most important factor of its formation and development is the promotion of innovation activity, fundamental researches and the implementation of high technologies.

The development level of science, knowledge-intensive types of economic activity and technology forms the background of economic growth. The materialization of scientific knowledge leads to changes in production [5, p.. 208].

The availability of influence trends of technologies of other activities on economic entities or activities that was marked by P. Drucker, leads to the need of learning, applying and modifying the technological knowledge [6, p.. 44]. In fact there is a need of continual knowledge upgrading the and available human potential in the entities.

The leading scientists of Ukraine note that its economic and social development in the XXI century «is directly related to human potential development and the degree of its use.» In postindustrial society, which Ukraine strives to, the human factor plays a major role [7, p.. 42]. This means that the volume of knowledge and their generation make a significant effect on economic development and transformative processes in the economy. The high paces of economic growth are associated with the volume of human capital under present-day conditions.

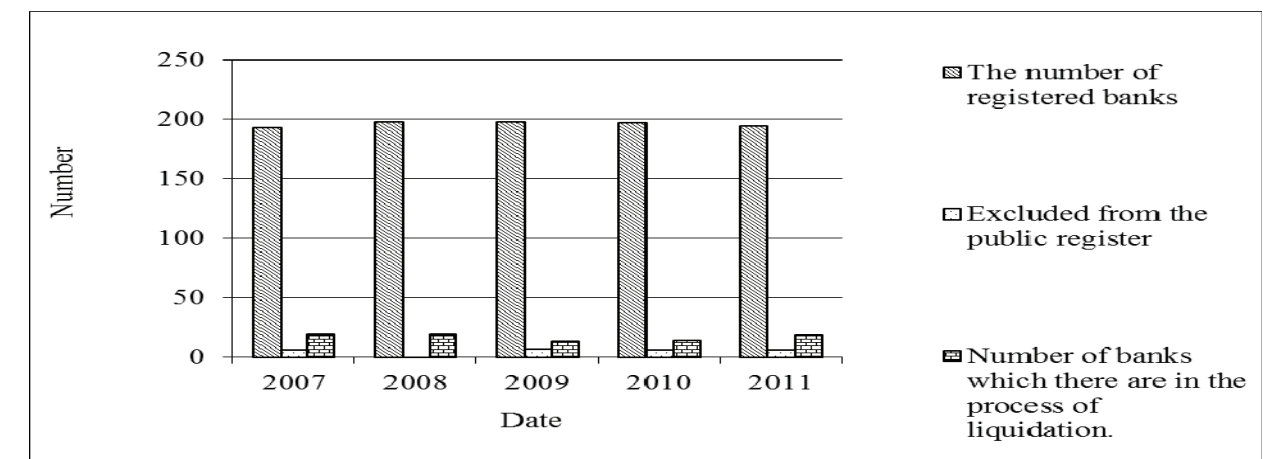


Picture 1 – There of is a share of problem loans into total loans

Source: IMF.

We can see, there is the largest share of problem loans in Ukraine. As a result there are many banks are liquidated in Ukraine (Pic. 2).

At the macro level, moral hazard appears from the central banks and the state. The matter is that every state can get loans from international organizations such as the International Monetary Fund [6]. When creditors supply loan capital, they ignore problematic debtor's situation because they hope for assistance from international financial institutions in case of non-return debt.



Picture 2 – Indicators of Ukraine's banks

Source: authors' calculations.

We can see such situation in the relationships between Ukraine and the International Monetary Fund. Everyone knows how much money Ukraine gets from it, and everyone understands that Ukraine has low level of credit worthiness.

Economic capital represents the emerging best practice for measuring and reporting all kinds of risk across a financial organization.

An economic capital is a capital, which must have a bank, depending of its risks. Sufficient level of economic capital is one way to reduce the risk. Basel committee considers that every bank must have minimum capital for coverage of basic types of risk of financial institutions, such as a credit, market and operation.

In economic literature there are two basic approaches to description of economic capital. Pursuant to the first, it is determined as a sum of capitals, necessary for coverage of certain aggregate of concrete risks. In such case an economic capital can be both greater or less from the volume of regulatory capital. If an economic capital is less than regulatory capital, bank has low risk. An opposite case means banks activity has higher risk

The second approach is based on determination of most reliable and proof components of capital, which is able to cover the certain aggregate of risks and result of their complex co-operation. Coming from it, it is possible to assert that an economic capital less than regulatory capital or makes its certain part only.

Economic capital must include reserves for tree type of risk: credit, market and operational.

It is the calculation of economic capital for to the credit risks.

«Approach, based on the internal ratings». Essence of which is in the following:

1. Development of the system of the internal ratings.
2. Estimation of solvency of contractors and appropriation them of ratings.
3. Determination of probability of default is for each of contractors.
4. An estimation of sum of debt of contractors is in the moment of possible default.
5. An estimation of particle of failure to return of assets is in the case of default.
6. Term of redemption of debt.

It is the calculation of economic capital under market risks.

«It is approach is based on an internal model». The value of Value-at-Risk undertakes for the calculation of economic capital, that maximal losses after a brief-case during a certain period at certain probability. Complication in the factors of risk, that parameters which determine a cost and to the rizikovanist' brief-case.

Basel II allows large banks to base operational risk capital requirements on their own internal models. This has spawned considerable independent research into methods for measuring operational risk. Techniques have been borrowed from fields such as actuarial science and engineering reliability analysis.

We propose the following algorithm of operational risk management.

The first stage is to determine factors, which are the cause of emergence of operational risk. All factors should be divided into two groups. The first includes the factors of internal environment, which are more controlled by the bank and there is a possibility of their warning (Pic. 3).

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THE INFORMATION COMPONENT FEATURES OF MODERN STAGE OF ECONOMIC DEVELOPMENT AND KNOWLEDGE BASED ECONOMY

Annotation

Information is considered as a basis for economic transformation. The features of the information component of economic functioning and development of knowledge based economy, causing the need of high level information support.

Keywords: economics, information, information support, knowledge based economy.

I. Introduction

Nowadays the main theoretical basis of the economic growth process of developed countries is the concept of knowledge based economy [1]. In consequence of this, the transformation processes in the economy are increasingly occurring virtually in each of them, so Ukraine should take this into account when determining its strategic objectives. Only a significant change in information and knowledge technological component of Ukraine's competitiveness may give it a high place in the economic ranking [2, p.. 354].

«Knowledge Economy (knowledge capacious economy) is the economy in which the growth source is as specialized (scientific) and daily knowledge as well, in the result of their use the process of knowledge accumulation and usage becomes the dominant factor on the level with natural resources, capital and labor in consequence of what competitiveness is constantly growing... «[2, p.. 310].

Knowledge based economy is identified as the one, where in fact the main factors of the development are innovative labor and intellectual capital. It is emphasized that the knowledge economy creates high-tech products and provides highly qualified services and also uses and disseminates knowledge for the development and the growth of competitiveness, which is implemented by information, communication and other technologies. Its basis is highly skilled jobs and innovation oriented personnel [3].

Thus, among the features of the current stage of economic transformations connected with the transition to an economy based on knowledge, it may be noted:

A research School in USA and a Harvard Business School. Professors M. Porter, A. Chandler, M. Arnett, J. McArthur form the main body of this school. First results were presented problems competitiveness of products, companies and individual sectors, made a great contribution to the strategic management of the company in a competitive environment, isolated and assessed the factors of competitive advantages, key success, especially the significant results achieved in the study of problems of competition regulation at the level of industries.

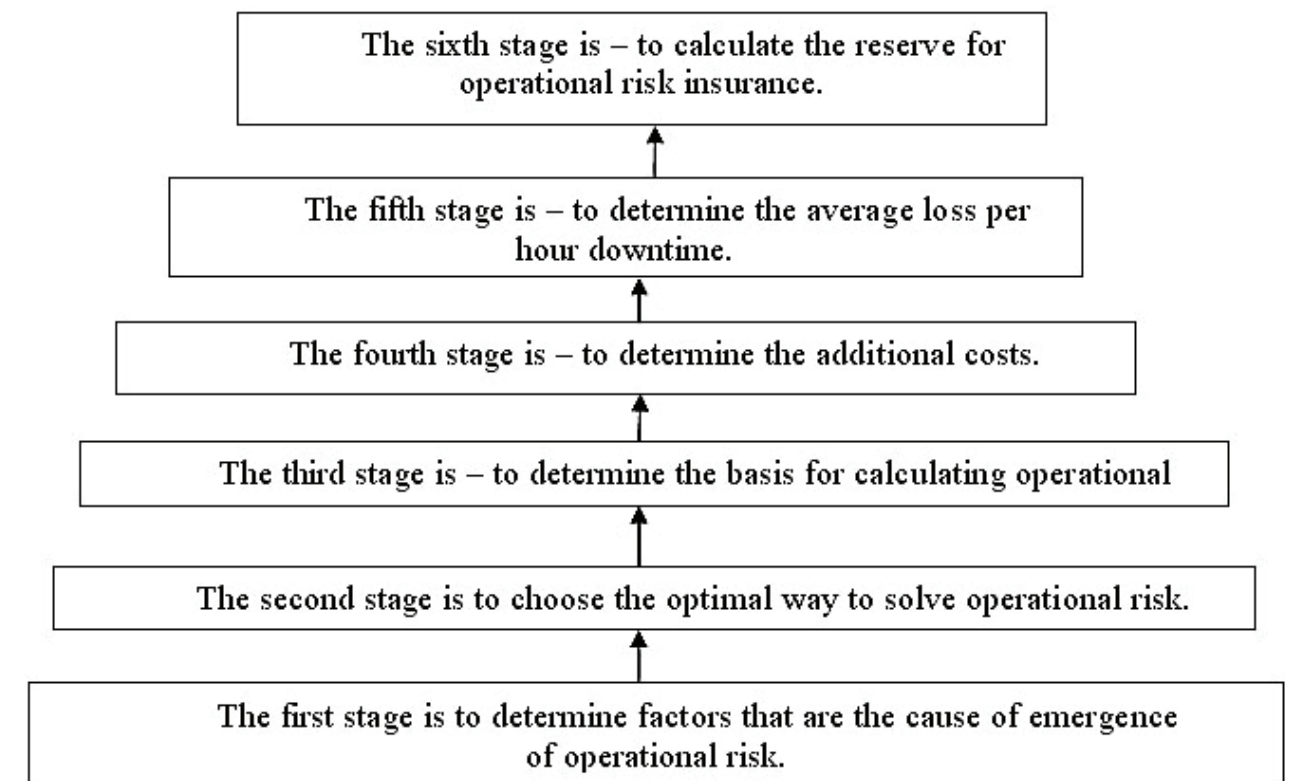
School, presented research centers in Japan. Universities of Tokyo, Hytotsubasy, Waseda, Meiji coordinate their research in the field of non-price competition, in common with the promotion of competitors products, much attention is paid to the problem of cooperation and interoperability of national producers in order to gain new geographic markets. Prominent representatives of the Japanese school are Professor X. Takeuchi, H. Koboyasi, M. Tsuchiya, Noguchi.

European school research competition. Switzerland, Sweden, Denmark, Austria, Italy, Germany practically have their own, though largely pro-American, models that describe the competitive behavior of companies.

So, naturally monopolistic competition presented two different sides. One of them is that the firm creates a legal monopoly, which by means of patents, trademarks and logos is protected from competitors. It also promotes the differentiation of goods – giving them the individual properties (in quality, shape, coloring, packaging, conditions of sale) that make the market monopoly. The other side is that in a market where similar goods are sold (e.g., pharmacies, restaurants), there are many different competitors that carry out the differentiation of their products. Explaining the fundamental feature of monopolistic competition, E. Chamberlin wrote that differentiation may be based on specific features of the product itself, as if such a special patented features – powerful brands, trade names, identity package or container (if any), or such as individual features that relate to quality, form, color or style. Differentiation may exist regarding the terms that accompany the sale of goods. In retail, these conditions include such factors as ease of location of the seller, the general atmosphere or overall style characteristic of his school, his manner of doing business, his reputation as honest dealers, courtesy, business agility and all personal ties, which are called by his clients or themselves, or with those who he is.

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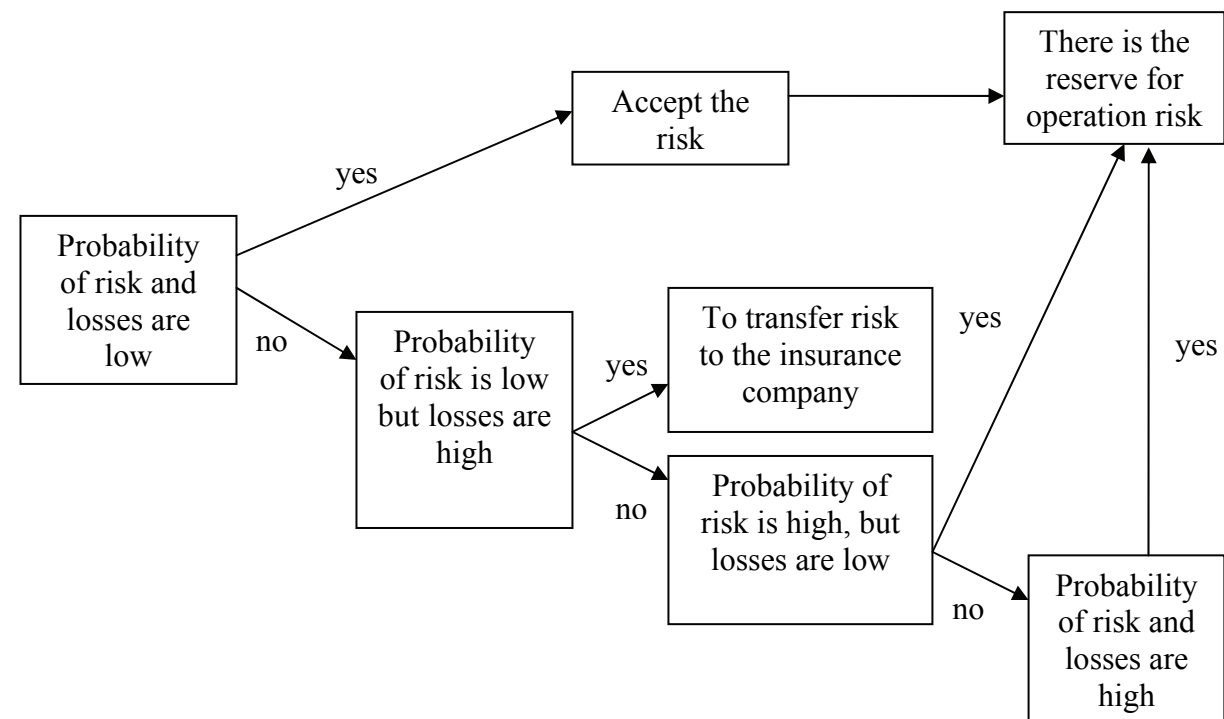
Picture 3 – The algorithm of operational risk management

Source: authors' calculations.

In the first group include: lack of leadership skills, inadequate personal actions, information systems failure, abuse by employees.

The second group include uncontrolled by the bank's environmental factors: commercial (non-contracting parties of their obligations, changes in market conditions), technological progress, leading to the inability to use the old methods of service, social and political (war, the change of political power), the emergence of competitors that offer more favorable terms, various natural disasters and emergencies. There are unpredictable and uncontrollable factors much more, so the bank should take appropriate measures to neutralize them by a reserve or insurance.

The second stage is to choose the optimal way to solve operational risk. Solutions may attempt to: avoid certain risks; accept others, but attempt to mitigate their consequences; accept some risks as a part of doing business.



Ошибка! Источник ссылки не найден. Picture 4 -There are options for managing operational risk, depending on the probability of its occurrence and magnitude of losses

Source: authors' calculations.

The third stage of operational risk management is to determine the basis for its calculation, which is the Bank's net profit. It may be calculated in the following ways:

- it is equal to profit, which the bank has received for the same period last year;
- to calculate the profitability of operations and services that the bank could offer;
- to estimate lost profit, which is based on an analysis of competitors.

The fourth stage is – to determine the additional costs.

The fifth stage is – to determine the average loss per hour downtime.

Average loss of the bank in one hour is calculated:

$$AL = \frac{\sum P_L + C_A}{N_{WH}}, \quad (1)$$

where AL – average loss of the bank in one hour;

$\sum P_L$ – amount of lost profit;

C_A – additional costs;

N_{WH} – number of non-working hours per year.

The sixth stage is – to calculate the reserve for operational risk insurance.

Secondly, the introduction of scientific and technological revolution requires high material costs. Typically, these costs are not capable of small businesses, typical of free competition. In contrast, it is a monopoly, that using high incomes may achieve superiority in the scientific and technological progress in its industry. This they ustalyuyut their preferential position in the market.

Thirdly, in recent years received important part of large economic organizations in a global competition aimed at conquering the world market space. In many countries, state monopolies detects national aid in the development of new scientific and technological achievements in the preparation of scientific and engineering personnel, and provide them with other economic benefits.

The main forms combination of two types of interaction between market players are: monopolistic competition and oligopoly.

In their own monopoly and competition are combined in oligopoly. Oligopoly (gr. oligos – some, poleo – sell) – is a domination of a small number of major firms in the production and the market. In the U.S. oligopolistic usually formed by four leading industry firms that sell in the market to 60% of total production.

Oligopoly in different ways (using the «Leadership in prices,» secret «gentleman's agreement») bypass antitrust laws and seek to increase market prices or at least support them with favorable prices. Because of this process in a new way of dealing with consumer demand is started up – non-price competition. Rivalry in this case is based on technical superiority, quality and reliability of products, more effective methods of marketing, expansion of services provided and guarantees to customers, payment terms and other receptions. This takes into account that the impact of scientific advances on the nature and quality of products produced, as well as increased public role and significance of commercial advertising is now intensified.

Summing up the process of competition and monopoly we deployed a modern view of market relations. It includes the following elements:

Relatively small remnants of free competition.

Rivalry between large monopolies in the markets.

Monopolistic competition and oligopoly competition between participants.

State restriction of monopolistic activity and competition in its civilized forms.

It is important to emphasize that in Western countries these are not extreme market conditions: neither free competition nor pure, unrestricted monopoly, which covers all national economies. Another picture is observed in Ukraine.

Research trends in the cooperative sector in European countries in transition showed the following features of this process:

state promotes cooperative activities, aware of the importance of cooperatives for the development of the national economy in transition, and for the integration of national economies into the world economy;

cooperative organizations from developed European countries support the transformation process in order to adapt to the requirements of the globalized world economy;

Modern schools, investigating the marketing and competition, are using a rich theoretical and practical experience in the study and further development of methodology of competition.

Currently there are three major research centers that are developing rapidly these problems:

new measures and providing competitive advantages are explored by such scientists as: E. Chamberlain, F. Hayek, E. Heksher, J. Hicks, V. Leontiev, F. Liszt, A. Marshall, B. Olin, D. Ricardo, J. Robinson, P. Samuelson, A. Smith, R. Solow, J. Schumpeter. The fundamental theoretical basics of measurement and ensuring competitiveness of the global economy received further development in the research of many eminent scholars, but especially worth noting the labor of E. Azroyants, L. Antoniuk, J. Bazyliuk, O. Bilorus, R. Fatkhutdinova, G. Hamel, Y. Pakhomov, L. Piddubny, N. Malakhov, K. bill Makkonnella K., J. Mill, J. Moore, L. Rudenko, S. Sokolenko, V. Shevchuk, D. Yudanova, L. Ukrainskaya, A. Weber, and others.

However, many aspects of this scientific problem are not disclosed yet.

The object of study is the process of national competitiveness as a global economic phenomenon.

The object of study is the forms and methods of improving the national competitiveness, and approaches to regulation of competitive processes in global terms.

III. Results

Notably, the present authors economists argue that today there almost is no trace of perfect competition. Here is how this is claimed by the P. Samuelson and W. Nordhaus, «In today's economy quite competitive markets are rare – it is rather an ideal to which you seek, not reality ... In fact, many markets in the modern economy are under the power of multiple large firms, sometimes just two or three. Welcome to the world in which we live in imperfect competition» [3, p. 68.].

The first trend is to strengthen the monopolization of the market. The technological revolution has caused a transition to a much higher level of integration of the economy (to the association of enterprises in different economic systems). Centralization of production led to the formation of powerful natural monopolies, which include National Economic Space (pipelines to transport oil and gas, electric transmission lines in thermal energy, etc.) The monopolism in nature public sector appeared in macroeconomics.

The second trend – is increased competition. The technological revolution is unusually accelerated by the improvement of the technical base of production. In connection with this the competition also increases dramatically, especially in introducing the latest achievements of engineering and technology. This competition has become truly global, covering all countries with open economies.

The market at the same time is reinforcing its position opposite types of interaction entities.

First, the economic role of many monopolies is changing in its root. In the late XIX – first half of XX century traditional monopolies were to hinder the application of scientific and technical innovations to prevent decline in market prices. But now big business associations are legal monopolies, using over a period of patent law for the recovery technology. Professors S. Fysher, R. Dornbush, R. Shmalenzy note: «... most governments give inventors the right to be a temporary monopoly to accelerate technical progress. In the United States patents provide a monopoly for 17 years ... Laws, custodian trade secrets, sometimes give rise to the development of monopolies – even «long-livers» [4, p. 207].

$$R_{OR} = \overline{FL} * \overline{P_{NH}} * \overline{AL}, \quad (2)$$

where R_{OR} – the reserve for operational risk;

\overline{FL} – the average frequency of losses;

$\overline{P_{NH}}$ – the average period of non-working hours;

\overline{AL} – the average loss of the bank in one hour.

The method of determine bank's risk for reducing moral hazard

In our opinion, the solving of the problem of moral hazard's existence is possible by determining the bank's risk. To determine the bank's risk, we offer on such algorithm which consists of the followings stages:

1. First – to choose the indexes which characterize the risk of a bank.
2. Second – to determine of indexes' meaningfulness.
3. Third – to unite all indexes in a general formula.
4. Fourth – to calculate the adjustment coefficient for a bank.
5. Fifth – to increase the payments which depend on the size of coefficient.

We think, that main economic indicators are regulatory capital adequacy, the ratio of borrowed capital to own, the share of problem loans in total, the ratio between deposits and capital, the ratio of deposits and bank assets, return on assets, return on equity, the ratio of the growth rate of profits and assets. There are main indexes and its formulas for calculation in the table 1.

To calculate of meaningfulness each of eight offered indexes by the method of Saaty [7].

To solve this problem, we used the method of hierarchies. The indicators represent a fuzzy set. To determine the priority we need to build matrix, which is a square, diagonal and inverse symmetry.

$$A = a_{ij}, \quad (3)$$

where A – matrix of pairwise comparisons;

a_{ij} – shows how much the item u_i exceeds the u_j ;

i, j – from 1 to n ;

n – number of elements.

We determined the priority level on a scale of Saaty. It is the next:

1 – it is no the superiority u_i over u_j ;

3 – slight superiority u_i over u_j ;

5 – significant superiority u_i over u_j ;

7 – explicit superiority u_i over u_j ;

9 – the absolute superiority u_i over u_j ;

2, 4, 6, 8 – interim comparative evaluation.

Eigenvector we find the following system of equations:

$$\begin{cases} A * W = \lambda_{\max} * W \\ W_1 + W_2 + \dots + W_n = 1 \end{cases} \quad (4)$$

where A – matrix of pairwise comparisons;
 λ_{\max} – the maximum eigenvalue A ;
 W – coordinates of the eigenvector.

When we constructed eigenvector the base index was regulatory capital adequacy, because it determines ability of banks' capital to cover basic financials risk. We received next eigenvecto

$$\begin{cases} u_1, u_2, u_3, u_4, u_5, u_6, u_7, u_8 \\ 1, 3, 3, 5, 7, 3, 5, 7, \end{cases} \quad (5)$$

where u_1 – regulatory capital adequacy;

- u_2 – dependency ratio;
- u_3 – the quality of loans;
- u_4 – ratio of capital and deposits;
- u_5 – the ratio of deposits and bank's assets;
- u_6 – return on equity;
- u_7 – return on assets;
- u_8 – correlation of increases of net income and assets.

Table 1. Main indexes and formulas to its calculation

Number	Index	Formula	Threshold value
1	Regulatory capital adequacy	$H_2 = \frac{K}{E_{RWA}}$, де K – regulatory capital; E_{RWA} – an equivalent of risk-weighted assets	Minimum value is evened 10 %
2	Dependency ratio	$\frac{K_{al}}{K_{ok}}$, де K_{al} – capital is attracted and lent; K_{ok} – own capital	The attracted capital must not exceed own more than in twelve times
3	The quality of loans	$\frac{K_p}{K_{all}}$	Critical value 5 %

student Maria Kuchinska,
 professor Larisa Ukrainka

INTERPENETRATION OF COMPETITIVE AND MONOPOLISTIC PROCESS OF NATIONAL ECONOMIES IN A GLOBAL ENVIRONMENT

Summary

Issues related to increasing the competitiveness of the national economy based on knowing the conditions of globalization and integration development have being systematized. Features of the relation to monopoly and competition in global conditions are considered.

Keywords: competition, monopoly, globalization, market economy, national economy.

I. Introduction

Competition – an objective economic law of commodity production developed, in the action for which the producers are forced by an external force to improve productivity across their businesses, expand production scale, accelerate NTP, introduce new forms of production and payroll systems, etc..

The urgency of the conducted scientific research is caused by the aggravation of the contradictions in the international competitive relations that take new forms of its manifestation.

II. Problem

The article contains a comprehensive scientific study of theoretical and practical foundations of a global paradigm of national competitiveness and the factors of its development in a dynamic global economic system.

The history of monopoly is calculated for thousands of years and reaches antiquity. Another famous ancient Greek philosopher Aristotle thought about it, attributing it to the arts of acquiring property. He noted that «it is beneficial in understanding the process of multiplying property, if someone is able to capture any monopoly.» [2, p. 208]

The role of monopolies in the market relations in the older times was researched by many economists, including British economist F. Edzhuort. In his book «Pure theory of monopoly» (1897), he writes about the negative impact on competition and monopoly pricing. And the most important of his conclusions was that the monopoly eventually leads to self-destruction mechanisms.

Theoretical and methodological principles of competition and its dynamics, modern forms, especially in the global competitive environment, the formation of

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		де K_p – problem credits; K_{all} – lump sum of credits	
4	Ratio of capital and deposits	$\frac{D}{K}$, де D – deposits; K – capital	It must be less than 10.
5	The ratio of deposits and bank's assets	$\frac{D}{A}$, де D – deposits; A – bank's assets	Maximum value is evened 60 %
6	Return on equity	$\frac{I_n}{K}$, де I_n – net income; K – capital	Minimum value 15,0 %
7	Return on assets	$\frac{I_n}{A}$, де I_n – net income; A – assets	Minimum value 1,5 %
8	Correlation of increases of net income and assets	$\frac{I_{n1}}{I_{n0}} \cdot \frac{A_1}{A_0}$, де I_{n1} та I_{n0} – accordingly net income of current and previous years; A_1 та A_0 – accordingly assets of current and previous years.	More than 1

We got the next coefficients of meaningfulness by the programmatic package of Matlab regulatory capital adequacy – 0,3722; dependency ratio – 0,1241; the quality of loans – 0,1242; ratio of capital and deposits – 0,0745; the ratio of deposits and bank's assets – 0,0532; return on equity – 0,1241; return on assets – 0,0745; correlation of increases of net income, assets and deposits – 0,0532.

All of indexes divided on two basic groups: the first includes indexes for which certainly there is a maximal size, and second – those for which certainly there is a minimum size. Basic descriptions of these indexes are presented in a table 2.

Table 2. There is threshold value and level of meaningfulness of indexes, which use to determine bank's risk

Group	Index	Threshold value	Level of meaningfulness
First, which includes indexes for which certainly there is a maximal size	Dependency ratio	12,000	0,1241
	The quality of loans	0,05	0,1242
	Ratio of capital and deposits	10,000	0,0745
	The ratio of deposits and bank's assets	0,600	0,0532
Second, which includes indexes for which certainly there is a minimum size	Regulatory capital adequacy	0,100	0,3722
	Return on equity	0,150	0,1241
	Return on assets	0,015	0,0745
	Correlation of increases of net income and assets	1,000	0,0532

After defining the calculation of economic indicators we should find out the level of the risk with the help of adjustment coefficient. It takes into account the level of significance of each of the eight proposed factors and the direction of deviation of each.

The formula of adjustment coefficient is [8]:

$$K = \sum_{i=1}^n W_i * \left(\frac{\varepsilon_i}{\varepsilon_{oi}} \right) + \sum_{j=n+1}^m W_j * \left(\frac{\varepsilon_{oj}}{\varepsilon_j} \right), \quad (6)$$

where K – adjustment coefficient;

W_i – level of significance of indicators that should be equal or lower than the threshold;

e – coefficient for which the maximum size is defined;

e_{oi} – maximum threshold coefficients;

W_j – level of significance of indicators that should be equal or higher than the threshold;

e_{oj} – minimum threshold coefficients;

e_j – coefficient for which the minimum size is defined.

We can use the adjustment coefficient in such situation. There are three banks:

Bank A, Bank B, Bank C.

We want to describe the activities of each of the banks.

The Bank A has an optimal ratio between assets and liabilities.

Bank B gives many credits.

- availability of wide range of discretionary powers for public authorities and persons authorized to perform the functions of state or local government;
- persons wage disparity authorized to perform the functions of state or local government of their powers;
- unfavorable treatment of business and availability of economic benefits for certain categories of entrepreneurs;
- low effectiveness of measures taken by law enforcement authorities, prosecutors and courts for prosecution the guilty of committing corruption to justice;
- tolerance and lack of critical attitude to corruption;
- corruption perception by population as a means of achievement the desired result.

IV. Conclusions

Having identified the reasons of corruption, it is necessary to develop an actions to stop it. They are as follows:

- elimination of quotas for export for agricultural sector, modern procurement system implementation as well as standardization of tariffs for energy for households, public utilities and industrial enterprises [10]
- improve judicial system, achieve more transparency and more opportunities for society to monitor activities of the government, to severe punishment for bribetakers and bribegivers;
- reforms in legislative, judicial, enforcement agencies systems eliminating the ways to use corruption schedules for stealing state money. It can be clarification of state sails procedure, creation of commission controlling the spends of different echelons of power;
- reducing of intervention of state officials into management of economy to the uttermost;
- propaganda of negative relation to corruption by SMI, highlighting the responsibility for such kind of actions, illuminating the judicial processes concerning corruption;
- increasing the level of salaries for teachers, medical personal, authorities of lower level, shortening the «deep» between the deputy and, for example, teachers' salary, etc.

The mentioned above measure could to level corruption in Ukraine, increase its international image.

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Having succeeded an investigation and basing on the analysis of Corruption in Ukraine survey [9], is obviously the most corrupted the state medical institutions (66,2% of respondents has highlighted it), than the SAI (23,7%), schools (22,2%), installation or repair of municipal utilities services (20,7%) and applying for or receiving state social assistance (18,4%).



Pic. 3 – Corruption at the Ukrainian institutions according to the citizens poll

According to the Presidential document «About National Anticorruption Strategy» [8]: the reasons of corruption in Ukraine as follows:

- low level of some citizens integrity, authorized to perform functions of the state or local government;
- inadequate administrative procedures (its absence and unclearness);

The Bank C attracts a lot of deposits.

