

HERALD

of Kyiv National University
of Trade and Economics

Scientific journal

№ 6⁽¹⁰⁴⁾ 2015

It is published six times a year
First was published
in February 1998

To October 2000 had been published under the title
"Herald of Kyiv State University of Trade and
Economics"

Journal is recognized by HAC of Ukraine as special edition on Economic Sciences

C O N T E N T

STATE AND ECONOMY

MAZARAKI A., LAGUTIN V.	Internal trade of Ukraine in crisis socio-economic challenges	5
PIATNITSKA G.	State regulation of prices in domestic market	18
FEDULOVA L.	Innovative development of Ukraine's economy	28
PRISUAZHNUYK A.	Educational models in cluster fusion	41
MYKOLENKO E.	Institutions and their impact on economic development	48

ENTERPRISE

LULA P., WÓJCIK K.	Opinion mining and its importance in the activity of contemporary enterprises	60
MIKUŁA B.	Knowledge management as a tool for improving the growth potential of enterprises	69
DANYLENKO M.	Internet distribution of hotel services	79

FINANCE AND BANKING

SHULGA N., CHORNYI A., STEPASHOVA A.	Systematic risk assessment of banks	90
BUS'KO K.	Principles of risks transparency in banks' activity	104

ACCOUNTING AND AUDIT

KOROL S.	Formation of accounting: social aspect	115
KOPOTIENKO T.	Internal audit of the operating costs of restaurant enterprises	127

EDITORIAL BOARD of "Herald of KNUTE"

MAZARAKI A. – Editor;

PRYTULSKA N. – Deputy Editor;

BARDASH S., BAI S., VEDMID N., HULIAEVA N., DOBIA M. (*Poland*), **KALUSKI J.** (*Poland*), **LAGUTIN V., LACE N.** (*Latvia*), **PANKOV D.** (*Belarus*), **PYROZHKO V., ROMAT Y., SOPKO V., SUSIDENKO V., SYMONENKO V., TKACHENKO T., FEDULOVA L., FILISE K.** (*Greece*), **CHUGUNOV I.** – members of the Editorial Board on Economic Sciences; **BELINSKA S., MEREZHKO N., MOKROUSOVA O., SYDORENKO O.** – members of the Editorial Board on Technical Sciences; **HALIANTYCH M., HURZHII T., LADYCHENKO V., MARCHUK V., MIRONENKO N., JARMYSH O.** – members of the Editorial Board on Legal Sciences; **IVANOVA N., KOROLCHUK M., KOROLCHUK V., SAMOILOV O., STASIUK V., TIMCHENKO O., MAKSYMENKO S.** – members of the Editorial Board on Psychological Sciences; **VALUYSKYI O., KONVERSKYI A., KHORUZHII G., KULAGIN Y., MOROZOV A., OZHEVAN M., SAITARLY I.** – members of the Editorial Board on Philosophy; **BADAKH Y., KAZMYRCHUK G., KOROLEV B., KOTSURA A.** – members of the Editorial Board on History;
MELNYCHENKO S. – Executive Secretary

Founder, edition, publisher and manufacturer
Kyiv National University of Trade and Economics.

Managing Editor,
OLIUNINA S.

Editors: KYRYCHENKO E., RASSKAZOVA I.
Artistic and Technical Editor KRYVUTSKA I.

State registration certificate Series KV № 13100-1984PR of 23.08.2007.

Index of the magazine in Catalogue of publications in Ukraine in 2016 – 21910

Signed 15.12.2015. Conventional print. pages. 11,9. Circulation 250. Order 1239.

Address of the Editorial board, publisher, manufacturer:
st. Kyoto, 19, Kyiv-156, Ukraine 02156.

Contact us at 518-90-92, fax: 513-85-36, e-mail: visnik@knteu.kiev.ua.

Printed on equipment of KNUTE.

Certificate of subject of publishing industry series DK № 4620 of 03.10.2013.

Published on the recommendation of the Academic Council of KNUTE (minutes № 5 of 14.12.2015). Articles are revised. Reproduction and translation of the materials published in the magazine are permitted only with the consent of the author and editorial board.

The journal is represented in international and national scientometrical databases such as Index Copernicus, Russian Science Citation Index, abstract database Ukraine Naukova and in search system of Google Scholar

© Kyiv National University of Trade and Economics, 2015

СОДЕРЖАНИЕ

ГОСУДАРСТВО И ЭКОНОМИКА

МАЗАРАКИ А., ЛАГУТИН В.	Внутренняя торговля Украины в условиях кризисных социально- экономических вызовов	5
ПЯТНИЦКАЯ Г.	Государственное регулирование цен на внутреннем рынке	18
ФЕДУЛОВА Л.	Инновационное развитие экономики Украины	28
ПРИСЯЖНЮК А.	Образовательные модели в кластерной интеграции	41
МИКОЛЕНКО Е.	Экономические институты и их влияние на развитие хозяйственной системы	48

ПРЕДПРИНИМАТЕЛЬСТВО

ЛУЛА П., ВОЙЧИК К.	Анализ мнений потребителей и его значение в деятельности современного предприятия	60
МИКУЛА Б.	Управление знаниями как средство улучшения потенциала роста предприятий	69
ДАНИЛЕНКО М.	Интернет-дистрибуция гостиничных услуг	79

ФИНАНСЫ И БАНКОВСКОЕ ДЕЛО

ШУЛЬГА Н., ЧЕРНЫЙ А., СТЕПАШОВА А.	Оценивание системного риска банков	90
БУСЬКО Е.	Принципы прозрачности рисков деятельности банков	104

УЧЁТ И АУДИТ

КОРОЛЬ С.	Становление бухгалтерского учета: социальный аспект	115
КОПОТИЕНКО Т.	Внутренний аудит текущих расходов предприятий ресторанного хозяйства	127

З М І С Т

ДЕРЖАВА ТА ЕКОНОМІКА

МАЗАРАКІ А., ЛАГУТІН В.	Внутрішня торгівля України в умовах кризових соціально-економічних викликів	5
П'ЯТНИЦЬКА Г.	Державне регулювання цін на внутрішньому ринку	18
ФЕДУЛОВА Л.	Інноваційний розвиток економіки України	28
ПРИСЯЖНЮК А.	Освітні моделі в кластерній інтеграції	41
МИКОЛЕНКО О.	Економічні інститути та їх вплив на розвиток господарської системи	48

ПІДПРИЄМНИЦТВО

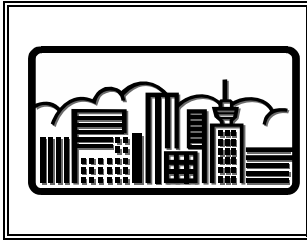
ЛУЛА П., ВОЙЧИК К.	Аналіз думок споживачів та його значення у діяльності сучасного підприємства	60
Мікула Б.	Управління знаннями як засіб покращання потенціалу зростання підприємств	69
ДАНИЛЕНКО М.	Інтернет-дистрибуція готельних послуг	79

ФІНАНСИ ТА БАНКІВСЬКА СПРАВА

ШУЛЬГА Н., ЧОРНИЙ А., СТЕПАШОВА А.	Оцінювання системного ризику банків	90
БУСЬКО К.	Принципи прозорості ризиків діяльності банків	104

ОБЛІК ТА АУДИТ

КОРОЛЬ С.	Становлення бухгалтерського обліку: соціальний аспект	115
КОПОТІЄНКО Т.	Внутрішній аудит поточних витрат підприємств ресторанного господарства	127



UDC 338.124.4:339.3(477)

MAZARAKI Anatoliy, Doctor of Economics, Professor,
Head of Commercial Entrepreneurship Department,
Rector of KNUTE

LAGUTIN Vasyly, Doctor of Economics, Professor,
Head of Economic Theory and Competition Policy
Department of KNUTE

INTERNAL TRADE OF UKRAINE IN CRISIS SOCIO-ECONOMIC CHALLENGES

The article defines the role and place of internal trade in the national economy in crisis challenges, analyzes the current state of trade activities in Ukraine, identifies priority directions of reforming domestic retail and wholesale trade in the context of anti-crisis mechanisms of social and economic development.

Keywords: economic crisis, domestic trade, wholesale, retail, trade services, threats indicators.

Мазаракі А., Лагутін В. Внутрення торгівля України в умовах кризових соціально-економічних викликів. Раскрыты роль и место внутренней торговли в национальной экономике в условиях кризовых вызовов, проанализировано текущее состояние торговой деятельности в Украине, определены приоритетные направления реформирования отечественной розничной и оптовой торговли в контексте антикризисных механизмов социально-экономического развития.

Ключевые слова: экономический кризис, внутренняя торговля, оптовая торговля, розничная торговля, торговые услуги, индикаторы угроз.

Background. The crisis that swept Ukrainian economy in 2013–2015 put on the agenda the role of internal trade in the national economy in terms of its importance in recovery. The importance of scientific research of the state and prospects of internal trade development derives from the role that it plays in social and economic development. Internal trade is the basis for the functioning of commodity circulation sphere in the national economy, which affects the society. Imperfect mechanisms of internal trade give rise to a variety of distortion such as uncivilized forms of trade, informal sector and others.

Current socio-economic crisis in Ukraine the beginning of which is associated with post-revolutionary changes, loss of territory and military operations has aggravated the problem of living standards and social stability in society. The solution in modern conditions is linked to the restoration of economic growth, increase in the wholesale and retail trade turnover, stimulating effect of trade on the development of the domestic commodity production.

Analysis of recent research and publications. The questions of the development of commodity circulation and domestic trade were highlighted in the writings of many economists, including V. Apopiy, I. Vysochyn, V. Marcyn, S. Narovchatov, O. Nestulia, I.-F. Sherr, G. Hamilton [1–7] and others. However, the problem of internal trade in crisis socio-economic challenges is not duly reflected in the economic literature. Due to this the research questions of domestic trade in the context of the economic crisis and post-crisis recovery of the national economy is topical now.

The **aim** of the article is to outline the role of internal (wholesale and retail) trade in the development of national production and market amid the increasingly critical socio-economic challenges.

Materials and methods. The study is based on the scientific works of foreign and domestic economists on the development of domestic market and domestic trade, data of the State Statistics Service of Ukraine, set of advanced methods of scientific knowledge, systematic approach and synthesis was used as well.

Results. Internal trade is an important economic activity playing a significant role in shaping the economic potential of society and meeting consumer demand for goods and services. It has always been an object of much attention and interest from economic science. The history of trade is an important component of economic history in general. William Bernstein wrote: "The tendency to trade and exchange is a part of human nature and any attempt to suppress it is eventually self-defeating" [8, p. 434, 435]. From the economic history we know that trade has played a decisive role in shaping the social and economic foundations of capitalism and civil society. Famous French historian and researcher of the medieval economy P. Buassonad showed that at the end of the XI century prosperity of city-states was associated with the progress of trade, which increasingly enhanced the scope of their influence, created new markets and fairs, providing a transformation in society and causing the need for new conveniences [9, p. 184–185].

Noting the need for objective trade I.-F. Sherr stressed: "Consumers and producers are forced to turn to an organization that stands between them and is independent from them and establishes a link between the producer and the consumer. Trade as a mediator is new economic form, and trader is its representative" [6, p. 29]. The researcher distinguished three forms of isolation between producer and consumer that trade must overcome: spatial, temporal and subjective [6, p. 50].

In domestic trade function specific economic relations on which establishes a special market form of communication between production and consumption, the sale of goods and value is provided. The process of commodity production makes sense if the goods are sold in trade. As early as J. S. Mill stated that the market system "is based entirely on buying and selling and each individual exists primarily not thanks to things in production of which he is involved but thanks to using things gained by double exchange – sale followed by buying" [10, p. 172].

Without diminishing the role of the production process we can say that in terms of methodology the role of the sphere of commodity circulation and commerce as engines of economic development is important and indispensable. Trade not only provides commodity-money exchange, but also as noted by A. Marshall: "Production in the narrow sense of the word changes the shape and properties of objects. Trade changes their external relations" [11, p. 123].

Movement of goods and the cost from some areas to the others carried out on a market basis increases marginal utility of available products. Standard of usefulness in limit values, as they are formed in the exchange, according to the theory of marginal utility allows to re-evaluate the nature of the market mechanism measuring economic performance.

Therefore, the economic base of trade is the process of commodity-money exchange. The basis of this process are key categories: demand, supply, product, purchase and sale (transaction), market. Study and forecasting of consumer demand (one of the main elements of the market) is a necessary condition for adapting production to market requirements (exchange) [12; 13]. That is, if the goods are produced regardless effective consumer demand (buyers), the exchange process loses its economic meaning (sale).

Internal trade (corresponding economic activity, according to NACE defined as "Wholesale and retail trade; vehicles trade; repair services") is directly involved in the creation of gross value added. The main forms of trade are retail and wholesale. Services in retail trade are the sale of goods for personal and family use in a fixed location (e.g., store) or away from a fixed location (outside the store). Wholesale is selling consumer goods to retailers, industrial, commercial, institutional or other professional users or to other wholesalers.

State of internal trade is a significant indicator of economic development. Inefficiency of domestic trade leads to serious social and economic strains.

Trade is an important sector of national economy, which makes a significant independent contribution to the production of GDP. In the system of national GDP accounts at the production stage it is defined as the sum of gross value added of economic activities. The share of taxes (excluding subsidies on products) as an element of GDP is low. The contribution of domestic internal trade in the creation of GDP compared to many other types of economic activity is increasing (*table 1*). It's biggest indicator it was in 2011.

Table 1

Structure of GDP by economic activity in Ukraine in 2001 and 2005–2013, %
(compiled according to [14])

Activity types	2001	2005	2006	2007	2008	2009	2010	2011	2012	2013
Industry (extracting and processing)	21.60	23.74	24.16	24.30	23.11	19.99	20.69	19.47	18.19	17.75
Construction	3.57	3.71	3.89	4.23	3.08	2.38	3.00	2.86	2.78	2.52
Agriculture, hunting, forestry	14.41	9.18	7.54	6.58	6.87	7.20	7.63	8.50	7.82	8.69
Transportation and communication	12.04	10.74	10.30	9.72	9.18	10.63	10.25	10.23	7.04	7.23
Trade: repair of vehicles, equipment and personal use goods	10.97	12.69	12.60	13.21	13.85	14.23	15.23	15.65	14.29	14.63
Other activity types	37.41	39.94	41.51	41.96	43.91	45.57	43.20	43.29	48.78	49.18

Trade creates significant share of gross domestic product. Following the results of 2014, the share of wholesale and retail trade in Ukraine's GDP was 14.2% (gross value added – 222.675 million UAH), excluding the temporarily occupied territories [15, p. 458].

Quantitative indicators of internal trade contribution to GDP in Ukraine are shown in (figure 1). Internal trade during the 2001–2014 is one of the fastest growing sectors of Ukraine's economy, outpacing the growth rate by gross value added of other economic activities.

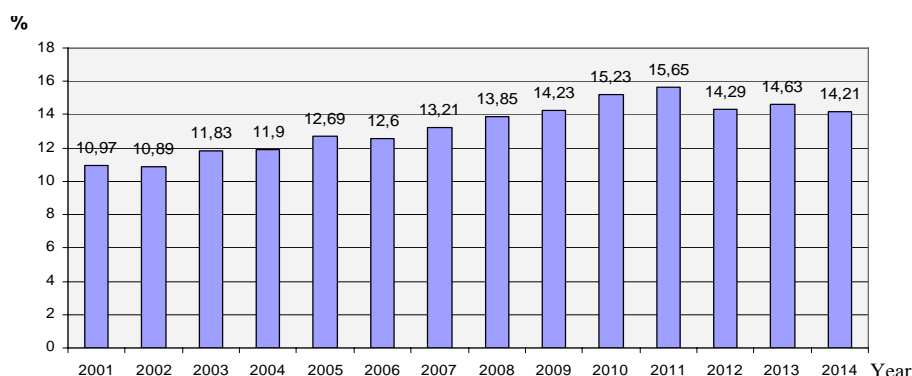


Figure 1. Contribution of domestic trade in GDP in Ukraine during 2001–2014
(compiled by the authors [15, p. 457–458])

The share of gross value added in domestic trade (not taking into account taxes except for subsidies on products) is connected with its redistribution between economic activities and individual private owners. In the late 1990s – early 2000s there was a significant redistribution of gross value added in the economy of Ukraine in favor of domestic trade. This is particularly due to the socio-economic phenomenon of redistributive activity, which for example V. Polterovych described as activities aimed at changing

proportions of assignment manufactured product without increasing its quality or amount [16, p. 58].

The share of internal trade in Ukraine's GDP is currently higher than the figure in the economies of developed countries due to lack of development in the domestic economy of a number of modern economic activities (their share is too small), including financial and insurance activities, real estate operations, information and telecommunications. According to the US Census, Eurostat, Asian Development Bank, the share of wholesale and retail trade in the gross value added is in the US is about 12 %, the EU – 11–12 %, China – 7–8 %.