We calculated the adjustment coefficient for these banks based on analyzing of their activity (Tab 3).

As e result Bank A has a valid value of adjustment coefficient. Bank B has the most value of adjustment coefficient so it has more moral hazard.

Conclusions

With the help of this coefficient the level of risk of bank's activities is specified. There are 2 situations, when the coefficient is less or equal to 1, and when it is more than 1.

We should note that when adjustment coefficient is less or equal to 1, the activity of the bank isn't risky.

Table 3 – There are indicators of some banks

Indicators	Bank A	Bank B	Bank C
Regulatory capital adequacy	0,110	0,090	0,080
Dependency ratio	7,000	10,000	14,000
The quality of loans	0,013	0,070	0,022
Ratio of capital and deposits	3,000	7,000	13,000
The ratio of deposits and bank's assets	0,200	0,800	1,000
Return on equity	0,125	0,111	0,131
Return on assets	0,014	0,008	0,016
Correlation of increases of net income and assets	1,100	0,750	1,300
Adjustment coefficient	0,760	1,192	1,103

If the coefficient is more than 1, it indicates that the activity of the bank is associated with increased risk. Some measures should be taken. It can be payments to the Deposit Guarantee Fund.

It was determined that the increase of adjustment coefficient at 0, 10 should increase payment to the Deposit Guarantee Fund at 0.1% per year. Such action would solve two major problems at once: to increase the amount of money of fund, and reduce the moral hazard which appears in the bank.

Differentiation of the size of the insurance deposit depending on the level of the bank's risk, allows eliminating the desire of banks to hold too risky operations, because the bank will have to pay higher contributions. Another positive effect on differentiation of contributions is the increasing of the resource base of the Deposit Guarantee Fund, which will allow him to expand the range of functions performed.

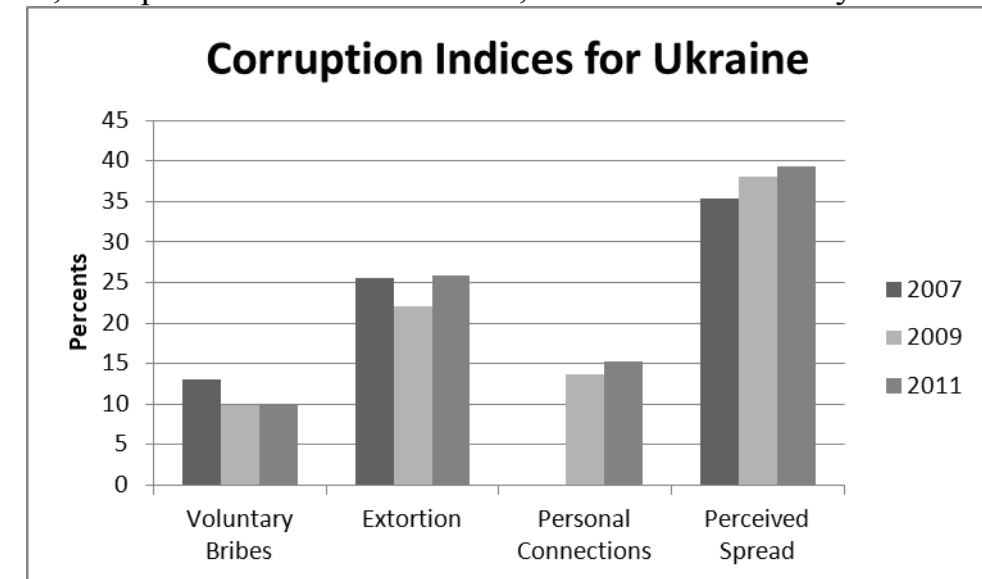
To conclude, we should note that implementation of payments to the Deposit Guarantee Fund which depend on the level of moral hazard in bank's activity will increase trust for the banking system by both individuals and legal entities, which in turn will increase the resource base of the banking system of Ukraine.

There is one way to decrease moral hazard on micro level in the article. There are many another ways such as compliance, control, fine and others.

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Specific forms of corruption. When looking at the specific forms of corruption that have been encountered, the results show (picture 2) that extortion has returned to the 2007 level (25,8% in 2011 and 25,6% in 2007), even though in 2009 it declined to 22,1%. Voluntary offering of bribes, after decreasing to 9,9% in 2009 from 13,1% in 2007, remains at the same level of 10,0% in 2011. The use of personal connections has increased from 13,7% in 2009 to 15,3% in 2011. As earlier, there is a variance across government functions – in some of them, corruption transactions increased, while in the others they decreased.



Pic. 2 – Corruption Indices for Ukraine: 2007-2011

Basic corruption trends observed in Ukrainian society as a whole also extend to the spheres that the Ukrainian government defined in 2006 as requiring the most significant anti-corruption measures (table 1).

Table 1 – Corruption indices

Sphere	CORRUPTION INDICES			
	Perceptions of Widespread Corruption	Extortion Experience	Experience using Personal Connections	Cases of Voluntary Bribery
Business regulation and inspection	29,3%→34,0%	35,4%→40,2%	25,2%→24,9%	19,9% →14,5%
Courts	59,3% →60,3%	31,8% →30,2%	17,7% →21,2%	8,6% →10,7%
Customs	38,6%→42,1%	29,5% →36,1%	14,0% →10,0%	16,6% →10,7%
Government permits	42,2% → 42,1%	40,1%→47,1%	25,9% →30,3%	14,8% →16,1%
Land privatization and ownership	47,1% →45,9%	25,3%→32,0%	18,7% →18,4%	7,1% →9,9%
Registration or privatization of real estate	35,4%→ 33,5%	22,6% →32,2%	17,1%→ 22,0%	8,8% → 11,6%
State notaries	26,2% → 26,8%	12,7% → 11,1%	11,5% → 11,1	5,1% → 6,7
Universities	49,0%→ 47,1%	43,8%→ 49,7%	26,9%→ 20,5%	27,3% → 25,5%

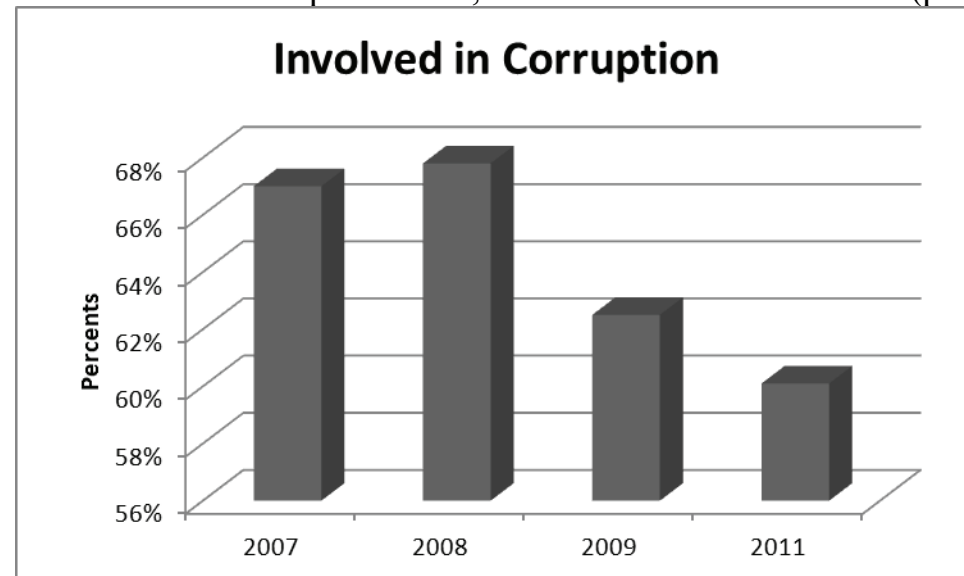
following:

1. Corruption is understood as the bribery and venality of governmental employees.
2. Corruption is regarded as the abuse of power or official position, performed for personal interests.
3. Corruption includes the use of official powers or the status of one's position, and also the authority of such a position, for the satisfaction of personal interests or of the interests of third persons.
4. Corruption is regarded as a feature of organized crime [2].
5. Corruption is payment for services or material which the recipient is not due, under the law [6]

The regulatory legal acts of Ukraine also do not give a unified definition of the concept of corruption. Thus, in Ukraine's Law «On the Battle with Corruption» [7] the following formula is given: «corruption is understood in this law to be the activities of persons authorized to carry out governmental functions, which actions are directed at the illegal utilization of the powers granted them for the obtaining of material goods, services, privileges, or other advantages.» A different definition of corruption is given in the Presidential document «About National Anticorruption Strategy»: [8] corruption in Ukraine is a system phenomenon, spreading its negative influence on all spheres of social life, deeper and deeper coming to stay in everyday life as a main, quick and the most effective way to solve the issues, to succeed the determined aims.

Having determined the corruption essence should be detected the real measures of corruption in Ukraine.

During the investigation has been identified that in 2011 [9] the overall level of corruption remained extremely high in Ukraine. The analysis of 2009 and 2011 surveys showed that the level has slightly dropped off. Indeed, in 2011 a total of 60,1% of respondents said they were involved in corrupt transactions with government officials over the past 12 months as compared to 62,5% in 2009 and 67% in 2007 (pic.1).



Pic. 1 – Involved in Corruption over the Past 12 Months

O. Klimenko

INSTITUTIONAL PROBLEMS OF NATURAL RESOURCES MANAGEMENT FROM THE PERSPECTIVE OF THE CONCEPTION OF SUSTAINABLE DEVELOPMENT

Summary

In this paper is presented a look upon the problems of rational use of natural resources to create effective mechanisms for environmental management and development of new resource-saving and environmentally friendly technologies.

Keywords: sustainable development, institutional issues, environmental economics.

I. Introduction

Nowadays the whole world is concerned about the threat of environmental degradation and the growing imbalance between nature, man and society. Nearly twenty years civilized nations are implementing the concept of sustainable development – a model of civilization development, which is based on the need for a balance between the solution of socio-economic issues and environmental conservation.

The relevance of the paper lies in that the effectiveness of implementing sustainable development in the country strongly depends on institutions that form the legal, financial, social, innovation, logistics, information and other infrastructure elements.

Many foreign and local scientists include institutional issues, that arise from the decisions of government in the environmental sphere in the field of their research interests. So, Bruce E. and J. Peretz in their works show that the errors of state policy in the sphere of ecology cause serious violations in political, economical, technical, ethical and other aspects of society. Hilchevskaya RI, PI Safonov consider environmental (invayronmentalnuyu) economics to be the basis for the concept of sustainable development [2]. Kryzhova MI considers the problem of institutionalization in the field of ecology [3].

II. Problem Statement

The possibility of implementation of the concept of sustainable development in Ukraine is linked with the resolution or, at least, with the softening of a number of fundamental contradictions between the national and state interests and the interests of the international community, the interests of individual countries and regions, the requirements of sustainable development and the interests of transnational corporations.

The purpose of this paper is to identify problems of rational use of natural resources to create effective mechanisms for environmental management and development of new resource-saving and environmentally friendly technologies.

III. The results

In Ukraine, the desire of business entities to maximize profit often takes forms that are contrary to civilized economics and violate environmental norms, standards and regulations for environmental protection. This reduces the effectiveness of the state's performance in the environmental sphere, inhibits the development and use of safe technologies and standards, causes considerable damage to both environment and economics.

One of the determinants of productive activities of the state, aimed to achieve ecological balance, is the denial of investment that is economically viable, but harmful in environmental sense. Real investments precede multi-economic calculations of future profitability and the present value. However, the methods of comparing the economic efficiency of investments and the violation of natural-resource balance does not exist. There is a need for an integrated economic and environmental assessment of future investment.

The main problem of the economy – limited resources – requires the valuation of natural resources. Roundedness of almost all natural resources necessitates several options of their rational use for agriculture, industry, construction, recreation and other areas. However, the selection criterion, which gives the economic evaluation of natural resources when comparing different options for their use, in other words – the exchange value of natural resources, seems to be insufficient, taking into consideration current conditions and the concept of sustainable development.

Natural resources are the product of the functioning of natural systems. So they can not be evaluated like the product – with the amount labor required to manufacture it, or otherwise taken in the traditional economy. However, some types of natural resources are vital, irreplaceable and therefore they can not be installed in price of the traditional version. State management of these types of resources should be based on the introduction of acceptable standards of safe use of the resources by the social production.

Among the available methods for determining the specific economic value of natural resources and natural services scientists allocate, mainly, a few basic ones. These are: the market value rent, the cost approach and the opportunity cost. However, each method has its own peculiarities. Although, the market valuation method allows to estimate only the insurance of natural resources, it does not reflect the function of assimilation of waste and pollution, neither it estimates recreational features, or gives economic agents an incentive for efficient use of natural resources and environmental protection and it does not reflect the externalities – social benefits and costs.

The calculation of the rental cost mainly refers to the land resources and the price of land is associated with an equal in value money-capital, placed in a bank and

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ELUCIDATION OF THE SOURCES OF CORRUPTION IN UKRAINE AND DEVELOPMENT OF THE MEASURES FOR ITS LEVELING

Annotation

At the paper is covering an issue concerning the subject matter of corruption, the reasons of its origin in Ukraine, the measures and spheres of its spreading. At the conclusion of the paper is developing the ways for leveling corruption in Ukraine.

Key words: corruption, authorities, forms of corruption

I. Introduction

Corruption is a social phenomenon that has a vividly pronounced political background. It appeared in ancient times with a birth of a rich people class, aiming to take a power, preferences from the ruling elite. Historical experience bears witness to the fact that the heights of power have often been achieved with the aid of corruption. At the same time, corruption has often caused the careers of politicians and governmental figures to end, and governments to fall. It has led to the change of political regimes and the decline of states.

II. Background of the problem

The issue of corruption in Ukraine the most decently has been covered at the papers of I. Zgdanov [1], N. Mel'nik [2; 3], I.V. Angelko [4] V. Chervononozgka [5], etc. Elucidation of the newest scholars papers has shown the issue is not investigated decently. Most studies in corruption have only been carried out in a small number of areas. Paying attention to determination of the reasons of mentioned phenomenon, the ways of issue overcoming are not detected fluently.

Thus this paper will focus on determination the corruption essence, reasons of its appearance and on development the ways stimulating the corruption shortage.

III. Results

According to scholars definitions [1], corruption is taking after Latin word «corruption» meaning the spoilage, depravation, i.e. can be understood as authorities, state vehicle, as a social corrosion eating away state power and society in whole. It should be mentioned that the common definition of corruption doesn't exist.

The basic approaches to an understanding of corruption can be reduced to the

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bringing an annual income as a percentage equal to the value of the rent. In addition, there is a «paradox of rent» – a resource of better quality, allows, under otherwise equal conditions, to obtain better economic results for the same assessed value, but the price is affected by the location and accessibility.

The cost approach is used to estimate the cost of rebuilding the natural benefits for its loss or degradation, and contains a fundamental contradiction: the higher quality resource the easier it is to operate, the less the cost to do this is required, and the lower its economic assessment.

The method of opportunity cost allows to estimate the value a natural object or resource that are undervalued or do not have an estimated price at all, through loss of income and benefits that could be obtained from the use of such resources or territory. The lower the opportunity cost of natural goods, the less is needed to compensate the use of the good. It is clear that not a single method provides a comprehensive assessment of natural resources, comparable to the damage that human economic activity causes to the environment. In addition, please note that not always the economic effect of the use of resources has to be calculated directly in their field. For example, the health effects of recreational use of natural resources appears in social indicators – an increase in efficiency at work, reduce of morbidity, mortality, and so on.

There are no clear methods for the calculation of the transformation of social effect into economic performance. For example, there is no method of calculating increases in productivity by increasing the efficiency of people because of recreational use of natural resources. There are only primitive calculations of the reduce of the costs of enterprises on cash payments for illness due to recovery. Simultaneously, the emergence of the new needs in environmental services – such as fresh sea air, or a park, the beauty of the landscape -requires an assessment of their value. The complexity of getting reliable on-time information increases the problem in defining the complex economic value of natural resources.

The most modern approach in terms of environmental safety of management, as well as the economic basis for sustainable development can be considered environmental economics. Environmental Economics – is a quickly developing approach in Western Europe and North America, where natural conditions and resources are considered as a system, actively producing wealth and living conditions, low levels of greenhouse gas emissions and, therefore, slowed or stabilized rate of climate change. Invayronmentalnaya economy is one of the key mechanisms for achieving sustainable development. Thus sustainable development is understood not as a compromise between economic and environmental programs and goals. Emphasis is placed on the priority of ecology, not only as separate and independent of environmental programs, but also in the content of the economic activity.

According to UNEP (United Nations Environment Program, established under the UN), to move to «green economy» it is vital in 2012-2050 to. invest only 2% of global GDP into ten key sectors. These sectors are industry, agricultural sector, housing and utilities, energy, fisheries, forestry, tourism, transport, recycling and

waste management, water resources management. According to the UN, such means are possible in case of thoughtful policy of the government and the use of innovative financing mechanisms.

From the standpoint of the environmental economics three types of capital are discussed. The first type – this is man-made or artificially created capital. That includes factories, homes, infrastructure, etc. Man-made capital can increase or decrease as a result of the operation of social production. The second type – critical natural capital, which includes the main components of the biosphere, environmental benefits, providing the conditions for its stability, which can not be substituted or replaced by man-made capital. This is primarily land and natural landscapes and the genetic fund of the world or regions. And the third kind- other natural capital – includes renewable and finite natural resources, which may be more or less filled or replaced.

IV. Conclusions

To crown it all, the establishment of a comprehensive payment system based on man-made capital, critical natural capital and renewable natural resources, taking into account the development of performance indicators of social value of natural resources can solve the problem of the correlation of the economic efficiency of using natural resources and damage caused by the human activities, and to identify-socio-economic impact of use of natural resources. This conclusion correlates well with the decision of the Ukrainian government. As part of introducing the concept of strategic development of Ukraine until 2020 one of the objectives is to develop a radically new environmental strategy of public administration, which would take into account modern environmental and ecological requirements of economic activity across all areas and would become an integral part of key government programs of economic trends.

The foregoing shows that in Ukraine there is an urgent need continuing research in this area.

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The concluding control activity is checking, generalization and analysis of accounting information, results of inspections held in particular business departments, materials of checking done by other services.

This is the manner to achieve the checking completeness: accounting data, correctness of drawing up the documents, as well as following the main principles of accounting: continuity, versatility, systemacy and documentation.

Conclusions. In the article, the points of view of Ukrainian scientists regarding the notion and essence of the internal control have been analyzed. The characteristic feature of the theme is a variety of interpretations of the notion. For example, some authors restrict control to the checking the correctness and legitimacy of accounting documentation by the governmental controlling bodies and by auditors. Others have much broader vision. In their opinion, the internal control is the management system element; its task is to check financial and business performance of an enterprise comprehensively with the primary aim of creating the information base to take management decisions. A considerable part of current-day research is devoted to considering the issue of the internal control system adaptation to the specifics of manufacturing businesses in various sectors of industry.

Following the purpose of the article, the author has specified three internal control functions that take place while creating the information base to take management decisions based on the accounting data. Particularly, there has been described the control function role in the enterprise management system, there has been made the description of accounting data control, highlighted the control information function as a way of creating the data mass to take management decision.

Our vision of the prospects for further research is in further developing theoretical and methodological supply for the internal control for its effective implementation into practice.

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The accounting system of an enterprise consists of two elements: internal accounting control and fragmented control which is conducted by the enterprise employees in case it is stipulated in their job description.

The first constituent is essential, because its tasks are:

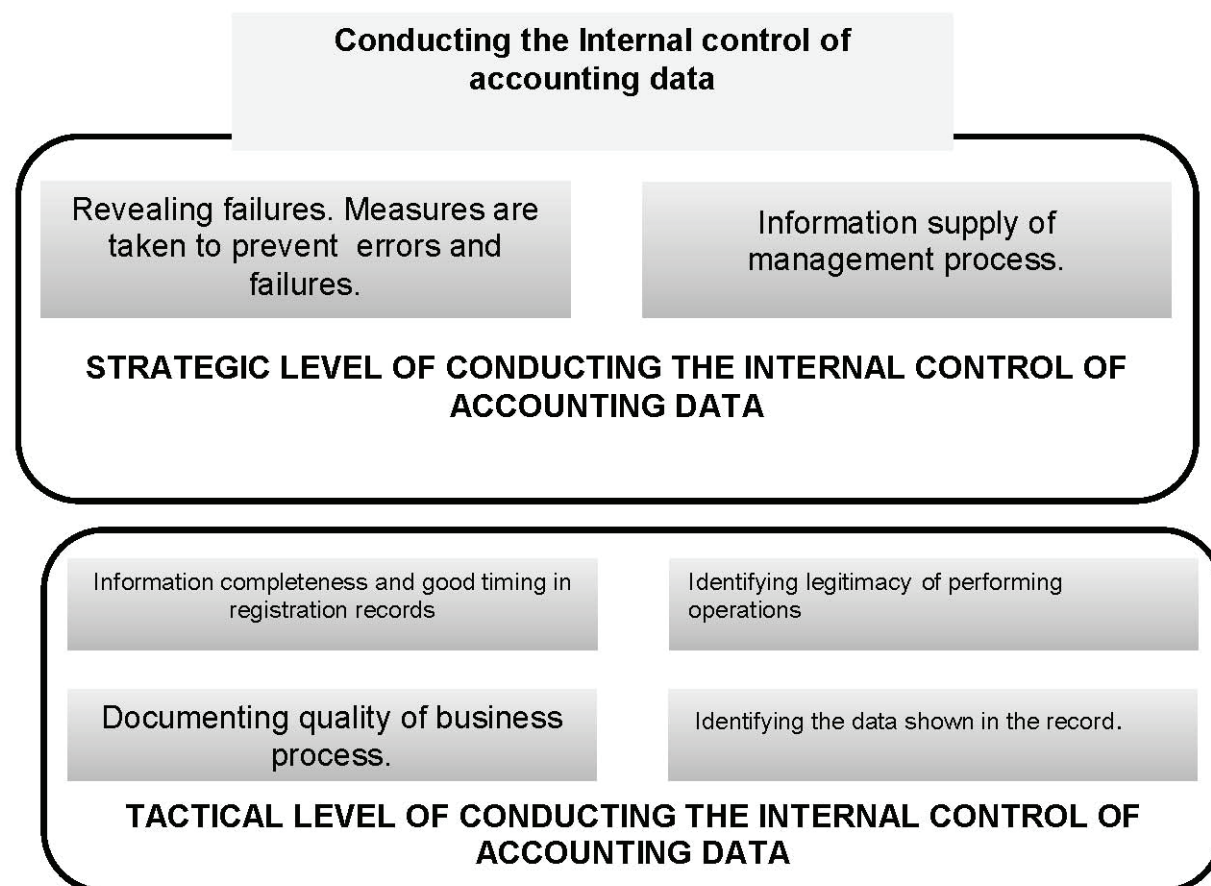
- a) accounting and documenting business operations;
- б) to ensure observing accounting policy;
- в) to prevent errors and corrupt practices and maintain assets;
- г) to ensure true accounting data and financial statement (picture 1).

The second constituent is implemented by formal checking of each accounting document before registering it in a docket.

Internal control of accounting statement data is directed to check:

a) source documents (documents to the accountant for signing, entering documents to authorize contracts, cost sheets, orders, other documents dealing with money and material resources expenditure);

б) the process of accounting registration of business operations and materials of inventory held for checking commodities and other valuables.



Picture 1. Levels of conducting the internal control of accounting data.

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GENDER PECULIARITIES OF THE PROCESS OF HUMAN CAPITAL ACCUMULATION IN UKRAINE

Abstract

Gender peculiarities of the process of human capital accumulation in national scale have been analysed. Factors which hinder multiplying the volumes of human capital of the nation have been indicated. The ways of diminishing of these factors and reduction of their influence on the process of human capital accumulation have been offered.

Keywords: human capital, gender characteristics, gender inequality, human capital of the nation

1. Introduction

Human capital for any society is its wealth among the highest values, the key of leading countries' leadership, of their competitiveness, progressiveness etc. The process of its accumulation usually lasts throughout the life. Its extent may be affected by various factors which can both accelerate and intensify this process and prevent it. In Ukraine the study of human capital is recognized by such scholars – O. Borodina, O. Hrishnova, O. Holovinov, S. Klymko, L. Mikhailova, L. Tertychna and others. Moreover, the problems of gender policy become aggravated and they are investigated in the researches of N. Hrytsyak, N. Husak, I. Zhrebkina, O. Zdravomyslova, A. Kiselev, A. Kis, L. Kobelyanska, L. Kolos, N. Lavrinenko, Ye. Lutsenko, T. Melnyk, S. Oksamytna, S. Pavlychko, M. Skoryk, L. Smolyar, A. Tyomkina and others.

2. Statement of the Problem

The article's purpose is the research of gender-specific human capital accumulation in the country and also identification of factors, activating this process or hindering it.

Human capital is the acquirement of the nation, but the process of its accumulation by male and female sex is irregular, which is caused by several factors. Human capital is

important for the development of any individual. This is the process which begins at an early age and continues until the end of life, however, it is conducted irregularly in the life of male and female representatives. In spite of the fact that the total number of population of Ukraine is 46 372.7 thousand people (as of 01.01.2008), 46% are male and 54% are female representatives. It is much more difficult for women to improve themselves systematically, to study, to enrich spiritually, to invest and accumulate human capital, rather than for representatives of a strong gender [1].

Taking all this into consideration, we identify some gender characteristics that can influence the acceleration and intensification of human capital accumulation, or hinder it. We consider that the positive factors of its accumulation in men and women can be: the preschool education; the obtaining secondary education; the obtaining secondary specialized education; the discharge of military duty (mostly male representatives); the obtaining higher education; obtaining professional human resources for continuous career growth.

We are to think, that the negative factors which prevent the accumulation of human capital by the male representatives are: the imprisonment; an asocial way of life which causes the domestic violence; an unemployment; the forced migration, which often leads to aging and the impairment of previously gained quality of human capital, because the majority of migrants do «unskilled labour»; low incomes, which significantly reduce the possibility of investing in human capital. To the negative factors which prevent the accumulation of human capital of female representatives we can refer: the birth and care of children in marriage; an unplanned pregnancy, which prevents, interrupts or even makes impossible obtaining further education; an alcoholism, the using drugs, the imprisonment; low salaries, scholarships, assistance for child care; the violence in the family.

As it was already mentioned, the process of human capital accumulation for men and women is irregular. Stages of human capital are divided among men into an early stage (preschool), secondary education, military service, secondary specialized education, higher education, academic degree and a permanent career. Thus, in the case of passing all stages we have reasons to believe that human resources of male representatives is accumulating systematically.

We think, the accumulation of time spent by the bearers of human capital in the army is not interrupted, because during this period the recruits are mastering new skills, obtaining driving licence (investment in education) and they are provided with the systematic physical training (investing in health).

At the time when the accumulation of the male human capital connected with military service is not interrupted, the accumulation of the female human capital is substantially suspended. Because of the birth and raising children women have gaps in education, self improvement, investing in themselves etc.

Under the current law, the paid maternity leave lasts until the child reaches 3 years, the unpaid one lasts until the child reaches 6 years, and in some cases it lasts until the child reaches the age of 14. Thus, there is reason to believe that the human resources of female representatives who are in long maternity leaves can grow old,

introduced is the availability of motivation which specifies the objective for conducting a checkout and a list of definite tasks. Exercising the controlling function assumes delegating it from executives to arranged service. It's obviously necessary to specify the instruments and the object to check for carrying out the procedure of checking. An outcome of internal control done is information base which, apart from results, includes the information that has been checked and checking techniques. Obtained results are submitted to the information user – the decision-making centre, where a number of regulatory measures are defined if necessary.

Realization of internal control information function as a data mass is a clustered notion, because it integrates a range of data about the object of checking, accounting data and instruments to check, techniques for conducting checking operation, checking results – that is, obtained information mass.

Internal control performs a number of functions, in particular:

- Authority control;
- Documentation arrangement control;
- Assets maintenance and documents safekeeping control.

Authority control implies obtaining information, clarification, reports. What is checked is reliability of responsible persons, sharing accountabilities and adequacy of responsibilities distribution as well as executives' authority and availability of efficient procedures for authorization.

Documentation arrangement control implies making analysis regarding the compliance of documents and system accounting records with the set requirements as well as checking standard procedures; while assets maintenance and documents safekeeping control imply making analysis regarding allocated costs for security and restricted access to inventory, money, as well as checking the documents which make it possible to reach valuables.

In our opinion, apart from the listed control functions, it's also worth specifying such a function of internal control as result control. The main objective of the control is to enable the managed object to operate efficiently, within this function; the checking implies making analysis of the managed object performance as well as inspecting the compliance of the managed object performance with the set targets. In our opinion, this function of internal control is one of the crucial ones as it's a concluding stage of all the other control functions, and at the same time it is the criterion of their efficiency.

Control function is put into practice based on the information about the managed object performance: certain situations, arising difficulties, deviation from set actions and so on. One of the positive effects of its implementation is increasing efficiency due to highlighting the positive experience which makes further influence on all the system performance.

Control as a management function is the means of feedback between the object and management system. It informs about the real condition of the managed object and about factual fulfillment of management decision. Control development in economic management systems is subordinated to productive forces and working relations.

with control as economics or scientific category, but it hardly characterizes it comprehensively.

Kotsupatry M.M. highlights the information function in internal control, defining it as «...the main source of information provision for managing an enterprise, it is developed by the owner (head of a company) and is directed at ensuring legitimacy and economic rationale of making operations, maintenance of property; prevention, exposing and correcting substantial mistakes and inaccurate information; relevant compiling of accounting data and financial statement».

The abovementioned scientists' interpretations of control are reasonable as they consider it from certain points and so they provide substantial characteristics to the control category. Though, as a whole, control is a clustered notion which may be defined as a system for supervising and checking the operation of an object, identifying the functioning process of an object's under control compliance to management decisions made, setting results of managing influence on the managed object by identifying deviations made while fulfilling the decisions with the aim to provide efficient performance for the managed object. Therefore, control functions implementation ensures harmonious impact on business by arranging two-way relations between managing and manufacturing systems of an enterprise.

Based on the abovementioned, we can see that internal control functions are realized as:

- Management system element which is done is the form of supervising and assessing the efficiency of the set tasks implementation;
- Monitoring process of commercial operations reflection, identifying the legitimacy of using manufacturing resources, supporting financial and commercial activity of an enterprise;
- Information field – the analysis of collected data in the accounting documents is the information basis to take control, assess, analyze and make management decisions.

Let's view each of the functions in detail. The function of internal control management within which monitoring is made, analysis of resource supply for production (inventory move, stock count) and performance result assessment enable to find out the amount of forecast and planned figures fulfillment.

The information field gained in this way is passed on to the centre of taking decisions. The peculiarity of internal control management function is availability of organizational and manufacturing periods at practically all stages; it enables to examine all components of the control system applied at an enterprise and identify «week» points: possible intentional or unintentional falsification of information, arrangement of interaction between information centres.

In the up-to-date understanding, revealing the essence of internal control happens while applying it into operating management system by setting aside the controlling functions from traditional accounting system formerly belonging with it.

It's a complete initiative of the executives to introduce the controlling stage into the management system. That is, the prerequisite for the controlling stage to be

lose value, and possibly, completely be lost. We should mention that in rare cases, the men may also take the maternity leave, but the percentage of such men is negligible.

Except the planned pregnancy, quite often, especially minor and disadvantaged female representatives run into unplanned pregnancy which interferes, interrupts or even makes impossible to obtain the further education. Such situation can not only disrupt the process human capital's qualitative accumulation, but also bring to nothing all future life, because the practice of helping women in our country is ineffective.

Another factor that prevents the accumulation of human capital is the imprisonment of human capital bearers. According to data of the State Department of Ukraine for Execution of Punishments, in Ukraine there are 10 correctional colonies for juveniles. There are more than half of convicted teenagers aged from 14 to 17 [2]. Among the negative trends in the accumulation of minors human capital we can name the following: before the imprisonment «almost 70% of prisoners had lead an asocial way of life, 24% had not worked and had not studied, 22% were orphans»; every year «50-70 juveniles who can not read and write get into prison.»

The Commissar for Human Rights Mr. Thomas Hammarberg [3] proposed to improve school education, diversity of nutrition for teens and provide the nationwide time for outdoor activities, in order to accumulate human capital in prison and reintegration into society.

As for adult prisoners, as of 01.02.2009, 34 447 people are held in 32 pre-trial prisons. 109 649 people (5554 women of them) serve their sentence in 139 colonies [4]. The length of serving sentence has a negative impact on the human capital development and accumulation, because, according to the Commissar for Human Rights Mr. Thomas [3], there is a lack of funding for education of persons in custody. All educational activities are conducted by volunteers. The Commissar mentioned the lack of professional events for men and the lack of measures to return the former prisoners to the social environment of reintegration. As for the convicted women, they have a possibility to work and earn money, which they do within the prison. This allows accumulating human capital if not in the form of education, then in the form of gaining skills and abilities, and at the same time, an employment can guarantee the future reintegration into society.

The atmosphere in the family affects the development, child upbringing, as well as investments, and consequently, it affects the accumulation of human capital. This problem aggravates in families, which have found themselves in difficult circumstances. To overcome such circumstances, the social support of families was introduced. It has become a form of solving family problems [5].

If it is not enough, 95 orphanages for sojourn were set up in 1995 for children aged from 3 to 18 years, 52% of which were from single-parent families, 20% were orphans and children deprived of parental care, who were educated in special institutions.

Analysis of the human capital accumulation by children staying in orphanages, namely, the state of their psychological and physical development and education level showed unsatisfactory results, because many of them significantly were behind the development. To provide radical changes in the situation it is necessary to

establish the centers of social and psychological rehabilitation of children. The conditions of human capital accumulation in children will be created there, which mean the individualized comprehensive rehabilitation and receiving some education level. Currently there are only 28 centers like these [5].

Another factor preventing the human capital accumulation is violence in the family. According to the Law on «Domestic Violence» from 15.11.2001 № 2789-III, which came into force on 20.03.2002 with changes, made according to the Law N 609-V (609-16) from the 07.02.2007, DVRU, 2007, N 15, N Art.194 N 599-VI (599-17) from the 25.09.2008, DVRU, 2009, N 13, Art.153, domestic violence is considered as «any intentional acts of physical, sexual, psychological or economic nature of one family member against another family member, if these actions violate constitutional rights and freedom of a family member as a human and citizen, and inflict moral damage, damage to physical or mental health» [6].

Domestic violence affects children, women, men, and elder people. Typically, the causes of violence in Ukrainian families are such economic factors [7] as: unemployment; low living standards; social and household problems, after which many women victims of violence are forced to live in one room with the abuser, even after divorce; alcoholism; drug addiction; mental disorders. At present the network of specialized agencies and services providing assistance to victims of violence operate in Ukraine. There are 6 orphanages, 18 crisis centers, 24 centers for social and psychological assistance, medical services and social rehabilitation [8].

Scientific researches prove that «every fourth child of those who suffered from violence and abuse, faced with this first in his/her family».

However, a woman suffers in the family most of all. According to International Amnesty, 90% of the cases the victim of violence is the woman.

At the same time, the Center for Social Expertise of Sociological Institute of NASU has conducted the researches showing that women four times more often than men suffer from violence in families. They suffer from beatings, verbal abuse, bullying, moral and ethical degradation, threats and sexual harassment. We should note that domestic violence against women does not depend on their age and occurs with approximately equal frequency in all age groups from 21 to 75 years. According to UNIFEM – the UN Fund for Women Development (UNIFEM) [8], every sixth woman in the world during the life is exposed to physical or sexual abuse. It is clear, that in an atmosphere of violence the human capital development has no place, because the victims of violence are struggling in the first place for existence and survival. Therefore, the UN Fund for Women Development (UNIFEM) gives financial and technical assistance to innovative programs, designed to support women around the world, including Ukrainian, to provide an investment and human capital accumulation by them, to improve the situation of women and gender equality; the Fund finances grants and projects, allocates scholarships for their education and research in order to develop the high quality and competitive accumulation of women human capital. The national committees of this organization operate in 17 leading countries, which do not include Ukraine. In spite of the fact, that Ukraine has

Accounting (Π(С)БО), it is just about the internal control because it implies management influence on an enterprise performance.

L.V. Gutsalenko's view is similar, he considers the definition of internal control like this: «According to the Audit International Standard 315 «Understanding of the notions of a subject of economic activity and their environment and estimation of risks of substantial distortion», «internal control is a process which is determined and influenced by people authorized such as managers and senior managers/executives as well as other personnel who are strongly confident in reaching the goals of a subject of economic activity regarding authenticity of financial statement, efficiency of performance and compliancy to applied laws and regulations». It means that internal control is set to remove defined business risks that threaten to make obstacles to reaching any of the goals». By stating this, the researcher associates control specifically with the management function and defines it as one of the management activity form: control is a management function, it ensures the check of decision implementation, reaching certain result.

Goncharuk Ya.A. and Rudnitskiy V.S. offer a broader definition of control, they interpret control as a system of checking and supervising the operating of an object: «...this is a system of supervising and checking the operating process of a management object compliancy to management decisions made, setting results of managing influence on the managed object by identifying deviations made while fulfilling the decisions». Here, control is characterized as one of management functions, which is a system of supervising and checking the operation of a managed object with the aim to assess the grounds and effectiveness of management decisions made, identify the stage of their implementation and deviations available.

Ostapchuk T.P. has a similar vision, in his opinion internal control is «...a set of methods and procedures used by controllers to put in order and make company business activity efficient by means of discovering mistakes and drawbacks in business performance in time and removing causes for such mistakes and drawbacks.

Internal control system is the policy and procedures of internal control adopted by the management personnel of a subject of economic activity with the aim to provide (as far as it makes it possible) correct and effective business activity (including compliance with the policy of management personnel), maintenance of assets, prevention of swindling and making mistakes, as well as exposing them, ensuring accurate and full accounting record, timely prepared true financial information. The system of internal control also includes other issues directly connected with the functions of accounting system.

It looks disputable to view internal control as both a process and system of checking. In our opinion, it is more accurate to define control just like a system of supervising and checking, because a system is integration of the legally arranged elements and parts being interacted (that is a unity of methods, procedures, subjects, objects of control etc.) which, in fact, is control. However, a process assumes successively changing stages in the dynamics of the object under research, and it goes

Kuzhelniy M.V., Kireitsev G.G., Napadovska L.V., Rudnytskiy V.S., Usach B.F., and others.

The purpose of writing the article is to summarize theoretical approaches to defining internal control as an integral part of a company management system which is based on the accounting data and specifying its function.

Setting out the essential research material. While financial and business operations record is a common phenomenon, taking control in a broader meaning has been less spread so far.

Appreciating the need to gain competitive advantages by optimizing internal provision was the turning point. Nowadays, owners and executives are much more enthusiastic in setting up the respective service in their companies which is empowered to control and analyze the company performance.

However, for quite a long time there was no such a notion as control as a standalone field of study because it was accounting that had the controlling function traditionally. Academician Chumachenko M.G. was one of the first Ukrainian scientists who set a task to show the wrongfulness of associating the function of accounting with the controlling one. It was him who turned down the school that considered supervising the planned figures as accountancy function. He supposed it was not accounting that had to perform controlling mission with the help of its procedure, but certain employees were to be responsible for the job not via accounting, but applying the management science.

Control is an integral part of manufacture process management, its function is to solve tasks of management system. Thus, the control aim corresponds to management purposes set by the company executives in accordance with development laws. This statement is proved by the Commercial Code quotation: «...a head of a company is in charge of internal control organization. Following the results of control, company executives take decisions to eliminate the reasons that make negative impact on a company financial and economic performance».

According to Suk L.K., «control is a check on commercial decisions with the aim to estimate their legitimacy, to specify causes for breaking laws in enterprises and organizations activity». In this case, control performs just the single function of checking. In our opinion, this approach to defining control is not fully comprehensive, because control is restricted by the activity of the governmental controlling bodies and independent auditors who perform just external control.

According to Gudzenko N.M., «...legal interpretation of controlling is more associated with the management function, because it's one of effective instruments to provide legitimacy in realization of economic processes». In article 19 of the Regulations (Standards) of Accounting (П(С)БО) «Association of Enterprises», there is a following definition of the term control – «... it's a crucial impact to the financial, economic and commercial policy of a company with the aim to take advantage of its performance». Thus, legal function appears as a result of arising legal outcomes when performing financial and business activity by an enterprise, it stands by providing legitimacy in all operations. We should note that the definition made by Gudzenko N.M. is true to both external and internal control, while that in article 19 of the Regulations (Standards) of

acknowledged the presence of gender inequality, even at the legislative level through the adoption of the Law by VRU on «Equal rights and opportunities for women and men» from the 08.09.2005, № 2866-IV, which entered into force on the 01.01.2006, women in our state have lower social status, suffer from actual violence and gender discrimination. Taking all this into consideration, we find it necessary to emphasize such gender feature which has an enormous implication for human capital accumulation among women – it is the level of their income. In this context, the Ministry of Labour and Social Policy has made an analysis of the situation showing the correlation women's wages, which in general through the territory of Ukraine constitutes 70,5% to men's salaries [9].

3. Estimation Results

Reviewing official statistics, we can conclude that in separate areas of economics the indicator mentioned above is even lower. In the field of industry the correlation women's wages to men's salaries in 2007 was 67,3%, in the field of financial activities it was 65,6%, in the field of mail and communications it was 56,5%. This gives a reason to believe that gender inequality in the country prevents the accumulation of human capital among the female representatives, because of this they have less opportunities than men to hold key management positions, to obtain the candidate degrees and PhDs, to fight for the seat members of parliament. Only 39 women took part in the VI convocation of Verkhovna Rada of Ukraine, representing 8.5% of the Parliament. This index is 0,5% more than in the previous parliament convocation. So, if this trend of increasing women's representation in Parliament on 0,5% after every subsequent elections continues, we will need about 168 years to get closer to the European standard – 30% of female representatives in all bodies.

4. Conclusions

The researches show that gender inequality exists, including the gender inequality in capacities of human capital accumulation. While the male human capital accumulation is hardly interrupted over their life, excluding the imprisonment, the female human capital accumulation is interrupted for a period of childbirth, maternity leave period from 3 to 14 years, parenting. An adequate financing and social protection of women with children, especially single, is really necessary during this period in order not to interrupt the human capital accumulation.

A serious obstacle to the accumulation of human capital is violence in the family, and these are women who suffer from it, who have first of all to fight for survival in such families. We consider that an effective way of overcoming this phenomenon is launching a project containing a number of measures: creation and information support for services of help to victims of violence, which would unite a number of shelters for victims of violence in providing them with provision, accommodation and qualitative educational, psychological, medical services, as well

as «hot» line helpdesk. To rehabilitate imprisoned, especially adolescents, the program providing opportunities for human capital accumulation by persons serving sentences in prison, including health program support, access to qualitative educational, psychological, volunteer services, must be created in Ukraine at the national level.

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INTERNAL CONTROL AS A RESULT OF ACCOUNTING AND MANAGEMENT SYSTEM ‘COLLABORATION’

Annotation

Considered the concept and nature of internal control and controversial moments of area of practical application. An attempt to define its functions in the plane of the auditing of accounting information database management system.

Key words: internal control, accounting information and control functions, control function of management.

Raising the problem. The intention to maximize profit, ensure economic growth in the long-term outlook is the reason why chief executives pay more attention to internal processes in companies. Looking at a business as a dynamic system of departments interaction lets us assess its efficiency not only regarding profitability, but also quality criteria; they characterize the completeness of economic potential implementation by means of labour organization, manufacture, financial and investment activity. The basis for making management decisions is analysis and comprehensive assessment of a company performance. Correspondingly, management is done by means of organizing accounting and control.

With businesses, having more concern for improving internal control, it's only natural that the scientific research in the area has been intensified. As the latest results of the theme research have shown, a number of issues need more extended research, in particular, to determine terminology, to develop methodological support and a package of procedures, standards as to building up and operating the internal control system in enterprises of different industries, and some others.

The article focuses on highlighting the role of internal control in organizing a company management system which is based on the accounting data.

Latest research analysis. In spite of the similar interpretations of defining the control subject matter by different researchers, there is no unified idea of it in the economics studies. One can explain such a difference in interpreting the economics phenomenon by the fact that researchers do their research in accordance with the certain tasks set, therefore their points differ.

The following Ukrainian scientists have made significant impact on studying the economic issue of internal control: Butynets A.M., Drozd I.K., Dorosh N.I,

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ISSUER'S CHOICE OF THE STOCK EXCHANGE FOR IPO

Annotation

The article discusses the problem of the issuer's choosing the stock exchange for a public offering in the context of activization of the IPO processes, conducted by Ukrainian companies on foreign stock markets due to low activity of the domestic stock market. The role and place of the stock exchange choice in the process of preparing for an IPO is determined, the key factors and criteria for the stock exchange choosing are identified, as well as an example of determining the priority option for placement in the current economic conditions is presented.

Key words: IPO, Stock Exchange, Issuer, Investor, Warsaw Stock Exchange.

I. Introduction

The Initial Public Offering on the foreign stock exchanges is becoming an increasingly popular way of raising capital by Ukrainian companies. During the 2010-2011 Ukrainian companies have managed to raise more than 600 million dollars by the IPOs, more than a half of which has been gained on the Warsaw Stock Exchange by the companies of agricultural sector [2, 3, 7]. The interest of the Ukrainian issuers in foreign exchanges is determined, above all, by the underdevelopment of domestic stock market – the Ukrainian shares market capitalization is almost 6 times smaller than the Warsaw Stock Exchange capitalization and 126 times smaller than the London Stock Exchange one [5, 6].

The perception of the IPO as a factor of economic development through the achievement of opportunities to maximize the range of investors has been reflected in many research papers both foreign and Ukrainian authors, theorists and practitioners: R. Geddes [1], O. Lukashov [14], P. Gulkyn [11], R. Zadorozhna [12], N. Kostenko [13], T. Yasynska [15] and others. However, the problem of the stock exchange choice by issuer is not considered enough in terms of justification of the exchanges role in the IPO process, criteria for choosing and their significance. But the success of the IPO depends largely on the correct placement time and place choosing, that in terms of the expansion of these processes among Ukrainian companies determines the relevance of the problem.

II. Problem Statement

The point of this article is to justify the priority stock exchange option for IPO of Ukrainian issuers in current economic conditions. In line with the intended purpose the

main objectives are: to define the role and place of the stock exchange choosing in the IPO organization process; to identify the key factors and criteria that determine the choice of the exchange, as well as their ranking, and to indicate the most relevant stock exchange option for the public offering with comparison of obtained results to existing trends.

III. Results

Analysis of the published sources [1, 11, 14, 15] allowed to identify these major stages of preparation and implementation of company's IPO:

an agreement with financial advisor (lead-manager of the project) and the development of the capital raising strategy;

placement team building with the involvement of lawyers, accountants, PR-agencies and other consultants;

initial valuation of the company and its correction based on Due diligence results;

the final choice of stock exchange for the placement;

incorporation and preparation of the investment document;

preparation of the prospectus and its registration with the simultaneous issuance of shares and their depositing in the placement country;

an agreement with the exchange agent and carrying out the Road Show, as well as subscription for the shares;

clarification of clearing terms and listing of the shares on the stock exchange.

The place and role of the stock exchange choice stage for public offering conducting can be studied by analyzing the cooperation and consistency of all preparation and implementation of an IPO process participants' interests in accordance with the listed steps. The stock exchange has role of a mediator and coordinates the interests of issuers and investors to ensure conditions of trading, appropriate features of the provided securities in terms of the issuer information disclosure, compliance with legal requirements, etc. Thus, the main task of the stock exchange is, on the one hand, to ensure a certain level of reliability and to reduce risks to investors, and on the other – to provide access to financial resources for the issuers. It determines a central place of the stock exchange choice stage in the process of preparing the company for an IPO.

Choosing of the stock exchange during the organization of IPO process may be affected by various factors depending on the issuer activity conditions. However, analysis of the published sources [1, 13, 14, 15] allowed to group major ones:

potential level of demand for the company's shares (a factor which is a stimulator in choosing the stock exchange), which includes the following criteria: geographic location; quantitative parameters of the Exchange activity and qualitative characteristics of the Exchange, its issuers and investor base.

difficulties of the market entry (a factor which is disincentive in choosing the stock exchange) include the following basic criteria: listing requirements, the costs of placement on this exchange, difficulties in ongoing business relationships establishing.

2) Introduction of new advanced PPP models based on the study and implementation of experience of developed countries;

3) Adaptation of the widely used worldwide PPP mechanisms to the conditions of Ukraine;

4) Establishment of pilot PPP projects support centres, pilot project implementation, monitoring and dissemination of efficient practice;

5) Information support for PPP development, dissemination of best practices, implementation of relevant disciplines;

6) Encouraging private investors to implement infrastructure projects through budget support and tax laws;

7) Fighting corruption, developing and implementing an effective system of motivation and control by government authorities which are responsible for implementation of PPP.

Implementation of these priorities will establish effective cooperation between state and business; attract financial resources from private companies to solve socially important problems.

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Thus, the most important features of the mechanisms of public-private partnership in these countries are:

- Long-term relationship between government, local government and private partners;
- Preservation of state and communal ownership of objects with the introduction of PPP management mechanisms of infrastructure by private partners;
- Openness and transparency of state and local authorities to identify private partners;
- Providing of quality and cheap services as an indicator of the effectiveness and efficiency of public-private partnership;
- A combination of resources of financial institutions guaranteed by the state and local governments;
- Risk sharing, defining the obligations and responsibilities in the contract of public-private partnership;
- Protection of the interests and needs of community, control over the quality of services by private partners, discussion and monitoring of projects with the participation of public organizations.

However, according to experts of the European Union, a number of problems associated with the further development of public-private partnerships in European countries, namely: the presence of short-term projects which are common in the recent years between the state or local governments and private partners, unstable planning, lack of private sector initiative to participate in socio-economic development of the region and cities; the impact of political factors on the development of public-private partnership, including legal review procedure deals with private partners; inadequate legal framework and lack of powers of local authorities on drawing up contracts with the private sector; delay to negotiate and sign agreements that results in high costs of expenditures in drafts [12].

These problems are also inherent in PPP relations in Ukraine. However, there are a number of specific obstacles that hinder further development and improvement of partnership in the national economy, namely:

- Inadequate legal framework of PPP;
- Lack of support for PPP from the state;
- Low motivation of private sector to cooperate with the state;
- Non-transparent mechanisms for implementation of PPP projects;
- Distrust of government by businesses;
- High level of corruption in the national economy [5,6].

These processes slower socio-economic development, interfere with the modernization on institutional basis in Ukraine.

Conclusion. Analysis of application and supporting of PPP in economically developed countries allows us to determine the following key priorities of improving the cooperation between state and business in Ukraine:

- 1) Formation of the institutional environment, including regulatory and methodology of development of the PPP, consistent with international practice;

As for geography and history of the stock exchange, on the one hand, the traditional stock exchanges (London, Tokyo, New York) have a long history that has affected their leadership position in terms of capitalization, list of presented issuers and investors, but on the other hand it is also necessary to take into consideration the historical, economic and political relations of the countries. For example, the European direction (Warsaw and London) is traditional for Ukraine in terms of the stock market cooperation, while Russian companies prefer Hong Kong after London [7].

Capitalization and trade volumes, as well as the presence of the target groups of investors are the main factors explaining the inadvisability of a public offering in domestic market. For example, the level of capitalization of the New York Stock Exchange at the end of December 2011 amounted about 11 796 billion dollars, the London Stock Exchange – more than 3 266 billion dollars, the Warsaw Stock Exchange – 138 billion dollars, while the level of capitalization of the largest on this indicator in our country Ukrainian Exchange was just about 26 billion dollars [4, 5].

The second group of criteria represents the difficulty of entering the stock exchange factor and it is limiting with regard to the first factor. For example, the New York Stock Exchange, which may seem attractive in terms of potential demand for the shares at the same time, has the most stringent listing requirements, as well as it is the most expensive in terms of IPO conducting [5].

The possibility of establishing the ongoing business relations with the stock exchange is also a parameter that influences the choice of the exchange. This concerns above all, the financial advisers and mediators that accompany the transaction. For example, the AMC «Avantazh Capital Management» is the first Ukrainian authorized adviser of the Warsaw Stock Exchange, which indicates the possibility of more effective cooperation with this market [9].

All the presented criteria may have different specific weight in final decision making depending on the nature of transaction, but under current conditions of the activity of Ukrainian companies optimal variant of the stock exchange to conduct IPO can be determined based on the available alternatives by Analytic Hierarchy Process (AHP) proposed by T. Saaty [10] (figure 1).

As you can see on Fig. 1, four stock exchanges were selected as alternatives for Ukrainian companies: American one and three European exchanges. This choice is motivated, firstly, by the experience of Ukrainian companies' offerings on foreign capital market, secondly, by the analysis of Ukrainian IPO research [1, 13, 14, 15], and by the analysis of the attractiveness and requirements of the exchanges for the issuers [5].

As a result of the expert evaluation by the AHP, the values of the vector of priorities on potential demand for the shares were calculated for each of the alternatives, as well as on the difficulty of the market entry. Since these vectors are opposite by their influence on the final decision, the end result is defined as the ratio of these values. According to the analysis, based on the presented factors and criteria for the choosing the stock exchange, the best option for Ukrainian companies in terms of the IPO conducting in today's conditions is the Warsaw Stock Exchange.

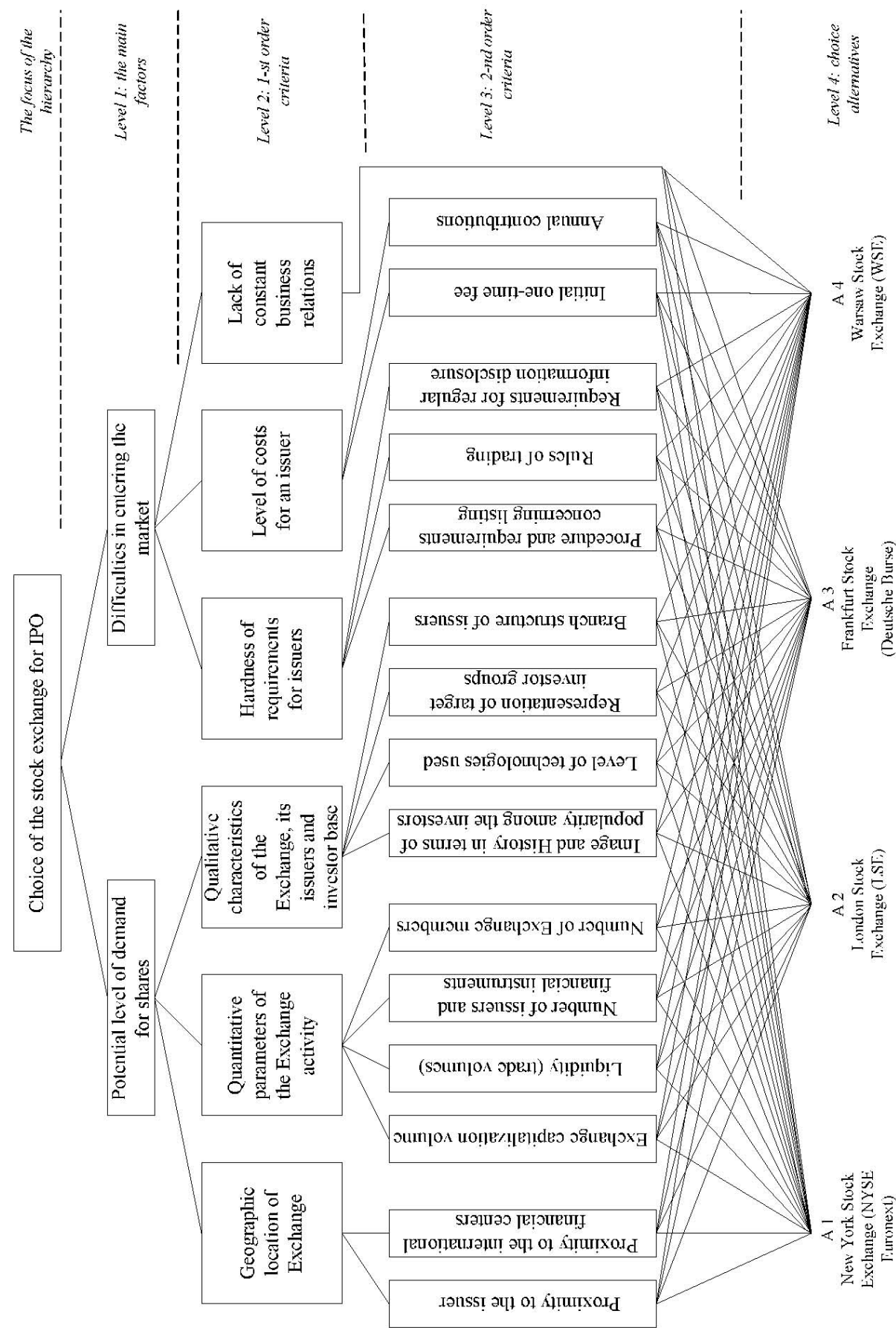


Figure 1. The hierarchy of factors, criteria and alternatives of the stock exchange choice for Ukrainian issuers IPO

Sectorial analysis of PPPs in developing countries allows us to determine the distribution of private sector investment in PPP projects by infrastructure sectors for the period 1990-2009. The greatest share of investment was accounted for telecommunications facilities (on average about 55%) and energy (on average about 30%), and the least – on water and sewerage facilities (on average about 3%) (Fig. 5).

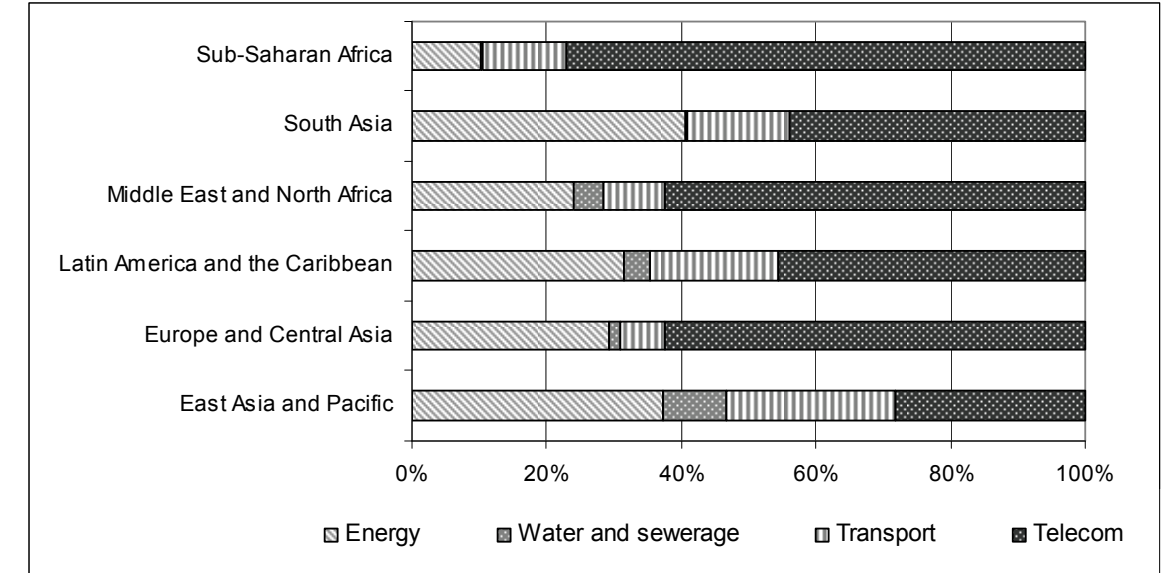


Figure 5. Distribution of private investments within the PPP for infrastructure sectors in the regional context of developing countries, 1990-2009, (% of total)*
*Source: [10].

Analysis of the formation of public-private interaction allows us to determine the most common objects of public-private partnership, namely:

- Housing and communal services (production and transportation of electricity, water supply, maintenance and improvement);
- Building and maintaining roads;
- Energy conservation;
- Operation of buildings budget sector.

The practice of public-private partnerships in developed countries can highlight the following key trends:

1. Preferential use of PPPs in the areas of traditional state responsibility: public facilities (public transport, municipal infrastructure, social infrastructure, cultural facilities, historic sites, etc.) and social services;
2. Open and transparent dialogue between the state and business: the state defines what public services and infrastructure are priorities and private investors then form the proposals that meet the requirements of the state;
3. Growth of investments in PPPs during the economic crisis to consolidate efforts of the government and business towards overcoming its negative effects and ensure post-crisis development;
4. State stimulating of private investments by providing economic incentives and guarantees for business companies which implement socially important public projects.

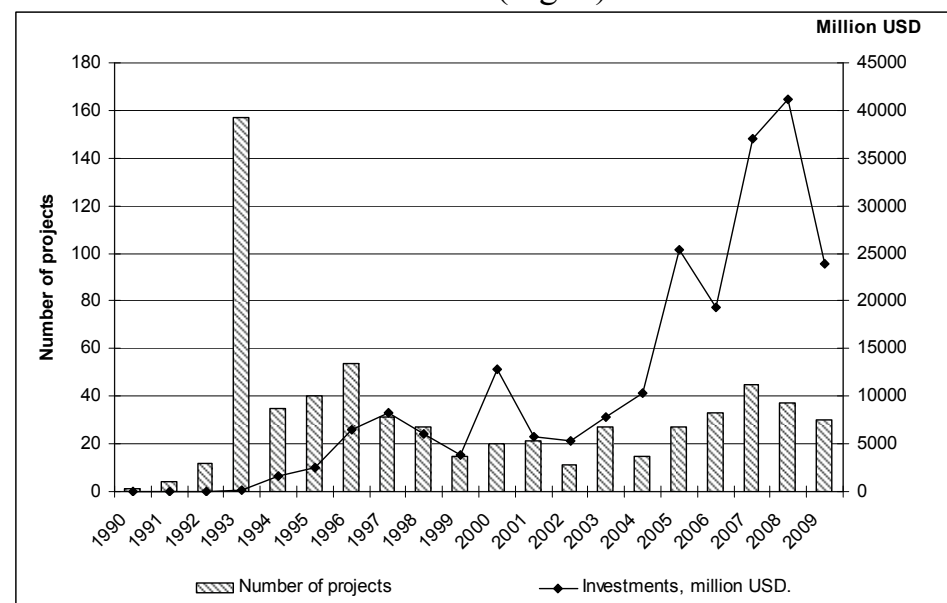
Table 5. Ranking of developing countries in terms of investment in PPPs (million USD), 1990-2009*

	Country	Investments in PPPs
1.	Brazil	270,346
2.	India	158,397
3.	China	111,806
4.	Mexico	96,701
5.	Russia	87,577
6.	Argentina	82,815
7.	Turkey	54,473
8.	Malaysia	50,992
9.	Philippines	50,444
10.	Indonesia	47,237

*Source: [14].