It's negative that the growth of value added in trade happens with a decline in the share of real economy sectors. According to Y. Kindzersky this trend isn't positive, although it is inherent in post-industrial societies. Expanding domestic trade in terms of actual deindustrialization of Ukrainian economy, says the scientist, can guide further development not to post-industrial, but to pre-industrial society, that once turned into industrial one thanks to trade expansion [17, p. 218]. Yet while the share of gross value added in domestic trade is within the 13–14 % independent economic significance of this sector in the national economy is obvious.

To ensure current share of internal trade in the future economic growth it's necessary to increase value added of trade by expanding volumes and significantly improving the quality of trade services as internal trade is a component of service sector.

The essence of trade services, their classification, principles of assessing the effectiveness and quality are not sufficiently defined in the economic literature. It's too narrow to understand trading services only from the standpoint of additional activities and helping to meet the needs of customers (consumers)¹. The economic content of domestic trade services is broader.

Firstly, they relate to the value and thus ensure changing the form of the value -money into commodity. This very type of service is basic, intrinsic trading activities. The material basis of the implementation cost for this is a change of ownership of the goods.

Secondly, they are related to the provision of buyers (consumers) with the proper range of products at affordable prices. This is the most complete needs satisfaction of the population with trade services (goods affordability, high quality of products and services, physical accessibility) by creating efficient commodity infrastructure (wide geographical coverage, greater bandwidth, lower unit costs).

Thirdly, a service bringing consumer goods from production to consumption. Trade and intermediary businesses reduce the time for marketing of goods, reduce costs, speed up the circulation of goods, take greater account of the consumer demands. As for producers, for them role of internal trade

¹ In DSTU 4303:2004 service trade is defined as additional activities of business entities in the retail and wholesale to assist customers in carrying out the contract of sale of goods, their delivery and use [18, p. 3].

in the distribution of products, their marketing to direct (end) consumers and feedback are particularly important. In theoretical terms it is the receipt of information from internal trade on value and consumer value of products. Providing feedback by trade between producers and consumers is an important part of solving the contradiction between production and the consumer. The factors that hinder effective communication between manufacturers, wholesalers, retailers and consumers, are as follows: imperfection of legal regulation, inefficient payment systems, underdeveloped logistics services.

To improve the quality of trade services and create more value added in domestic trade it is necessary to create a modern efficient distribution network (including increasing the number of retail space in modern formats, shares of modern formats, etc.).

To analyze the crisis processes in internal trade in Ukraine and possible ways of preventing or attenuating them it is appropriate to consider the development of trade from the position of the retail and wholesale trade dynamics. *Figure 2* shows the dynamics of the physical quantity of retail trade turnover, that is its assessment in comparable prices.

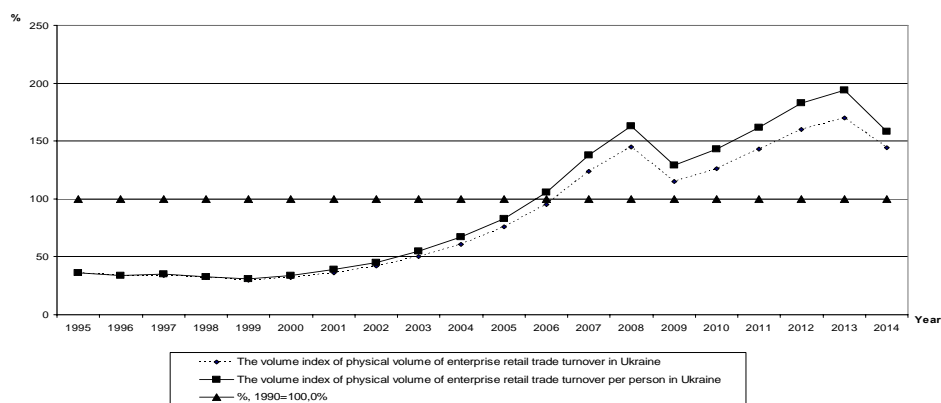


Figure 2. The volume index of retail turnover of enterprises in Ukraine in 1995–2014
(compiled by the authors [14])

In the 2000s the situation in the retail trade was getting better. Annual growth of retail trade turnover over the past decade was on average 1.5–1.7 times higher (except for the crisis years 2008 and 2009) than GDP as a whole. In 2007 physical quantity of retail trade turnover exceeded the level of 1990, and per person – a year earlier, in 2006. However in 2009 drop in retail turnover of enterprises was bigger (by 20.9 %) than decline of GDP as a whole (by 15.1 %). The same trend was manifested in 2014: businesses retail turnover decreased by 10 % and GDP by 6.8 %.

Crisis in Ukrainian economy in 2013–2015 led to a significant reduction of both wholesale and retail turnover. In the first half (January–July) 2015, retail trade turnover decreased by 23.6 % compared to the same period last year and wholesale – by 17.1 % [14]. The decrease in retail turnover is due

to a decrease in living standards and increased social tension caused by threats resulting from armed confrontation in the east. Such negative dynamics of domestic trade aggravates disparities in this area.

Shortcomings and imperfections of domestic retail trade were especially obvious in terms of political and economic instability in the first half of 2014. Sharp currency depreciation and inflation even led to the emergence of unjustified panic about non-deficient today consumer products. Using this panic, retail businesses, especially retailers, unjustified increased food prices.

The role of wholesale is important in anti crisis provision of coordination of total demand and total supply, establishing stable economic ties between production and retail trade, optimizing the entire process product promotion, stabilization of prices in the commodity markets. In particular, wholesale businesses have the opportunity to influence the prices of specific commodities by commodity interventions (purchasing large quantities of goods). Regarding manufacturers wholesalers perform the following functions: inventory support, order processing, gathering information about the market, minimizing commercial risk and so on. Regarding retail customers wholesalers carry out: assessment of market conditions and demand; ensuring the availability of goods; transformation of industrial range into trade one; division of large lots into smaller ones; financing by providing trade credit; consulting and technical support; service. The low level of development of wholesale trade in Ukraine does not allow fulfill these functions.

Most wholesalers in Ukraine only carry out a limited run of service (establish economic relations, supply goods and some other functions). Under these conditions wholesalers can no longer serve as centers regulating trade flows and turn into simple intermediaries who carry out only transactions for the sale and resale of small consignments. The data presented in the *table 2* shows how wholesale trade in general and wholesale trade of food products in Ukraine varied in 2005–2013.

As can be seen from the *table 2*, crisis tendencies were observed in wholesale trade in 2012–2013. In Ukraine from 2001 to 2008 the wholesale turnover of enterprises exceeded GDP. In 2009 the trend changed – wholesale trade turnover to GDP ratio was 94.1 %, down sharply compared to 2008. This trend strengthened even more in 2011–2013.

Notably the crises in the wholesale trade come earlier than in the whole economy. Crisis challenges in the economy are primarily in wholesale trade, which is an indication of a future crisis in the retail trade.

In the current crisis the social and economic challenges are associated primarily with exogenous factors that are determined by the world market. Wholesale trade in Ukraine increasing sales of imported goods immediately and directly responds to adverse processes of change in global markets. The crisis, especially rising prices, high deflation expectations, increasing risk of foreign economic activity, exacerbating asymmetry of information on the state of international markets rapidly form crisis impulses that are sent from wholesale to retail trade.

The dynamics of the wholesale turnover in Ukraine in 2005–2013 *

Unit of measure	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wholesale trade turnover of enterprises									
<i>billion UAH</i>	511.2	667.2	863.9	1050.4	860.9	993.7	1107.3	1093.3	1074.8
% to previous year	93.4	130.5	129.5	121.6	82.0	121.5	111.4	98.7	98.3
% of GDP	115.8	122.6	119.9	110.8	94.1	91.8	85.0	77.6	70.6
Wholesale trade turnover of food products									
<i>billion UAH</i>	79.1	103.3	131.5	155.1	168.3	193.8	194.5	215.2	199.7
% to previous year	121.1	130.6	127.3	117.9	108.5	115.2	100.4	110.6	92.8
% of GDP	17.9	19.0	18.2	16.4	18.4	17.9	14.9	15.3	13.1

* Compiled by the authors [14]

Large independent wholesalers and distributors, making wholesale full cycle service, really coordinate their activities with the financial and credit institutions. Today the crisis processes that have primarily global financial and credit nature start in the financial sector. Wholesale is especially sensitive to all the financial and credit crisis turmoil. Retail trade is less vulnerable to excessive financial risks, because there are real opportunities to shift them to the final consumers (buyers).

The lack of an effective wholesale in Ukraine provokes unregulated trade and industrial relations, formation disorder of commodity supply, inadequate quality of consumer goods, irregular supply, slow update of product range by manufacturer. Wholesale significance objectively stems from the role and place of wholesale businesses that may have a lot of information about market conditions. In modern conditions only powerful wholesalers are able to purchase significant quantities of goods (which guarantees lower prices), introduce advanced logistical technology to provide high quality service, offer customers a wide range of products.

To ensure the sustainable development of domestic trade we should identify threats, explore their interactions, priority, and the significance of effects. Threats to internal trade in the broadest sense are any internal and external factors that can hinder the implementation of public and private economic interests in trade. Anti crisis mechanism of internal trade involves complex of forms, methods, means and tools needed to identify the causes of the deterioration of quantitative and qualitative indicators of its state, resolution of pressing problems, eliminating deformation, smoothing their negative manifestations, elimination of crisis consequences, evaluation of prospects to improve the stability of the industry .

The development of anti-crisis mechanism of internal trade functioning is based on identifying the threats that can negatively affect the situation in domestic trade, and provides evaluation of the extent of possible dangerous

changes. The critical state of domestic trade may be due to many different reasons, which features the dynamics of various economic variables. Thus, the main threat here is a narrowing of the internal market in Ukraine, excessive flow of low-quality imported consumer goods, poor quality of market institutions, structural deformation, limited capacity of domestic demand, dependence on fluctuations of the world market. To limit the impact of these threats to the development of domestic trade the state should take the path of real support of domestic production and effective management of wholesale and retail turnover.

The list of 10 most critical in the current environment structural and institutional threats for Ukrainian internal trade is systematized in *table 3* (based on the distinction and subordination of crisis socio-economic factors – threats and related quantitative parameters describing the assessment of their possible impact – indicators) according to indicators that express their meaning.

Table 3

Threats to Internal Trade of Ukraine *

Structural		Institutional	
threats	indicators	threats	indicators
High inflation	CPI	Dependence on external markets	Openness of internal market
Devaluation of the hryvnia	Average official exchange rate against the US dollar	Administrative barriers and overregulation	Index of Economic Freedom
Increasing share of imports in the market	Share of imported consumer goods	Property rights insecurity	Property rights index
Inventory Reduction	Goods inventories in online retail trade	Informal trade	Level of informal internal trade
Decrease in wholesale trade	Wholesale turnover	Monopolization of trade and formation of cartels	State of competitive environment in domestic trade

* Developed by the authors

The monitoring system of structural and institutional threats to domestic trade functioning and assessing their impact includes the following steps:

- 1) choice of monitoring target;
- 2) selection of the most significant threats;
- 3) selection of statistical indicators to assess selected threats;
- 4) building a model of integral index of evaluating threats;
- 5) development of recommendations on the results of monitoring and forecasting future changes.

Implementing these stages enables relevantly assess the impact of structural and institutional threats to sustainable development of domestic trade, which could in advance point to their vulnerability to a possible crisis.

One of the main elements of the crisis mechanism of internal trade functioning is traditionally considered keeping inventory level to ensure uninterrupted trade development, creating opportunities to select products and best meet the public demand. Commodity stocks can not be considered "dead capital" of domestic trade, their presence is a necessary precondition for achieving a trade balance. In the Keynesian model of real economy investments in stocks is an important factor in rebalancing commodity markets. Here is the classic position of J. Maynard Keynes that price increases will contribute to the establishment of equilibrium, which leads to consumption delay, redistribution of income in favor of "saving" classes (this income distribution is the result of an increase in profits due to higher prices), and finally, the dispersal of stocks due to the rise in prices [19, p. 140].

The process of goods sale requires goods to be constantly in stock. Formation of certain inventory volume ensures product range sustainability, effective pricing policy, increases the level of meeting the demand of customers. All this requires maintaining an optimal level and sufficient product range of inventory.

Purpose of trade as an anti crisis factor is also to influence the production regarding manufacturing goods according to effective demand, higher quality product offering, expansion and improvement of its range. Trade can have both stimulating and destimulating influence on the development of national production. Internal trade "relieves" the process of commodity production from the need to sell the manufactured goods, the latter would lead to inefficient use of material, labor and financial resources [20]. This creates objective conditions for the acceleration of commodity turnover, reducing the time spent in circulation, giving substantial economic benefit. Thus, the role of trade in the national economy is to provide manufacturers through its orders not only with the necessary information about the size and structure of the market demand, but also encourage them to modernize the production process and to replace range of commodity products.

It is important to ensure the conditions for competition, institutional support to trade business amid crisis socio-economic challenges. The most important task here is to eliminate barriers that prevent the effective development of a competitive environment in the retail trade. It is about sharing risk between trading entities and suppliers, asymmetry of information support of wholesale and retail trade, discrimination against the interests of SMEs from retail networks. The experience of developed countries has always shown in the context of the dominance of retailers high probability of manifestation of monopolistic abuse of both consumers and suppliers [21, p. 106].

In April 2015 Ukraine AMC has fined for cartel price fixing 15 retailers and consulting (research) company "ASNilsen Ukraine" totaling more than 203 mln UAN. These networks are LLC "Fozzy-Food" ("Silpo") – with a fine of 78.4 mln UAN; LLC "ATB-Market" (ATB) – 48.6 mln UAN; LLC "Metro Cash and Carry Ukraine" ("METRO") – 23.4 mln UAN; LLC "Fora"

("Fora") – 11.1 mln UAN; LLC "Auchan Hypermarket Ukraine" ("Auchan") – 9.4 mln UAH; LLC "Novus Ukraine" ("Novus") – 9 mln UAN; LLC "Fud-market" ("Velyka Kyshenya") – 6.5 mln UAN; LLC "Adventis" ("Caravan") – 4.6 mln UAN; FDI "Billa-Ukraine" ("Billa") – 4.6 mln UAH; SE "Furshet Center" ("Furshet") – 2.9 mln UAN; Ltd. "Krai-2" ("Krai" and "Kraina") – 1.5 mln UAN; SE "Traverse Market" ("Furshet") – 680 thousand UAH; SE "Food Center" ("Fushet") – 680 thousand UAH; LLC "Spar Center" ("Spar") – 680 thousand UAH; LLC "Mepromah" ("Bimarket") – 680 thousand UAH; LLC "ASNilsen Ukraine" – 400 thousand UAH; LLC "X 5 Retail Group Ukraine" ("Perekrestok") – 340 thousand UAH; LLC "ECO" ("Eco-Market") – 100 thousand UAH; JSC "Furshet" ("Furshet") – 56 thousand UAH [22, p. 7].

The subject of cartel price fixing was not a traditional increase in prices for consumer goods, but exchange of information on the state of the consumer market, the development on this basis of common (coordinated) actions of suppliers and producers. It is no accident the main coordinator of the cartel was consulting company that has accumulated relevant market information.

However, it has had no positive effect on forming more effective competitive environment in domestic trade. In the future Law of Ukraine "On the domestic trade" it is necessary to provide the application of antitrust measures in this area, including the criteria formulation of vertical contracts illegality between retail chains and suppliers to avoid cartel conspiracies [23].

Conclusion. Assessment of the state and prospects of anti crisis development of internal trade is essential to analyze the national economy and is a prerequisite for the development of science-based strategies for its development. The mechanism of sustainable development of domestic trade should be the only process from the moment of identifying threats to making recommendations to identify the level of market stability, in the long run it will allow to use this mechanism as a really effective tool of state regulation of domestic trade. Modern trends in internal trade in Ukraine include streamlining the entire complex of relationships between the real sector of economy, trade and consumption.

An important component of future research should be to identify contradictions and problem situations in the system of internal wholesale and retail trade regulation. In particular, the probability of the impact of macroeconomic variables on domestic trade indicators, which determine its stability, method of determining the critical values of structural and institutional crisis indicators need further development.

REFERENCES

1. *Systema reguljuvannja vnutrishn'oi' torgivli Ukrai'ny* : monografija / za red. V. V. Apopija ta I. M. Kopycha. — K. : Akademvydav, 2012. — 424 s.
2. *Vysochyn I. V.* Upravlinnja tovarooborotom pidpryjemstv rozdrubnoi' torgivli : monografija / I. V. Vysochyn. — K. : Kyi'v. nac. torg.-ekon. un-t, 2012. — 544 s.

3. *Marcyn V. S.* Ekonomika trgovli : pidruchnyk / V. S. Marcyn. — 2-ge vyd., vypr. i dop. — K. : Znannja, 2008. — 603 s.
4. *Narovchatov S. N.* Organizacija trgovli i trgovykh predpriyatij. Reprintnoe vosproizvedenie izdaniya 1927 goda / S. N. Narovchatov. — K. : Kiev. nac. torg.-ekon. un-t. 2013. — 408 s.
5. *Kopych I. M.* Vnutrishnja trgovlja Ukrainy: problemy i perspektyvy rozvytku : monografija / I. M. Kopych, O. O. Nestulja [ta in.] ; za red. V. V. Apopija, P. Ju. Balabana. — L. : Novyj Svit–2000, 2014. — 565 s.
6. *Sherr I-F.* Uchenie o trgovle. Kn. 1. — M. : Jekonomicheskaja zhizn', 1925. — 234 p.
7. *Hamilton G.* Retailers as Market Makers // *The Market Makers : How Retailers are Reshaping the Global Economy* / G. Hamilton. M. Petrovic. B. Senauer (eds.). — Oxford : Oxford University Press, 2011. — P. 125–137.
8. *Bernstajn U.* Dzh. Velikolepnyj obmen: istorija mirovoj trgovli / U. Dzh. Bernstajn. — M. : AST, 2014. — 508 s.
9. *Buassonad P.* Ot nashestvija varvarov do epohi Vozrozhdenija. Zhizn' i trud v srednevekovoj Evrope / P. Buassonad. — M. : Centropoligraf, 2010. — 383 p.
10. *Mill' Dzh. S.* Osnovy politicheskoy jekonomii / Dzh. Mill'. — M. : Progress, 1980. — 464 p.
11. *Marshall A.* Principy jekonomicheskoy nauki. T. I. — M. : Progress, 1993. — 415 p.
12. *Barnett W.* Consumer preference and demand systems / W. Barnett, A. Serletis // *Journal of Econometrics*. — 2008. — Vol. 147. — P. 210–224.
13. *Faire R.* Estimating demand with distance functions: parameterization in the primal and dual / R. Faire, S. Grosskopf, K. Hayes, D. Margaritis // *Journal of Econometrics*. — 2008. — Vol. 147. — P. 266–274.
14. *Derzhavna sluzhba statystyky Ukrainy* [Elektronnyj resurs]. — Rezhym dostupu : <http://www.ukrstat.gov.ua>.
15. *Analychna dopovid' do Shhorichnogo poslannja Prezydenta Ukrainy do Verhovnoi' Rady Ukrainy "Pro vnutrishnje ta zovnishnje stanovyshhe Ukrainy v 2015 roci"*. — K. : NISD, 2015. — 684 p.
16. *Polterovich V. M.* Jelementy teorii reform / V. M. Polterovich. — M. : Jekonomika, 2007. — 447 p.
17. *Kindzers'kyj Ju. V.* Promyslovist' Ukrainy: strategija i polityka strukturno-tehnologichnoi' modernizacii' / Ju. V. Kindzers'kyj. — K. : In-t ekon. ta prognozuv. NAN Ukrain, 2013. — 536 p.
18. Rozdribna ta optova trgovlja. Terminy ta vyznachennja ponjat' : DSTU 4303:2004. — K. : Derzhspozhyvstandart Ukrainy, 2005. — 30 p. — (Nacional'nyj standart Ukrainy).
19. *Kejns Dzh. M.* Obshhaja teorija zanjatosti, procenta i deneg. Izbr. — M. : Jeksmo, 2008. — 352 p.
20. *Telser L. G.* Zachem proizvoditeljam spravedlivaja trgovlja? / L. G. Telser // Vehi jekonomicheskoy mysli. Teorija otraslevykh rynkov. T. 5 ; pod obshh. red. A. G. Sluckogo. — SPb. : Jekonom. shkola, 2003. — P. 247–279.
21. *Kreps D.* Reputacija i nesovershennaja informacija / D. Kreps, R. Uilson // Teorija otraslevykh rynkov. Vehi jekonomicheskoy mysli. T. 5 ; pod red. A. G. Sluckogo. — SPb. : Jekonom. shkola, 2003. — P. 72–110.
22. *Chopenko V.* Prysud nezgovirlyvomu rytejlu / V. Chopenko // *Dzerkalo tyzhnja*. — 2015. — 16 trav. — S. 7.

23. Zakon Latviji'skoi' Respubliki "Pro zaboronu nechesnoi' praktyky rozdrubnoi' torgovli" [Elektronnyj resurs]. — Rezhym dostupu : <http://www.d-k.lv/rus/documents/laws/689/22668/22669>.

Articles submitted to editors office of 10.09.2015.

Мазаракі А., Лагутін В. Внутрішня торгівля України в умовах кризових соціально-економічних викликів.

Постановка проблеми. В умовах кризових соціально-економічних викликів постає проблема кризостійкості внутрішньої торгівлі, її місця у відновленні економічного зростання. Врахування цієї проблеми передбачає аналіз ролі внутрішньої торгівлі в динаміці економічного циклу, механізмів забезпечення стимулюючого впливу торгівлі на розвиток національного виробництва.

Аналіз останніх досліджень і публікацій показав, що, незважаючи на наявність різнопланових наукових розробок, залишається невирішеною важлива науково-практична проблема щодо місця і ролі внутрішньої торгівлі у контексті подолання економічної кризи та посткризового відновлення національної економіки.

Мета статті – розкрити роль внутрішньої (роздрібної та оптової) торгівлі в розвитку національного виробництва і ринку в умовах посилення кризових соціально-економічних викликів.

Матеріали та методи. У процесі дослідження використано сукупність новітніх методів наукового пізнання, системного підходу та узагальнення.

Результати дослідження. Показано, що стан внутрішньої торгівлі є вагомим макроекономічним індикатором розвитку національної економіки. Неefективність оптової і роздрібної торгівлі призводить до кризових соціально-економічних деформацій. Недоліки і недосконалість внутрішньої торгівлі в Україні особливо виявилися в умовах політико-економічної нестабільності 2014–2015 рр. Антикризовий потенціал внутрішньої торгівлі реалізується на основі збільшення валової доданої вартості у сфері торгівлі, позитивної динаміки роздрібного і оптового товарообороту, розширення обсягів і поліпшення якості торговельних послуг. Охарактеризовані десять найважливіших у нинішніх умовах структурних та інституційних загроз розвитку внутрішньої торгівлі України, серед яких: високі темпи інфляції, девальвація гривні, збільшення частки імпортованих товарів на ринку, залежність від кон'юнктури зовнішніх ринків, адміністративні бар'єри і зарегульованість та ін.

Висновки. На відміну від наявних публікацій, у статті вперше надано наукову оцінку стану і перспектив антикризового розвитку внутрішньої торгівлі у контексті відновлення національної економіки. Механізм забезпечення стійкого розвитку внутрішньої торгівлі повинен бути єдиним процесом від моменту визначення загроз до підготовки рекомендацій щодо підвищення рівня ринкової стійкості, що в перспективі дасть змогу використовувати цей механізм як дійсно ефективний засіб державного регулювання внутрішньої торгівлі. Сучасні тенденції розвитку внутрішньої торгівлі в Україні передбачають раціоналізацію всього комплексу взаємозв'язків між реальним сектором економіки, торгівлею та сферою споживання.

Ключові слова: економічна криза, внутрішня торгівля, оптова торгівля, роздрібна торгівля, торговельні послуги, індикатори загроз.

UDC 338.532.42:339.3

PIATNITSKA Galyna, Doctor of Economic Sciences, Professor
of the Department of Management at KNUTE

STATE REGULATION OF PRICES IN DOMESTIC MARKET

The analysis of international experience in regulating pricing in the sphere of domestic trade was conducted. There were defined deficiencies in Ukrainian model of regulating prices of some goods. There was discovered dichotomy between reasons of state price controls and decision-making of entrepreneurs on price changes in the sphere domestic trade.

Keywords: state regulation, pricing, price controls, domestic trade, trade premiums, price dumping, competition.

Пятницька Г. Государственное регулирование цен на внутреннем рынке. Проведен анализ международного опыта регулирования ценообразования в сфере внутренней торговли. Выделены недостатки украинской модели регулирования цен на отдельные товары. Выявлена дихотомия между причинами государственного контроля цен и принятием решений предпринимателями относительно ценовых изменений в сфере внутренней торговли.

Ключевые слова: государственное регулирование, ценообразование, контроль цен, внутренняя торговля, торговые надбавки, ценовой демпинг, конкуренция.

Background. Economic growth in domestic trade and full performance of its social functions in any country of the world is hard to achieve without forming a proper system of management that should combine effective mechanisms of trading activities regulation, effective decision making on development of trade infrastructure in the country and its particular regions taking into account both urban and rural population, creating favorable conditions for investments in enterprise development, etc. One of the most critical problems of regulatory policy in the sphere of domestic trade in previous years and now is pricing regulation (or price controls).

Analysis of recent research and publications. Methodological bases of research on pricing in the economic market system were in the focus of economic classic authors: L. Walras, A. Marshall, J. Schumpeter, M. Kondratiev, M. Tugan-Baranowski [1–5] and others. Some aspects of state price regulation were covered in the writings of modern scholars (including Ukrainian ones), namely: A. Boyladud, D. Nicoletti, E. Colla, E. Knysh, O. Hetalo, I. Sydor [6–9] and others. However, aspects of comprehensive analysis of international experience in pricing regulation of domestic trade with determination and comparison of differences in price controls in Ukraine and other countries has not been considered.

© Pyatnitska G., 2015

The **aim** of the study is to determine the effects of price controls in domestic trade on the basis of comparative analysis results of international experience in pricing regulation. In accordance with the purpose were set the following objectives: to analyze the change of the rigidity indicator of the state pricing regulation of retail prices in different countries; to identify the drawbacks of Ukrainian model of price controls for some goods; to describe the relationship between reasons of state regulation of pricing decisions and decision making of entrepreneurs in relation to the change of prices in domestic trade.

Materials and methods. In the study were used methods of analysis and synthesis. The information base for the study were legislative and regulatory acts, OECD statistics, research findings of foreign scholars who studied the issues of state pricing regulation in the retail and wholesale trade, findings of personal research.

Results. In the international practice there are no common rules regulating retail and wholesale trade. This is due to differences in the needs of each country. Regulation rules vary from state to state, creating a complex system often represented by such elements as:

- general laws, i.e. rules that are widely used (tax, labor, antitrust law);
- special laws regulating activities in certain sector market or its segment (for example, laws that relate directly to the trade sector).

The influence of the state on pricing can be manifested both indirectly through the creation of a system of economic and legal instruments, and through direct administrative interference in the price mechanism operation. In various countries with the aim of price controls were adopted relevant laws and regulations (e.g. in Italy – the Law on Price Control (1973), France – Resolution on the liberalization of prices (1986), in Sweden – the Law on prices (1956), in the US – the Sherman Antitrust Act (1890) and Clayton Antitrust Act (1914), etc.).

State policy on price controls in domestic trade (particularly in the retail segment) during 1998–2013 was heterogeneous (*figure 1*). As illustrated in *figure 1*, price controls in some countries over the years have become overregulated (such as in Korea and the Netherlands where rigidity of pricing regulation in retail trade during 1998–2013 increased by 2.1 and 2 times respectively). Meanwhile, in other countries was formed the trend towards deregulation of pricing (for example, in Greece, Belgium and Mexico, where during 1998–2013 control over retail prices was moderated by 3.5, 2.5 and 2.3 times respectively). There are countries where regulation of pricing remains the same for over 15 years: tough enough in Canada (4), mild in Denmark (0.86) and Finland (0.86).

Experience of modern state influence on trade enterprises prices in Western countries contrasts sharply with the similar experience of Ukraine and other countries of the former Soviet Union. If, for example, in retail trade in Western Europe concern is caused by price dumping, resorted to by retailers as a result of stiff price competition, in Ukraine – economically unjustified price overstatement to obtain excess profits takes place. In the

first case, regulators have resorted to measures aimed at limiting the lower limit of trade prices, while in the second – to regulate the upper limit of trade margin (primarily for the protection of consumers).

In general, state control of prices as a means of consumer protection in modern internal trade regulation is a tool that is rarely used. In 85 % of countries-members of the Organization for Economic Cooperation and Development (OECD) there is no regulation at all; and for the remaining 15 % – there is controlled pricing of certain groups of goods (medicines, tobacco, alcohol). In addition, in Canada, Korea, Iceland product pricing of essential goods is controlled (bread, milk). In exceptional circumstances (war, natural disasters, epidemics, etc.) for a limited period of time, as the world practice shows, can be applied administrative (direct) methods of price regulation.

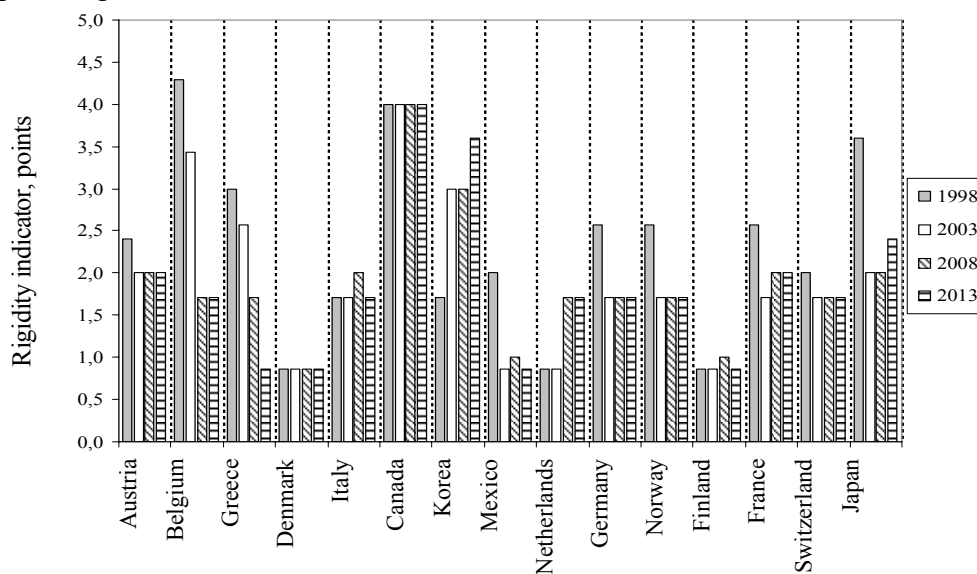


Figure 1. Dynamics of the rigidity indicator of state regulation on pricing (price controls) in retail trade in different countries of the world during 1998–2013 (developed by the author basing on the OECD statistics [10])

Ukraine's transition to a market economy has necessitated changes in pricing policy, from the directive pricing country moved to free pricing. However, the loss of purchasing power, considerable disparity in prices of different product groups has led to the need for state intervention in the pricing process. Due to the presence of all these problems nowadays prices for some goods continue to be regulated according to the provisions of the Law of Ukraine "On Prices and Pricing" [11].

Providing carrying out of the state pricing policy, the Cabinet of Ministers of Ukraine:

- performs state regulation of prices, defines the powers of the authorities on the formation, establishment and application of prices, unless otherwise provided by the law or international treaties of Ukraine ratified by the Verkhovna Rada of Ukraine;

- determines the list of goods, state regulated prices on which are approved by appropriate executive authorities, unless otherwise provided by the law.

According to Article 12 of the Law of Ukraine "On Prices and Pricing" government regulated prices are set on goods that have decisive impact on the overall level and dynamics of prices, have significant social importance and on goods produced by the subjects that have a monopolistic (dominant) position on the market. In addition, government regulated prices on goods can be introduced for the goods of entities that violate the law on protection of economic competition.

Methods of state regulation of prices, in accordance with Article 13 of the Law of Ukraine "On Prices and Pricing", are provided by: setting mandatory for the application by entities: fixed prices; marginal prices; maximum levels of trade margin and supply-marketing margin (supply fee); marginal profitability limits; amount of supply remuneration; amount of bonuses, discounts (bearish coefficients); introduction of a procedure for declaring changes and / or registration of prices.

As of early November 2015 in Ukraine price regulation for certain foods, medications, diesel fuel, motor gasoline is carried out by the state. In the country operates Resolution of the Cabinet of Ministers of Ukraine "On establishing powers of executive authorities and executive bodies of city councils regarding the regulation of prices (tariffs)" of 25 December 1996 № 1548 (as amended on March 25, 2015) [12], according to which it is established:

- marginal trade (supply and sale) premiums to the wholesale price (customs value) for flour, bread, pasta, cereals, sugar, beef, pork and poultry, sausage products, milk, cheese, sour cream, butter, sunflower oil, eggs not more than 15% excluding the cost of their transportation in the intercity traffic;

- marginal trade premiums for diesel fuel and motor gasoline sold through service stations at no higher than 15% of the wholesale price or customs value.

Meanwhile, the Ministry of Economic development of Ukraine within the framework of reducing administrative impact on the market has recently proposed to abandon the state regulation of prices, replacing the mechanism with marginal level of profitability, and to reduce the list of food for social purposes, the prices of which are regulated by the state, to 11 items. In the project developed by the Ministry Resolution of the Cabinet of Ministers of Ukraine it is stated that [13]:

- marginal trade margins and premiums will be determined by local authorities, and the marginal rate of return will range from 2 % to 15 % depending on the region and type of product;

- from the list of socially important goods will be excluded foods of so-called "premium segment", that are made with improved technology and using special packaging;

- maximum levels of trade and supply-marketing premiums will be applied at a level no higher than 15 % in determining the price of flour; simple-recipe bread; bread and bakery products for diabetics; cereals such as buckwheat, oats, millet; white sugar; pork (besides boneless meat); chicken (excluding fillets); drinking pasteurized cow's milk with a fat content of up to 3 % (packed in a film); cheese with fat content of up to 10 % (packed in parchment bag); refined sunflower oil (bottled in plastic bottles); table eggs of 1 and 2 categories, baby food.