The analysis shows that the most intensively developing PPP projects in the developing countries are related to construction and operation of highways, after that – the construction of airports, prisons, and water treatment plants. This distribution indicates that a state policy is aimed at the development of these industries. Thus, the use of PPP projects promotes investments from private sector, cost reduction of public sector, risk allocation between partners [4].

The analysis of the dynamics of PPP in developing countries of Europe and Central Asia during 1990-2009 years shows a gradual increase in investments, reaching maximum values in 2008, at the level of 41201 million USD. At the same time deepening of the global financial instability led to a significant decline in investments to 23890 million USD in 2009 (Fig. 4).

**Figure 4. Dynamics of PPPs in developing countries of Europe and Central Asia, 1990-2009*.**

*Source: [11].

However, a significant disadvantage of the expert evaluation methods, which the AHP belongs to, is their subjectivity. Therefore, the obtained result requires the confirmation from the perspective of current trends. Thus, in the third quarter of 2011 36 IPOs of the 284 in the world has been conducted on the Warsaw Stock Exchange, and on this indicator, it has become the second after Shenzhen Stock Exchange [2, 5, 8, 9].

As for the Ukrainian companies, the trends of their offerings quite correspond to the results of the analysis. Thus, while at an early stage of the Ukrainian IPOs the London Stock Exchange was the priority, during 2010-2011 the Warsaw Stock Exchange performed as an undisputed leader [7]. The analysis allows making the conclusion that this trend will continue in the future.

IV. Conclusions

Choosing the stock exchange is an important stage of the IPO, the way to raise capital which is gaining popularity among Ukrainian companies. This decision often involves a compromise between the level of potential demand for the shares and the difficulties in entering one or another stock market. Thus, according to the results of the analysis, the best option for the Ukrainian companies' public offering is the Warsaw Stock Exchange, which is also confirmed by the current market trends. Thus, cooperation with this foreign stock exchange should be one of the strategic drivers for Ukraine in the stock market development.

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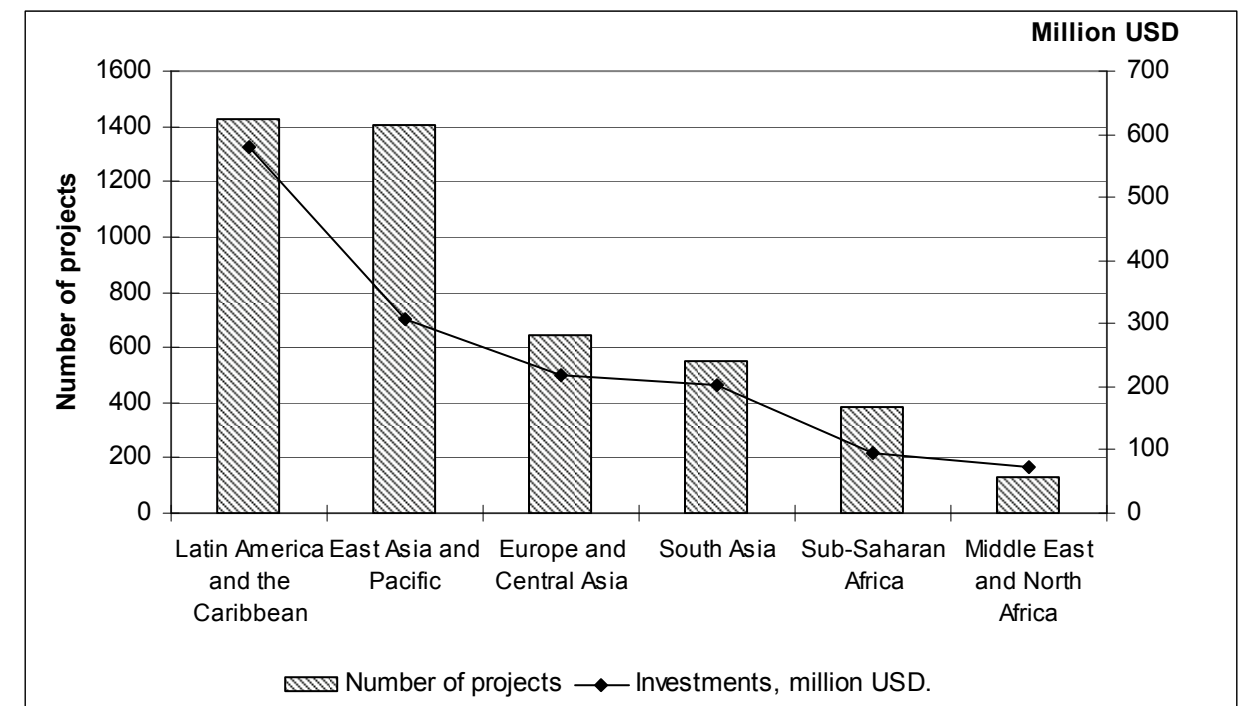


Figure 3. Implementation of public-private partnerships in developing countries by region, 1990-2009*.

*Source: [10].

Analysis of the implementation of public-private partnership among developing countries shows that China took the first place by the number of PPP projects with 931 projects realized, the second – Brazil (467 projects), the third – India (380 projects .) The value leader of investment in these projects is Brazil with a total investment of 270.346 million USD, on the second place – India (158.397 million USD), on the third place is China (111.806 million USD). (Table 4, 5.)

Table 4. Ranking of developing countries by the number of PPP projects, 1990-2009*

	Country	The number of PPP projects
1.	China	931
2.	Brazil	467
3.	India	380
4.	Russia	327
5.	Argentina	196
6.	Mexico	184
7.	Colombia	133
8.	Chile	117
9.	Philippines	103
10.	Thailand	98

*Source: [14].

The dynamics of PPP in developed EU countries in the period 1990-2009 years shows that the development process is largely correlated with the general cyclical processes in the global economy. According to the submitted schedule (Fig. 2) since 1994 in EU countries experienced a gradual increase in investment in PPP, which reached peak level in 2007, then was a significant decrease of 29597.9 million EUR to 15740.4 million EUR in 2009. There is also a discrepancy between the decline in the investments and the dynamics of the number of projects for the period 2008-2009. It's due to long-term projects concluded during the period up to 2007, which continued to be implemented. Thus, PPPs in the current crisis conditions are acting as a kind of a shock absorber that can mitigate the devastating effects of the reduction of investment in many countries.

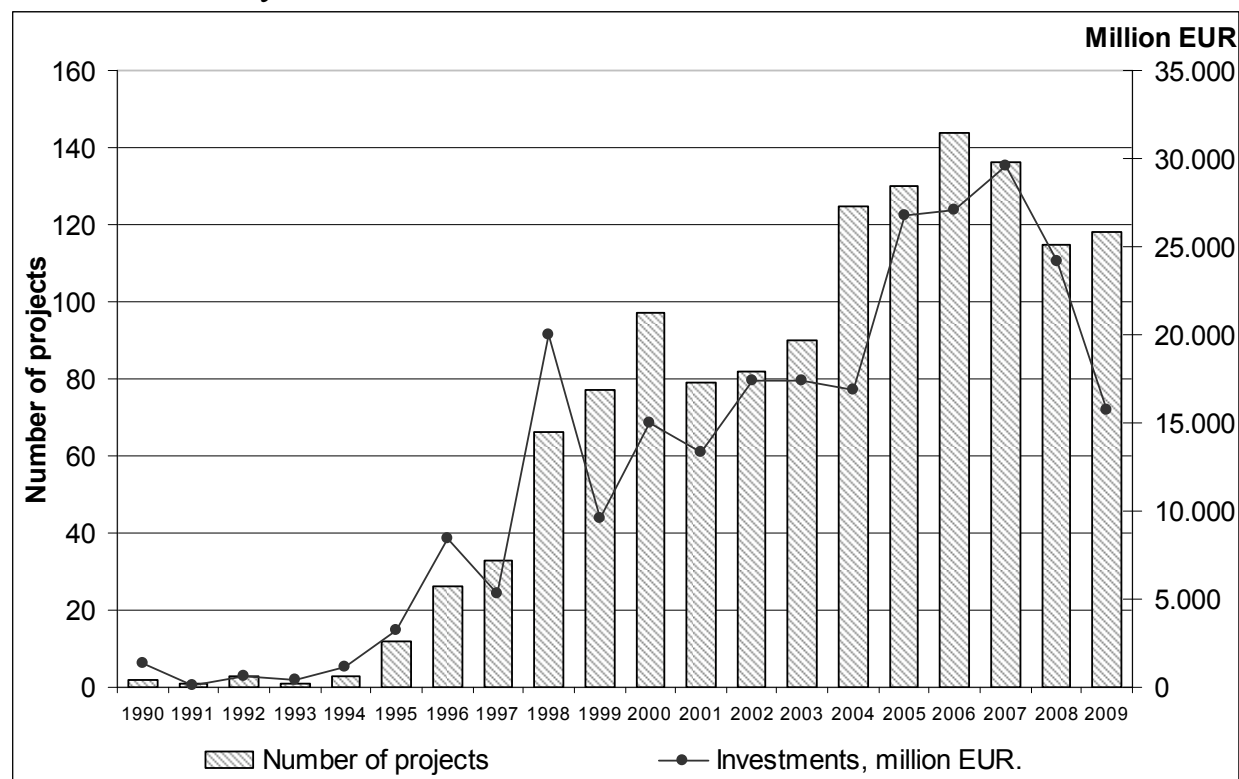


Figure 2. The dynamics of Public-private partnerships in the EU, 1990-2009*.

*Source: [12].

However, the institute of public-private partnership has extensive operations in developing countries and the main reason for this is lack of budgetary funds for the proper provision of public services and the accumulation of private investment in the public sector. An analysis of the implementation of PPP projects in developing countries in the regional context, carried out by experts of the World Bank, for the period 1990-2009 years shows that 4540 PPP projects (Fig. 3) were implemented in these countries with a total investment of 1475.53 million USD. Latin America and the Caribbean are the leaders in the number of PPP projects in the region (1428 projects, a total investment of 579.121 million USD). The smallest amount of projects was implemented in the Middle East and North Africa – 130 projects with an investment volume of 73.751 million USD.

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CONDITIONS AND PROSPECTS OF DEVELOPMENT OF SMALL INNOVATIVE BUSINESS IN RUSSIA

An article deals with the prospects of development of small innovative enterprises (SIE), features and the purposes of their activity, the state support and strategy of innovative development of the country in a whole.

Keywords: the small innovative enterprises (SIE), the purposes of innovative activity the state support of SIE, innovative strategy.

I. Introduction

Innovative development isn't a simple break through separate spheres and branches, this is a development of a public production using innovations in all spheres of economy. It is possible only when all participants are interested- the state and enterprise sector, realization of joint efforts in this direction. And abroad all categories of the enterprises actively participate in innovative activity: large, medium and small.

Since small business doesn't possess those possibilities which large and average business does, abroad for a long time there are mechanisms of the state support of innovative activity of small business. This, first of all, are the initiation and financing of an innovative infrastructure (business incubators, techno parks and techno polices, etc.), direct financing of innovative projects (venture financing), tax stimulation, working out and offers financial institutions of specialized products for the small innovative enterprises (SIE) (various programs of crediting of small and average business by banking establishments, especially programs for start-ups), the state guarantees, etc. Recently state-private partnership has been increasing in innovative, scientific and technical sphere.

II. Problem Statement

It is to carry out the comparative analysis of the state support of small innovative business abroad and in Russia; to reveal the major factors, braking development of SIE in Russia.

The most famous forms of small innovative business support in the United States of America (USA) are: program SBIR (Small Business Innovation Research Program), government support and provides with initial capital small enterprises and innovation till the moment of its commercialization; program STTR (Small Business Technology Transfer) – the program of a technological transfer of small business. The main task of these programs is to support the small companies for stimulation of growth of their own investments in research and developmental works (research and development).

In France assistance to innovative activity of small and average business is made by National agency ANVAR (ANVAR – Agence Nationale de Valorisation de la Recherche), which funds are governmentally Supported. The agency uses two basic forms of support of business – a granting of an interest-free loan for 5-6 years and granting of grants for realization of technological innovative projects, creations of the innovative companies, increases of technological level of the small and average enterprises. Crediting and investment of small enterprises in hi-tech branches at different stages of realization of the innovative project in Sweden is carried out by IDF (Swedish Industrial Development Fund) – the Swedish fund of industrial development.

In Canada is realizing the program IRAP (Industrial Research Assistance Program) for the purpose of stimulation of creation and development of the innovative enterprises and increase of innovative potential of small enterprises.

In Germany for the period 2009-2010 from the state budget of the country within the limits of program KfW – Sonderprogramm through the German bank of reconstruction and development of small and average business (MCI) it has been allocated 15 billion euro of proceeds of credit, for interest rate subsidizing under the credit in 2007 – 850 million euro, in 2008 – 900 million in addition, for stimulation of research and developmental works (research and development) through small and average the enterprises, in 2008 it has been allocated 23 million euro [1].

The volume of guarantees of Administration of the United States of America (USA) under private credits to small-scale business in 2008 has made 24,4 billion dale. Terms of crediting of small and average business (SAB) are increased in extreme conditions about 30 years with percentage payments in 3 % of the annual. Financial support of enterprise projects in sphere of research and developmental works (research and development) with 2005 for 2008 has made 5 billion dollars. [2]. In Great Britain total amount of the state guarantees in terms of the program support of small business for 2009 has made 70 %, at the interest rate under credits in 2, 5 % annual [3].

In Russia there are is also a number of financial institutions aiming at stimulating the processes of finishing of innovations before practical use.

This is the Russian Fund of Technological Development (RFTD), financing projects at a research and working out stage; Fund of assistance to development of small forms of the enterprises in scientific and technical sphere (Assistance Fund), financing a stage of commercial output by firm and again created innovative companies; the Venture innovative fund (VIF), which on a share basis forms and distributes branch and regional venture funds supports the firms, making production of critical technologies.

The Assistance Fund uses the approach of the fixed deductions on support of small innovative business by the government (idea SBIR) and the idea of regional

most PPP projects were implemented in the road sector, utilities and energy. In 2002 there was a change in French law legitimizing admission to the business of building structures of social meaning: police stations, courts and prisons [13].

Analysis of the use of PPP projects in the EU shows that the largest share of such projects was implemented in the UK (52.5% of total cost in Europe and 61.1% of their quantity). Spain took the second place in the EU by volume of investments in PPPs with 11.4% of investments and 10.1% of the total number of projects, the third place – Portugal with 7% of total investment in PPP projects and 3.1% of the quantity (Table 2).

Table 2. Distribution of PPP projects among EU member countries, 1990-2009 *

Country	% of total number of PPPs in the EU	% of total investment in PPPs in the EU
Austria	0,2	0,5
Belgium	0,9	1,3
Bulgaria	0,1	0,1
United Kingdom	67,1	52,5
Greece	1,0	5,5
Denmark	0,1	0,0
Ireland	1,3	1,6
Spain	10,1	11,4
Italy	2,4	3,3
Cyprus	0,2	0,3
Latvia	0,1	0,0
Malta	0,0	0,0
Netherlands	1,2	1,8
Germany	4,9	4,1
Poland	0,4	1,7
Portugal	3,1	7
Romania	0,1	0,0
Slovakia	0,1	0,5
Slovenia	0,1	0,0
Hungary	0,7	2,3
Finland	0,1	0,2
France	5,4	5,3
Czech Republic	0,2	0,3
Sweden	0,1	0,2
Total	100	100

*Source: [12].

On the first place of the sectorial distribution of public-private partnerships that are implemented in the UK, Germany, Italy and France are projects related to the construction of health care buildings; on the second – projects in the construction of educational institutions; on the third – construction of roads [13].

The analysis shows that in today's U.S. several programs of municipal and urban development are implemented that are funded from the budget and private companies in partnership. Thus, in the framework of the promotion of urban development (Urban development action grants) public funds in the form of grants and subsidies are provided for the restoration of business activity in depressed areas of a city, construction of industry and infrastructure, housing [6]. The aforementioned program takes into account the interests of not only local authorities but also private entrepreneurs, creating favourable conditions for expanding their investment on the basis of competitive conditions to provide subsidies. The main criteria for selecting areas for subsidies are: population growth, average income per capita, poverty level and unemployment.

Traditionally, the most common way of implementing PPP projects in the U.S. is the transfer of municipal enterprises on lease basis to private companies. Under these conditions, local authorities provide certain benefits to private companies, namely: tax credits, accelerated depreciation, preferential loans for investment, modernization and so on. Another form of partnership is a contract to provide services [13].

The idea of transferring public property and rights to supply public services to private companies is actively and consistently implemented in the European Union. The process of economic liberalization and the drive for greater competitiveness at the level of public services, the admission of foreign companies in national markets of public services, the need to reduce spending and the poor quality of public infrastructure and services are the main factors in the development of PPP in the EU at the end XX – early XXI century.

The first EU directive about rules and procedures for awarding contracts to private companies in public services appeared in 1992 [2]. Three more EU directives that regulate the granting of rights to the private sector in some areas, which is a state monopoly were published in 1993. In April 2004 «Green Paper on Public-Private Partnership» was released, which distinguished two types of public-private partnership: 1) a contractual nature, in which the private partner for the work performed or services rendered is guaranteed a compensation from state organizations or users; 2) institutional arrangements that allow a joint venture of public and private sectors [3].

Among the European countries that actively use and develop the institute of PPP, the best results were reached in Britain. More than 540 PPP projects were registered on January 1, 2009 in the UK with a total investment of 50 billion GBP. There were 77 hospital complexes, 94 educational projects (which included over 800 schools), 43 transport projects, more than 300 facilities in other areas of services (facilities, recreation, entertainment, culture, housing, waste disposal, defence) among the objects that are in the PPP mode. The average duration of such projects – 25-30 years. Thus in the UK are expected to increase investment in PPP projects to more than 90 billion GBP that is 15% of total investments by 2030 [4].

In other EU member countries there are similar processes of developing public-private partnerships, although less intensively and with national features. In France

representations (idea ANVAR). All domestic funds as well as institutes of support of small innovative business support the firms, which have won open competition.

For 01.01.2011 24 000 projects has been submitted to the Fund, over half of them has arrived from regions of Russia, over 8 200 projects has received a support.

Projects pass an independent expert appraisal for scientific and technical novelty, financially – economic validity, prospect of industrial and market realization of production. The basic means of Fund are directed to projects of research and developmental works (research and development). The branch subjects of projects reflect an orientation of the small innovative companies on the decision of social problems and creation of the high technology products. The enterprises supported by Fund have realized in manufacture about 2500 patented inventions, have let out products on 6 billion rubles, their deductions to the state in a type of tax exceed in 1, 8 time the sum of the budgetary funds received by them, and the efficiency of one employ has reached 1, 5 million rubles at firms thousand of new workplaces are created.

The major part of the small enterprises supported by Fund are the enterprises created in due time at scientific research institutes, high schools. The other, smaller group, of the small innovative enterprises is independent firms, which could survive as they found the place in the market of high technology production.

Among sources of financing of small enterprises the own finance of organizers of a small firm; a bank credit; federal and regional budgets; finance of business angels – the private investors, who are putting money in to the brave innovative companies or projects, yet not issued in the separate legal body, etc.) own prevail finance. Among sources of financing of innovations (means of Funds, the international programs, orders of the enterprises, venture financing, re-invested profits) re-invested prevails profit [4].

Despite activity of the financial institutions supporting small-scale business volume of their financial support concedes foreign one (see Table 1).

Table1. The comparative characteristic of financial measures of support of small business in Russia and abroad in 2008-2009 [5]

Countries	Quantity of the small and average enterprises, thousand unit	Total sum of the state support	The sum of the state support, on one enterprise subject		The annual interest rate for subjects of small business, %
			Thousand rbl.	Thousand dale.	
Germany	3400	15,0 billion euro	191,0	5,9	1,5
USA	21200	70,0 billion dale.	102,0	3,3	3
Russia	1138	40,5 billion rbl.	36,0	1,1	17-19

According to federal service of the state statistics (Rosstat) actually state expenses for innovations in Russia made 0, 6 – 0, 7 % of the Total Internal Product (gross national product), that can be compared with the same expenses in Germany, France, the USA, and expenses of enterprise sector for the same purposes at 5-13 time more low, than in the specified foreign countries [6].

For comparison, we will notice that total expenses for research and developmental works (research and development) of the largest foreign companies make about 400 bln. dollars in a year. Leaders in expenses for research and development in the world are Microsoft, General Motors, Pfizer and Toyota, in Europe – Nokia, Roche and Volkswagen [7].

Increase of the importance of support of development of small innovative business can be argued by the following.

In Russia five largest proprietors supervise 35 % of sales volume and 18 % of employment, ten – accordingly, 46 and 25 %, twenty largest proprietors – 59 % of sales volume and 33 % of employment. The contribution of the largest business groups to domestic economy is estimated at a rate of 19 % of the Total Internal Product (gross national product), and taking into account oil state monopolies – to 28 % of the Total Internal Product (gross national product) [8]. The share of small enterprises in 2008 in the Russian Federation (RF) made no more than 2 % of the Total Internal Product (gross national product), while abroad the most part of the Total Internal Product (gross national product) is created by small and average business.

The average enterprises are extremely unstable in the organizational plan, they are objects of absorption by the large versatile companies. Necessity of support of development of the small innovative enterprises repeatedly increases in such conditions.

For the Russian companies the innovations aren't an attractive kind of activity. In mining operations profitability on the sold goods fluctuates at the level of 30 %, on actives – 12-13 %, in the branches creating innovations – 6-9 % [9]. In these conditions innovations logically should be introduced into profitable branches actively. However practice other speaks about. The least innovative activity is observed just in highly profitable raw branches (relative density of the organizations, which are carrying out technological innovations there, makes only 5-7 %) [10].

III. Results

To the major factors, braking development of small innovative business in Russia, except a lack of financial assets, carry limitation of demand for the high technology production, unwillingness of large firms to cooperate with small, high level of taxes, absence of the necessary equipment, weak state support, complexity in reception of credits (high percent, absence of reliable guarantees of return of the credit), complexities with penetration on foreign markets, exhaustion of a stock of former workings out, absence of guarantees of the property rights to inventions.

Result of action as these and other factors is disinterest of non state business in innovations.

The largest value of using PPP projects among developed countries was reached in the U.S., where types of PPP such as a «Design-Build», maintenance contracts and concessions are commonly used. The important role in the development of these relations is played by public corporations and companies which are created by the government authorities of the states and municipalities on a commercial or non-commercial basis.

Analysis of contemporary United States experience of using PPP shows the following specific forms of cooperation between state and business:

1. Cooperative R&D programs within the innovation cycle – private firms, which represent the full range of development and implementation of new technologies. The state creates conditions for the operation of such partnerships and actively participates in their activities.

2. Strategic multisectoral partnership established to develop and commercialize core technologies of mass application.

3. Regional NASA's Technology Transfer Centers which coordinate state's initiatives and scientific, technical organizations with NASA and are created at universities; their activities are funded by government, states and private companies [4].

Thus, public-private partnership in the U.S. is developing towards the concentration of money on the creation and implementation of new technologies to share the results. This approach allowed the U.S. to raise the technological level of industry taking into account the real needs of new markets and achieve significant progress in improving the competitiveness of the national economy.

The analysis shows that public-private partnership in the U.S. is developed the most successfully in construction of roads and utilities. The strategic decision of the state on the application of PPP in the sector of utilities is based on the fact that the time and resources which are spent to design and build infrastructure by private companies versus public companies are much lower, often this advantage reaches 15-20% [7]. Note that 62 projects related to the PPP road construction were implemented in the period 1985-2004 in the U.S. with total investment – 42 billion USD. 58 new projects worth 54.3 billion USD were launched in 2005-2006 which reflects the growing role of PPP in the road sector of the U.S. [7]. To confirm the data (Table 1.) 64 projects of PPP in the road sector, including 52 projects related to the construction of toll and free roads were carried out in 2007. However, 61% of the total investments were used for the construction of toll roads.

Table 1. PPP projects in the road sector of the U.S.A. economy, 2007 *

Object PPP	Number of projects	Cost, % (million USD).
Toll roads	28	61
Paid bridges	8	8
Paid tunnels	1	10
Paid bridges and tunnels (as a single object)	1	2
Free roads	24	19
Total	64	100

*Source: [15].

operators; the primary aims of this cooperation are to fund, construct, renovate or operate an infrastructure or the provision of a service» [3].

Experts of the OECD define PPP as «arrangements whereby the private sector provides infrastructure assets and services that traditionally have been provided by government, such as hospitals, schools, prisons, roads, bridges, tunnels, railways, water and sanitation plants» [9].

According to the World Bank's Glossary «PPP is a long-term arrangement in which the government purchases services under a contract, either directly or by subsidising supply to consumers» [8].

Concerning the Law of Ukraine «On public-private partnerships» «PPP is a collaboration between the State of Ukraine, Crimea, local communities and local governments (public partner) and private partners that is based on the contract» [1].

Thus, the concept of public-private partnership which is defined in the Law restricts the range of relations arising in the process of attracting potential of private sector to solve significant social problems that concerns every citizen.

Analysis of the development and implementation of PPP projects in developed countries allows us to classify economic relations that are realized in models with different levels of risk and degree of participation of the private sector (Fig. 1). This is a ranking of the PPP arrangements from the least risky with the lowest share of participation of business («Design-Build») to the most risky with the largest share of private sector participation («Concession»).

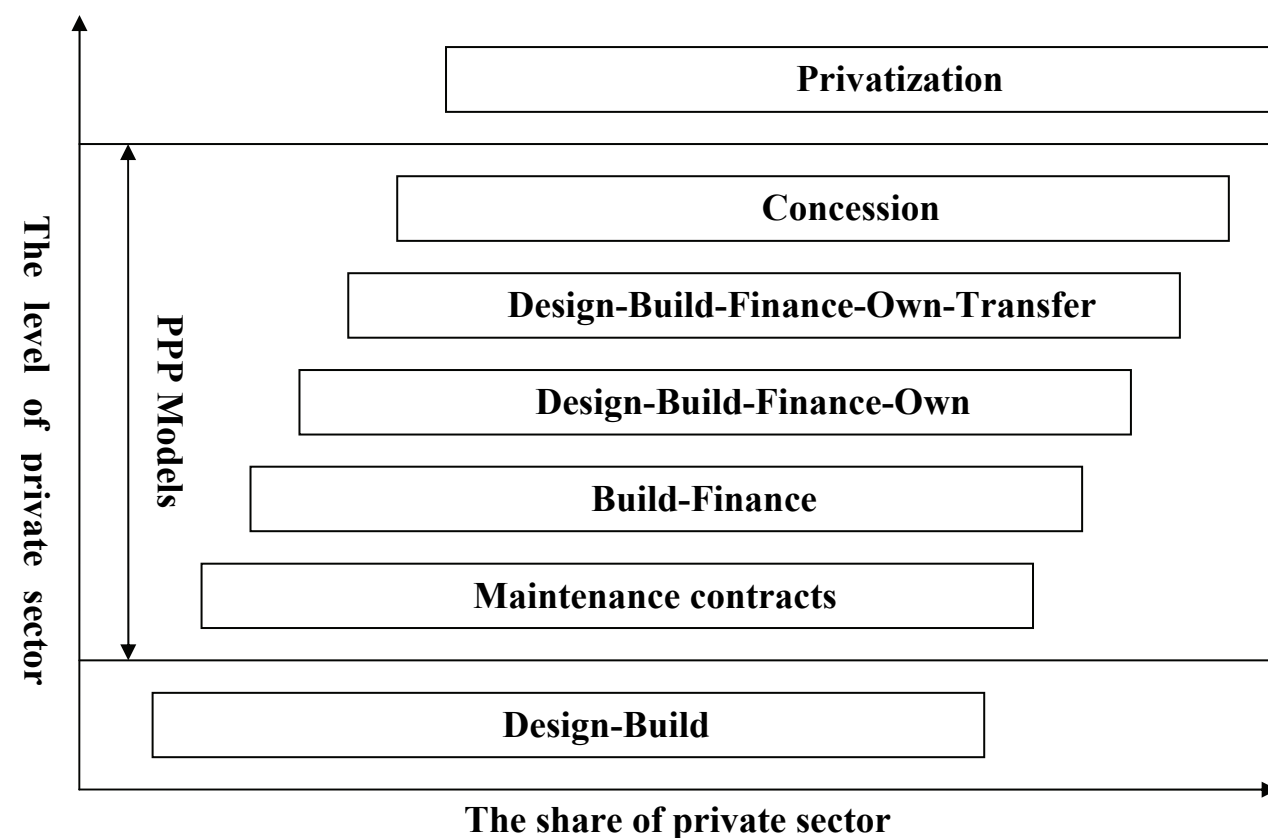


Figure 1. Classification of PPP arrangements depending on the level of risk and the share of private sector participation.

These factors in turn give rise to unwillingness, and sometimes an active resistance to innovations at the enterprises, interfere with start of mechanisms of innovative development.

The state already realized a number of measures for the support of innovative business: in the country has been created the presidential commission on modernization and technological development of economy; the commission on high technologies and innovations; № 217 Federal Law is adopted on creation of the small innovative enterprises at high schools and the academic institutes (it is already created nearby 400 SIE); it is decided to develop innovative programs at each enterprise with the state participation; there is a decision to support governmentally large innovative projects with target sales volume by 2015 not less than 15 billion rbl. [11].

In Russia interaction of large, medium and small business is only being formed. This process in the conditions of the Russian economy is influenced, by existing earlier research-and-production associations on the one hand and spontaneously arising preconditions to cooperation in the conditions of transformation of branch industrial structure, destructure the enterprises and property privatization on the other hand.

In particular, in Russia a basis for creation of integration structures was the requirement of realization of possibilities of strategic partnership, creation of flexible organizational-administrative structures and use of potential of small enterprises in innovative process. In the conditions of necessity of an overcoming the crisis small business is attractive to the large companies as a potential resource of economic growth, and also a source of formation of optimum proportions of manufacture and management.

Recently in the country process of creation of integration structures has become more active: financial and industrial groups, corporations, including transnational, where subjects of small-scale business play an essential role thanks to created flexible control systems, vertical communications are replaced by horizontal, allowing to adapt to market requirements to the greatest degree.

For example, the Zelenograd business group («Nanotechnology MTD») represents enough big groups of small enterprises, in turn, connected with more powerful structure providing advancement of production – concern «Tools of nanotechnologies». Large manufacture placed concern is service, marketing, production advancement, management of projects. The small enterprises entering into integrated business group (IBG) take care of developments of separate projects, tests and approbation.

Zelenograd Company NT-MTD («Nanotechnology MTD») is one of leading world Companies of the equipment for scanning zoned microscopy. By estimations of independent European agency Future Markets Inc., as of January, 2011 it takes the second place in the world market among manufacturers of installations for scanning zoned microscopes (SZM), share NT-MTD on it makes 16 % [12].

However formation of integration communications in Russia is extremely spontaneous, without active support of the state though the direction of structural changes and gains in strength recently. The number of associations, where the significant role is played by the small innovative enterprises is increasing. The

research-and-production centers, zones of the technical and economic development, the new technologies, focused on creation of high technology production, for example, such zone as «Dubna» is formed; the research-and-production Center «The Russian Federation Engineering» specializing on working out and manufacturing of aeriels and antenna-feeding devices for various telecommunication systems.

In these organizations the brilliant human potential is concentrated; the research firms developing current and perspective scientifically applied problems; the industrial companies taking care of new product out put and its introduction.

In Russia contract relations of subjects of small innovative and large business are rather weak. The majority of the large enterprises have a full cycle of manufacturing that, on the one hand, probably, raises reliability of work, and on the other hand – doesn't allow to generate competitive advantages. The reasons for this is insufficient concentration of resources on strategic lines of activity, impossibility of unification of technological process and researches, low labor productivity, weak innovative activity. Therefore few large enterprises in Russian Federation use subcontracting as strategy of the innovative development.

On the contrary, the subcontracting forms of small enterprises producing their own product become more popular. The small innovative enterprises develop scientific projects independently, make the basic innovative units and finishing assemble. All other details are made by the large enterprise. It allows small enterprises to make qualitative product, not to spend money on equipment, rent of floor spaces that in turn essentially raises competition and stability both of a small enterprise and all integration structure.

In innovative business of Russia the franchise yet hasn't become wide spread though potential possibilities for its introduction are great enough.

The franchise is presented in Russia by such enterprises-leaders, as «Lukoil» (in Open Society «Lukoil»'s possession is about 200 stations working on the terms of a franchise); Subway (in territory of Russia works more than 130 restaurants of brand Subway); «1C» (company specialization – working out, distribution, the edition and support of computer programs of business or house appointment, «1C» conducts work with users by means of the branched out partner network including more of 10 000 partners from 600 cities of 23 countries), etc.

The major factor constraining development of franchise in our country, is discrepancy between rigid uniform standards, the criteria established by franchiser, and specific concrete working conditions of franchise.

Besides, here is a gap between a long period of validity of the contract of a franchise and unpredictability of dynamics of parameters of economic activities of small enterprise owing to absence of stability in national economy. The negative factor is absence of due respect for intellectual property, effective measures of its protection. Besides, franchise development is interfered by the standard-legal base, which is not stimulating growth of the small innovative enterprises which work on technologies domestic and foreign franchisers, extending innovations and supporting high level of innovational in national economy [13].

Mostepaniuk A.V.

GLOBAL EXPERIENCE IN IMPLEMENTING PROJECTS OF PUBLIC-PRIVATE PARTNERSHIP

The conditions of development partnerships between the state and the private sector are analysed in the article. Peculiarities of functioning public-private partnership (PPP) in developed and developing countries are studied. Global experience of PPP projects generalized and practical recommendations are provided for the establishment and development of public-private partnership in Ukraine.

Keywords: government, private sector, public sector, cooperation, public-private partnerships, concession, social projects of PPP.

Problem statement. Further modernisation of Ukraine's economy and ensuring its post-crisis growth intensify the problem of interests consolidation of the most influential government and business actors; harmonization of the institutional environment of PPP in Ukraine with ones formed in developed countries.

Analysis of recent publications. Major trends and conflicts of formation and development of PPP in various countries are covered thoroughly in the works of foreign and Ukrainian economists: A. Alpatov, R. Beckett, L. Fedulova, Y. Fomichov, M. Gerard, F. Harvich, M. Hayrapetyan, V. Heyets, O. Holovinov, M. Hottre, N. Hrazhevskaya, A. Klimenko, L. Leon, R. Martusevich, K. Pavluk, A. Reid, A. Rozhkova, P. Savranskyi, Z. Varnaliy, V. Varnavskyi. Institutional framework of regulation and development of PPP in the current situation is disclosed in some legislative acts, legal documents of many countries, analytical reports of the Organization for Economic Cooperation and Development and the European Commission.

Remaining part of the problem. The promotion of civilised market relations in Ukraine is impossible without in-depth analysis and generalisation of world experience in implementing PPP to improve the basic directions and mechanisms of modernisation of the national economy.

The purpose of this article is to analyse the global experience of PPP and justification on this basis of practical recommendations to further improving the partnership of the state and business in Ukraine.

The main results. The analysis shows that in the legal documents of the most countries the concept of «public-private partnership» is widely used, which reflects the cooperation of government (central or local) and private businesses to solve socially important problems in interests of society as a whole or a local community. Meanwhile in Ukraine, as a rule, the term «public-private partnership» defines relations between the state partners and the private sector. Definitions of PPP by international organizations experts are noteworthy in this context.

Thus, according to the «Green Paper on public-private partnerships» PPP describes «a form of cooperation between the public authorities and economic

Following the review of applications, they are accepted for execution ($o_{1.10}$ – <truth>) and confirmed by customers in the state of $S_{1.4}$ ($o_{1.11}$ – <truth>). In the final state of $S_{1.5}$, time ($o_{1.7}$) and costs ($o_{1.8}$) for processing of each order are calculated. The amount and structure of the commodity items indicated in the applications affected the time of processing within the framework of this operation. Costs, in turn, are calculated on the basis of the processing time of applications and the cost of one working hour of an expert. The latter was determined based on the value of the resource «Staff» at the rate of production capacity: 160 hours per month. The fact of completion of order service for the first operation (O_1) and their transition to the next operation (O_2) is fixed by the characteristic of $o_{1.13}$ = <truth>.

Similarly, costs for the remaining operations are calculated. The summarized data of the calculation of time and costs for four orders of customers of Joint-Stock Company «Minskkontrakt» is shown in Table 5.

Table 5. Aggregate results of timing and expenses on realization of process «Execution of customer orders»

№ of order	Denotation	Client	Time of order execution, hours	Expenses on ordering fulfillment, USD
594	P ¹	Minsk region executive committee	51,7	41,75
595	P ²	OJSC «Kommunarka»	67,45	33,66
596	P ³	Star Glass Lighting Co. Ltd	36,16	123,46
597	P ⁴	Minsk State Technological College	49,6	25,22

It is recommended to calculate the total time and costs for the process «Execution of customer orders» in the stage of receipt of applications from customers. This allows to calculate the costs for fulfillment process of orders subject to specific conditions of the contract between seller and buyer. Building of the modeling process using the apparatus of Petri nets permits to assess and plan costs with a high degree of accuracy, supply analysis, identify the most profitable orders.

Thus, the modeling using the apparatus of Petri Nets increases the accuracy of cost justification, allows to create an optimal portfolio of orders without increasing the labour-output ratio. The proposed methodology can be used not only for the individual processes, but also for activities of an enterprise, as well as in a chain of interrelated enterprises.

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IV. Conclusions

Summing up the analysis of a condition of innovative activity of small enterprises as principal causes of weak innovative activity it is possible to note, first, insufficient investment-innovative activity of the state concerning SIE and, secondly, absence of a complex of institutional conditions for innovative activity of small business.

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METHODOLOGICAL ASPECTS OF OPTIMAL DECISION MAKING SEARCH IN BRAND MANAGEMENT

Annotation

The article based on the generalization of research results leading scientists in the field of branding proved that the problem of making optimal decisions is the process of search tools and mechanisms for building strong brands, a combination of which provides the maximum economic effect in the present market situation and outlook. Principles of the selection of optimal solutions in brand management under uncertainty are laid out.

Key words: brand management, optimization, optimal solutions, economic effect

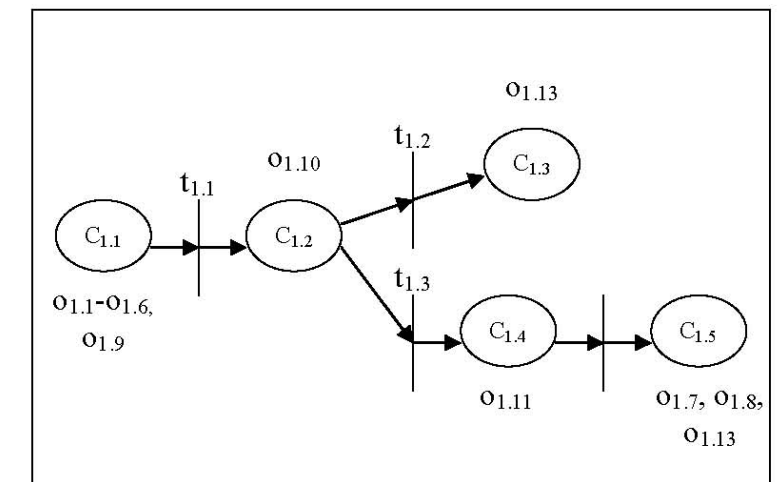
Introduction

Effectiveness of decisions approved and implemented in the brand management system should be assessed towards the final degree of beneficial effect, which is assessed primarily by criteria that characterize the growth of market share, brand value added and profitability indicators.

Analysis of works by D. Aaker [1], J. Balmer [2], S. Bridges [3], R. Clifton [4], K. Keller [5], A. Ries [6], J. Simon [7], R. Bellman [8] leads to the conclusion that the task of making optimal decisions can be formulated as a process of searching for instruments and mechanisms for building strong brands, a combination which provides maximum economic effect in this situation. Thus, various problems related to the formulation of decisions on the management of various trademarks, regardless of their specificity, are general optimization problem. From this point of view we can assume that the decision-making in the branding may be based on the theory of non-variant multiparameter optimization.

Table 4. Calculation of expenses on implementation of operation O₁ «Receiving and processing of applications»

	P ₁ ¹	P ₁ ²	P ₁ ³	P ₁ ⁴
o _{1.1}	594	595	596	597
o _{1.2}	Minsk region executive committee	OJSC “Kommunarka”	Star Glass Lighting Co. Ltd	Minsk State Technological College
o _{1.3}	...0130	...6013	...0053	...0011
o _{1.4}	716, 52 USD	336, 34 USD	6884, 95 USD	272,47 USD
o _{1.5}	119,42 USD	56 USD	1778,38 USD	35,54 USD
o _{1.6}	14.45 June 19,2010.	10.05 June 20, 2010.	11.40 June 20, 2010.	14.28 June 23, 2010.
o _{1.7}	1,5 hours	2,1 hours	0,9 hours	2,3 hours
o _{1.8}	5,8 USD	8,1 USD	3,5 USD	8,8 USD
o _{1.9}	< truth >	< truth >	< truth >	< truth >
o _{1.10}	< truth >	< truth >	< truth >	< truth >
o _{1.11}	< truth >	< truth >	< truth >	< truth >
o _{1.12}	C _{1.1} → C _{1.2} → C _{1.4} → C _{1.5}	C _{1.1} → C _{1.2} → C _{1.4} → C _{1.5}	C _{1.1} → C _{1.2} → C _{1.4} → C _{1.5}	C _{1.1} → C _{1.2} → C _{1.4} → C _{1.5}
o _{1.13}	< truth >	< truth >	< truth >	< truth >



Resource (R ₂)	Resource cost, USD	Cost of one working hour of an expert, USD
Leading expert on sales	614,7	3,8

States of applications are changed and each of it has a corresponding values set of characteristics. So in the state S_{1.1} (registration of application) identification numbers (o_{1.1}) – 594, 595, 596 and 597 are assigned to applications, in addition to the name of the awarding authority (o_{1.2}), their accounts – o_{1.3} (for reasons of trade secrecy only last four digits are indicated), amounts of orders (o_{1.4}) and margin size (o_{1.4}), as well as date and time of receipt of orders (o_{1.6}) are indicated. A transition of applications to the state S_{1.2} is the fact of their registration (o_{1.9} – <truth>).

Interdependence between changes in the characteristics of objects and of their states we will identify as intra-class and inter-class transformations. The first (intra-class) transformations are performed according to the scheme «IF – THEN – ELSE», in the absence of the conditions bounded by a single action. The second (inter-class) transformations are based on conditions of transition from one operation to another. The next operation is «running» by incoming flow (P_3 for O_2 , P_3 for O_3 , etc.) provided that the object in the preceding operation is in the final state and the operation activity is completed.

For example, the operation O_1 «Receiving and processing of applications» has an initial state $S_{1.1}$ (registration of application received from a customer) and two final states $S_{1.3}$ (application is rejected and transferred to the output queue P_2) and $S_{1.5}$ (order is accepted for execution and passed to the output queue P_3). In the initial state values are assigned to the characteristics $o_{1.1}$ (application number), $o_{1.2}$ (client name), $o_{1.3}$ (customer's account number), $o_{1.4}$ (order amount), $o_{1.5}$ (margin size), $o_{1.6}$ (date of application receipt) and $o_{1.9}$ (the application is registered). The last characteristic ($o_{1.9}$) as a condition for triggering of transition $t_{1.1}$ takes a value of <truth>. In the state of $S_{1.2}$ the application is considered if it is possible to implement it. Depending on the outcome of the considerations, the attribute $o_{1.10}$ (application is accepted for execution) takes a value of <truth> or <false> (conversion scheme «IF – THEN – ELSE»). Under the condition that $o_{1.10}$ is the «truth», the transition $t_{1.3}$ goes into the state of $S_{1.4}$ (application confirmation from customer). If $o_{1.10}$ is <false>, the transition $t_{1.2}$ goes into the final state $S_{1.3}$, from which the application is passed to the output queue P_2 , i.e. it is rejected. In the state of $S_{1.4}$ an application (order) accepted for execution is confirmed by the customer ($o_{1.11}$ is «truth»). The transition $t_{1.4}$ leading to a final state $S_{1.5}$, values of which are assigned to the characteristics of $o_{1.7}$, $o_{1.8}$ (time – $B_{1,i}$, and costs – $C_{1,i}$ for order processing respectively), and the fact of completion of order service for the operation O_1 «Receiving and processing of application» ($o_{1.13}$ is «truth») is fixed. Characteristic of $o_{1.12}$ (state of the application within the framework of the operation O_1) accompanies each state of the order for the operation and equate to it ($o_{1.12} = S_{1.1}$, $o_{1.12} = S_{1.2}$, etc.). A transition to the next operation O_2 «Estimation of goods reserves in a warehouse» for which an input flow is P_3 initiated by a pair of $S_{1.5}$ – <true> and $o_{1.13}$ (application processing in the operation O_1 is completed) – <truth>. At the same time characteristics $o_{1.1}$, $o_{1.2}$, $o_{1.4}$ – $o_{1.8}$ are inherited from the first operation to the second operation. Similarly, orders are processed in the remaining operations.

At the fifth stage on the basis of the process model, costs per each customer order are calculated in detail. In order to prove the possibility and effectiveness of the proposed recommendations, cost calculations of four orders of Joint-Stock Company «Minskkontrakt» (P^1 – P^4) with different conditions for their implementation were made. They came to the department of manufactured products from Minsk region executive committee, OJSC «Kommunarka», Star Glass Lighting Co. Ltd and Minsk State Technological College. In the calculations the composition, buying and selling price, as well as the size of margins on commodity items of each order were taken into account.

The process «Execution of customer orders» begins with the receipt of applications from the above listed customers (operation O_1), where they are processed by a sales leading expert (R_2) (Table 4).

Problem statement

The method involves the optimization of non-variant multiparameter mutual consideration of all variety of factors that affect brand and limit its development, in the same economic and mathematical models and the choice of such a combination of parameters in which the target function has a maximum or minimum value. Economic-mathematical modeling allows you to enter into the model all the necessary conditions as the initial data and thus potentially charge the model for all possible variations of these terms of solutions, without presenting each of them explicitly. The essence and nature of different decisions due to specific problems, their solution is a function of this management system. The same statement of the problem in general remains unchanged.

Results

In all cases the decision-making in the control of the brand are the following elements:

- 1) Many of the alternatives provided by the brand manager for selection;
- 2) Information that allows the brand manager to foresee the consequences of choosing any alternative;
- 3) Performance criteria, allowing brand manager evaluate the results obtained after the different solutions;
- 4) Computational methods by which the brand manager can find the optimal solution.

Considering the specific situation of a decision, we can admit a large number of factors, the complexity of relations that bind them, the significant difficulties that arise during the forecast results, refer to the set of their decisions and the difficulties of comparing the desirability of different outcomes. In practice, the preparation of decisions the diversity relations realities must be simplified. This introduction of a number of limitations with the existing variety of alternatives should provide many possible variants. However, the choice of any alternative likely unbalanced, since the outcome of choice (the decision) for various reasons may become less desirable. So on the set of possible alternatives is admissible subset of which, in turn, can allocate a number of those which preferred.

To optimize the decisions, we need the information in the form of indicators and parameters that characterize its markets, competitors, customers, strengths and weaknesses of the own brand, threats and opportunities that allow you to foresee the consequences of choosing each alternative. The accuracy of such predictions is a function of the nature of information, its scope, usefulness, reliability and so on.

Reducing the amount of information (while maintaining its usefulness and reliability) can be achieved by construction of a clear economic and mathematical model adopted by the criterion of effectiveness, which measures the most important properties of provided results. It should be noted that an unambiguous determination

is not possible criteria for choosing alternatives, because approved solutions meet the objectives hierarchy and means to achieve them. This hierarchy is mediated by many factors. Therefore, in each case the performance criterion their decisions depend on the real market situation, the level of the hierarchy and the specific brand.

After the formal analysis the optimal solution is retrieved by using mathematical methods. Today deterministic and nondeterministic problems, models and decision-making situation are distinguished. Deterministic models are characterized by the fact that some choice of values for the controlled production factors invariably leads to a result and the value of objective function. Nondeterministic model of decision making do not meet this requirement.

R. Bellman and S. Dreyfus were the first researchers suggested several ways to formalize and solve optimization problems under uncertainty [8, p. 28]. Firstly, you can abide by the neoclassical theory of risk analysis and put into function advantages. Second, use the method of maximum likelihood in which the condition is introduced, which sets the upper limit of the possibility of difficulties in achieving this goal.

By passing the decision under uncertainty, brand managers should choose the situation among the possible unfavorable situations that would lead to a minimum loss of the areas of work headed by them.

Selection decisions based on mini-max strategy that takes into account the most unfavorable situation, is very cautious strategy. In these circumstances it is not recommended to assume that the solution meets the most advantageous situation, since the expected and actual results may differ.

There is logic in choosing a strategy instead of two extreme assessments of the situation to choose an interim assessment. This principle is aimed at Hurwitz that is a compromise rule that determines the choice of solutions in complete uncertainty as an average – and max-min and min-max:

$$K_q = \frac{1}{2} (\max \min a_{ij} + \min \max a_{ij}), \quad (1)$$

Where K_q - Hurwitz criterion;

a_{ij} – Value of the objective function;

$\max \min a_{ij}$ – max-min objective function value;

$\min \max a_{ij}$ – min-max objective function value.

For selecting decisions under uncertainty can also be used Bayes-Laplace principle, which assumes that the possible situations can be attributed to a priory possibility of occurrence, the appropriate level P_1, P_2, \dots, P_n , moreover

$$\sum_{i=1}^n P_i = 1. \quad (2)$$

This helps to determine the mathematical expectation of the target function, corresponding to a separate decision.

Figure 2 shows that the process is «running» by incoming flow P_1^n (applications received by the organization) and R_1 (stock of goods necessary to execute the orders), and concludes with output flows P_2^n (application rejected), P_5^m (a request for reservation of goods to a warehouse, where m is a request number), P_7^j (requests sent to producers supplying the products, where j is a requests number to the producer), P_{10}^n (orders delivered to customers) and P_{11}^n (orders transported by customers).

The implementation of process «Execution of customer orders» includes five operations (O_1, O_2, O_3, O_4 and O_5), which have input and output objects transformed as a result of their realization. Thus, for the operation «Receiving and processing of applications» (O_1) input objects are applications (P_1^n) received by the organization, and output objects are rejected applications (P_2^n) and accepted applications (P_3^n). The logic of the transformation of input flows of objects into output flows of operations is presented in Table 3.

Table 3. Transformation of the flows of objects

Operation	Logical formula of flows' transformation
O_1	$P_1 \rightarrow P_2$ или $P_1 \rightarrow P_3$
O_2	$P_3 R_1 \rightarrow P_4 P_5 R_1$ или $P_3 R_1 \rightarrow P_6 P_7 R_1$
O_3	$P_4 R_1 \rightarrow P_9$ или $P_8 R_1 \rightarrow P_9$
O_4	$P_6 R_1 \rightarrow P_8 R_1$
O_5	$P_9 \rightarrow P_{10}$ или $P_9 \rightarrow P_{11}$

To estimate correctly the time and the cost of one or another operation, we need the fourth stage of detailed elaboration of the operation. Thereby we can reveal the sequence of actions, during which the objects are customer orders having a certain set of characteristics. They are transformed in concrete operations and transferred from one operation to another. Thus, for the operation «Receiving and processing of applications» object has characteristics according to the identification number of the order ($o_{1,1}$), the name of the awarding authority ($o_{1,2}$), bank account of the customer ($o_{1,3}$), etc. With a transition to another operation objects inherit some of the previous set of characteristics, become new characteristics and lose those that are not needed for performing current operations.

At this stage the transformation of processed objects for the particular operation is represented as a gradual change of their states defined by a set of characteristics of these objects, as well as their values. To describe the sequence of states of the objects the Petri net is used. States of objects conform to positions of network, the conditions of their transformation conform to transitions. The operations are represented by rectangles on the left side of which all characteristics are inherent for these operations, and on the right is the sequence of states of objects in the form of Petri nets.

Within the framework of each operation the potential states of objects are extracted (registration of application – $S_{1,1}$, consideration of application – $S_{1,2}$, transfer of a rejected application to the output queue P_2 – $S_{1,3}$, etc.). Each state is determined by the corresponding characteristic or a set of characteristics of the object (the order). Thus, the transitions ($t_{n,m}$) between the states are activated by conditions, which are expressed by the characteristics such logical variables using the expression <truth> and <lie>.

- Both orders are provided and delivered to customers;
- Both orders are provided and transported from the warehouse of the enterprise by customers;
- Both orders are provided, and one of them is delivered to the customer, the second is transported from the warehouse of the enterprise by the customer;
- Two orders are completed and delivered to customers;
- Both orders are completed and transported from the warehouse of the enterprise by customers;
- Two orders are completed, and one of them is delivered to the customer, the second is transported from the warehouse of the enterprise by the customer;
- One order is provided, the second order is completed. Two orders are delivered to customers;
- One order is provided and delivered to the customer, the second order is completed and transported from the warehouse of the enterprise by the customer;
- One order is provided and transported from the warehouse of the enterprise by the customer, the second order is completed and delivered to the customer;
- One order is provided, the second order is completed. Both orders are transported from the warehouse of the enterprise by customers.

Analysis of the final states of the constructed network has shown that it has not dead-end states where no transition is enabled, and there are no cycles without exit. On this grounds we can conclude that the network is built correctly.

In the third phase the constructed Petri net subject to the analysis of its correctness is converted into a process diagram (Figure 2), which elaborates and refines transmission and transformation of objects for operations within the bounds of current process.

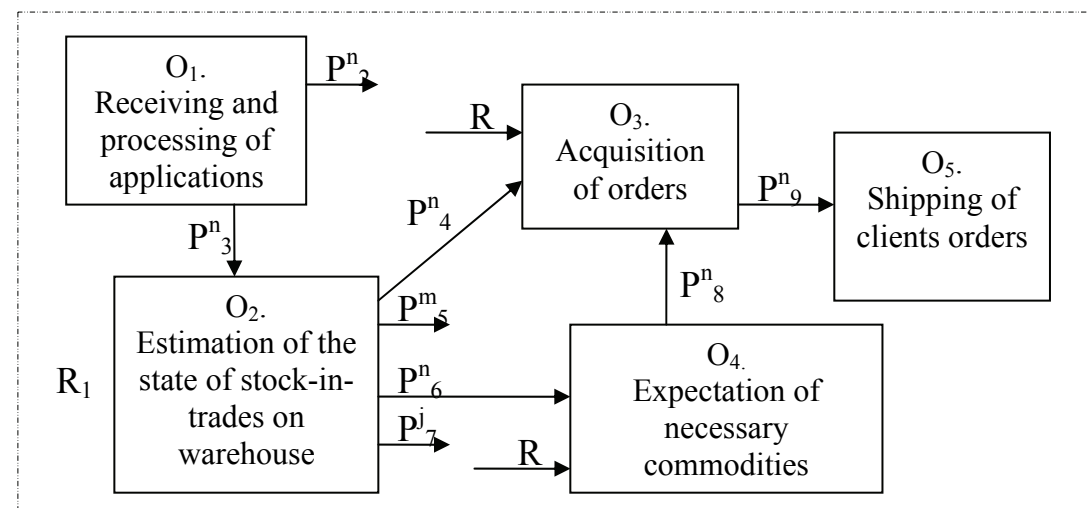


Fig. 2. diagram for the process «Execution of customer orders»

Bayes-Laplace principle can be applied in practice in case of repeated possible situation that allows, based on frequency of occurrence of certain situations, to assess the likelihood of their occurrence in the future. In the case of individual decisions applying the principle of Bayes-Laplace is inappropriate. Principle Hurwitz essentially similar to the Bayes-Laplace principle and it is its simplified version.

In practice, to select the optimal decision under uncertainty most commonly used min-max principle consequences of erroneous decision proposed by Savage. Principle Savage sent to prevent a major loss, which could result in erroneous decisions. Indeed, making decisions, brand managers tend to stay at the alternatives, the choice and implementation of which in the case of the least mistakes will have serious consequences. Application of Savage principle is based on the matrix effects of erroneous decisions.

For optimum of determining the multi-linear functions, such as value added trademark, the presence of limitations as linear equations or inequalities in branding can be used linear programming methods, including method of enabling factors and simplex method. Within this class of problems can be identified integer programming problem in which each of the variables, such as purchasing commitment, the popularity of the brand and others can take integer values.

They can also be used by non-linear programming methods, including method of quadratic programming. Its use assumes that the linear constraints (as in linear programming), but the target function can be convex.

Conclusion

Thus, the problem of making optimal decisions is the process of searching for instruments and mechanisms for building strong brands, a combination that provides maximum benefits in the present market situation and outlook.

Based on the overall optimization problem can be assumed that the decision-making in the branding may be based on the theory of multiparametric optimization.

The principles of choosing optimal decisions in brand management in conditions of uncertainty are in fact reasonable rules based on an assessment of its effectiveness, and can be applied in such cases:

- Hurwitz principle or Bayesian-Laplace – in the situations and solutions in the market, which are many times repeated;

- Min-max principle or the principle of min-max strategy consequences MVP – when choosing a single solution. Savage Min-max principle can be applied also in the selection of collective decisions. In some cases, solutions may be found by using the methods of the differential calculation.

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The input position of network (P_1) corresponds to the applications of customs received by the organization ($P^1_1, P^2_1, \dots, P^n_1$). The output positions (P_{10} and P_{11}) are gathered goods delivered (P^n_{10}) or transported by the client (P^n_{11}).

Since several transitions in the network for the process «Execution of customer orders» can be simultaneously activated, the one is selected through the control action. It is described in turn as a logic function that consists of arguments combined through the logical connective «and» (Table 2).

Table 2. Controlling of transitions in Petri nets

Transition	Control action
t_1	«Application P^n_1 received by the enterprise» and «rejected as a result of treatment»
t_2	«Application P^n_1 received by the enterprise» and «accepted for implementation as a result of treatment»
t_3	«Order P^n_3 accepted is provided with resource R_1 » and «request for reservation is shipped to the warehouse»
t_4	«Order P^n_3 accepted is provided with resource R_1 » and «request is sent to the producer»
t_5	«Secured order P^n_4 has a maximum time to be in the position P_4 » and «ready for assembly»
t_6	«Necessary goods of unsecured order P^n_6 is arriving at a warehouse»
t_7	«Gathered goods of the order P^n_9 are ready to ship» and «provided by a vehicle to be delivered to the client»
t_8	«Gathered goods of the order P^n_9 are ready to ship» and «waiting for the vehicle of the customer»
t_9	«The order P^n_9 has a maximum time to be in the position P_8 » and «ready for assembly»

At the second stage behaviors of Petri nets based on the tape of reachability which has a linear form of a great number of network states (S_n) reachable from its unconfigured state (S_0) are tested. On the assumption of the work conditions of the organization an expert can daily take two new orders, the unconfigured state of the network built for the process «Execution of customer orders» has two orders at the position P_1 . As a result of the calculations it was found that the tape of reachability has 15 final states (S_n^k):

- Both orders are rejected;
- One order is rejected, the second order is provided and delivered to the customer;
- One order is rejected, the second order is provided and transported from the warehouse of the enterprise by the customer;
- One order is rejected, the second order is completed and delivered to the customer;
- One order is rejected, the second order is completed and transported from the warehouse of the enterprise by the customer;

class) transformations are performed in general cases according to the scheme «IF – THEN – ELSE», in other cases (with no conditions) they are bounded by a single action. The second (inter-class) transformations are based on conditions of the transition from one operation to another.

In the final fifth stage based on the created model of the process, the costs per each selected object are calculated.

Feasibility and practicability of using the cost modeling methodology based on Petri nets can be proved by the instrumentality of appropriate calculations. One of the most important processes for wholesale organizations «Execution of customer orders» is used as a modeled business process. To test the methodology the data of commercial and mediatorial enterprise OAO «Minskkontrakt» is used. The essence of the business process is that customs send applications to the organization to order the necessary goods. Sales specialists of OAO «Minskkontrakt» consider them and make a decision if it is possible to execute. If the decision is positive orders are processed on the basis of applications, the right goods are bought by producers and delivered to the warehouse of wholesale organization, then completed and transported to customers.

At the first stage a Petri net is constructed for modeling process «Execution of customer orders» (Figure 1). The transitions of network $t_i, i = \overline{1,9}$ conform to the set of operations to implement the process. Positions $P_i, i = \overline{1,11}$ conform to the terms of transitions. The arrows indicate the arcs that connect vertices of different types of graphs. Tokens (chips) are the objects or the applications of various enterprises ($P_i^j, i = \overline{1,11}, j = \overline{1, n_i}$ where j -application comes to i -position) that receive OAO «Minskkontrakt» and resources (R_1) in compliance with the stock of goods in the warehouse of organization.