Considering current Ukrainian practice of regulation of food prices, it should be stressed that one of its drawbacks is that neither current law nor the Ministry of Economic development of Ukraine offers clear rules on defining products that have an important social value. In addition, the competence of any public body of Ukraine does not include the one that provides classifying goods as socially significant. The latter, in turn, questions the legal validity of such regulation.

Along with this, the declaration of changes in wholesale price poses hidden registration of changes in wholesale prices. A mechanism of declaration contains corruption component, as it implies registration of the document in the body which introduced this method of regulation at its discretion and has no clear and understandable criteria for conducting such registration or refusing it.

The disadvantages of the Ukrainian model of regulating food prices also include:

- introducing parallelism in prices regulation (for example, the use of marginal levels of profitability and marginal wholesale and retail premiums on the one hand, and the declaration of changes in wholesale prices – on the other);
- lack of economic basis of necessity for this regulation and necessary volume of it.

These and other deficiencies lead to undue financial burden as on the activities in the field of domestic trade and other areas of the economy and the state as a whole: the administration of such a model of price regulation requires significant financial and human resources; absence of economic motivational component in the model causes the decline of business people interest to investment in the activities and development of their businesses / companies.

If the given project of the changes in the regulation of food prices still remains only a proposal, the state regulation of medicines pricing in Ukraine is already carried out under the new rules. Since 1 January 2015 came into effect changes to paragraph 1 of the Resolution of the Cabinet of Ministers of Ukraine "On measures to stabilize prices for medicines and medical products" of 17 October 2008 № 955 [14], the purpose of the introduction of which is to increase economic accessibility of domestic medicines for the low-income sections of the population and to create equal conditions for

the use of state regulation of prices for medicines for both foreign and domestic producers. In accordance with the changes now for medicines and medical goods included in the National list of essential medicines and medical products (except narcotic, psychotropic drugs, precursors and medical gases) and the minimum compulsory range (socially oriented) of medicines and medical products for pharmacies, defined by the Minister of Health, were established marginal supply-marketing premiums not higher than 10 %, which are calculated for the wholesale price including taxes and fees, and marginal commercial (retail) premiums not exceeding 25 % calculated for the purchase price including taxes. According to the Ministry of Health of Ukraine data, the amount of retail trade premiums on domestic medicines whose wholesale price is lower than 12 UAH per package, before the beginning of 2015 could be between 0.3 % and 169.5 % [15].

According to the practical experience, the kind of price regulation used in Ukraine (when marginal trade premiums are set), and the one common in Western Europe (where regulation is mainly aimed at preventing dumping prices), state intervention in the pricing often leads to a number of adverse effects (*figure 2*).

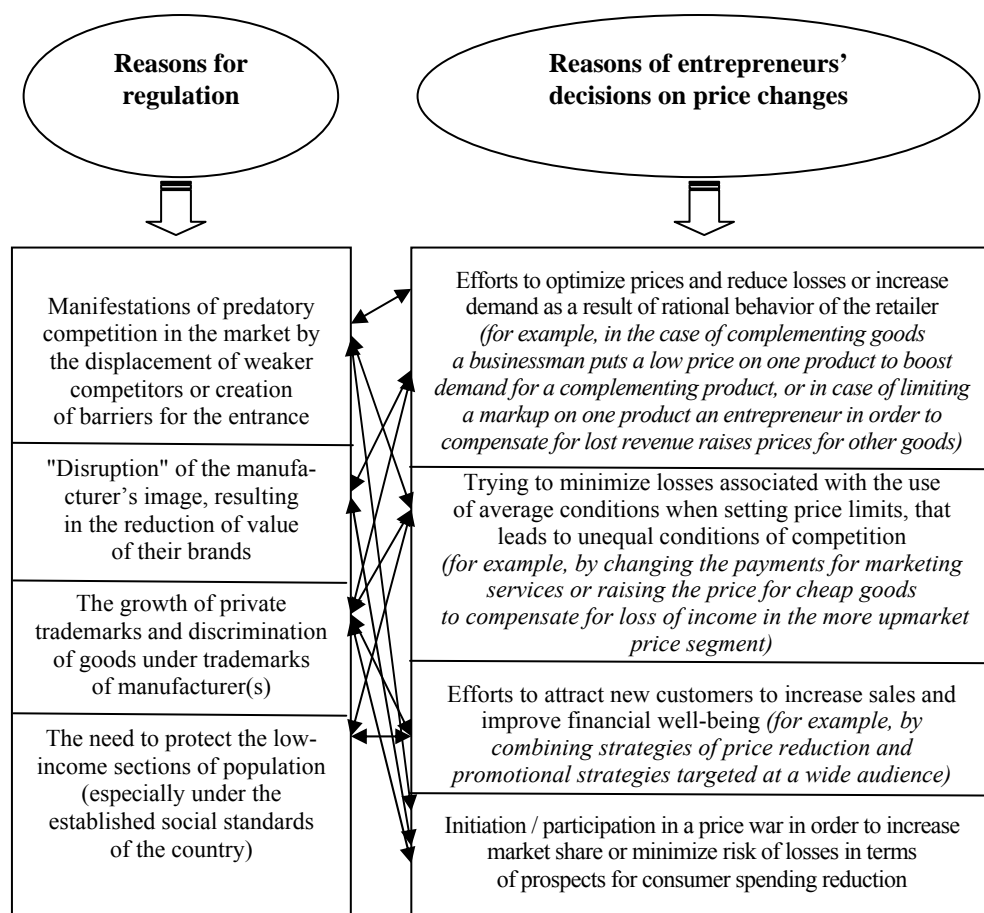
In case of setting	upper limit of prices (marginal trade premium)	<p>Abuse of the manufacturers' position, expressed in the reduction of internally branded competition, inflating the prices by suppliers of national brands in terms of the overall supply (e. g., as it was in France, Ireland).</p> <p>Containment of price competition between trade enterprises.</p> <p>Increased rigidity of prices in the conditions of establishing a particular method of calculating the minimum retail price.</p> <p>Increased costs for managing distribution centers in trade firms due to difficulties with the sale of surplus and goods stored in warehouses. between manufacturers and retailers</p>	<p>The growth of retail prices due to changes in the horizontal and vertical competition</p> <p>Complications in relationships between retailers and suppliers.</p> <p>Switching large retail companies to the forms of non-price competition.</p> <p>Development of own trademarks by trading networks and their active promotion on the market.</p> <p>Increased marketing payments (bonuses).</p> <p>Increased suppliers' purchase price.</p> <p>Hyper- and supermarkets concede their market share to discounters</p>
	lower limit of prices in trade *	<p>Redistribution of added value in the supply chain.</p> <p>The growth of retail prices.</p> <p>The emergence of trade deficit.</p> <p>Chain reaction of price increases to compensate for loss of earnings: setting the margins premium (or price) for certain type of goods leads to an increase in margins (prices) for other types of goods.</p> <p>Increase in the number of conflicts between retailers and their suppliers.</p> <p>Reduced quality of products distributed by points of sale (including through partial falsification of product ingredients by producers)</p>	<p>Spread of the practice of bypassing the restrictions (for example, by selling imported goods on which the price of supply can be set outside the country).</p> <p>Averaging of doing business conditions with the neglect of differences in the cost of renting retail space, maintenance of various trade formats, etc., which leads to the formation of unequal conditions of competition: greater losses from trade restrictions suffered by the objects of trade placed in the center of large cities, as well as goods of "medium" and "upmarket" price segments.</p> <p>Stimulation (although limited) of entrepreneurs to find ways to reduce costs</p>

* The effects of setting the lower price limit are determined on the basis of studies of various scientists, including [6; 7; 16; 17].

Figure 2. Likely effects of state regulation of pricing (developed by the author)

The nature of negative effects multitude of state pricing regulation in domestic trade lies in the dichotomy between reasons and causes of the regulation and reasons of entrepreneurs on price changes (figure 3). Only a compromise solution aimed at minimizing the gap between the slope of price changes vectors at the state level and the level of trade organizations or deregulation may stipulate reduce of the number of these adverse effects.

Of course, it is impossible to rely solely on self-regulation mechanism of market prices, because it not only does not guarantee but may conflict with the need to protect disadvantaged groups. However, solving this problem, instead of administrative (direct) state regulation of prices (for example, food products) it is possible to apply economic (indirect) ways of influence (for example, preferential loans, subsidies, tax benefits, etc.).



* The arrows indicate between which reasons of state regulation and entrepreneurs' decision on price changes dichotomy is observed.

Figure 3. The dichotomy between the reasons of state regulation of pricing and decision-making of entrepreneurs on price changes in domestic trade
(developed by the author)

In the United States since the 60s of XX century operates a program of targeted social aid to purchase food products (*Supplemental Nutrition Assistance Program, SNAP*). In the basis of the program is put a "Plan of economical nutrition" which is actually a mathematical model that determines the minimum volume of household income as a percentage that must be spent on purchasing food. If a household buys products for a lower part of income, the difference comes on the account of special electronic card using which it is only possible to buy food and non-alcoholic beverages in authorized stores. A similar pattern of targeted aid is used in the UK.

In the EU operates framework mechanism of food supply to people with the lowest income (*Distribution to the most deprived persons in the Community*). It provides the distribution of food products through certain non-profit organizations free of charge or at the lowest prices. This supply is carried out from intervention stocks, i.e. stocks of agricultural products, which were previously acquired by state institutions in the market due to lack of supply and reduction of prices.

Among international practices of price controls there are the ones which involve: the conclusion of contract with the state on the basis of which is established the right to raise prices of some goods, while reducing them of others (for example, in France); sectoral subsidizing of certain spheres of economic activity (for example, Switzerland or the United States).

Conclusion. Developing current model of regulation of domestic trade in Ukraine (including in terms of developing effective regulations of price controls) it is necessary to take into account international experience of such regulation and its consequences. By preventing the development of predatory competition in domestic trade (including by regulating pricing) it is important to pay attention to the feasibility of bridging the gap between the slope of price changes vectors at the national and enterprise levels.

The results of the study can be further used both in the process of improving the mechanisms of state regulation of domestic trade (in aspects of price controls) in Ukraine and other countries and for more in-depth study of issues of prices regulation for specific goods.

REFERENCES

1. *L. Walras* (1874). *Elements of Pure Economics: Or the theory of social wealth*. 1954 translation of 1926 edition, Homewood, III : Richard Irwin.
2. *A. Marshall* (1890). *Principles of Economics: An introductory volume*. 1990 reprint of 1920 edition, Philadelphia: Porcupine.
3. *Shumpeter J. A.* *Teorija jekonomicheskogo razvitija. Kapitalizm, socializm i demokratija / J. A. Shumpeter ; [predisl. V. S. Avtonomova ; per. s nem. V. S. Avtonomova, M. S. Ljubskogo, A. Ju. Chepurenko ; per. s angl. V. S. Avtonomova i dr.]. — M. : Jeksmo, 2007. — 864 s.*

4. Kondrat'ev N. D. Rynok hlebov i ego regulirovanie vo vremja vojny i revoljucii / N. D. Kondrat'ev. — M. : Nauka, 1991. — 487 s.
5. Tugan-Baranovs'kyj M. I. Osnovy politychnoi' ekonomii' / M. I. Tugan-Baranovs'kyj. — L'viv : Vyd. centr LNU im. I. Franka, 2003. — 575 s.
6. *Boylaud O.* Regulatory reform in Retail distribution / By Olivier Boylaud, Giuseppe Nicoletti // OECD Economic Studies. — 2001. — № 32. — 274 p.
7. *Colla E.* Below-Cost Legislation, Price Competition and Inflation in French Retailing / E. Colla // European Retail Digest. — 2004. — Vol. 44. — P. 31–35.
8. *Problemy derzhavnogo reguljuvannja cin na likars'ki zasoby* / Je. G. Knysh, O. V. Getalo, N. I. Sincha ta in. // Zaporozh. med. zhurn. — 2010. — № 1. — S. 66–68.
9. *Sydor I.* Derzhavne reguljuvannja cin na prodovol'chi tovary: vitchyznjana praktyka ta neobhidnist' i'i' udoskonalennja / I. Sydor // Galyc'. ekon. visnyk. — 2012. — № 1 (34). — S. 25–30.
10. OECDiLibrary [Elektronnyj resurs]. — Rezhym dostupu : <http://www.oecd-ilibrary.org>.
11. Pro ciny i cinoutvorennja : Zakon Ukraïny vid 21.06.2012 № 5007-VI (u red. vid 24.06.2015) [Elektronnyj resurs]. — Rezhym dostupu : <http://zakon3.rada.gov.ua/laws/show/5007-17>.
12. Pro vstanovlennja povnovazhen' organiv vykonavchoi' vlady ta vykonavchyh organiv mis'kyh rad shhodo reguljuvannja cin (taryfiv) : Postanova Kabinetu Ministriv Ukraïny vid 25 grudnja 1996 r. № 1548 (u red. vid 06.05.2015) [Elektronnyj resurs]. — Rezhym dostupu : <http://zakon3.rada.gov.ua/laws/show/1548-96-%D0%BF>.
13. Minekonomrozvytku proponuje vidmovytysja vid derzhavnogo reguljuvannja cin [Elektronnyj resurs] // Agrarne inform. ag-stvo Agravery. — 2015. — 12 serp. — Rezhym dostupu : <http://agravery.net/uk/posts/show/minekonomrozvitku-proponue-vidmovitisa-vid-derzavnogo-reguluvanna-cin>.
14. Pro zahody shhodo stabilizacii' cin na likars'ki zasoby i vyroby medychnogo pryznachennja : Postanova Kabinetu Ministriv Ukraïny vid 17 zhovt. 2008 r. № 955 (chynna u red. vid 07.07.2015) [Elektronnyj resurs]. — Rezhym dostupu : <http://zakon0.rada.gov.ua/laws/show/955-2008-%D0%BF>.
15. Kabinet Ministriv Ukraïny z 1 sichnja 2015 roku vvodyt' derzhavne reguljuvannja cin na liky [Elektronnyj resurs]. — Rezhym dostupu : <http://publicist.in.ua/2943-kabinet-mnstrv-ukrayini-z-1-schnya-2015-roku-vvodit-derzhavne-regulyuvannya-cn-na-lki.html>.
16. *Pilat D.* Regulation and Performance in the Distribution Sector / Dirk Pilat // OECD Economics Department Working Papers. — 1997. — № 180. — 68 p.
17. OECD Competition Assessment Reviews : Greece. — OECD Publishing, 2014. — 389 p.

Articles submitted to editors office of 13.11.2015.

П'ятницька Г. Державне регулювання цін на внутрішньому ринку.

Постановка проблеми. Одним з найбільш гострих питань регуляторної політики у сфері внутрішньої торгівлі донині є контроль цін. Незважаючи на те, що деякі аспекти державного регулювання цін висвітлено у працях сучасних іноземних

та українських науковців, проблематика комплексного аналізу міжнародного досвіду регулювання ціноутворення на ринку у внутрішній торгівлі з визначенням та порівнянням відмінностей контролю цін в Україні та інших країнах світу до цього не розглядалася.

Метою представлено у статті дослідження є визначення результатів контролю цін у внутрішній торгівлі на основі даних порівняльного аналізу міжнародного досвіду регулювання ціноутворення, взаємозв'язку між причинами державного регулювання ціноутворення та прийняттям рішень підприємцями щодо зміни цін у сфері внутрішньої торгівлі, виявлення недоліків української моделі регулювання цін на окремі товари.

Матеріали та методи. У ході дослідження використано методи аналізу та синтезу. Інформаційну базу дослідження становлять дані власних досліджень, законодавчо-нормативні акти, статистичні дані ОЕСР, результати досліджень зарубіжних науковців, які вивчали проблематику державного регулювання цін у роздрібній та оптовій торгівлі.

Результати дослідження. Встановлено, що вплив держави на ціноутворення може виявлятися як опосередковано через створення системи економічних і правових важелів, так і за допомогою прямого адміністративного втручання у дію цінового механізму. Досвід сучасного державного впливу на ціни підприємств торгівлі у західних країнах різко контрастує з аналогічним досвідом в Україні та багатьох країнах пострадянського простору. Наприклад, у роздрібній торгівлі країн Західної Європи стурбованість викликає ціновий демпінг, до якого вдаються торговельні мережі в результаті жорсткої цінової конкуренції, то в Україні та інших країнах пострадянського простору – економічно необґрунтоване завищення цін з метою отримання надприбутків.

Перехід України до ринкових відносин потребує зміни політики ціноутворення: від директивного встановлення ціни до вільного ціноутворення. Проте втрата купівельної спроможності населення, значний диспаритет цін між окремими групами товарів призвів до необхідності втручання держави в процес ціноутворення. Встановлено, що сучасна українська модель регулювання цін має ряд недоліків. Це запровадження паралельності у регулюванні цін на продовольчі товари, корупційна складова у механізмі декларування змін оптової ціни виробника та ін.