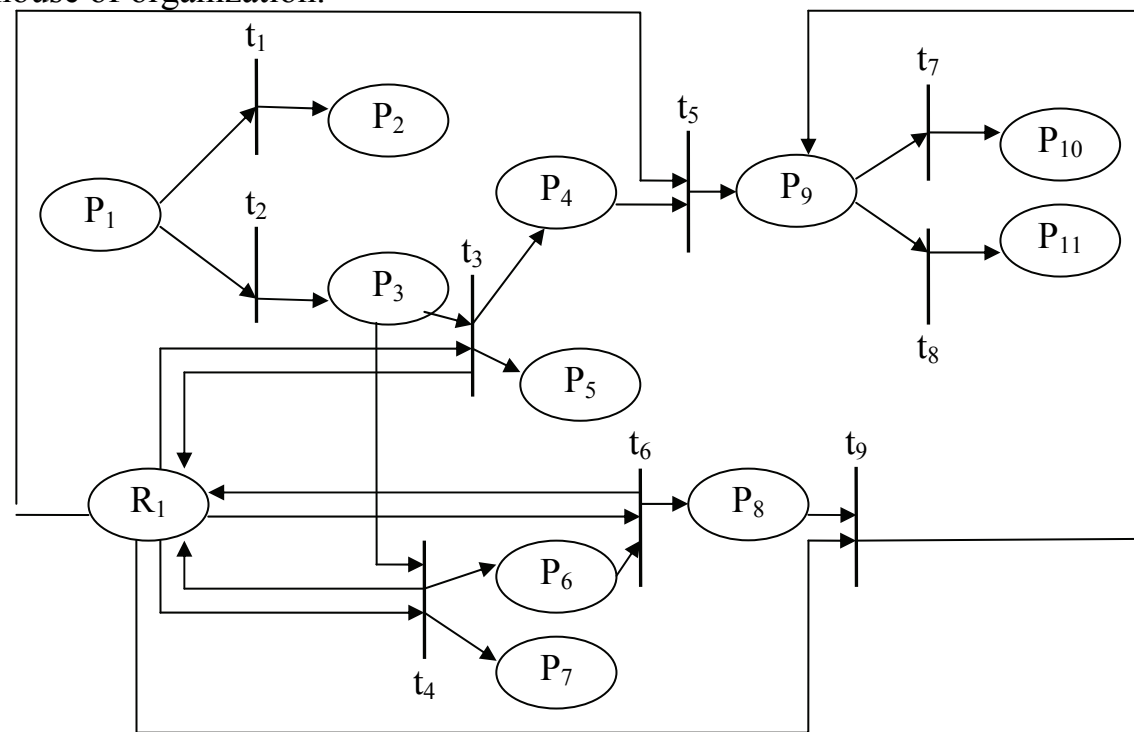


Fig. 1. Petri net for modeling process «Execution of customer orders»

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AN INFLUENCE OF WEB BROWSERS ON A DEVELOPMENT OF AGRICULTURE FORMS OF ECONOMY

Abstract

Influence of web browsers on development of small-scale business in agriculture is examined. Main functions of web browsers are determined. Efficiency from using scientific achievements in practice by farms or personal subsidiary plot is confirmed.

Key words: agriculture, business, small-scale business, farming, personal subsidiary plot, web browser.

Introduction

Business could be divided in Agrarian Sector as in other branches of economy on a big, middle and a little. This little business produces a big part of agricultural production in Agrarian Sector as in other branches of economy. Little business of agriculture begun to develop from 1991 year and after declaration of Ukrainian Independence farms and individual peasant economies started their activity.

Economic activity of small-scale enterprise provides incomes to the State budget, creates new workplaces in a village and increases a living standard of population. However on the development of small-scale enterprise, namely in agriculture, there are negative influence imbalance of tax structure, maladjustment some questions of financing and crediting, lack of development of infrastructure of agrarian market. On such conditions the interests of businessmen could be defended by web browsers.

Literature background

Theoretical and methodological background of investigation of enterprise was grounded in XVIII century in works of well-known economists like A. Smith, D.Ricardo, Jean-Baptiste Say, R. Cantillon and were developed after in works of M. Weber, W. Sombart, J. Keynes, P. Samuelson and others. Theoretical problems of forming small-scale enterprise in Ukraine could be found in works of Ukrainian

scholars like: A. Chuchno, Z. Varnalij, V. Vorotin, V. Gejts, S. Dryga, J. Zalila, I. Mazur, L. Moldavan, V. Sizonenko and others.

At the same time, in spite of importance of this question and big attention of many well-known scholars, some aspects like the role of State in a development of small-scale enterprise, legislative control and other questions are not enough studied yet. Although this problem is very actual.

The aim of the study

So, the aim of investigation is a study of the role of web browsers in a development of enterprise of Ukrainian agriculture.

Main text of the study

Ukrainian Economic Code determines that a small-scale enterprise is an enterprise with not more than 50 workers and gross revenue of which not exceed the limit of 70 mln. grn. To a big enterprise belongs an enterprise with more than 250 workers and gross revenue of which exceeds the limit of 100 mln. grn. Other enterprises are considered like middle [1, p.37 – 38]. So, in accordance with the present classification, to small-scale enterprise in Ukrainian agriculture belongs farming, due to small quantity of workers: farmer and his family, who takes place in a farming work and some wage earners.

In accordance with Ukrainian Economic Code [1, p. 63] and Ukrainian Law «About farming» [5, p.218] farming is a form of enterprise. So, an individual or family, who wants to organize farming, should create a legal entity.

Farming is an enterprise of the agroindustrial complex of economy, which makes an economic activity (production, processing and realization of agricultural production) with an aim of profit receiving. In 1991 year they begun their activity and next year their quantity multiplies by 7. In accordance with official information of Ministry of Agrarian Policy of Ukraine on 1.08.2008 the quantity of farming was equal 43894 and one farm occupied on average 99,5 ha agriculture lands [12].

Together with farming appear individuals (peasant economy), who produces a big part of agricultural products. In accordance with Ukrainian Law «About individual peasant economy» the activity of peasant not belongs to business [6, p. 143]. Potentially these individual peasant economies could enter in small-scale business, because the Law (a. 5) and Land Code of Ukraine (a. 121) provide of 2 ha property in agriculture land for individual peasant economy [2]. So, under the condition that individuals would effectively work on this land, a peasant family could receive a lot more then needs for personal consumption. Surplus of agricultural production are being usually sold by peasants at the market. For example, in 2000 year individuals produced 60% of gross agriculture production in Ukraine. In 2001 year they also produced 98% of potato, 87% of vegetable, 20% of grain and beet, 18% of sunflower seeds [8, p. 24]. In 2007 year individuals produced: meat 51.9%, milk of 82,2 %, eggs of 45,9% from general production [14]. In accordance with Statistic Committee of Ukraine Derzhkomstat 78% of individuals took cows on 1.10.2010. Their part is 80%

The second stage is the validation of the construction of Petri nets based on the tape of reachability: linear presentation of a great number of network states reachable from its initial state. The tape of reachability is a table the rows of which correspond to the positions, and the columns correspond to the states of Petri nets. The bottom cell of each column is denoted by the corresponding state of S_i , and the top cell is denoted by a pair of $S_j t_d$ where S_j is a prior state S_i , and t_d is a transition from S_j to S_i ($i, j = \overline{0, n}; d = \overline{1, m}$). The remaining cells of the column contain positions $P_1 \dots P_n$ that define this state. The first column on the left corresponds to the initial state of S_0 for which the upper cell is not filled. The final states are marked with a superscript «k» and placed in the lower cells of the columns. The construction of the tape of reachability is over when there is no way to introduce any new column.

The third stage of the methodology is a conversion of Petri net constructed and checked on correctness into the scheme of the process. With the help of it, transmission and transformation of objects for operations within the bounds of current process are defined and detailed. The logic of the transformation of input flows of objects into output flows will be as follows (Table 1).

Table 1. Transformation of the flows of objects

Operation	Logical formula of flows' transformation
O_1	« $P_1 \rightarrow P_2$ или $P_1 \rightarrow P_3$ » etc.
...	...
O_n	« $P_n \rightarrow P_m$ или $P_n \rightarrow P_k$ » etc.

The fourth stage is a detailed elaboration of the operations of the model-based process to identify the sequence of performed actions in which objects with a certain set of characteristics for the concrete operations transform, and they are transferred from one operation to another. The characteristic means a necessary, essential, permanent sign constituting the distinguishing feature of the object. It is proposed to represent the transformation of processed objects for a particular operation as successive changes of their states defined by a set of characteristics of these objects, as well as a set of their values. To describe the sequence of states of objects Petri nets are used. The states of objects correspond to the network positions, the conditions of their transformation correspond to transitions. The operations are represented by rectangles on the left side of which there are all characteristics for these operations, and on the right side there is the sequence of states of the objects in the form of Petri nets.

Within the framework of each operation the potential states of objects are extracted. Each state is determined with the corresponding characteristic or the set of characteristics of the object. Thus, the transitions ($t_{n,m}$) between the states are activated by conditions, which are expressed by the characteristics: logical variables with the expressions of <truth> and <lie>. Between changes in the characteristics of objects and their states that are taking place both within the framework of the individual operations and between them, there is an interdependence. Such changes can be called respectively intra-class and inter-class transformations. The first (intra-

reduction reserves of human, financial and other resources for the implementation of these processes. The main advantages and opportunities of Petri nets to identify areas for the cost reduction in the modeling of business processes are as follows: 1) the process defined in terms of Petri nets has a clear and exact view; 2) the graphic visualization of networking through which all of its definitions and algorithms are easily perceived; 3) ability to use different methods of the analysis [1, p. 141].

A Petri net is a directed graph with vertices of two types: positions (P) and transitions (t). Network transitions (t) have the form of vertical lines and correspond to the set of operations of the process. Network positions (P) are represented by ovals and correspond to the conditions of transitions. In the network positions are placed so-called tokens (chips), which are objects (orders, applications, resources, etc.) of the model-based processes. Their movement shows the process dynamics. The number of tokens in the position is expressed by a nonnegative integer and determines the status of the position, and the set of states of all positions determines a state of Petri nets. The motion of tokens is a result of the execution (the operation) of the transition under the influence of external and internal conditions of the process.

The analysis of Petri nets is based on the recognition of a number of properties that characterize the network. The main properties include boundedness, saving, liveness and reachability [2, p.38]. The first property means that each position of network has a bound of objects and does not contain more than a specified number k ($k \geq 1$). The network is called bounded if all its positions are bounded. The network all the positions of which are bounded by one object is called safe. For example, it is possible in the case of one order (application). The network is safe if it has a constant number of circulating objects. The liveness means that all open transitions are active. The network transition can be dead-end (inactive) if during the process the transition was blocked (mandatory tenders for public procurement, phase-out of the ordered production, government restrictions on business activities of enterprises, etc.). The reachability indicate a chain of transitions from the initial state S_0 to the state S_n .

Based on the foregoing description of the content and properties of the apparatus of Petri nets, in the article it is suggested to view the methods of modeling costs including five phases: 1) selection of the modeled business process and the construction of Petri nets; 2) validation of Petri net based on the tape of reachability; 3) conversion of Petri net constructed and checked on correctness into the scheme of the process; 4) detailed elaboration of the operations of the model-based process; 5) determination of costs, profits and profitability concerning selected objects.

At the first stage, Petri nets generate the data for the selected business process with the definition of input and output positions. The number of network positions depend on the number of conditions within the framework of this process of operations. In the case of several transitions activated simultaneously in Petri nets, the choice of one of them that «works» will be determined by the control action. It is described as a logic function formed from arguments with the logical connectives «and», «or», «no». And the arguments of functions are linguistic variables enclosed in parentheses.

in gross milk production in Ukraine [11]. Ukrainian scholar I. V. Svinous pointed that individuals became a main producer in a pig agriculture branch in 2009 year [13].

These official statistics confirm that a contribution of entrepreneurs-individuals on agriculture production is considerable.

A specificity of Ukrainian economy consists in that State concentrates its attention on big business and considers that main value of agriculture production should produce big corporations. As pointed a minister of agrarian policy of Ukraine M.Pryshazhuk: «Namely big corporation could draw an investment in Agrarian Sector of Ukraine because it is a way on foreign market without State support» [7, p.4].

Maybe it's an answer for question why Ukrainian agriculture is paid little attention to small-scale business development. Nowadays State doesn't give favorable conditions for agriculture development due to lack of legislative control, feeble State financial support, difficulties with land acquiring etc. There is no act of law still for making «Ancestral Settlement» like a kind of individual peasant economy, the target of which is to produce organic and ecologic agriculture products. In beekeeping branch is absent an act, which regulates product standardization. There is an obstacle for Ukrainian enterprise development because there is no a possibility to entry to international market. So, a defense of entrepreneur's interests could be made by web browsers, on our mind.

In accordance with a law «About web browsers» from 18.02.2009 web browser is a kind of public institution (citizens and/or legal entity), which organizes with an aim of realization public interests according to statute scope of activity and for satisfaction and protection public interests of own members. Web browsers are non-profit organization [3].

There are main functions of web browsers on our mind:

- people unification for realization public interests according to statute scope of activity;
- lobbying adapted for Ukraine law with an aim of effective small-scale business development;
- informational;
- realization of research activities;
- establishment of social and cultural purposes;
- representative;
- establishment of international contacts etc.

Due to big range of agriculture products which are being produced namely by individuals, one of the main actions of web browsers should be support of individual peasant economies and farming development.

Effective small business in agriculture depends on:

- defense of land property rights like main means of production;
- peasant motivation;
- availability of financial researches;
- agriculture equipment;
- buildings, which meet the modern requirements;
- technologies of production and processing of agricultural production.

Nowadays one of the main task in agriculture is a revival of Ukrainian village thought to come back peasants to the work in agriculture especially men.

There is a migration of peasants to cities and towns with an aim of earn money in other branches of economy, which is doesn't develop no individual peasant economies neither small scale business in agriculture because of lack of development of regions, little State support of village .

New trend began to develop last time in Ukraine, especially in the period of financial crisis, to which join people from towns, who wants to change their way of life from urban to rural with an aim of conscious an intercourse with a nature – land, animals, plants (means keep of economy), which improve land fertile. Such form of economy is being named «Ancestral Estate» and their settlement is being named «Ancestral Settlement». Main ideas of ancestral settlements are stated in the series of books of Russian entrepreneur V. Megre «Jingle Cedars of Russia». Townsmen want to occupy with organic agriculture, to bring up a children to love its country and folk. They wanted to work on free agriculture land and develop it under condition to receive 1 ha land in property for individual peasant economy with possibility of building a house on this territory.

On our mind, the support of these people in realization of such kind of keep of economy would develop not only a little forms of economy in agriculture but also decrease an unemployment in towns. Their activity would promote to appearance more cheep food in agrarian sector through increasing propositions on markets of high quality ecological products, decrease social exertion in towns and increase standard of culture in village.

Web browser «Popular Movement of Land Protection» is of interests of «Ancestral Settlement» in Ukraine. The aim of this organization is to create a law for legal activity of «Ancestral Settlement» [10]. On our mind, this web browser doesn't use all its functions and possibilities due to weakly realization the main function of people unification for realization public interests according to statute scope of activity. About the activity of this organizations are being known only some «Ancestral Settlements» of Ukraine and the most enterprising people. Other people who interested in creation an «Ancestral Settlement» find each other and join on one's by their own or through Internet etc.

Namely web browser should join people in accordance with general interests. Big quantity of members shows a public consequence of organization. It helps to realize other public interests like lobbying adapted for Ukraine law with an aim of effective small-scale business development; establishment of international contacts. So, full realization of first function – people unification for realization public interests according to statute scope of activity – is an important condition of development other functions in the organization, but not the only one.

Informational function is one of the important functions for effective development of small-scale business in Agrarian Sector of Ukraine. It means that web browser should inform own members about events in social-economic field of country. Nowadays it is important on our mind to have own site for web browser, because a lot of people find each other and all necessary information though Internet.

Among events, which could be interesting for entrepreneurs are changes in agrarian reform and in legislation etc.

Realization of research activities by web browser provides for attraction of scholars, who are members of web browser, to apply their research in practice activity of «Ancestral Settlements».

Paliashchuk Nadzeya

ENTERPRISE COST MODELING ON THE BASIS OF THE APPARATUS OF PETRI NETS

This paper presents the questions of cost modeling based on Petri Nets to detect inconsistencies and duplication of operations that make the processes, as well as a rational sequence of their execution, and thereby to reduce the total costs. The application of the apparatus of Petri Nets makes it possible to define the optimal sequence of model-based process, as well as time and costs for the process from the point of view of various orders of different customers.

Keywords: business process, operation, costs, Petri net, modeling.

In consideration of the hierarchy and multiplicity of the processes that are used for the analysis, evaluation, as well as cost optimization in chains of making and selling of the finished product (in the first place because of by eliminating of redundant operations that are not important for consumers), it is reasonable for organizations to use modern information technologies and modeling. A model building makes it possible to determine the inconsistency of operations, their duplication, the optimal sequence of the implementation, etc. Modeling tools of business processes allows to carry out their cost analysis. They help to identify and make cheaper expensive operations, determine and eliminate redundant operations and thus reduce the costs of production (services).

Currently it is known a number of technologies used for business process modeling. However, CASE technologies (Computer Aided Software Engineering) are widely practised in foreign and domestic enterprises. These include PRO CAP, Aris, Rational Rose, BPWin, ERWin, Oracle Designer and others. Modeling tools based on the the apparatus of Petri Nets belong to this technology type too. Petri Nets concept were first introduced in 1939 by Carl Adam Petri to describe anisochronous algorithms, modeling of parallel computing and communication systems, as well as connectionless protocols. During recent years, the application field of Petri nets was constantly expanded. Overseas scientific schools of German, France and USA have achieved the best results in studies. Unfortunately, the apparatus of Petri nets witch can be successfully used in enterprises for modeling of alternative business processes (purchase of material assets, execution of custom orders, warehouse processing, etc.) has not received an acceptable application in domestic science and practice. The use of Petri nets is efficiently in a chain of interconnected enterprises involved in creating the final product.

Petri nets allow to describe and analyze the duration and the interaction of operations within processes at various levels purposely to identify the bottlenecks of production and economic systems, as well as to determine the magnitude and cost

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International experience and international contacts would promote a development of small-scale business. So, an establishment of international contacts in Agrarian Sector opens new possibilities for effective entrepreneur activity of web browser's members.

If web browser effectively works and uses all their indicated functions its activity would develop not only individual peasant economies but small-scale business in agriculture in general.

One of the biggest web browsers in Agrarian Sector of Ukraine is Ukrainian Beekeepers Brotherhood. The activity of organization directs to revival a branch of beekeeping and to promote a development of small forms of economy here.

Among main tasks of Ukrainian Beekeepers Brotherhood are:

1. beekeepers unification in one organization for realization and defense their interests, control the quality of products, organization some charitable programs etc.;
2. Creation a basis for industrial beekeeping development.

Ukrainian Beekeepers Brotherhood establishes international contacts with countries, where industrial beekeeping development is good developed; South Korea is one from these countries [9].

These tasks realization would promote a development a small-scale business not only in beekeeping but also in Agrarian Sector of Ukraine.

Ukrainian Beekeepers Brotherhood organizes trainings for beekeepers every year in order to enlarge further promotion and to reach effective small business development. It requires necessary special knowledge. Such basic educational trainings and professional seminars are being promoted raising of the level of beekeeper's skills and ensure effective economy organization and realization interests of entrepreneurs due to web browsers promotion of development of Agrarian Sector of Ukraine. The result of it on our mind should be a joining of prepared entrepreneurs in agricultural cooperation. Agricultural cooperation is the most attractable form for participation in small business. Surplus of their products are being brought by peasants to cooperatives and peasants receive for that their finance remuneration at market price. O. V. Chayanov pointed that cooperative is the best business structure, which could compete as with small as well as with big enterprise. Cooperative took the best from the small and the big forms of economy. Cooperative is a collective economic activity of one or few groups of individuals, which serve the interests of this group and only this group [15].

Ukrainian Beekeepers Brotherhood has among their members a group of beekeeper-scholars, who also work in different directions: veterinaries, biologists, economists, lawyers etc. One of the most achievements in scientific sphere is a new method of P. Hmara, which is used by members of Ukrainian Beekeepers Brotherhood. This method supposes to keep beers without any medicine, which decreases the financial and labor costs of beekeeper. Such kind of production could be included to list of organic products. P. Hmara described his method in the work «The technology of bees invigoration without medicine, which is injurious to people health» [16].

A name of «organic honey» means that production has a higher quality and therefore the price should be higher. This innovation, which is proposed P. Hmara promote a development a small-scale business not only in beekeeping but also in Agrarian Sector of Ukraine because of:

- decrease of financial and labor costs, which gives money for expansion of production, additional time and investigation;

- increasing a scale of production under conditions of small-scale business and also increasing products output;

- organic production due to ecologization of enterprise, which brings higher quality of product.

So, web browsers activity, which applies all their functions, would promote an effective enterprise development in Ukrainian agriculture.

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Evaluation – prognostic approach to revenues of budget-forming taxes and their impact on the balance of the financial system of the state also allows to consider the action of external factors.

So, in terms of the impact of global financial challenges of realistic state budget development allows to make informed management decisions, that contribute to balance the state's financial system, and with that to be optimally prepared for the relevant financial disturbances, by reducing the riskness of economic entities.

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To confirm the following we give an example of transformation of the mechanism of the direct taxation of income in 2004. Despite the warnings of scientists, for the legalization of high income (expansion of the tax base), inadequate social-economic conditions of Ukraine, progressive scale of tax on personal income was replaced by his equally (to 2007 13%). In 2005-2007, income tax really increased (there were created new jobs and increased the average wage) but the amount of revenues is not decreasing.

Unfortunately, when modeling and implementation of reforming measures were not taken into account the logic of taxpayer behavior, particularly its rhetorical actions – why to pay even a low tax on personal income, if it may escape with impunity?

Not strengthened the fiscal consciousness of citizens and the fact that the state not fully effectively used the tax revenues. Besides, of the high rates of the transitive economy of Ukraine deductions to social funds in the state of market – employers do not raise serious motivational shocks to non-payment of shadow wages.

Almost in the end, more increased the social differentiation of society, not formed a sizeable middle class stratum and with this have not changed amounts of revenue from budget-forming taxes and have narrowed so much possibility of regulatory action to balance the financial system of the state.

V. Conclusions

Predictability of revenues to the budget is a reflection as a loyalty modeling approaches and the effectiveness of management, that is an integral indicator of the economy, but in general it stimulates the development and balance of the financial system of the state.

Almost to narrow issues of financial policy and the balance of the financial system, it is advisable to increase the amount of financial resources of the state, conduct effective financial control over the efficiency and their target use. In particular, need to further improving of the tax system and tax control, improving of legislation base on preferential taxation and benefits. In terms of public finances it is necessary to carry out targeted measures to equalize state commitments with actual revenues.

Forecasting revenue budget-forming taxes in the financial system of the state shows that, despite ignored by public institutions to economic development, and with it the formation and providing tax revenues in Ukraine has not yet created a responsible budget and a favorable climate.

The latter is reflected in the fact that the state budget in 2010 failed as the income and expenditure. In particular, the state budget revenues amounted to 240 billion 615.2 million UAH., or 96.5% of the planned volume. The state budget expenditures made in the amount of 303 billion 588.7 mln. UAH., or 93.5% of the plan. Modeling additionally confirms that non-compliance of the planned state budget revenues testifies to their unreality, instability of the tax base and low tax administration and collections.

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THE ROLE OF SMALL FARMS IN DEVELOPING AGRO-INDUSTRIAL COMPLEX OF KUBAN

Summary

The contribution of small businesses in the development of agriculture in Russia, the comparative analysis of small business development among regions given, the role of small farms at the regional level, proposed guidelines to support small farms at the regional level.

Keywords: Agriculture, small business, regional development.

I. Introduction

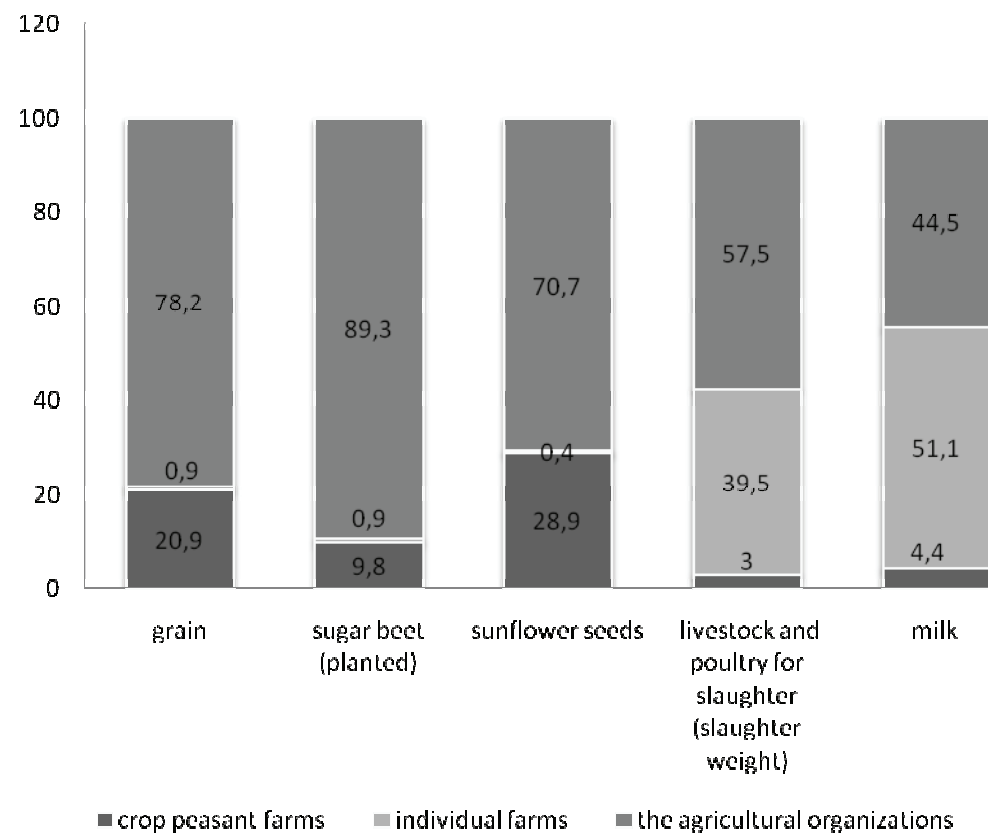
The role of small farms in developing agro-industrial complex of Russia is acknowledged at all levels of government. It is known that the agricultural sector is an important part of the Russian economy, as expressed in the economic potential of about 30% of those employed in material production, the fifth part of the productive assets, and about a third of gross national income. Obviously, the development of agriculture to a great extent determines how the state of the national economic potential of the region and its socio-economic environment. This is the timeliness and relevance of this research paper. In the study of the role of small businesses in the development of agribusiness in the region, attention was an appeal to the works Belkina E., Tolmachev, AV and the elaboration of statistical information by Federal bodies of state statistics.

II. Formulation of the problem

The purpose of writing a research paper is to evaluate the role of small farms in the sustainable development of agriculture in the region today. Instrumentarno methodical unit represented by the methods of systemic-functional analysis, comparative, economic and statistical analysis.

III. Results

Against the backdrop of growth in agricultural production in recent years in the mixed economy of the agrarian sector in Russia is gradually increasing its capacity peasant farms (Graph 1).



Graph 1 – Structure of production of main agricultural products on the farm in 2010 (as a percentage of production in farms of all categories), percentage

Between different categories of households formed a pretty clear sectoral division of labor, which is determined by the technical and technological level, the concentration of production, the specific use of labor and material resources. The main producers of grain, sugar beet and sunflower seeds are large collective agricultural organizations. Their share in the production of these products in 2010 amounted to 78.2%, respectively, 89.3% and 70.7%. More weighty niche in the production of these products occupy farms: 21%, 9.8% and 28.9%. Thus, the structure of crop production KFE is gradually replacing the production of the three above-mentioned types of products, which specialize in agricultural organizations. On the farm population is less than 1% of the gross production of tagged products, because these crops grown on relatively small gardens inefficiently.

A completely different situation with the cultivation of livestock, poultry, milk production, requiring a lot of manual labor. It is no accident of the population farms produce nearly 39.5% of cattle and poultry, 51% of the milk, and individual farms produce less than 5%.

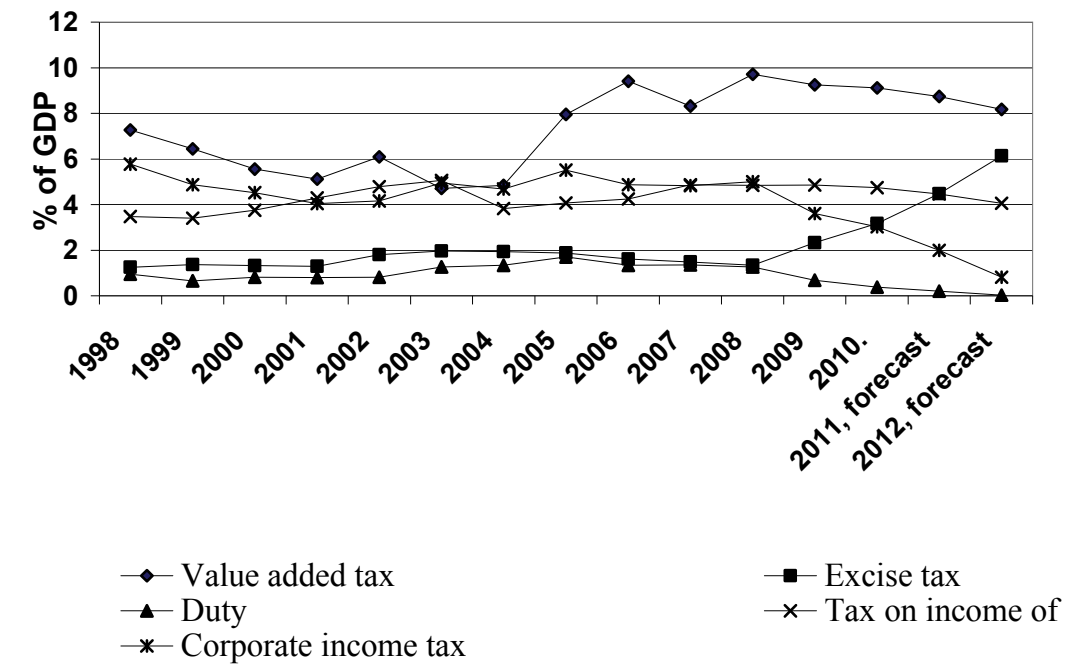


Fig. 2. Assessment and prediction of earnings for individual budget-forming taxes in Ukraine, as % of GDP

It is also appropriate to note that the optimal level of taxation in Ukraine is higher than 29.9% of GDP (index 2004), but not necessarily lower than 36.4% of GDP (2006). Even a reorientation budget spending for priority solutions is not social, but economic and transformational tasks can contribute the dynamic economic development without narrowing the boundaries of tax expansion. This fiscal transformation will not only multiply an economic development and broaden the tax base, but will also stimulate the entities of the financial market to support the State and at least partially abandon of the tax evasion. We emphasize that in the conditions of the deployment of financial and economic crisis searches of additional reserves of the financing budget expenditures through legalization of financial relations is particularly relevant.

When modeling the balance of the financial system is not always possible to take into account the Ukrainian practice of the occasional adjustments to imbalances in taxation by introducing unaccounted changes that only partially eliminate their negative economic and fiscal consequences. Distortions are, actually, remain but transformed (as a rule, not optimally) the other side of taxation, deepens the deformation of the tax system, reduces the possibility of modeling the financial implications. However, there is often seen a positive fiscal effect, that on the surface of phenomena looks like «the result of the introduction of progressive taxation innovation» and is presented as achievement of a «effective tax policy».