Висновки. Запобігаючи розвитку хижацької конкуренції у внутрішній торгівлі (у т.ч. шляхом регулювання ціноутворення), варто звертати увагу на доцільність подолання розриву між нахилом векторів причин державного регулювання цін та причин прийняття рішення щодо зміни цін на підприємницькому рівні.

Представлені результати дослідження у подальшому можуть бути використані як у процесі удосконалення механізмів державного регулювання внутрішньої торгівлі (в аспектах контролю цін) в Україні та інших країнах світу, так і для більш глибокого дослідження проблематики регулювання цін на конкретні групи товарів.

Ключові слова: державне регулювання, ціноутворення, контроль цін, внутрішня торгівля, торговельні надбавки, ціновий демпінг, конкуренція.

UDC 330.341(477)

FEDULOVA Liubov, Doctor of Economics,
Professor of management department, KNUTE

INNOVATIVE DEVELOPMENT OF UKRAINE'S ECONOMY

Dynamics of scientific, technological and innovative development of economy of Ukraine was evaluated. Factors and trends in the changing of development level in the sector of science and technologies were determined. Results of comparative analysis of positions of Ukraine and other countries, in particular Poland, in the sphere of innovative activity were made. Resent problems and developed proposals according to adjustment of state innovation policy were discovered.

Keywords: research and development, innovative activity, innovative development, innovation policy.

Федулова Л. Инновационное развитие экономики Украины. Оценена динамика научно-технологического и инновационного развития экономики Украины. Определены факторы и тренды в изменении уровня развития сектора науки и технологий. Проведен сравнительный анализ позиций Украины и других стран, в частности Польши, в сфере инновационной активности и деятельности. Выявлены имеющиеся проблемы и разработаны предложения по корректированию государственной инновационной политики.

Ключевые слова: научные исследования и разработки, инновационная активность, инновационное развитие, инновационная политика.

Background. In Ukraine, the problems of scientific, technological and innovative development are ignored recently. In the Strategy of Sustainable Development "Ukraine–2020" [1] innovative factor is stated as a factor of pride, in contrast to developed countries, where innovations are the factor of economic growth. On the one hand, achievements in the military-industrial complex, ascertained were by experts, stipulated by scientific developments and appropriate technologies of breakthrough nature and intensified by military events, and on the other hand, the problematic issues of technological lag spheres withdrew to the background due to the recession of the domestic industry, that deepens the process of destructive changes and requires adequate innovative policy.

Analysis of recent research and publications. Design of economic aspects of national innovative system building, evaluation of innovative potential, determination of the role of the state and other entities in this process, as well as current and future innovative policy issues in modern Ukraine were investigated in the works of A. Mazaraki [2], C. Davymuka, H. Androshchuk [3], V. Lysenko, S. Yegorov [4] and others. Features and

prospects of the EU innovative system development and conditions of innovative processes intensification are revealed systematically in the works of national and foreign authors [5; 6], etc. But in conditions of changing geopolitical process and integration challenges the complex of issues of strategic nature appears before our country, particularly in the choice of priorities and directions of economic development based on innovative factor. The above mentioned requires system analytical assessment, identification of specific trends of scientific technological and innovative development of economy.

The **aim** of research is the identification of innovative development tendencies of Ukraine by analyzing of the main indexes of scientific, technological and innovative potential in comparison with other countries. According to the set aim the science-based solution is required for the following questions: identification of the dynamics and setting of the appropriate trends of scientific, technological and innovative development of national economy; comparative estimation of the innovative development of Ukraine and some other countries; definition of problem areas and working out of offers concerning activation of innovative policy in terms of strengthening of European integration processes.

Materials and methods. The methodological basis of research is the provision of innovation – science and practice of management with innovation processes on all the levels of economic system. Based on a systematic approach the analysis of innovation processes in Ukraine is made. Typical tendencies and problems of innovative development of Ukraine are defined using the methods of statistic and comparative analysis of international expert estimations and its innovational profile is created. By structuring and synthesis methods the proposals concerning adjustment of state innovation policy were developed towards strengthening of the role of intellectual resource in provision of implementation of planned reforms.

Results. The key factor in generating of new knowledge is scientific potential of Ukraine which is constantly under the direct influence and in great dependence on internal and external environment and still hasn't acquired structural and organizational form to this day, adequate to modern challenges. However, despite the insufficient development conditions due to low funding and absence of demand for innovations of domestic real sector of economy it continues to "survive" although the number of scientific organizations is declining (*figure 1*). At the end of 2014 it has become even less than the number of institutions 1991. Thus, according to data of official statistics of Ukraine 1 143 organizations were carrying out research and scientific and technical activity in 2013, which is 5.4% less than in 2012. 109.6 thousands workers (without dual jobholders), including researchers (58.7 thousands people), technicians (10.7 thousands people), additional staff and other workers by 20.1 thousands people were carrying out research and scientific and technical work in 999 organizations during 2014. Especially dangerous is the state of laying off scientists. In 2014 the number

of them became 2.6 times less than in 1991. In 2014 the part of executives of scientific research and developments (researchers, technicians and additional staff) in total number of occupied population was 0.5% including researchers (0.32 %).

At the same time, according to Eurostat, the highest part was in Finland (3.2 % and 2.28 %), in Denmark (3.2 % and 2.18 %), in Switzerland (2.66 % and 1.37 %), in Norway (2.56 % and 1.81 %) and in Slovenia (2.27 % and 1.34 %); the lowest part was in Romania (0.46 % and 0.3%), in Cyprus (0.71 % and 0.5%), in Bulgaria (0.74 % and 0.52 %) and in Turkey (0.74 % and 0.63 %).

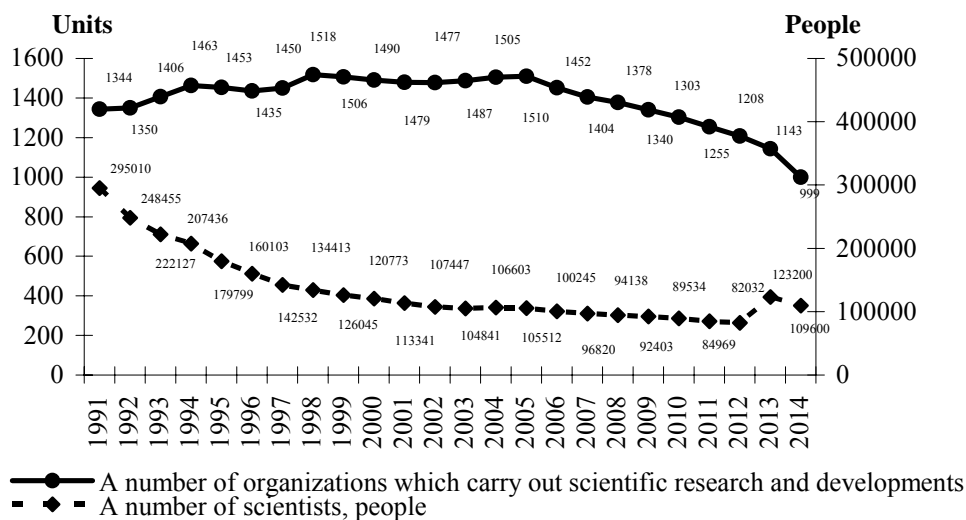


Figure 1. Dynamics in the number of scientific personnel and organizations in Ukraine (compiled according to the State Statistics Service of Ukraine [Electronic resource]. – Access : <http://www.ukrstat.gov.ua>)

One of the effectiveness indicators of scientific potential of the country is the volume of executed research and scientific and technical works, and although in the years 2010–2013 at actual prices it slightly increased, but the part of GDP remained low. In general, the dynamics of the number of executed research and scientific and technical works was unstable on the structure during the years 2002–2014, moreover, in 2014 almost all indicators decreased, except for the works on the creation of new plant varieties and animal breeds, where was an increase by 1.5 thousands units.

In 2014 the main executives of basic and applied research were public sector organizations (accordingly 90.4 % and 62.5 % of the volume of works), scientific and technical developments and scientific and technical services – organization of business sector (accordingly 93.1 % and 77.9 %). Dynamics of expenses on research and scientific and technical activity in GDP of Ukraine has the general downtrend. In particular, by the State Statistics Service of Ukraine preliminary estimation, in 2014 the part of total

expenditure on implementation of scientific and technical works in GDP amounted to 0.66 %, including the state budget – 0.26 % (table 1). For comparison, according to Eurostat, in 2014 the share of expenditure on research and developments of EU countries – 28 in GDP was 2.01 %. More than average part of expenses on research and developments was in Finland – 3.31 %, in Sweden – 3.3%, in Denmark – 3.06 %, in Germany – 2.85 %, in Austria – 2.81 %, in Slovenia – 2.59 %, in France – 2.23 %, in Belgium – 2.28 %; and less than average part was in Montenegro, Romania, Cyprus, Latvia and Bulgaria (from 0.38 % to 0.65 %).

Table 1

**Dynamics of expenses on research and scientific and technical activity
in Ukraine's GDP, % (research intensity of GDP) ***

Expenses	1990	2000	2004	2005	2007	2008	2009	2010	2012	2013	2014
Total to GDP	3.11	1.20	1.23	1.17	0.94	0.92	0.95	0.91	0.75	0.77	0.66
On account of state budget	2.3	0.36	0.42	0.39	0.39	0.41	0.37	0.34	0.33	0.33	0.26

* Compiled on the basis of data of State Statistics Service of Ukraine [Electronic resource]. – Access :<http://ukrstat.org>.

In recent years Ukraine has put forward many initiatives both in terms of institutions and organizations as to forming of an effective mechanism of intensification of scientific and technological and innovative activity. However, the state power has not reached significant success yet in creating of "innovation climate" in the country, measures as to supporting of innovative activities are local in nature and do not allow reverse current negative trends (especially it is concerned to the decrease of scientific and technological potential in the industry). The dynamics of innovative activity of enterprises in Ukraine has uneven character in part of the number of enterprises involved in innovative activity, although its number slightly decreased during the crisis of 2008–2009, and in 2012 compared to 2011 slightly increased. In the period of 2013–2014 innovative activity of industrial enterprises decreased. Thus, in 2014, only three quarters of them applied innovations (or 12.1 % of the inspected industrial enterprises).

According to preliminary official statistics, 1206 companies spent 7.7 billion UAH for the implementation of innovations in 2014, two thirds of which for the purchasing of machinery, equipment and software that indicates a completely natural process – the aspiration of enterprises to modernize its technological base to resist competition. And only 15.9 % spent money on research and development (R & D) by own strengths, 6.9 % – for the purchasing of the results of research in other enterprises (organizations), 0.6 % – for the acquisition of other external knowledge (new technologies) and 10.1 % – on education and training of personnel for the development and implementation of new or significantly improved products

and processes, on activity as to market innovation and other works, connected with creation and application of innovations (other expenses).

Traditionally, own funds of enterprises remain the main source of financing innovations, but differences were noticed: this is a significant decrease in funding in 2010 from own sources as well as from the state budget and the prominent role of foreign investors in 2009–2010. In 2011 the increase of funding from own sources and the state budget was observed, but there was a significant decrease of the role of foreign investors. In 2014 there was observed certain reduction of own funds (6540.3 mln UAH against to 6973.4 mln UAH in 2013); a significant increase of funding from the state budget (349.8 mln UAH against to 24.7 mln UAH in 2013) and a significant reduction of activity of foreign investors (146.9 mln UAH against 1253.2 mln UAH in 2013). Domestic investors spent a little on financing innovative activity of national industry – the proportion of their funds remains insignificant (at 0.3–0.5 %). Direct state support of industry innovative activity with state funds and local budgets is very limited. Usually it is given to fifty companies from the total amount and doesn't exceed 2 % in total funding costs on innovations.

Such trends significantly affect the dynamics of implementation of new technological processes: a slight increase of its number occurred during 2006–2011 (besides it was substantial during the crisis). However, the part of applying of low-waste and resource-saving technological processes was decreasing during 2009–2011 (*figure 2*). It demonstrates not only the absence of effective state incentives in the area of modernization of the industry, but it also reflects a structural feature – the prevailing part of low redistribution enterprises in technological complex whose owners are not interested in upgrading of technology in terms of obtaining of high rent on favorable conditions in the foreign markets. In 2014 the total number of implementation of new technological processes has increased, but the number and proportion of low-waste and resource-saving has decreased again.

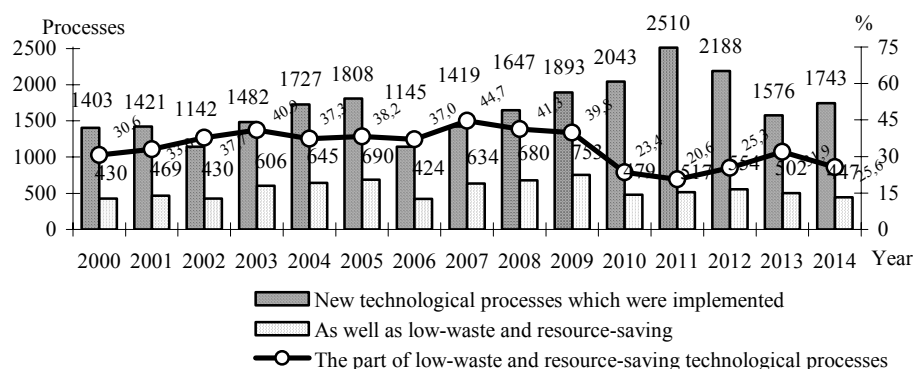


Figure 2. The dynamics of implementation of new technological processes (calculated on the base of data from the State Statistics Service of Ukraine [Electronic resource]. — Access : <http://www.ukrstat.gov.ua>)

In 2014 the increase of amount of commercialized production of innovative products, especially new machinery, was recorded, due to the intensification of OboronProm, but only 905 companies implemented innovative products on 25.7 billions UAH or 2.5 % of total volume of sold industrial products. Volume of products, which was sold outward of Ukraine by 295 enterprises, amounted 7.5 billions UAH.

The weakest link of the innovative process in Ukraine is technology transfer, especially because of inefficient organization of the economic system. It requires modernization, especially the change of technological structure of production towards the formation of the high-tech sector and the implementation of a job package as to the commercialization of scientific research, evaluation and intellectual property protection. Thus, in 2014 the number of enterprises of Ukraine, which created and used advanced technologies, objects of intellectual property rights (OIPR) and innovations, was 1.757 units. During 2014 the total number of advanced technologies developed by 106 companies was 309, 90.3 % of which were new for Ukraine, 21 % of which were created by the state contract. 769 protective documents were issued on advanced technologies in general or on its elements, that was created in 2014: 162 – for inventions, 418 – for useful models and 189 – for industrial samples.

Regarding foreign direct investments (FDI) by technological structure in production in Ukraine during 2010–2014 the tendency of increase of its share in low-tech manufacturing (respectively 18.6 % in 2010 and 19.6 % in 2014, against 8.8 % in 2009) was observed. The reduction of the share of FDI in middle-tech production should be considered as the negative trend (by statistical monitoring the process of decrease started since 2005, when the stage of large-scale technological modernization of the food industry finished) and a sharp decrease of FDI in high-tech industries since 2003 and as a result – almost complete loss. Such trend is caused by the same factors: the ownership of natural rent by domestic businessmen logically induced them to invest in upgrading of the technological base of production to stay competitive on foreign markets (that is harder) and not lose revenue sources on the domestic markets.

Under conditions of absence of an effective state policy concerning formation, development and implementation of intellectual resource is quite natural extremely low state of investments in intangible assets, including 3.36 % of the total capital investment in 2014 (*figure 3*). Innovators are unmotivated because of absence of policy of the internal market forming, including local innovation market, unformed demand for innovations of domestic enterprises.

It should be acknowledged that the conceptual statement is the fact that the positive social effect of scientific and technological, information and technology development is reflected in the improvement of industrial relations through intellectualization of labor, improvement of working conditions, increase of educational and cultural level and the quality of life.

The dynamics and tempos of transition of economy on the way of innovative development largely depend on the efficiency of using of results of a person's creative activity. Therefore, one of the main problems that needs constant attention from the state is the creation of production system, protection, reconstruction and use of intellectual potential of the nation. One of the key elements of this system is creation of effective economic-legal mechanism of protection of intellectual property.

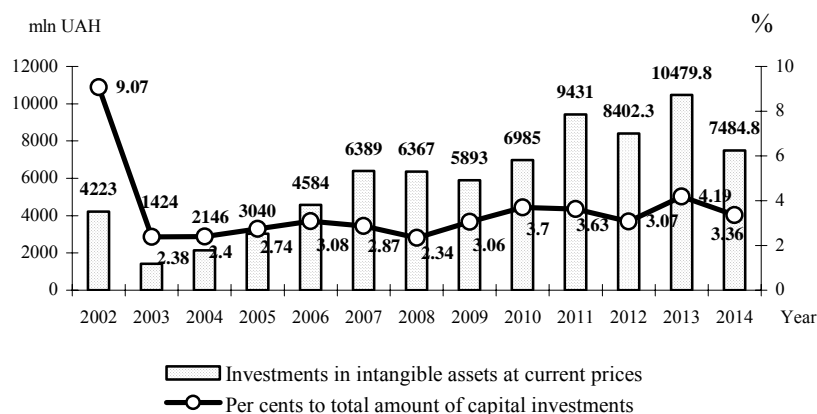


Figure 3. The dynamics of investments in intangible assets
(compiled according to the Statistical Yearbook of Ukraine for the relevant years and site [Electronic resource]. — Access : <http://www.ukrstat.gov.ua>)

The indicator characterizing the effectiveness of new technologies application (process of intellectualization) is the use of inventions, useful models and industrial samples, e.g. commercialization of results of scientific and technological activity and introduction of them into economic turnover. However, in recent years a steady trend of decrease of OIPR application is observed, that is connected with low inventive activity in the sectors of industrial production, the scientific staff reduction and slow tempos of scientific and technical works.

At the same time, while during the 1995–2012 trend of increase of the number of applications to the State intellectual property service (SIPS) almost 4 times and received protective documents almost 16 times on the objects of industrial property was observed, in 2014 the activity decreased in applying for all OIPR. SIPS received more than 44.3 thousand of applications. From its total number, only 11 % are the applications for inventions, 21 % were for useful models and 62 % were for the marks of goods and services (20 % of them applied through the Madrid system). The number of applications for industrial samples was 6 %. The sphere of education keeps the first place in this process: in recent years its part is more than 60 % of applications for inventions and useful models (*table 2*), indicating a powerful intellectual potential, which requires an effective state policy according to its implementation.

Table 2

**Receipts of applications for inventions and useful models by type
of economic activity (national applicants, legal entities) for 2005–2014***

Type of economic activity	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Application filed										
Total, units	7274	7381	8242	7582	7025	8141	8139	7858	7565	7334
Education, units	3999	4123	4940	4399	4561	5320	5549	5159	5028	4662
% of total	55	55.9	59.9	58	64.9	65.3	68.2	65.7	66.5	63.6
Research and developments, units	2086	1960	2129	1947	1718	1990	1721	1778	1717	1805
% of total	28.7	26.6	25.8	25.7	24.5	24.4	21.1	22.6	22.7	24.6
Machinery and equipment manufacturing, units	212	227	201	217	82	112	118	118	101	71
% of total	2.9	3.1	2.4	2.9	1.2	1.4	1.4	1.5	1.3	1.0
Metallurgy and finished metal products manufacturing, units	208	197	182	155	84	84	97	102	106	40
% of total	2.9	2.7	2.2	2.0	1.2	1.0	1.2	1.3	1.4	0.5
Health care and public assistance, units	126	102	88	95	67	62	85	103	152	155
% of total	1.7	1.4	1.1	1.3	1.0	0.8	1.0	1.3	2.0	2.1

* Compiled according to: Industrial property in figures [Electronic resource]. — Access : <http://www.uipv.org>

Traditionally, the most active are companies and organizations located in the industrialized regions. So, during the analyzed period the applicants of Vinnytsia, Dnipropetrovsk, Donetsk, Zaporizhzhya, Lviv, Odessa, Kharkiv regions and Kyiv granted about 80 % of the total number of applications for inventions and useful models. In 2014 502 applications from national applicants for international registration of trademarks of goods and services were sent to the International Bureau of WIPO, which is 12 % less than in the previous year.

The priorities of patenting of domestic and foreign applicants are significantly different. Thus, the largest number of applications, granted by national applicants in 2014, belongs to the fields of "Mechanical Engineering" and Chemistry – 20.1 % and 25.1 % respectively; about 14% of applications – to the field of Devices. Among the applications in mechanical engineering areas dominated fields are Special machines, Motors, pumps, turbines and Transport, in chemistry area the dominated fields are "Food chemistry", Materials, metallurgy. Foreign applicants are different in more clearly defined priorities. Over 60 % of their submitted applications belong to the field of Chemistry, the vast majority of them is distributed between the areas Organic fine chemistry (26.6 %), Drugs (21.9 %), Biotechnology (13.3 %) and Chemical raw material (12.2 %) [7].

The state of innovativeness of economic development is regularly recorded as domestic statistic research and international rating of compete-

tiveness. So, according to results of the world economic forum (WEF) (the global competitiveness Report 2014–2015), Ukraine took the 76th place (+8 positions compared to 2013–2014). The number of evaluated countries was 144 and 148 in the previous year [8]. Overall, among the components of the Index, the highest in Ukraine are indexes of the market size, higher education and training, and also health and primary education (*table 3*). The most problematic factors for doing business in Ukraine remain limited access to financing and corruption.

Table 3

Ukraine's positions on components of the Global Competitiveness Index 2013–2015 *

Component	Position in rating		
	2013–2014	2014–2015	The change in comparison with the last year
Institutes	137	130	+7
Infrastructure	68	68	0
Macroeconomic environment	107	105	+2
Health and primary education	62	43	+19
Higher and professional education	43	40	+3
goods Market efficiency	124	112	+12
Labor market efficiency	84	80	+4
Financial market development	117	107	+ 10
Technological readiness	94	85	+ 9
The market size	38	38	0
Business sophistication	97	99	–2
Innovation	93	81	+12

* Compiled according to *The Global Competitiveness Report for the relevant years*

In this context, research of the International business school INSEAD, Cornell University and the World intellectual property organization (WIPO), which presented an analytical report for Global Innovation Index 2014, which is called "the Human factor in innovation process" and devoted to the role of creative individuals and teams in the innovation process are noteworthy [9]. The document emphasizes that innovative human factor is one of the reasons through which leaders in the field of innovation remain at the head of ratings and through which some of the large countries with emerging market have different indicators of innovations. In 2014, the indicated research covered 143 countries, which together produce 99.5 % of the world GDP and have 95 % of the world population. The global innovation index (GII) is calculated as a weighted sum of ratings of two groups of indicators: available resources and conditions for innovation (Innovation Input); the practical results of the implementation of innovations (Innovation Output). Thus, the final index is the balance of expenses and effect, that allows objectively evaluate the effectiveness of efforts as to development of innovations in this or any other country.

The dynamics of this rating for Ukraine is as follows: in 2012 it took the 63rd place between Macedonia (61) and India (64); in 2013 – the 71st place – between Tunisia (70) and Mongolia (72); in 2014 – the 63rd place between Bahrain (62) and Jordan (64). For comparison: In 2014 Poland took the 45th place. Comparison of some indicators between Poland and Ukraine (*table 4*) shows that the advantage of Ukraine in this rating fairly recognized as human capital (particularly students reach the third level of education, graduates in the field of natural sciences and engineering); the creation of knowledge and technology (applications for patents and useful models by residents of the country), creativity in part of applications for registration of the trade mark. The institutional environment, business environment, infrastructure, creativity in part of accounting for intangible assets and using of information and communication technologies (ICT) in modeling of business processes and creating of organizational models found weaknesses in Ukraine GII.

International expert assessments show that intellectual potential of the nation is on a high level, however, there is no state role in the creation of the environment for its realization as a key innovation factor of social and economic development of the country and provision of its competitiveness. In such a situation the state can't solve the problem of joining the cognitive society (a society where the role of continuous cognitive (informative) activity of all the economical active population is determinative for increase of human capital).

Generalized results of the analysis indicate a general tendency of preservation of all the signs of stable running innovation and technological process. But it is not enough for economy which strives for growth. Among the reasons which control realization of the role of innovation factor in increase of competitiveness of the Ukrainian economy are following.

- Uselessness of innovations as the Ukrainian economy in its current state insufficiently forms active interest of the majority of entities in the results of scientific developments or it turns out that the last ones are not able to use innovation developments effectively.

- Absence of modern development institutes which provide functioning of the economy of innovation type in all its components (organization and management of developments; its financing, marketing, commercialization, etc.).

- Insufficient number of highly qualified specialists which are able to work in the innovation sphere.

- Absence of effective coordination of state economic, educational, scientific and technological, industrial and innovative policy.

The practice of modern Ukrainian reality indicates that on all the levels of economy management there is an absence of serious attention to the role and importance of organizational innovations implementation of which would not only increase of effectiveness of management system but also accelerate the development of economy on the innovation basis.

Comparison of some indicators of GII-2014 of Ukraine and Poland
(position in the rating) *

Indicators for groups	Ukraine	Poland
Human capital and research	45	43
Expenditure on education, % of GDP	26	53
State expenditure on secondary level education, % of GDP per person	29	43
The coverage % of pupils to third level education	11	21
Graduates in natural and technical sciences	23	69
Creation of knowledge and technology	32	53
The creation of knowledge	15	41
Applications for patents by residents of the country	15	23
Applications for useful models by residents of the country	1	30
Market environment	90	70
The ease of getting credit	13	3
Protection of investors	105	42
Investing	127	90
Business environment	87	64
Work in knowledge-intensive industries, %	37	33
Gross expenditures on R & D, performed by business, % GDP	35	41
Gross expenditures on R & D, financed by business, % GDP	29	49
Communication in innovation	105	103
State of cluster development	126	99
Gross expenditures on R & D, financed by abroad, %	17	35
Joint Ventures and strategic alliances	103	95
Institutes	103	35
Effectiveness of the government	109	42
Quality of regulation	115	34
Rule of law	112	88
Ease of solving insolvency issues	132	33
Infrastructure	107	49
General infrastructure	100	61
Gross capital investments, % in GDP	121	90
Production of GDP per unit of used energy (\$ Kg of oil equivalent) PAC 2005	117	46
Creativity	77	51
Intangible assets	112	118
Applications for registration of trademark in GDP	20	52
Applications for registration of trademark according to Madrid agreement on 1 milliard \$ GDP	31	40
ICT and creations of business models	120	102
ICT and creation of organizational models	122	92
Printed publishing matter, %	43	64
Export of creative goods	51	14
Monthly edits to Wikipedia (per 1 thousand of population on 15–69 years old)	43	36
Video on You Tube (per 1 thousand of population 15-69 years old)	28	21

* Compiled by author according to data [9]

Today, when the world is divided into the main markets including high-tech, there are alternative strategic objectives concerning opportunities to use their scientific achievements face Ukraine for realization of the policy of European integration and activation of the role of member of a free trade zone with the EU.

- To mobilize available technologies of mass consumption and revive full internal market – maximum encouragement to "technological raise" and elimination of "bottlenecks"; concentration of technologies and investments on the basis of regional innovation clusters; to fit into the budget constrains (state target programs) and attract private capital (public-private partnership); mechanisms of realization of innovation policy (effective management system); technological audit, stimulation of extra-budgetary funding sources; focus of instruments of state support on the stimulation of demand; further development of National Innovation System (NIS) and its sub models (regional innovation ecosystems).

- To provide implementation of breakthrough technologies and win back lost external markets of high-tech products; priority areas are: a new generation of aviation technology; development of space systems; new models of weapons; building of machine tools; new technological markets: ICT-4G, M2M, "clouds", IT in social sector; biotechnology (implementation of programs), nanotechnology (realization of projects).

- To integrate with TNK on the technological chain of the manufacturing process (in case of saving its competitive advantages with the full opening of EU markets).

In developed countries innovative component of the economy is harmonically incorporated into the process of expanded reproduction. In Ukraine, for all the years of its existence as an independent state it remains foreign component and human (intellectual) capital has not formed as a real factor of economic development. So, the most important condition of reforms of Ukrainian economy must be the formation of national innovation system which has to eliminate institutional and organizational gaps between fundamental, applied, industry, university and corporate (factory) sectors of national science; to concentrate necessary material, financial and human resources on strategic directions of innovation development; to expand scientific and applied research in priority sectors of economy and, the most important, to eliminate the gap between science and industry.

Conclusion. Modern Ukrainian economy needs specific, different from the traditional economy, approaches for definition and implementation of innovation policy. These features in generalized form are limited to: orientation of policy on provision of balance of state and market efforts for getting maximum result from knowledge for economic and social development; integration of social and political, scientific, educational, economic, ecological and other public interests through effective impact of state policy on the creation and assimilation of new knowledge; formation of conditions for development of private investment, saving of resources and funds, increase of manufacturing on innovative basis; improvement of taxation through

gradual reduction of tax rates on savings and investments and increase on consumption; creation of modern infrastructure of innovation sphere, provision of state responsibility for personnel training for the needs of innovative economy; orientation of state policy, mainly on economic growth and thereby improving of the quality of life of citizens.

REFERENCES

1. Ukaz Prezidenta Ukrai'ny Pro Strategiju stalogo rozvytku "Ukrai'na-2020" № 5/2015 [Elektronnyj resurs]. — Rezhym dostupu : <http://www.president.gov.ua/documents/18688.html>.
2. Mazaraki A. A. Innovacijnyj potencial Ukrai'ny : monografija / A. A. Mazaraki, T. M. Mel'nyk ta in. ; za zag. red. A. A. Mazaraki. — K. : Kyi'v. nac. torg.-ekon. un-t, 2012. — 592 s.
3. Davymuka S. A. Nacional'ni innovacijni systemy: evoljucija rozvytku, determinanty rezul'tatyvnosti : monografija / S. A. Davymuka, G. O. Androshhuk, L. I. Fedulova. — K. : Parlament. vyd-vo, 2015. — 512 s.
4. Bilozubenko V. S. Innovacijna systema Jevropejs'kogo Sojuzu: osoblyvosti formuvannja ta rozvytku : monografija / V. S. Bilozubenko. — Donec'k : DonNUET, 2012. — 466 s.
5. Vodop'janova E. V. Evropa v poyskah ynnovacyj / E. V. Vodop'janova // Sovremennaja Evropa. — 2014. — № 2. — S. 31–41.
6. Lysenko V. S. Pobudova v Ukrai'ni nacional'noi' innovacijnoi' merezhi / V. S. Lysenko, S. O. Jegorov // Matematychni systemy i mashyny. — 2010. — № 1. — S. 122–126.
7. Promyslova vlasnist' u cyfrah [Elektronnyj resurs]. — Rezhym dostupu : <http://www.uipv.org>.
8. The Global Competitiveness Report 2013-2014 [Elektronnyj resurs]. — Rezhym dostupu : <http://www.weforum.org/node/136283>.
9. The Global Innovation Index 2014. The Human Factor in Innovation [Elektronnyj resurs]. — Rezhym dostupu : <http://www.globalinnovationindex.org/content.aspx?page=gii-full-report-2014>

Articles submitted to editors office of 09.09.2015.

Федулова Л. Інноваційний розвиток економіки України.

Постановка проблеми. *Останніми роками в Україні не приділяють достатньо уваги проблемам науково-технологічного та інноваційного розвитку. Проблемні питання галузей технологічного відставання відійшли на другий план у зв'язку з рецесією вітчизняної промисловості, що поглиблює процес деструктивних змін й вимагає адекватної інноваційної політики, системного аналітичного дослідження й визначення характерних трендів науково-технологічного та інноваційного розвитку економіки країни.*

Метою дослідження є визначення тенденцій інноваційного розвитку України на базі аналізу основних показників науково-технологічного та інноваційного потенціалу порівняно з іншими країнами та обґрунтування перспектив інноваційних змін.

Матеріали та методи. *Методологічною основою дослідження є положення інноватики – науки і практики управління інноваційними процесами на усіх рівнях економічної системи. Застосовано аналітичний системний підхід, методи статистичного та порівняльного аналізу міжнародних експертних оцінок, визначено характерні тенденції та проблеми інноваційного розвитку України, складено її інноваційний*

профіль. Методами структурування та синтезу розроблено пропозиції щодо корегування державної інноваційної політики у напрямі посилення ролі інтелектуального ресурсу в забезпеченні виконання запланованих реформ.

Результати дослідження. На основі системного підходу здійснено аналіз інноваційних процесів в Україні. Виявлено динаміку та встановлено характерні тенденції науково-технологічного та інноваційного розвитку національної економіки. Надано порівняльну оцінку інноваційного розвитку України та деяких інших країн, на основі чого встановлено проблемні зони національної інноваційної системи та розроблено пропозиції щодо активізації інноваційної політики в умовах посилення євроінтеграційних процесів.

Висновки. Сучасна українська економіка потребує специфічних, відмінних від традиційної економіки, підходів до визначення і реалізації інноваційної політики. Ці особливості повинні зводитися до її орієнтації на забезпечення збалансованості зусиль держави і ринку для отримання максимального результату від знань для економічного і соціального розвитку; інтегрування соціально-політичних, наукових, освітніх, економічних, екологічних та інших інтересів суспільства.

Ключові слова: наукові дослідження і розробки, інноваційна активність, інноваційний розвиток, інноваційна політика.

PRISUAZHNUYK Anna, PhD in Economics, Associate Professor
of Management Department, KNUTE

EDUCATIONAL MODELS IN CLUSTER FUSION

The author substantiates the necessity of implementing global education models for institutional development of the economic system in the context of cluster integration. The author makes available the recommendations for the introduction of advanced educational model with its structural advantages in the process of institutional component of economic behavior.