Table 1. The dynamics of budget-tax revenues in Ukraine, billion UAH

Indicators	Years											
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Value added tax	7.46	8.41	9.44	10.35	13.47	12.60	16.73	33.80	50.40	59.38	92.08	84.60
Corporate income tax	5.92	6.35	7.70	8.28	9.40	13.27	16.16	23.46	26.17	34.41	47.86	33.05
Excise tax	1.29	1.79	2.24	2.62	4.09	5.27	6.70	7.95	8.61	10.57	12.78	21.62
Duty	0.97	0.85	1.39	1.77	2.15	3.35	4.71	6.52	7.37	9.59	11.90	6.30
Tax on incomes of individuals	3.57	4.43	6.38	8.75	10.82	13.52	13.21	17.32	22.79	34.78	45.90	44.49

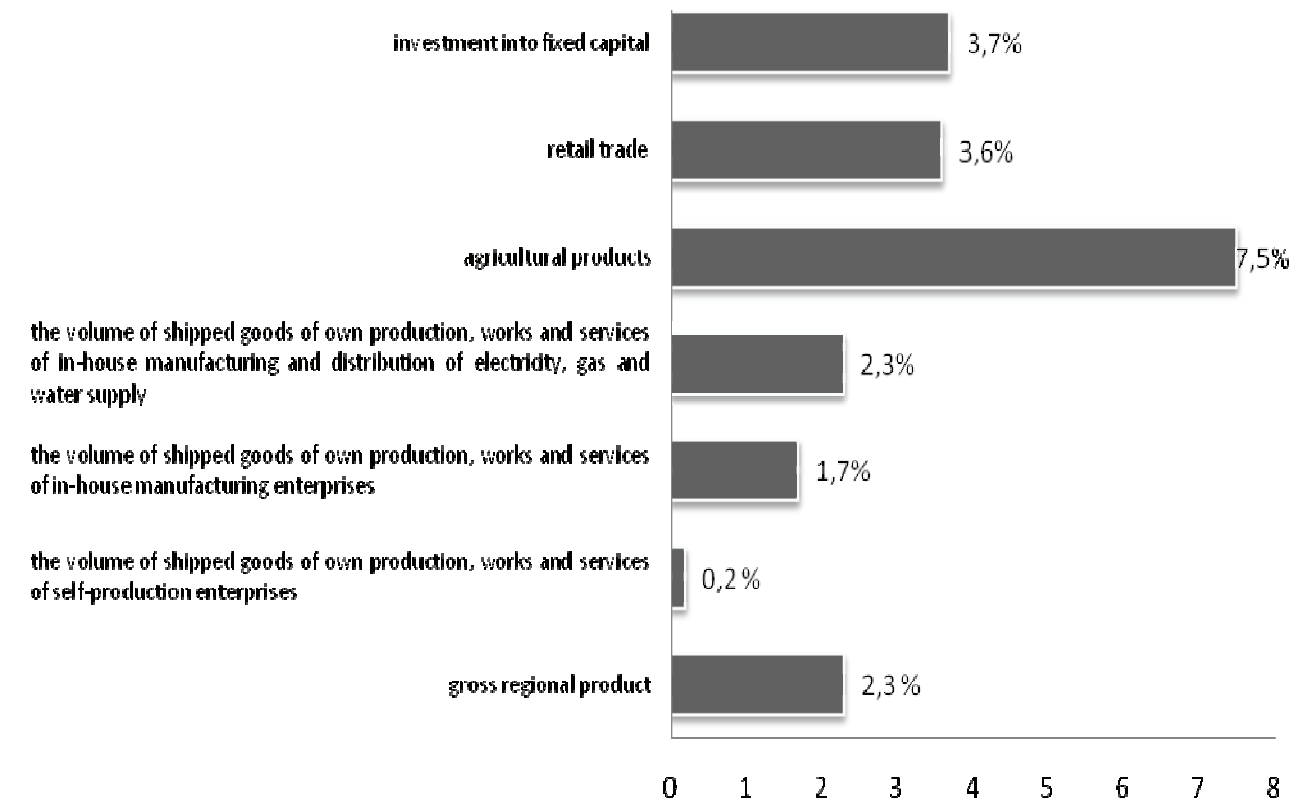
Based on the data listed in the table 1, was made forecasting revenue budget-forming taxes to GDP by the formula $y=a+bx+cx^2+dx^3$. Parameters corresponding projected values shown in table 2.

Table 2. Forecasting options of budget-forming taxes

Indicator	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	Standard error	Correlation coefficient
Value added tax	-303579.34	261.15779	-0.03428461	-1.0199424e-005	1.1386482	0.6517995
Corporate income tax	-375594.93	377.23971	-0.096001801	6.4071681e-007	0.7077634	0.8643982
Excise tax	631074.13	-586.51746	0.11443069	1.0530958e-005	0.3512555	0.8928858
Duty	-150542.07	150.90119	-0.038148906	1.6703853e-007	0.2690094	0.9295952
Tax on incomes of individuals	-246628.41	229.18807	-0.044809055	-4.0639615e-006	0.2557713	0.9434140

Note that forecast indicators of budget forming taxes on the medium-term period, reflect a certain dynamic trends. However, their scope has still a relatively negative value in the 2011-2012, by definition taxes, except excise (fig. 2). In turn, on excise tax revenues projected increase the share of revenue relative to GDP from 3% in 2010 to over 6% in 2012. Objectively definitions effect on the balance of the financial system.

Let us consider the main activities of small businesses in agriculture Krasnodar Territory of Southern Federal District. The most important link in the agricultural sector in Krasnodar region is agriculture (Graph 2).

**Graph 2 – Share of Krasnodar region in the national key economic indicators**

The region has a highly developed agriculture, which occupies a special place not only in agriculture but also in the entire economy of Russia. In the main indicators of agricultural production Southern Federal District is the third largest [1].

It should be noted that Krasnodar region for the production of products is a leader with a tendency to increase. The contribution of the edge in all-Russian indices of agricultural production is more than 7% (Table 1).

An important role in the development of agribusiness in the region and Russia is played by peasant farms. The distinctive features of farm economic structure should be attributed, first of all:

- belonging to a small rural business;
- high socio-economic incentives for farmers to work the land;

Table 1 – Comparative evaluation of agricultural production by region in Russia, mln rubles

Регион	2008	2009	2010	2010% by 2008	Place occupied by region in Russia *
Central Federal District	530986	564791	585955	110,35	2
North-West Federal District	114219	120857	139471	122,11	7
Southern Federal District	406381	382863	424516	104,46	3
Including Krasnodar region	185342	175198	198933	107,33	-
North Caucasus Federal District	174295	176924	205600	117,96	5
Volga Federal District	642763	634475	595203	92,60	1
Ural Federal District	170771	178088	175396	102,71	5
Siberian Federal District	349275	369586	394475	112,94	4
Far East Federal District	72665	88357	97854	134,66	7
The Russian Federation	2461355	2515941	2618470	106,38	-
Share of Krasnodar region in the production of agricultural products,%	7,5	7,0	7,6	101,30	-

* According to Rosstatistics. «Regions of Russia. Social-economic indicators. 2011»

- full economic and legal responsibility for the results of its activities; to ensure the – independence of productive resources; limited use of hired labor.

For example, crop peasant farms in Krasnodar region are leading to the production of basic products (grains, sugar beet, sunflower). In most developed animal meat and milk cattle, pigs, poultry, beekeeping (Table 2).

Thus, the statistics suggest that a small business in agriculture has not only economic, but also a great social and political significance for Krasnodar region. This is due to the fact that a small production of Kuban are united not only agriculture, but most of the urban population. Based on these data it is clear that an important condition for effective development of individual farms and private farms in agriculture advocates government support, which should be directed to the creation of the economic system of food security in the region taking into account the functional dependence of the industry through the formation of business entities of all infrastructure elements of the economic structure of agricultural production.

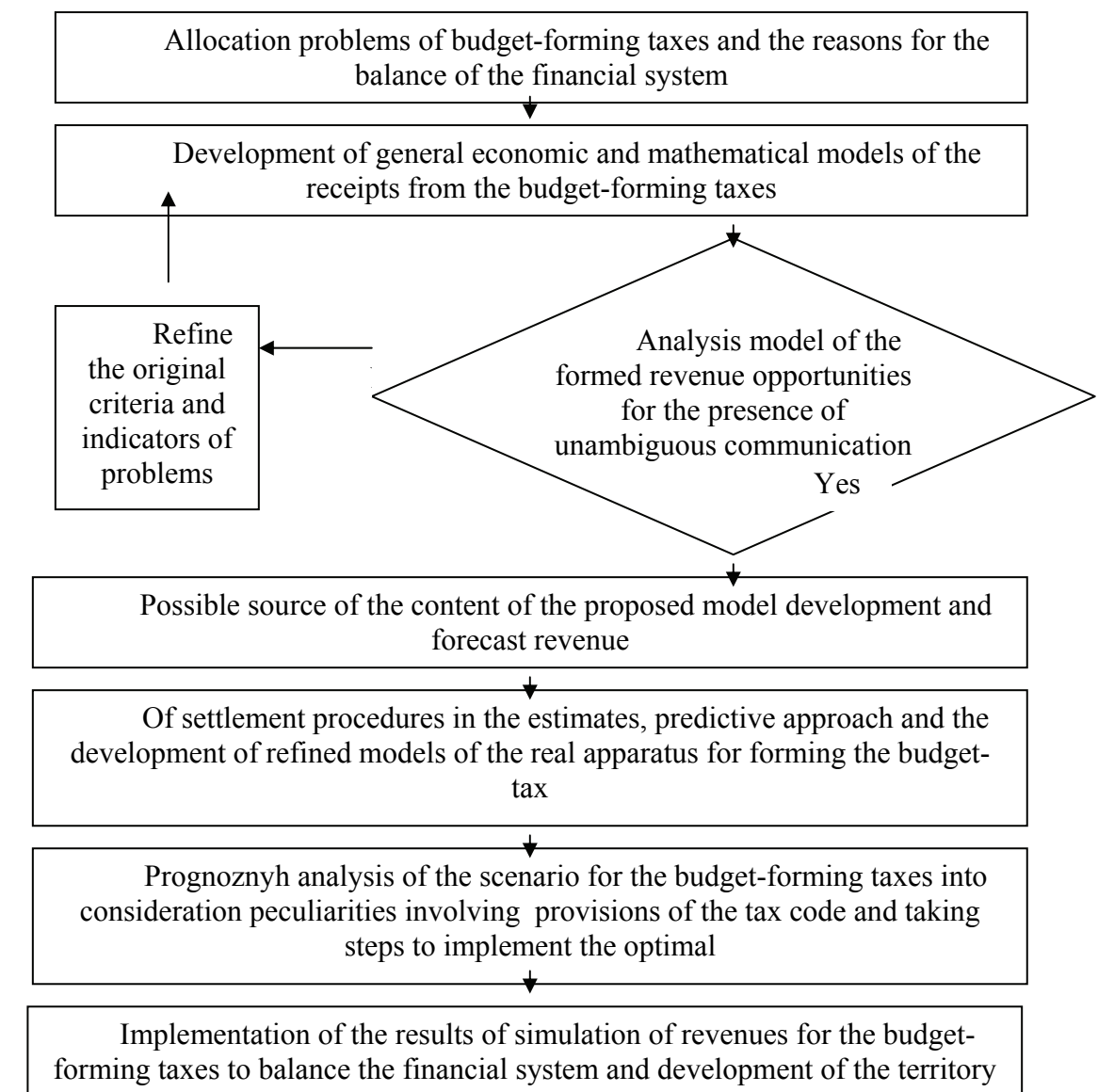


Fig. 1. The algorithm of the individual actions in the evaluation-predictive approach to the calculation of options from budget-forming taxes revenue in the financial system area

Note that in contradistinction to the generalized econometric model for modeling already customized budget-forming taxes in the financial system of the state selective model is built with a considering of statistical sampling (analysis carried out by five taxes, table 1) and this option is more logical [6, p. 69].

in order to assess the impact of managing actions in these processes, for the analysis of tax systems and impact assessment processes of taxation on statics and dynamics of micro- and macroeconomic characteristics, actively conducted in many countries. In general, mathematical modeling methodology presented in scientific papers [3, 4-6, 8, 13, 15].

By its nature modern system of models allow you significantly reduce uncertainty in passing «tax maze» to evaluate and predict the size of tax collections as in the current tax system, and at its possible modifications, for example changes in tax rates, terms and rules of taxation, administration or abolition of benefits; introduction or abolition of benefits; to select both short-term, and long-term and intermediate effects; provide additional impulses in the improvement of tax administration [16, p. 38].

In particular, when calculating the optimal amount of revenue from budget-forming taxes used the projected macroeconomic indicators Ministry of Economy of Ukraine, major regional economic departments, individual taxpayers and calculations for other payments to the budget [6, p. 47].

Based on the analytical approaches and financial statistical data regarding the formation of budgets of different levels, was formed assessment- prognostic approach, and with it systematized sequence of individual steps (algorithm) on the calculation the revenues of budget-forming taxes and their impact on the balance of the financial system (fig. 1).

Accepted that when evaluating and predicting of the profitable part of the Consolidated budget of Ukraine advisable to analyze the impact on the value of individual budget-forming taxes, while there is a need for mobilization of the method of multivariate analysis [5, p. 342-348; 6, p. 68].

In particular, multifactor econometric model looks like:

$$y = b_0 + b_1x_1 + b_2x_2 + \dots + b_px_p + e$$

where y – dependent variable (only involves budget-forming taxes for the reporting period);

x_1, x_2, \dots, x_p – independent variables (separate budget-forming taxes, namely: value added tax, income tax, excise tax, duty, income tax for individuals);

$b_0, b_1, b_2, \dots, b_p$ – model parameters (constants) that you need to evaluate;

e – no observational random variable (error) [6, p. 68-69].

Table 2 – Gross indicators of crop and livestock on peasant farms in the Krasnodar region, thousand tons

Rate	2008	2009	2010	2010% by 2008
Grain	2600,8	2182,0	2424,00	93,20
The share in the national indicators,%	11,5	10,7	18,17	158,02
Sugar beet	585,4	440,8	648,90	110,85
The share in the national indicators,%	20,5	18,0	26,82	130,84
Sunflower seeds	407,7	361,6	329,60	80,84
The share in the national indicators,%	19,0	19,4	23,33	122,80
Livestock and poultry	6,1	6,3	6,50	106,56
The share in the national indicators,%	3,2	3,2	3,10	96,91
Milk	46,3	51,7	60,00	129,59
The share in the national indicators,%	3,4	3,6	4,04	118,89

IV. Conclusions

In conclusion, it should be noted that under current conditions is particularly relevant support for small business organizations at the regional level. In particular, such measures of regional support should be aimed at strengthening the material-technical base, training and skills of entrepreneurs, their participation in seminars, courses, conferences, provision at no cost or for the acquisition of the ownership of unused land in agricultural organizations.

Only in a systematic application of various forms of state regulation of the processes of small enterprises in agriculture may increase the effectiveness of their activities, provide employment and increase rural incomes, lower unemployment and reduce their poverty.

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DISPOSITION FACTORS OF THE BANK BRANCH NETWORK OF UKRAINE UNDER MODERN ECONOMICAL CONDITIONS

Annotation

This article examines approaches to the structure of the bank branch network and researches principle trends typical for banks of Ukraine during the post-crisis period, marks out main peculiarities and conditions for carrying out centralized and decentralized policy of management of the bank branch network. Analyzing the nature of factors that have an impact on the processes of the territorial density of bank system makes it possible to conclude about heterogeneity of their influence on banks of different groups.

Key words: branch of a bank, decentralization, disposition factors, branch network, centralization.

I. Introduction

Ability to keep customers and bring new ones is of great importance for effective activity of every bank, as well as continual search for modern bank technologies and service, and their implementation. Competitive ability of banks defines the level of development and structural perfection of marketing network. This helps not only increase volumes of transactions, but also improve their quality. Creating and functioning of branch network is connected with essential costs of financial and material resources that demands applying to reasonable approach in dealing with issues about development of the regional network. Inefficient functioning of Ukrainian banks during the post-crisis period resulted in reduction of many branches in order to cut down the costs. Objective necessity of the analysis of development factors of bank institutions network on the territory of Ukraine causes urgency of the research issue.

It should be pointed out that both researchers of our country (O. Vasiurenko, O. Veselyy, R. Hrytsenko, Y. Kachayev, O. Krykliy, O. Miroshnychenko, I. Fomin, A. Yaroshenko, A. Peresada, U. Korobov, A. Mescheryakov and others) and foreign researchers (J. Sinki, P. Rose, N. Baxter, U. Breddic, Y. Bernshtam, A. Odariuk, Y. Prus, R. Saifulin and other) were engaged in studies about territorial management of bank system.

Appreciating highly the contribution of the native and foreign scientists there is a necessity of further extending of research data in consideration of the specific character and function peculiarities of the bank system of Ukraine during the post-crisis period.

challenges. Special attention in this proceeding from the principles of public administration, has assigned a system of public finance. Considerable state debt (not only in Ukraine but also in the U.S.A and several European countries) shows that budget policy and with it the tax component did not become a priority in the formation of the optimal financial system. The basic obstacle in implementing budget policy is a level of expenditure, which absolutely does not meet the revenue side of the budget, and this leads to a growing shortage of financial resources. In order to reduce a connector «budget scissors» and increase revenue component of the state budget government institutions systematically increasing the tax pressure that is not always has reasonable and rational nature and not conducive to the basic characteristics of the principle of social justice. In the financial aspect Ukraine is characterized by unsustainable cost structure and inefficient spending of budget funds. As for the financial sphere of the real sector, it is also additionally characteristic with a low level of security entities of working capital, and the latter causes significant payables.

The equation of the financial system of the state is the optimal combination of regulatory levers of influence of the State to ensure the implementation of program financial revenues to the State budget and compliance with the expenditure parts in limits which do not exceed the permissible level, finding rational ways of implementing programs and plans of economic development at all levels [7, p. 48].

Debugged financial policy synthesizes a balanced financial system and with it created favorable conditions for the development of enterprises in all sectors of the economy, because of reducing the tax burden and ensured the flow variety of investmens in them, and therefore raises the level of their ability to function effectively in the conditions of global financial challenges, reducing the risks of manifestation of the negative synerhistic effect [12].

On the other hand the State Tax Service of Ukraine forms the «Map or the shadow sector». This document will be used by tax institutions for the prevention of manifestations of hiding profits from the taxation of tax payers on added value, and individuals. Developed by the estimates and prognostic approaches allow more correctly estimate the volumes of shadow economy (which is 10 to 17% of financial resources) and locate the offenders of legislation both in the territories and by activity. In addition, for each of the administrative-territorial unit will be established a «cut of the economic situation». Expected that by using the Cut will not only take into account the factors and trends in a particular region, but also eliminate the imbalance between the payment of taxes and amounts of financial resources, which circulates in the economy.

Note that at the stage of the tax system needs in improving the tax administration arise more frequently than with sustainable development. Despite the fact that involved tax system should be perfectly prepared, developed by experts based on scientific assessment of the current system and determine its model, which should be formed as a result of reforming measures.

Proceeding from this, research on mathematical modeling of taxation processes,

It is appropriate to notice that complex scientific works of some scientists are devoted to the given subject [2-17].

At the same time, some questions remain opened, in particular, evaluating and forecasting the influence of budget-forming taxes on the balance of the financial system of the state, in particular, specific definition of macroeconomic level for the impact of global financial challenges.

III. The purpose of research is the analysis of theoretical positions and modeling methods of budget-forming taxes in Ukraine for the formation of Appraisal-looking approach to the balance of the financial system of the state, particularly in the regulation of the influence of internal and external factors on the volume of their revenues.

IV. Statement of the main material

The modern conception of the balanced consideration of the financial system of the state and influence on it of tax instruments suggests that fullness of budgets depends on the chosen financial strategy on the formation and redistribution of financial resources.

In particular, the financial system represents a combination of all areas and links to the direct manifestation of the flow of financial resources. Such set concern finance, public finance, international financial relations, insurance, financial market etc. Objectively, from the level of development and balance of each of the elements together, depends the level of development and balance of the whole financial system of the state.

At the same time, the structural development of the financial system adequately effect on the economic development of administrative units. Financial systems help mobilize savings, allocate investment resources, provide insurance, distribution and diversification of risks, contribute to corporate control in the state. Because of financial systems collect and process information about investors and investment projects. It allows to distribute effectively means, to carry out supervision and corporate control over the distributed means [14, p. 36].

Unfortunately, functioning financial system of Ukraine not always allows effectively and fully accumulates financial resources, and finally optimally allocated them between different areas. The manifestation of imperfection of the system is limited in scope to possibilities investment, which is an indicator of economic growth, declining competitiveness of the real economy (in particular, energy intensity GDP of Ukraine amounts to 0.89 conditional fuel for one U.S. dollar, which exceeds the level of energy intensity in 2.6 times in developed countries of the world, and this means that the energy factor significantly affects on the competitiveness of Ukrainian products).

Financial policy should be directed at building of a solid financial system, in particular, able to withstand the negative manifestations of global financial

II. Target setting

The object of the article is characteristics variants of management and analysis of modern development tendencies of the bank branch network in Ukraine, research of the regional peculiarities of placement of banking institutions and analysis of the factors influencing the process.

For the article given the following research methods were used: analysis method (conception studies of management of the bank branch network); method of induction (defining of common factors having an impact on placement of the bank branch network belonging to different groups); comparative method (in studies of different researchers' ideas concerning definition of factors which influence the management of the bank branch network); multiple method (while analyzing the number of structural units according to the bank groups); method of datasheet view and graphical as well (to show digital data by means of visual images).

III. Research results

As the practice of financial relationships in Ukraine has it, the inner balance of bank between the leading banks and their branches often gets upset, and effectiveness of their activity decreases because of unevenness in development of the latter ones in regions. That is why the banks pay great attention to their own regional policy trying to improve the branch network and reform the system of their financial management.

Nowadays the most widespread way of branch network management consists of three levels [7]:

- the first level – the central apparatus of the corporate body in Kyiv or in one of the cities that are regional centers, which carries out the management of the branch activity;
- the second level – branches (regional management institutions and departments), located in major economically active regions giving the total complex of banking services;
- the third level – departments with no balance in the regional centers and towns which are under the command of departments of the second level. They mainly service both natural person and corporate body [3].

The choice of any concept is determined by the following factors: aims of the bank, its attitude towards the customers service, general management philosophy appropriate for the bank institution given. When the bank governing body is attracted only by the opportunity to involve deposits from different regions, there is a tight control over its work by the central office where the biggest part of active transactions is concentrated. Decentralization is unavoidable if the number of transactions is being increased and the branch network is being extended.

According to the concept of the tightly centralized management system a maximum number of the branch activity is regulated. These are current and operational planning, manpower policy, resources and portfolio management forming, etc [1].

Peculiarities of the centralized management policy are the points as follows: tight daily technological control over operational activity of branches; forming of the centralized resource and financial basis for the whole of the bank; general tariff policy which provides for some authorities for regional institutions managers as to the changing of tariffs approved in defined scope; elaboration of detailed regulations, instructions, standing orders, typical forms and standards of banking products in the range of the bank; fixing of limits for active and passive transactions and a tight control over their keeping.

This approach is reasonable to a certain extent. It should be kept in mind, however, the peculiarities of regions where branches carry out their activities, conservation of democratism in decision-making concerning branches; need for the daily first response for their requirements; arrangement of conditions for creative initiative of managers and regional departments specialists and maintenance of best traditions established in the branches of big banks [4].

Researches have shown that there is a tendency to reduce the branch network of banks in Ukraine nowadays. This is clearly illustrated in Figure 1. The reason for such tendencies is reorganization of the bank network in order to decrease administrative expenses.

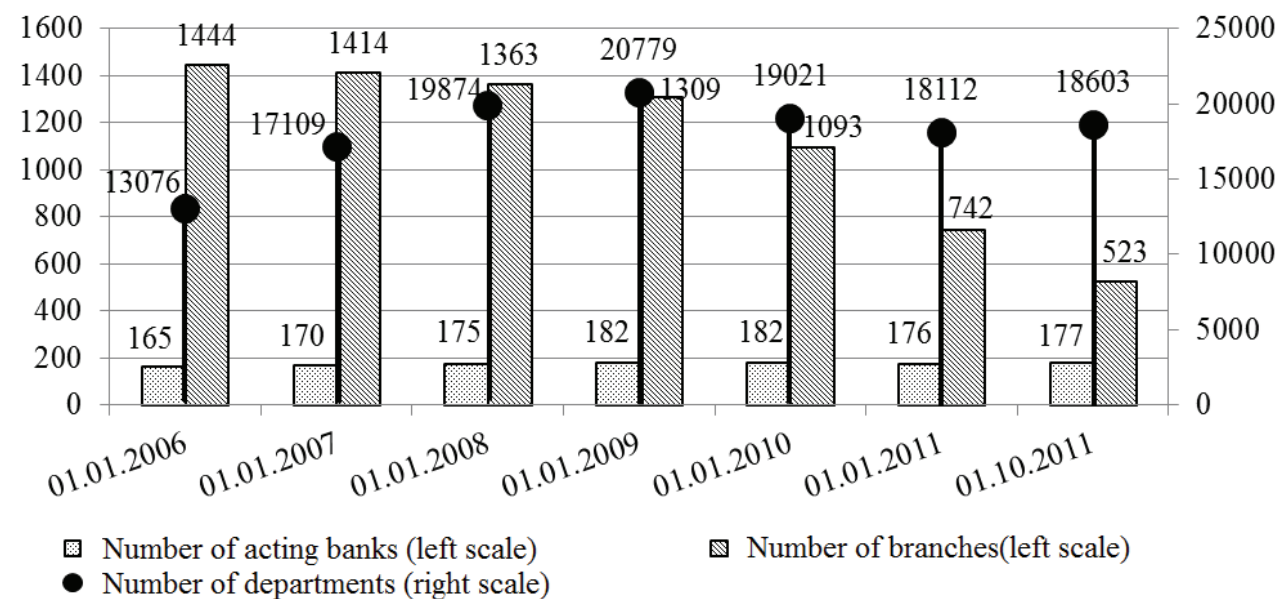


Figure 1 – Dynamics of the number of bank institutions in 2006-2011, items (illustration is based on sources [5, 7])

It should be pointed out that in Ukraine within a certain period of time the number of banks is quite stable, but the amount of separated departments was varying during the analysis period. During the post-crisis period there was a tendency to centralization, that is why in order to decrease administrative expenses banks cut the number of branches. Reduction of the amount of

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ROLE OF BUDGET-TAXES IN FORMATION EQUATION OF THE FINANCIAL SYSTEM OF THE STATE: EVALUATION AND PROGNOSTIC APPROACH

Annotation

Modern theoretical concepts are analyzed and formed prognostic estimated approach concerning influence of budget-balancing tax on the financial system of the state, highlighted recommendations to reduce the negative synergistic effect with the additional impact on global financial calls that optimizes the effectiveness of management decisions in the financial segment.

Key words: budget-taxes, equation of the financial system of the state, evaluation and prognostic approach, negative synergistic effect, global financial calls.

I. Problem statement

Dynamics of formation and development of the financial segment of the state shows that the budget-forming taxes provide stability of pulse of its financial system. At the same time, this system is always dynamic, although in certain time intervals, we can judge the relative state of its balance. Obviously, the budget-forming taxes on their financial strength may affect the complex balance of the financial system of each state. Despite certain understanding of these theoretical concepts, predictability of processes in a financial system of Ukraine is still imperfect, as we have taxes, which were formed without an evolutionary way of development of national economy, without a sound and reasonable adaptation of the mechanisms of tax administration in other states. All this led to necessity of construction a new, optimal and adapted tax with the use of already functioning postulates and principles which in recent years paid off as positive. Definitions in the complex form were reflected in the decision of the Tax Code of Ukraine [1].

II. Analysis of recent research and publications

Based on the above, problems of evaluation and prediction as to formation and dynamics of budget revenues of different levels of financial resources is a priority and it is in the vicinity of both central and local government, because of predictability and realistic financial support based a possibility of a tactical and strategic measures of socially-economic development of the territory, and balance of a financial system.

IV. Conclusions

Thus, the received results on this stage of research allow doing a conclusion that the management by the changes is inalienable part of successful activity of production pharmaceutical enterprises. The management by the changes helps to avoid such negative effects and factors, as decline of productivity, resistance to the changes from personnel, exception of workers from a labour process, professional exhaustion, dismissal of workers by their own desire, conflicts between workers, slow introduction of changes, deviation from work, division of personnel on «we» and «they». Basic tendencies of Ukrainian pharmaceutical market which influence on activity of pharmaceutical enterprises have been determined. The process by changes management has been explored on production pharmaceutical enterprises: the basic changes according to prevalence degree which took place in work of enterprises of pharmaceutical industry for the last 10 years have been analyzed. It has been set 73% managers of pharmaceutical enterprises have been met with personnel's resistance to the changes. The reasons of resistance to the changes from inferiors and basic ways of their overcoming have been selected. The methods of increase of employees' interest in the changes have been represented.

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territorially separated departments with no balance is caused by the reduction of the foreign banks network.

The bank system of Ukraine is characterized by a considerable territorial concentration [2]. Hence, the banks of Ukraine, their branches and departments are concentrated in certain regions (Figure 2).

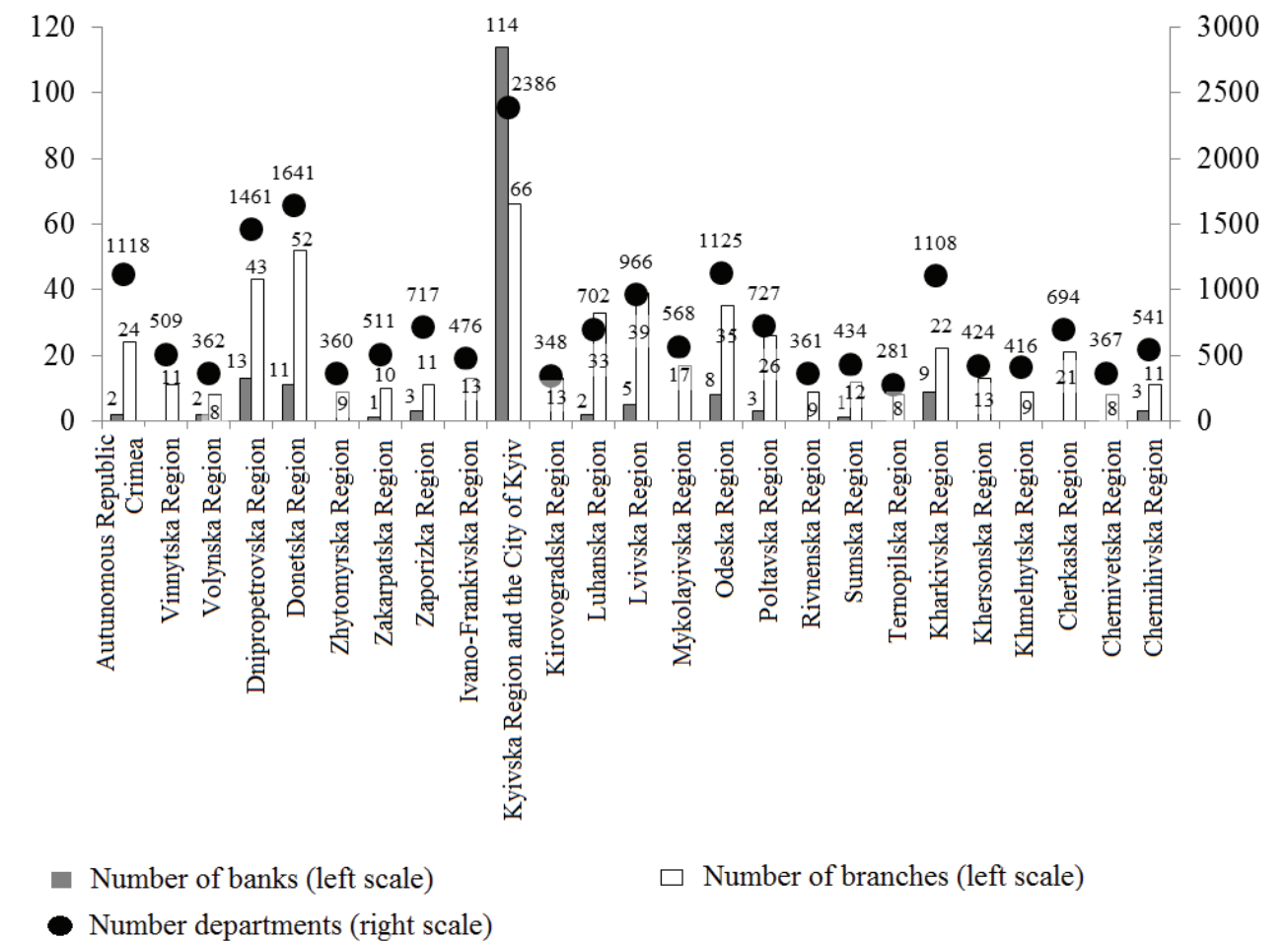


Figure 2 – Disposition of banks, branches, departments in the regions on October 1, 2011, items (illustration is based on source [5])

As of 01.10.2011 the biggest part (64,41 %) of banks out of 177 functioning banks-corporate bodies which are territorially concentrated in 13 regions of Ukraine and Autonomous Republic Crimea was registered in the capital city region. There are 25,99 % of banks of Ukraine concentrated in Dnipropetrovska, Donetska, Kharkivska, Odeska and Lvivska regions. And there are only 9,60 % of banks on the territory of other regions, and no banks-corporate bodies in 11 regions of Ukraine.

The central position of the network including 60,04 % bank branches belongs to the seven Ukrainian regions, such as Kyivska (66 branches), Donetska (52 branches), Dnipropetrovska (43 branches), Lvivska (39 branches), Odeska (35 branches), Luhanska (33 branches) Kharkivska (22 branches) and Autonomous Republic Crimea

(24 branches). The least involved in bank infrastructure are Chernivetska, Volynska and Ternopil'ska regions – there are only 8 branches on the territory of each of them.

The disposition of the bank institution is geographically uneven concerning the whole territory of Ukraine and the average number of population of the corresponding regions (Figure 3).

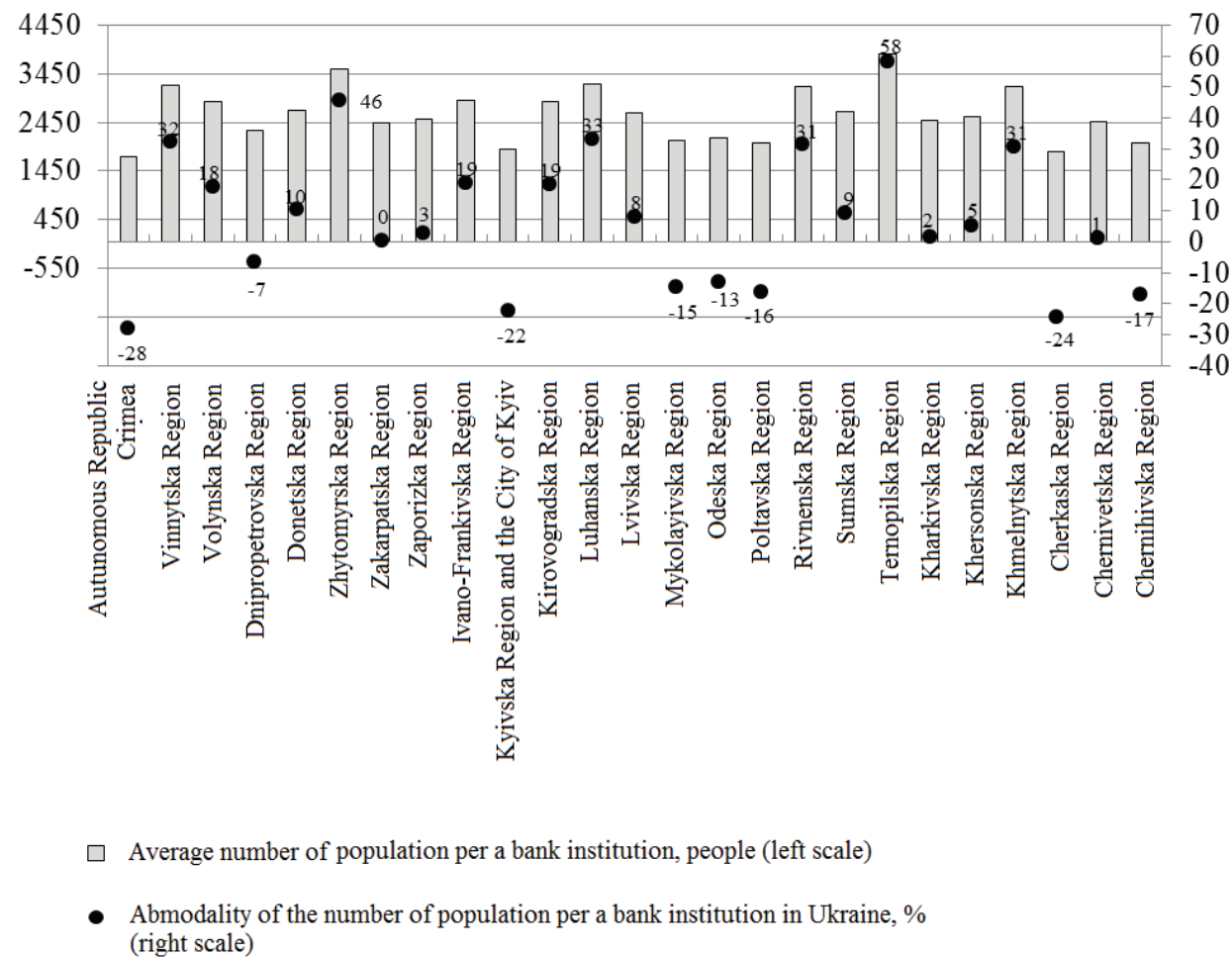


Figure 3 – The number of population of Ukraine per a bank institution and the deviation of the index from the average one as of the date of October, 1, 2011, (illustration is based on source [5])

Thus, for example, in Ternopil'ska Region the number of population per a bank institution exceeds the average general Ukrainian index by 58,23 %. Hence, one bank institution has 3850 people; in Autonomous Republic Crimea and the city of Sevastopol it is 1756 people per a bank institution, which is 28,93 % less than on average in Ukraine.

Such an uneven distribution of bank institutions in Ukraine is determined by the development peculiarities of the regions, their social-economical state and investment appeal. Social-economical state of the region and the prospects of its further development have a considerable impact on the territorial expansion of banks which

For overcoming of resistance to the changes on the Ukrainian pharmaceutical enterprises managers use such basic measures (Table 2): comparison of arguments of different sides, opened discussion of ideas and measures on conducting of changes and involvement the inferiors to acceptance of decisions.

Table 2. The basic ways of overcoming of resistance to the changes on the Ukrainian production pharmaceutical enterprises

Basic ways of overcoming of resistance to the changes	Percent, %
comparison of arguments of different sides	32
opened discussion of ideas and measures on conducting of changes	20
involvement inferiors to acceptance of decisions	16
compulsion	12
creation of personnel's stimulation mechanism to introduction of changes	8
co-optation	8
manoeuvring	4

To the ways of overcoming of resistance to the changes on the Ukrainian pharmaceutical enterprises, which are marked by the least estimations, the managers of different management levels took: compulsion, creation of personnel's stimulation mechanism to introduction of changes, co-optation and manoeuvring.

Except considered measures for overcoming the resistance to the changes are recommended such methods to increase of employees' interest in the changes [5]: paying workers' attention to those external threats, presence of which justifies conducting of reorganization; giving of examples of past failures which confirm the urgent necessity of bringing changes in enterprise's work; giving the employees possibility independently see those differences between organization's work with real external terms of its existence (change of structure and number of consumers, competition, requirements of legislation, etc); giving possibility to the employees independently expose those factors which are perniciously reflected on the company's efficiency; granting the employees actual data about the existent customers' structure and changes of their quantity, location, characteristics; informing employees about actual data of company's evaluations, comparative with its competitors on results of benchmarking; granting the employees research results of users' dissatisfaction reasons by company's work; granting the possibility of direct intercourse with consumers to employees could get the picture of their attitude towards character and quality of the products offered by a company; granting to the employees of possibility to trace existent practice works in other organizations in order to promote their receptivity to new ideas; conducting measures which stimulate the discussion of the expected changes (conferences, educational courses, courses of the advanced training, etc).

inevitable evil. They will not begin to offer strong resistance to the changes, but at the same time strong personal interest in changes will not be shown. Actually they, probably, will simply wait, while they will be conducted through the stage of experiments which they could fully treat without. The third group is opponents, their attitude towards arising situation is negative, and they use all their energy on changes' prevention. These employees will show the unwillingness to inculcate the changes, they'll rebel sometimes against them, and when they will suffer a defeat in their efforts, will represent themselves as innocent victims. They will constantly begin to discover small errors, to attract public attention to them. Opponents will never search the methods of adaptation to the changes. At the best they will reconcile with them, harboring indignation and offence. People, who adjusted ambivalently, and the opponents of changes, probably, will do everything they can to offer resistance to the changes [5].

Any change should be carefully thought out and dictated by necessity of removal of nascent problems with the purpose of increase the company functioning efficiency. The enterprises' necessity in the changes arises up both under act of external factors (external economic conjuncture, social changes, new discoveries, competition's strengthening, etc.) and internal factors such as low efficiency, high costs of production, financial problems, uneffective organizational structure, necessity of production's improvement. However during changes' introduction the personnel's resistance to them increases. During our research it has been set, that 73% managers have been met with personnel's resistance to the changes. During research the information about reasons of personnel's resistance to the changes was of interest (Table 1).

The managers of production pharmaceutical enterprises selected main of them. The most widespread reason is fear before «new», people get used to the certain patterns of conduct, stereotypes of thought, and any changes require some willingness to give up old and usual, to do a step to new and unexplored, and some people are so conservative, that are unable to adjust to the changes. Also a high part of respondents have marked such reasons: uncertainly of situation, that occurred, and persuasion, that the changes will not bring the situation's improvement, often members of organization don't see simply the prospect of innovations' introduction and they have feeling of possible fiasco. That's why they try to idealize the existent organization's condition and offer resistance by the innovation. The least amount of marks to such reasons of resistance to the changes were marked: different attitude towards the changes from personnel, feeling of possible own losses and expectation of negative consequences.

Table 1. The common reasons of resistance to the changes from personnel on the production pharmaceutical enterprises of Ukraine

<i>Common reasons of resistance to the changes</i>	<i>Percent, %</i>
fear before «new»	26
uncertainly of situation, that occurred	22
persuasion, that the changes will not bring the situation's improvement	19
different attitude towards the changes from personnel	15
feeling of possible own losses	11
expectation of negative consequences	7

is reasonable, for just those very factors cause the future forming of the client base with its income and define the scale of the bank transactions carried out [7].

At the same time, the connection between these factors is not functional. Therefore, apart from the factors mentioned the expansion of banks to the regions of Ukraine is determined by other, more subjective factors as well. Combination of the factors influencing the choice of a region by the bank is shown in Figure 4.

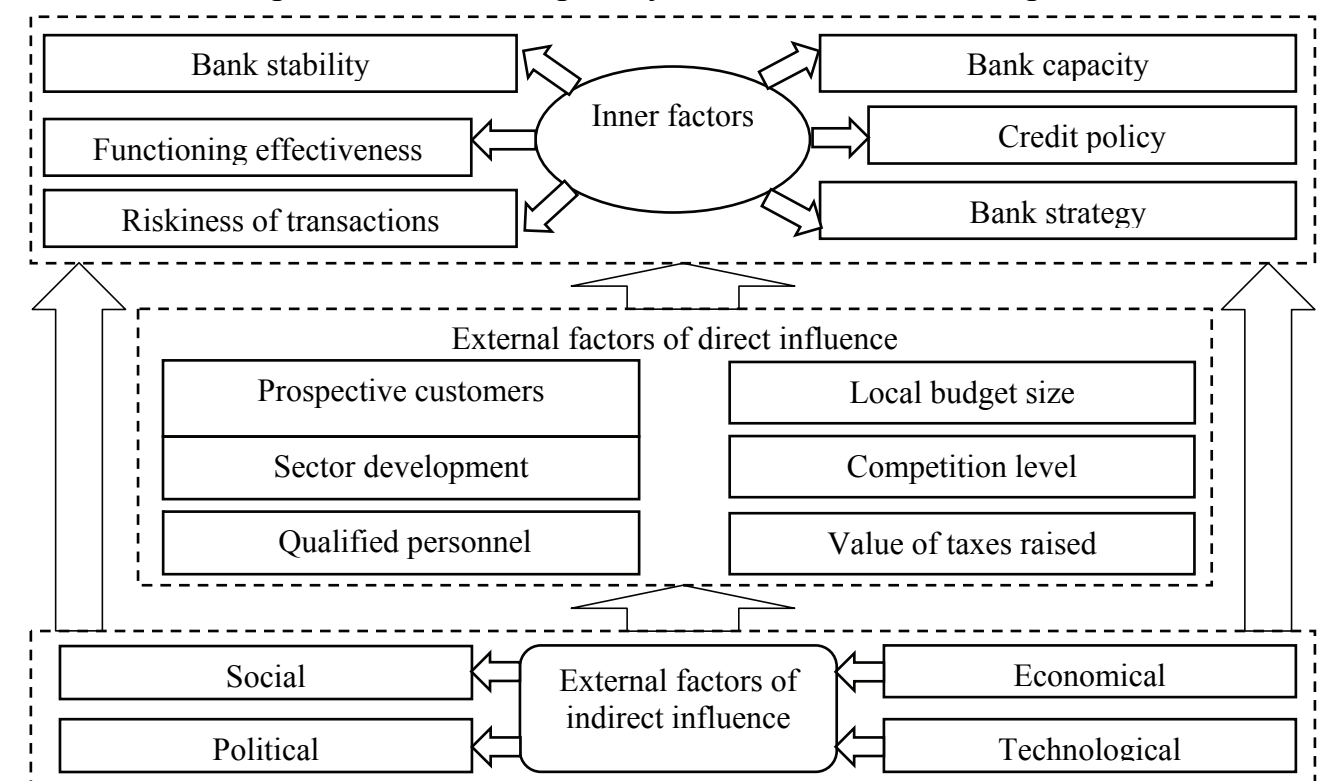


Figure 4 – Factors influencing the choice of a bank while choosing a region (authoring)

Peculiarities of the external factors influencing the processes of the territorial concentration include:

- considerable differentiation of the regional factors according to the power and directivity of their influence on the level of the territorial concentration of banks ;
- increased impact of such factors as the number of the employed and the quantity of institutions of the market infrastructure, the number of population, maturity of the transport infrastructure, quota of detrimental enterprises, unemployment rate;
- high level of the homogeneity of the regional factors influence on all the indexes of the territorial concentration of the bank activity [6];
- correlation of internal factors and territorial concentration of banks in the regions of Ukraine is quite multiple-value. Firstly, there is a considerable difference in the power and directivity of influence of the territorial factors on the bank activity indexes in the regions. This is conditioned by both technological peculiarities of banking and high rate of their territorial differentiation. Secondly, there is an

increased interdependence of the level of bank activity territorial concentration and the average power of banks [7].

The size of the banks has a considerable impact on development of the native bank branch network, which also specifies peculiarities of the regional strategies of different bank groups (Table 1).

Table 1 – Bank branch network in Ukraine according to the groups of banks (table is based on source [5])

Group of banks	Number of banks, items			Number of branches, items			Average number of branches, items		
	01.01. 2010	01.01. 2011	01.10. 2011	01.01. 2010	01.01. 2011	01.10. 2011	01.01. 2010	01.01. 2011	01.10. 2011
Group I	18	17	17	582	367	294	32	22	17
Group II	19	22	21	157	113	64	8	5	3
Group III	21	21	21	193	134	71	9	6	3
Group IV	124	116	118	161	128	92	1	1	1
Total	182	176	177	1093	742	523	x	x	x

The biggest banks that appeared on the basis of the state banks like public companies of «Oshchadbank», «Prominvestbank», «Ukrsotsbank», «Ukreximbank» have the most ramified regional network. This was caused by favourable historical preconditions and availability of sufficient financial abilities.

Considerable number of branches belongs to integrated banks of the so-called «second wave». These are public companies of «Privatbank», «Raiffeisen Bank Aval», «Nadra». This is explained by availability of sufficient financial abilities and aggressive strategy of development data of credit institutes. It is aimed at coverage of all the territory of Ukraine by its network. It should be pointed out that despite considerable financial difficulties there was no significant cutting down of the branch network for the public company «Nadra» during the crisis period.

As concerns other bank categories, they more reasonably and thoroughly approach the forming of their own branch network giving preference to those regions, where the client base and not high level of bank market monopolization are concentrated.

At the same time further reduction of the number of branches is an objective tendency in terms of necessity of cutting down financial expenses. As mentioned above, the management centralization has its drawbacks, that is why in order to solve these problems some banks like the public company «Ukrhazbank» switch over to controlling mechanism over the institutions network by means of two-levelled structure: the main bank is the first level, departments make the second level. Compromise between centralization and decentralization is achieved by creation of regional directorships which are intermediates and have no balance of their own; it carries out only coordination and control functions concerning activity of the departments in one or several regions.

The changes were separated according to prevalence degree (low, middle, high) based on estimations of managers of enterprises and selected the part of enterprises which have not inculcated the certain changes into activity of their enterprises. It was set as a result of questioning, that the most widespread changes for the managers of pharmaceutical enterprises (high prevalence degree) are: introduction of new positions, change of ownership form, assortment's expansion, improvement the system of employees' encouragement, change of organizational structure and marketing research conducting. Middle prevalence degree is characterized by such changes as: appearance of the departments certificated on GMP; additional services' expansion; the marketing information systems' creation and software of marketing analysis and also CRM-system's creation (Customer Relationship Management System). It's necessary to pay attention, that some organizations don't inculcate such changes in their activity as: change of organizational structure, the marketing information systems' creation and software of marketing analysis and CRM-system's creation, that testifies to the lack of information about indices or about absence of money for their introduction.

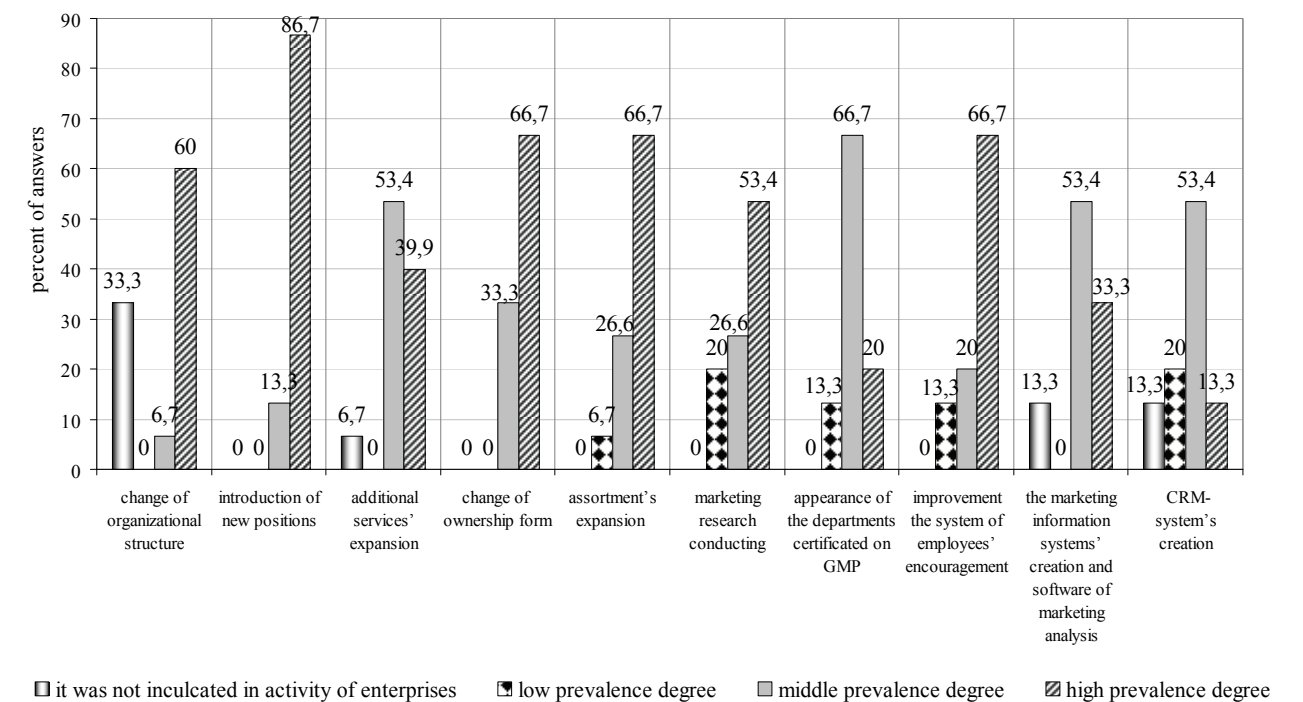


Figure 2. The prevalence degree of basic changes which took place in work of Ukrainian pharmaceutical enterprises for the last 10 years

It's necessary to pay attention that at introduction of changes the personnel can be divided into three typical groups depending on their reaction on the offered changes. First – is supporters, those, who see obvious advantages of the offered changes and with enthusiasm support their introduction. They participate actively in conducting of changes and make effort in order to adapt to changes. Second group – ambivalent people, those, advantages and lack of changes for whom are equivalent. The state of affairs, that was earlier folded, appears to them less risky, and they are afraid of any changes. At the same time, if to press on them, they will be ready to reconcile with the changes as with an

II. Raising of task

The purpose of the article is determination of features of process by changes management on the production pharmaceutical enterprises of Ukraine. Methods: survey by questionnaire has been conducted of managers of different management levels of pharmaceutical enterprises in Ukraine. According to their answers the features of management by the changes on the production enterprises of pharmaceutical industry have been analyzed.

III. Results

There was some interest in information about the analysis of basic tendencies of Ukrainian pharmaceutical market which influence on activity of the pharmaceutical enterprises during our research (Figure 1). The information obtained as a result of estimations by the managers of different management levels of Ukrainian production pharmaceutical enterprises on a 10-points scale.

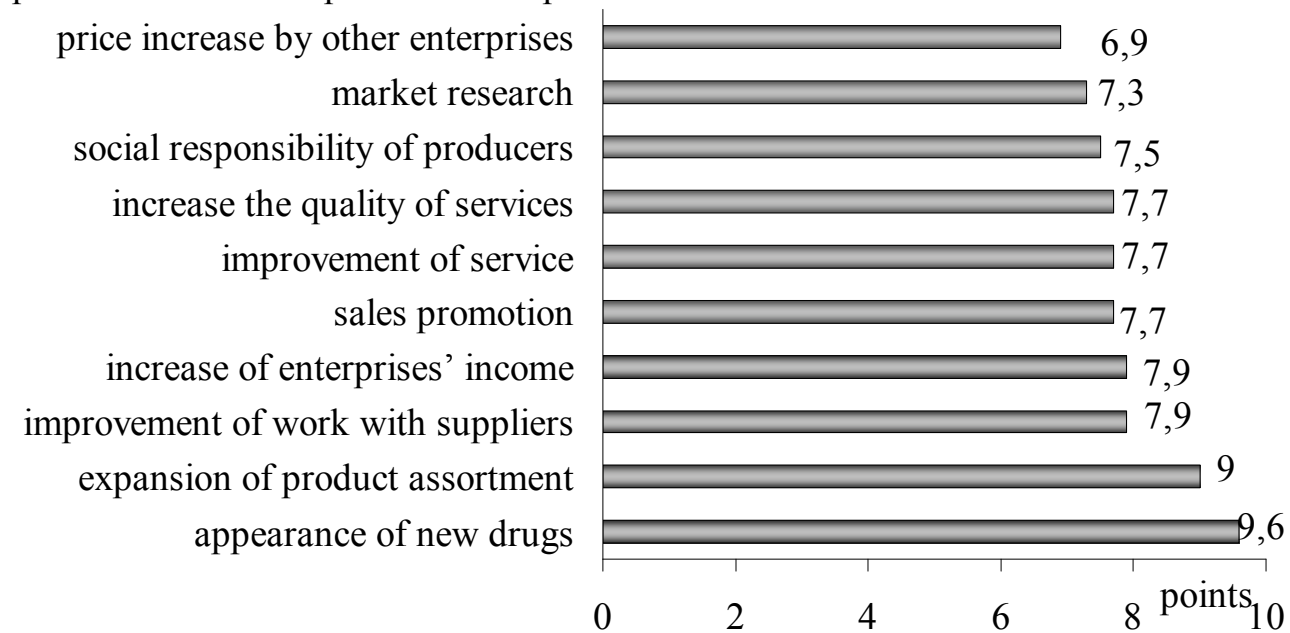


Figure 1. The basic tendencies of Ukrainian pharmaceutical market which influence on activity of pharmaceutical enterprises

Therefore, basic tendencies of pharmaceutical market of Ukraine which influence on activity of pharmaceutical enterprises follows: appearance of new drugs, expansion of product assortment, improvement of work with suppliers and increase of enterprises' income, accordingly estimations in points – 9,6; 9,0; 7,9 and 7,9.

The basic tendencies of Ukrainian pharmaceutical enterprises functioning accordingly influence on the organizations adaptation process to the external environment changes. It is the effective operating condition the industrial pharmaceutical enterprises. We've analyzed the basic changes according to prevalence degree which took place in work of Ukrainian pharmaceutical enterprises for the last 10 years (Figure 2).

IV. Summary

To sum up, it should be pointed out that the disposition of the main bank offices and their regional departments in Ukraine is quite uneven which resulted because of inequality of economical and social-demographical developments of the regions. Such a state of affairs demands from the banks more detailed attention concerning placement of their institutions using new logistic methods to achieve optimality in the network activity. Internal factors have a considerable impact on the development of the native bank branch network, first of all their size which specifies peculiarities of the regional strategies of different bank groups. The most ramified branch network belongs to the system banks due to sufficient financial abilities; banks of other categories more reasonably and thoroughly approach the forming of their own branch network giving preference to those regions, where the client base and not high level of bank market monopolization are concentrated.

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THE FEATURES OF PROCESS BY CHANGES MANAGEMENT ON PRODUCTION PHARMACEUTICAL ENTERPRISES OF UKRAINE

Resume

The basic tendencies of Ukrainian pharmaceutical market which influence on activity of pharmaceutical enterprises have been determined. The basic changes which took place in work of enterprises of pharmaceutical industry for the last 10 years according to prevalence degree have been analyzed. It has been set that 73% managers of pharmaceutical enterprises have been met with personnel's resistance to the changes. The reasons of resistance to the changes from inferiors and basic ways of their overcoming have been selected. In the conditions of instability of external environment for the successful functioning of pharmaceutical enterprises it is necessary effectively to manage the changes and adjust the activity to influencing of factors of external environment.

Keywords: management by the changes, production pharmaceutical enterprises, resistance to the changes.

I. Introduction

Today for the survival of enterprises and possibility of conducting the competitive struggle, organizations should constantly make alterations in their business. The changes are inalienable part of development of any business and in a great deal influence on its functional filling. The employees of all levels of management have to understand and take into account that fact, that the increase of complication of the business-systems certainly conduces to growth of value of effective management by the changes. A necessity in the changes began to arise up so often, that organizations simply do not notice this phenomenon, they change, but these changes are not planned and managed. For the effective functioning of pharmaceutical enterprises it is necessary to manage the changes. The management by the changes is the process of permanent adjustment of direction of organization's motion, update of its structure and search of new possibilities for the increase of part of the market [2-4, 6-8]. Now changes take place quickly, than earlier so situation at the market can at times change and organizations have to manage possibility of introduction of necessary changes in order to remain on occupied position earlier and get resources for subsequent development. During conducting of the changes

it is very difficult to inculcate new methods and procedures of performing the business so that they would be adequately perceived by personnel and would be inculcated in organization, not violating co-ordination of works, corporate culture of company, compatibility of programmatic and staff decisions and others. At the scale changes the guidance of enterprise has to think carefully over general strategy of their conducting, appears a necessity to manage the risks of introduction, expectations of the interested parties. It's necessary to carry out changes in order to prevent the origin of unforeseen risks and maximally reduce their influence on the results of works. It is important that the planned changes were realized at the first try, it will allow company to achieve the competitive advantages with the less wastes of facilities and time.

In this work the features of changes management have been represented on the production pharmaceutical enterprises of Ukraine.

Pharmaceutical industry is one of the most dynamic and profitable industries of world economy, at the same time it belongs to such industries which has been regulated by the state organs of power in a great measure. In the general sales volume of pharmaceutical products in Ukraine (results of 2010 year) in the natural measuring on drugs are about 63%, on the wares of the medical setting – 32%, cosmetic products – about 3% from the general sales volume. Market share of Ukrainian drugs in the natural measuring is about 67%; the rates of increasing of Ukrainian drugs sales are at the average – 30%, foreign – 15-20%. However, in the money measuring on the Ukrainian products are about 27% general sales, while on imported – 73%. Today products are presented more than 600 manufactures at the pharmaceutical market of Ukraine, from them 136 are the Ukrainian pharmaceutical enterprises. During last years the pharmaceutical market of Ukraine on the whole was characterized by the high rates of growth (at the average on 20-25% annually), and also by low level of consumption of drugs per head (expenses on drugs take 4-5 seat in the expenses of average Ukrainian). The volume of Ukrainian pharmaceutical market (at price of manufactures) is 2,8 billion dollars according to 2010 year results [1].

Among characteristics of Ukrainian pharmaceutical market it is possible to note follows [1]:

- ✓ tendency of nation's ageing;
- ✓ seasonality of demand (the increase of drugs sales is observed in the end III and during the IV quarters, that is partly related to the annual flu disease);
- ✓ the Ukrainian enterprises-producers mainly use the imported raw material in production, that binds both the structure of prime price and standard of prices to fluctuations of exchange rate of national currency in relation to a dollar and euro;
- ✓ gradual transition of manufacturing processes to the GMP standards;
- ✓ concentration of production capacities on expansion of production of generic-drugs, demand on which grows substantially during last years;
- ✓ government regulation of industry.

Thereby presented characteristics of Ukrainian pharmaceutical market are needed the research of features of management by the changes on industrial pharmaceutical enterprises.