Keywords: clusters, local educational systems, economic education model, progressive education model.

Присяжнюк А. Образовательные модели в кластерной интеграции.
Обоснована необходимость имплементации мировых образовательных моделей для институционального развития экономической системы в контексте кластерной интеграции. Предложены рекомендации по внедрению консолидированной образовательной модели, определены ее конструктивные преимущества в процессе формирования институциональной составляющей экономического поведения.

Ключевые слова: кластеры, локальные системы образования, экономическая модель образования, прогрессивная образовательная модель.

© Prisuazhnuyk A., 2015

ISSN 1727-9313. HERALD OF KNUTE. 2015. № 6 =====41

Background. The education plays an important role in the clusters by serving as a "knowledge bank" and "think tank" for a network of organizations. As a knowledge bank, it attempts to aid local educational systems by providing "a high-quality knowledge base for education reforms at the global level." Organization networks as clusters spread an economization of education viewpoint stressing the contribution of schooling to economic growth through investment in human capital. In clusters a great deal of emphasis is paid on determining outcomes to educational investment and the creation of human capital.

Clusters involves education for a global labor market using human capital economic theories. These theories focus on shaping human behavior and knowledge to meet corporate needs. Simply stated, human capital economists claim that investment in education to produce better workers will result in economic growth, reduction of inequality of incomes, and increased employment. All of these activities are occurring across global networks composed of scholars, university administrations, for-profit publishing and knowledge companies, inter-governmental organizations, and higher education organizations.

In this context for Ukraine is very important to choose the right educational model in cluster cooperation because the relevant educational system is too weak to create a platform for economic growth through cluster initiatives. With regard to the above mentioned present-day clusters deals with the economization of education. It means the increasing influence of educational research conducted by economists and judging school outcomes in economic terms.

Analysis of recent research and publications. Institutional development of the economic system as a result of organizational transformation by clustering of businesses in recent times provides the basis for the modernization of a number of scientific concepts, which is gradually moving away from theories internals and externals and enhance integration trends with clustering. These concepts are reflected in the scientific improvements of these researchers A. Mazaraki [1], V. Soloviova [2], L. Fedulova [3]. Mainly the problem of educational models considered foreign scientists and practices, the most interesting work is presented by Michael Apple [4], Roger Dale [5], J. Spring [6], Richard Thale [7], Martin Carnoyand, Diane Rhoten [8].

At the same time for each of the economic system characterized by its own specific model of clustering and therefore its educational component, which is why these issues will always be the focus of the scientific environment. So, let`s concentrates on the global trends of educational models in cluster Economy.

The **aim** of the objective of the study is devoted to the education models in clusters and selecting the most rational from the standpoint of the realities of cluster development Economy of Ukraine.

Materials and methods. Theoretical and methodological basis of researches were: scientific works of domestic and foreign economists in the problems of global education in connection with organizational transformation by clustering of businesses, the efficiency of educational models in cluster cooperation. Multidimensional nature of research has led to the use of complex of scientific methods, namely: systems approach, structural-functional analysis, comparative-typological analysis, induction and deduction, analysis of statistic data and so on.

Results. The Economic Education Model refers to making the primary goal of schooling to be economic and income growth and to rely on economic research to guide school policies. This makes education an economic function that includes analyzing the education through the lenses of an economist. Looking through the lens of economization, funding schools becomes investing in human capital, namely students, for the purpose improving the workforce [9].

Economic Education Model includes: education considered as an investment in the workforce; students are considered as human capital to be educated for work; skills-based instruction; accountability of school programs using student test scores; performance evaluation of administrators, teachers, and school programs based on standardized testing of students; teaching English as language of global business; the goal of education is educating workers to compete in the global economy; the value of education is measured by economic growth and development (*figure 1*).

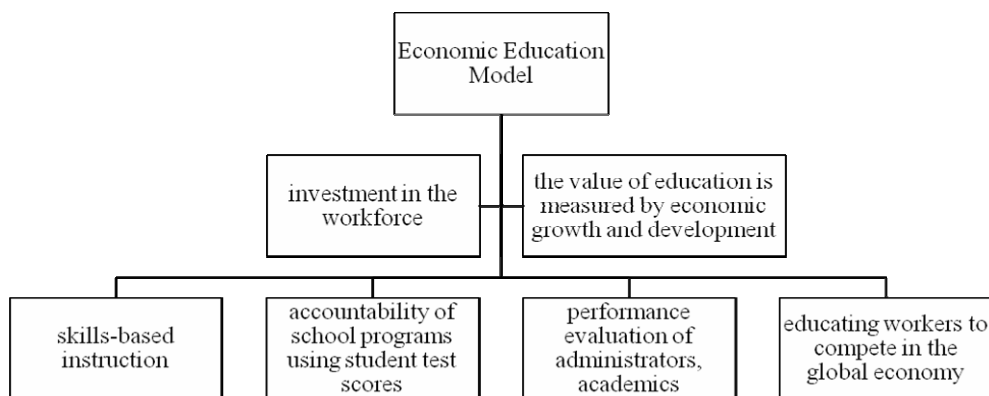


Figure 1. Basic components of the Economic Education Model
(compiled by the author according to [10])

It is critical to underscore that reinforcing and expanding on the economization of education and the economic education model is a significant part of the World Bank clustering policy. In the context of increased attention to cluster generation in Ukraine it is an obligatory to be involved

into World Bank Education Strategy 2020. The economization of education perspective is reflected in the 2020 education strategy's refrain: "Invest early. Invest smartly. Invest for all". A very important shift in emphasis from school credentials and years of school attendance to learning work skills is contained in the Bank's 2020 strategy: "The new strategy focuses on learning for a simple reason: economy growth, development, and poverty reduction depend on the knowledge and skills that people acquire, not the number of years that they sit in a classroom" [11].

The World Bank's reasoning reinforces the economic education model by shifting from a concern about everyone attending school to one that students learn work skills. The World Bank claims, "... Recent research shows that the level of skills in a workforce predicts economic growth rates far better than do average schooling levels" [12].

The economization of education viewpoint gives the impression that economic clusters, their effective strength are dependent on academics commitment and students learning work skills. However, mentioned above can be a result of crises in the economic system, such as bank failures, corporate greed, or a host of other factors. The World Bank recognizes the potential for economic meltdowns but claims education can help: "Better coping with economic shocks. Clusters with more education cope better with economic shocks than less educated clusters, since they tend to have more resources and knowledge about how to cope with income fluctuations".

Economic Education Model is the base for innovative economic renewal and most contributes to the formation of innovation clusters. This form of clustering involves considerable expenditure on education and science. It is telling fact that public and private outlay in the US on science per capita in 2013 was 293 thousand USD, in Japan – 264 thousand USD, China – 74 thousand USD. In Ukraine public expenditure per capita for the same period was less than 8 thousand dollars.

From this it follows that 39 Ukraine's position in the international ranking SC Imago Journal & Country Rank exposes a significant reduction in the number of employees of scientific and innovative sphere – 3.3 times [3]; the inertia of growth, according to the introduction of new technologies in Ukraine is 0.7 %, at the same time in developed countries this figure reaches 60 to 90 %; financing of the scientific field at the level of 0.3 % of GDP, on the other hand in Europe there is a clearly defined standard – not less than 3 % of GDP.

In our opinion to overcome the alarming trends in the scientific and educational sphere in Ukraine it is necessary to clearly identify the motivational factors and financial architecture capitalization of human capital, to recognize the priority of high-tech industry and at last to generate innovative processes.

However, the state is obliged to ensure the financing of scientific and scientific-technical activities in the amount of 1.7 % of GDP as defined by applicable law, and not the annual budget spending of outlay on education and science, and diversification of the financial motivation of education, academic and research workers and, finally, to translate scientific and educational activities from the plane of "utopia" into public policy.

Not less interesting is Progressive Education Model. Progressive education theories were born in the work of John Dewey in the late nineteenth and early twentieth centuries. Today, progressive methods of instruction are embedded in human rights, peace, social justice, liberation, and environmental education. Dewey wanted to develop methods that would demonstrate to the student the social value of knowledge and the interdependence of society [6]. One method Dewey hoped would achieve these objectives was the development of social imagination through cooperative group activities.

Our opinion about this idea is that the cluster economy is the result of the social partnership, therefore this model makes profound effects. This model provides more teacher and student control of curriculum and instruction. In contrast to the economization of education model, the goal of the progressive model is to educate citizens who are conscious of social injustices and actively work to correct them. Dewey's ideas on active learning and preparing students to solve social problems are now part of many different educational programs seeking social justice, peace, human rights, and environmental protection, as well as liberation from authoritarian governments.

Progressive Education World Model consists of [13, p. 17]: learning how to change political, social, and economic institutions; preparing students to participate in issues of social justice, human rights, and environmental protection; learning based on students' interests and participation; effective learning; teacher-determined assessment; protection of local languages; education for ensuring social justice; education for active participation in determining social and political change.

World practice in the clustering of the economy shows that for effective functioning of the cluster as ecosystem its components should be combined both above-mentioned models. Increasingly the modern cluster focused on scientific potential of University education than the economic potential of the business structures. The specification of economic development of each country dictates the optimal set of Education Models components. In accordance that in Ukraine the potential of clustering in Economics has a social dimension it is important to adhere it in the formation of clusters, hence the optimal educational model will be it consolidated type (*figure 2*).

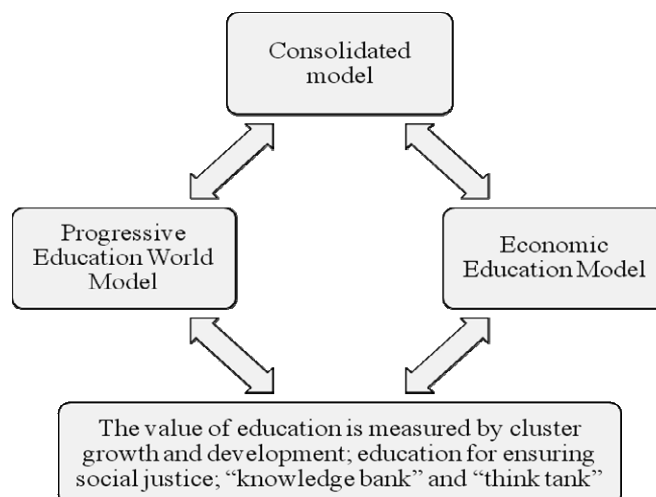


Figure 2. Consolidated Education Model
(suggested by the author)

Conclusion. Summarizing previous research, we came to the conclusion there is a major difference between the Economic Education Model and the Progressive Education Model. In schools, the Economic Education Model controls teachers' behaviors through a prescribed national curriculum and reliance on standardized testing with the goal of educating workers for the global economy. In the Progressive Education World Model, students are actively educated to change the world in the name of social justice.

Finally, for the development of the Ukrainian economy and society based on the cluster model, it is important to recognize the need for both models of education as a whole. Such a model should include the basic features of both the previous and thereby contribute to the development of human capital as the basis of innovation clusters.

REFERENCES

1. *Mazaraki A. A.* Innovatsiyni potentsial Ukrainy: monohrafiia / A. A. Mazaraki, T. M. Melnyk, V. V. Yukhymenko ta in. ; za zag. red. A. A. Mazaraki. — K. : Kyiv. nac. torh.-ekon. un-t, 2012. — 592 s.
2. *Soloviov V. P.* Innovatsiina diialnist yak systemny iprotses u konkurentnii ekonomitsi : avtoref. dys. na zdobuttia stupenia d-raekonom. nauk : spets. 08.02.02 "Ekonomika ta upravlinnia naukovo-tekhnichnymprohresom" / V. P. Soloviov. — Kharkiv, 2006. — 40 s.
3. *Fedulova L. I.* Formuvannia tekhnolohichnykh klasteriv yak tochok zrostannia ekonomiky Ukrainy : monohrafiia / L. I. Fedulova, H. L. Nord, N. O. Rudenko. — Mykolaiv : Ilion, 2012. — 295 s.
4. *Michael Apple.* Globalizing Education / Michael Apple, Jane Kenway and Michael Singh, eds. // Policies, Pedagogies, & Politics. — New York : Peter Lang, 2005.

5. Roger Dale. Editorial: Introduction / Roger Dale and Susan Robertson // Globalization, Societies and Education. — 2003. — 1(1). — P. 3–11.
6. Spring J. Globalization and Education: An Introduction, Second Edition / J. Spring. — Rezhym dostupu : www.routledge.com/education.
7. Richard Thaler. Improving Decisions about Health, Wealth, and Happiness / Richard Thaler and Cass Sunstein Nudge. — New York : Penguin Books, 2008.
8. Martin Carnoy. What Does Globalization Mean for Education Change? A Comparative Approach / Martin Carnoy and Diane Rhoten // Comparative Education. — 2002. — 46 (1). — P. 1.
9. David H. Kamens. Globalization and the Emergence of an Audit Culture: PISA and the Search for 'Best Practices' and Magic Bullets, in PISA, Power, and Policy: The Emergence of Global Educational Governance, edited by Heinz-Dieter Meyer and Aaron Benavot / David H. Kamens. — Oxford : Symposium Books, 2013. — P. 123.
10. See Katrin Bennhold. Britain's Ministry of Nudges / See Katrin Bennhold // New York Times. — 2013. — December 7. — Rezhym dostupu : [//www.nytimes.com/2013/12/08](http://www.nytimes.com/2013/12/08).
11. OECD, Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies (Paris: OECD, 2012). — Rezhym dostupu : <http://dx.doi.org/10.1787/9789264177338-en> on September 10, 2013.
12. The International Bank for Reconstruction and Development/The World Bank, Learning for All: Investing in People's Knowledge and Skills to Promote Development –World Bank Group Education Strategy 2020. — Washington, DC : International Bank for Reconstruction and Development / The World Bank, 2011).
13. Marlaine Lockheed. Causes and Consequences of International Assessments in Developing Countries / Marlaine Lockheed // Power and Policy : The Emergence of Global Educational Governance, edited by Heinz-Dieter Meyer and Aaron Benavot. — Oxford : Symposium Books, 2013. — P. 166.

Articles submitted to editors office of 23.11.2015.

Присяжнюк А. Освітні моделі в кластерній інтеграції.

Постановка проблеми. Освіта відіграє важливу роль у формуванні кластерів, виступаючи як "банк знань" та "мозковий центр" для мережових організацій. Організація кластерних утворень вимагає розуміння та впровадження концепції економізації освіти, що сприяє економічному зростанню не тільки за рахунок ресурсного забезпечення, а й завдяки інвестиціям у людський капітал. У кластерах велика увага приділяється освітнім інвестиціям, тому вкрай важливо обрати адекватну освітню модель для ефективної реалізації кластерних ініціатив.

Метою дослідження є визначення концептуальних відмінностей між економічною моделлю освіти і прогресивною формою освітньої моделі, обґрунтування необхідності впровадження консолідованої освітньої моделі в контексті кластерних ініціатив.

Матеріали та методи. Застосовано комплекс наукових методів: системний підхід, структурно-функціональний та порівняльно-типологічний аналіз, індукція, дедукція, аналіз статистичних даних тощо.

Результати дослідження. Обґрунтовано необхідність імплементації світових освітніх моделей для інституційного розвитку економічної системи в контексті

STATE AND ECONOMY

кластерної інтеграції. Запропоновано рекомендації щодо впровадження консолідованої освітньої моделі, визначено її конструктивні переваги в процесі формування інституційної складової економічної поведінки.

Висновки. *Економічна модель вищої освіти передбачає традиційні освітні програми і поведінкові стандарти навчання в навчальних закладах, при цьому економічний потенціал людського ресурсу реалізується через програми співпраці в рамках кластера. Прогресивна модель освіти сконцентрована на соціалізації економічної співпраці навчальних закладів й бізнесу. Для розвитку української економіки і суспільства на кластерних засадах важливо визнати необхідність консолідованої освітньої моделі. Така модель, що базується на когерентній єдності економічних та прогресивних освітніх моделей, сприятиме розвитку людського капіталу як основи кластерів.*

Ключові слова: кластери, локальні системи освіти, економічна модель освіти, прогресивна освітня модель.

MYKOLENKO Elena, lecturer of Kharkiv University of Humanities
"People's Ukrainian Academy"

INSTITUTIONS AND THEIR IMPACT ON ECONOMIC DEVELOPMENT

The theoretical assumption on the role of institutions in ensuring the unity of functioning and evolution of economic systems has been improved. Based on regression analysis the assumption on the significant effect of institutional quality on economic development has been developed.

Keywords: institutional structure of economy, economic institutions, quality of institutions, institutional development of economy.

Миколенко Е. Экономические институты и их влияние на развитие хозяйственной системы. Усовершенствовано теоретическое положение о роли институтов в обеспечении единства функционирования и эволюции хозяйственных систем. На основе проведенного регрессионного анализа получило дальнейшее развитие положение о значимом влиянии качества институтов на развитие экономики.

Ключевые слова: институциональное устройство экономики, экономические институты, качество институтов, институциональное развитие экономики.

Background. In modern conditions the research of institutional development of economic systems and its determinants has become increasingly important due to deepening of income and welfare inequality and diffe-

rentiation of accumulated human, physical and intellectual capital. The study of economic reality allows exploring just not only the essence of economic institutions but its role in ensuring of functioning of market mechanism.

Development of economic system is connected with evolution of economic institutions and desire of economic agents to reduce the uncertainty of their economic activities. In some systems institutional evolution copes with these challenges, and in others it results in economic destabilization or system failure [1, p. 48]. Therefore, institutional system of economy is not just a set of rules and regulations that govern social interactions. It has a structure and characterized by system and specific properties availability. The market economy is always more or less institutionalized.

Analysis of recent research and publications. Institutions and institutional development are of scientific interest. The well-known representatives of modern institutional concepts are both foreign (D. North [2], D. Rodrik [3]), and domestic authors: A. Hritsenko [4], V. Dementiev [5], V. Lipov [6] etc. The issue of impact of formal and informal institutions on functioning and development of economic systems has been actualized. The correlation between economic growth and institutional factors has been investigated by such authors as R. Barro, R. La Porta, A. Prasad, S. Neck, J. Gwartney [7–11] etc.

The **aim** of the article is to study the role of institutions in ensuring the unity of functioning and evolution of economic systems.

Materials and methods. The methodological basis of the paper is institutional theory and research results of domestic and foreign scientists on the issue of institutional development of economic system. The methods that have been used for scientific assumptions: analysis, synthesis and method of abstraction just to study the essence of institutional structure of economy, correlation and regression analysis to justify the significant impact of economic institutions on development and functioning of economic system.

Results. The initial concept of this analysis is economic institution. "This is something that does not fit into the content of rational choice based on the price mechanism and the others in relation to it" [5, p. 9]. The paper presented by V. Dementiev develops the analysis of attributes of institution as a social phenomenon that provide the link between society and individual spheres of life. The concept of economic institution as a mechanism of social control and coercion, that structures (orders) interactions and institutes giving them a stable recurring form, is of scientific interest. In this context, institutions and institutional forms organize stable institutional structures, which capture everything that have been verified. Thus, institutions are the foundation of economic activity and ensure the ordering of all elements in system in their interconnection. "They... fill the process of interaction with new qualitative attributes; provide an opportunity to concretize the conscious activity of people in organization of this process" [12, p. 123].

The notion of "institution" is closely correlated with the concept of "institutional structure of economy", regarded as a set of institutions that define a model of economic behaviour and eliminate a problem of rational

choice; it creates a system of incentives and prevailing motives. The dominant economic institutions, in turn, become a communication tool of behaviour that reduces uncertainty of basic economic activity of economic agents [4, p. 60]. Uncertainty reduce is considered to be a "working" zone as a set of alternatives for decision-making. This means that institute finds an alternative choice for decision maker. Any economic agent doesn't have any alternative in his choice beyond institutional system. For example, violation of established rules and regulations displaces economic agent outside of trusting relationship.

Fixation and stability of institutional structure of economy does not mean its absolute immutability. On the contrary, any changes concerning institutional structure reflect deep social and economic changes affecting overall dynamics of economic system. In this way institutional structure has an ambivalent nature and is steady against environmental changes in comparison with other subsystems of economic system. At the same time its changes reflect structural changes in economy as a whole.

Understanding of the institutional arrangement of economy just only in terms of fixing (fundamental) component does not provide with notion of coordination system of economic activities. The institute is a real (operating) behaviour of economic agents. In this context, E. Ostrom notes that the institutions can be defined as a set of existing rules, as far as content of prescribed and realized rights are not the same [13, p. 8]. Actual functional basis of institutions is an important component of actual behaviour of economic agents and functioning of economic system. It coordinates social interactions, checks on suitability of rules and regulations from "bellow", changes them and enables implementation of proactive changes in system.

In this context, it is logical to identify a functional component of institutional system, which combines an actual framework of institutions and agents, incorporates a movement and a development, and forms a social reality. "By combining the essential (hierarchical) and appearing ... sides of research object, we get a real understanding of our reality", V. Lipov says [6, p. 123]. Regarding functionality of institutional system it is important to note its complementarity with the reproductive process. "This provides a possibility of rapid mutual response of functional components to reproducing process, their interactions, mutual adaptation to changing environment" [6, p. 123]. For example, a high tax burden deforms enterprise activities and results both in reduce of fixed capital formation and investment activities or in rejection of tax institution and reduce its actual potential.

Thus, the concept of institutional system of economy includes a fundamental stable component that fixes changes in a system and provides a stable environment, and a functional component, which coordinates the actual basis of economic institutions. The effect of interaction between actual functional and fundamental components is manifested through *ensuring the unity of functioning and evolution of economic system*. The concept of interaction characterizes functioning as well as development of economic system and its unity represents the dynamism [12, p. 154]. "Universal form

of economic dynamism are an active interaction of financial, monetary, financial and stock markets and corresponding institutions, which cover all socio-economic horizontal and vertical diversity of society" [14, p. 22].

Economic institutions related to the existence of different forms of interaction between economic agents, methods of action coordination, and forms of competition, cooperation and conscious control of economic reality. The increasing complexity of institutional structure due to increasing globalization leads to increased significance of certain institutions in economic system. Thus, current development of financial capital and its expansion have contributed to increasing position and importance of financial institutions in economy. And principles of private property create favourable conditions for intensive development of efficient financial markets [15]. E. Prasad, exploring the correlation between capital inflows and economic growth in developing and developed countries, concludes that weak financial institutions and weaknesses in a property rights protection in developing countries reduce returns on equity. In developed countries "deep" financial markets and stable legal institutions contribute to more efficiency of investment resources [9].

Property rights protection provides prerequisites for intensive expansion of investment and for enhancing the rate of economic growth [16]. Investing in this case is a mediator between institutional factors and economic growth. Therefore, developed countries are characterized by large amounts of investment in fixed assets in comparison with countries with weak financial institutions, where a correlation between profitability and capital inflows is absent. R. Barro notes that a level of property rights protection and a quality of legal order are supposed to be universal key determinants of economic growth in both developing and developed countries [7].

The judicial independence also plays an important role in the implementation of principles and private property rights that is employed by R. La Porta [8]. In those countries where the courts have a relatively greater independence and contracts enforcement mechanisms work the better conditions for economic growth are realized. In particular, D. Rodrik confirms that in cross-country regressions the factors of institutional quality (especially property rights, law enforcement and judicial system) more significant explain the differences in economic development than other factors [3]. Our results are robust to the use of this alternative measure of openness.

S. Neck and F. Kiefer note that the high levels of trust in transactions as well as the credibility of the state really contribute to economic growth [10]. Cross-country regression analysis that has been conducted by J. Gwartney and L. Holcomb shows that the quality of institutions just not only affects the incomes, but also makes a difference in the rate of its growth in long term, affects the investment processes and productivity [11].

Thus, different methods to include the variable "quality of institutions" in the growth model have been developed. One of the two types of models is more often used to study the influence of institutions on economy: a structural model or in a reduced form. The period from 2010 to 2014, taken for the analysis, is characterized by a complete sample data that have a common

methodology of calculation. During this time the resurgence is moving after the previous downturns. The data sources are the wide range of components (pillars) that characterize the level of public and private institutions in different countries. The data are obtained from database *WEFORUM* (Global Competitiveness Reports) [17]. Components of institutional development cover both formal and informal market institutions. According to the methodology a country receives the highest possible score of 7, thus ensuring that 1 and 7 still corresponds to the worst and best possible outcomes, respectively. 10 institutional factors that characterize property rights, economic power and availability of informal networks in economy have been selected. In this analysis because of data availability issues we could include only 71 countries. These figures have been processed in the application package for mathematical analysis *Statistica*. *Table 1* presents the initial results of data processing.

Table 1

Statistics indicators of institutions

Institutional factors	Average	Standard deviation
Property rights (<i>PR</i>)	4.348870	1.061964
Judicial independence (<i>JI</i>)	4.134823	1.398812
Efficiency of legal framework in settling disputes, efficiency of legal framework in challenging regulations (<i>ELF</i>)	3.498256	0.469774
Wastefulness of government spending, favoritism in decisions of government officials (<i>DPF</i>)	3.157645	0.477943
Irregular payments and bribes (<i>IPB</i>)	4.502960	1.194984
Public trust in politicians (<i>PTP</i>)	3.084325	1.157068
Transparency of government policymaking (<i>TGP</i>)	4.408660	0.704704
Efficacy of corporate boards (<i>ECB</i>)	4.640196	0.564928
Reliance on professional management (<i>RPM</i>)	4.579735	0.903401
Ease of access to loans (<i>EAL</i>)	2.950534	0.696000

To measure the relationship between multiple variables we use correlation matrix. The correlation coefficients between each variable and the others show that there is a correlation between the factors identified, which can be rated as average and strong. The maximum value is 0.9274. Consequently, there is an effect of multicollinearity (intercorrelations among the independent variables) which must be removed to obtain undistorted results of the analysis. To reduce the dimension of the matrix we can use the principal components analysis. This transformation is defined in a such way that the first principal component has the largest possible variance and each succeeding component in turn has the highest variance possible under the constraint that it is orthogonal to the preceding components (*table 2*).

In our case the first component explains 82.51 % of total variance and describes the changes of the 9 factors. The factor loadings of 3 components are represented (*table 3*). The first component explains the maximum amount of variance for each factor analyzed (more than 70 %). It means that there is strong interconnection between the first component and all other factors. The first component matches all the requirements.

Table 2

Eigenvalues of the correlation matrix

Component	Eigenvalues	% Total variance
1	8.250891	82.50891
2	0.668752	6.68752
3	0.363650	3.63650

Table 3

Main component loading factors

Institutional factors	Component		
	1	2	3
Property rights (<i>PR</i>)	0.9414	-0.1649	-0.1009
Judicial independence (<i>JJ</i>)	0.9264	-0.2829	-0.0599
Efficiency of legal framework in settling disputes, efficiency of legal framework in challenging regulations (<i>ELF</i>)	0.9596	0.0161	0.0420
Wastefulness of government spending, favoritism in decisions of government officials (<i>DPF</i>)	0.9619	-0.0030	0.1726
Irregular payments and bribes (<i>IPB</i>)	0.9105	-0.3039	-0.0089
Public trust in politicians (<i>PTP</i>)	0.9070	0.0999	0.3399
Transparency of government policymaking (<i>TGP</i>)	0.8904	0.0619	0.2292
Efficacy of corporate boards (<i>ECB</i>)	0.9079	0.1519	-0.2606
Reliance on professional management (<i>RPM</i>)	0.9373	-0.0746	-0.2689
Ease of access to loans (<i>EAL</i>)	0.7164	0.6529	-0.0997

Principal components analysis allows to reduce the number of variables, avoid multicollinearity and to eliminate other predictors relative to the number of observations without any changes in eigenvectors of 1st components (*table 4*).

Table 4

Eigenvector of the correlation matrix

Institutional factors	Variable number (<i>Z</i>)	Component 1
<i>PR</i>	1	0.327721
<i>JJ</i>	2	0.322505
<i>ELF</i>	3	0.334038
<i>DPF</i>	4	0.334857
<i>IPB</i>	5	0.316986
<i>PTP</i>	6	0.315764
<i>TGP</i>	7	0.309995
<i>ECP</i>	8	0.316075
<i>RPM</i>	9	0.326322
<i>EAL</i>	10	0.249409

Thus, the equation of the first principal component is made up as follows:

$$C_1 = 0.328 \cdot Z_1 + 0.323 \cdot Z_2 + 0.334 \cdot Z_3 + 0.335 \cdot Z_4 + 0.317 \cdot Z_5 + 0.316 \cdot Z_6 + 0.31 \cdot Z_7 + 0.316 \cdot Z_8 + 0.326 \cdot Z_9 + 0.249 \cdot Z_{10}, \quad (1)$$

Z_i – standardized variables X_i .

The first principal component is used as an integral index in the analysis. To apply for analyzed variables standardized variables Z_i must be replaced by the formula (2):

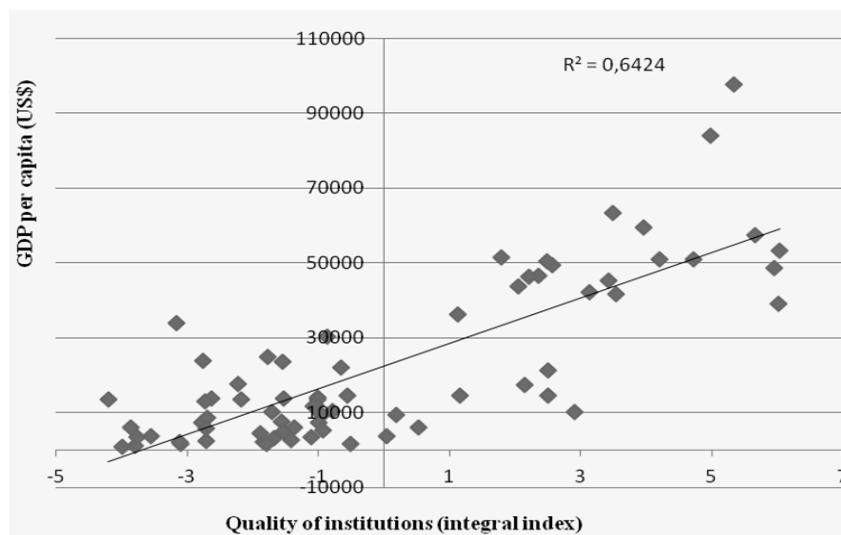
$$Z_i = (X_i - X_{av}) / \sigma_i, \quad (2)$$

X_{av} – average value of X_i variables;
 σ_i – standard deviation of X_i variables.

Thus, the equation made up with usual variables is made as follows:

$$IP = 0.309 \cdot X_1 + 0.231 \cdot X_2 + 0.712 \cdot X_3 + 0.701 \cdot X_4 + 0.265 \cdot X_5 + 0.273 \cdot X_6 + 0.44 \cdot X_7 + 0.56 \cdot X_8 + 0.361 \cdot X_9 + 0.358 \cdot X_{10} - 16.278. \quad (3)$$

This value is an integral index (IP) that is aimed to assess the impact of institutional quality on development and functioning of economy. The integral index for each country is calculated by formula and presented in *table 5*. This indicator allows to eliminate the interference between factors and build an adequate regression model as the relationship between dependent variable (GDP per capita) and independent variables – factors of institutional development – for 71 countries (*figure*).



The quality of the institutional development and GDP per capita (USD) with the line of regression (71 countries)

Table 5

Integral index (*IP*) and average indexes of institutional development of analyzed countries (2010–2014)*

Country	<i>PR</i>	<i>JI</i>	<i>ELF</i> **	<i>DPF</i> **	<i>IPB</i>	<i>PTP</i>	<i>TGP</i>	<i>ECP</i>	<i>RPM</i>	<i>EAL</i>	<i>IP</i>	<i>GDP</i> ***
Australia	5.49	6.01	3.97	3.59	5.85	4.21	4.76	5.63	5.84	3.62	3.48	63289.69
Austria	5.80	5.36	3.99	3.44	5.63	3.55	5.05	5.10	5.32	3.10	2.56	49504.46
Belgium	5.32	5.36	3.73	3.52	5.65	3.71	4.30	5.22	5.54	3.69	2.36	46515.12
Canada	5.86	6.24	4.14	3.63	5.98	4.47	5.31	5.56	6.00	3.70	4.2	51056.95
Denmark	5.64	6.33	3.95	3.93	6.38	4.95	4.97	5.27	5.97	3.20	3.95	59492.04
Finland	6.35	6.48	4.53	4.05	6.60	5.27	5.89	5.64	6.20	4.31	5.95	48588.54
France	5.74	4.92	3.94	3.38	5.44	3.61	4.52	5.15	4.90	3.30	2.05	43747.66
Germany	5.74	6.17	4.17	3.76	5.78	4.11	5.02	5.22	5.58	3.10	3.43	45251.80
Island	5.15	5.71	3.99	3.40	6.35	3.34	5.01	4.84	5.33	2.62	2.22	46214.97
Ireland	5.76	6.29	3.95	3.52	6.14	3.51	5.02	4.78	5.74	2.00	2.48	50501.28
Italy	4.05	3.70	2.95	2.67	3.92	1.84	3.11	3.87	3.54	1.92	-3.16	33886.84
Israel	4.87	5.96	3.68	3.21	5.55	3.15	4.24	4.59	4.90	3.14	1.12	36200.95
Netherlands	5.86	6.26	4.33	4.06	6.10	5.22	5.22	5.43	6.05	3.50	4.71	51072.21
New Zealand	5.93	6.72	4.40	4.24	6.71	5.54	5.93	5.76	6.31	3.97	6.02	39047.79
Norway	5.84	6.27	4.24	4.01	6.34	5.71	5.22	5.70	6.20	4.40	5.33	97631.87
Sweden	5.92	6.22	4.38	4.23	6.27	5.59	5.54	5.71	6.19	4.32	5.67	57348.94
Switzerland	6.25	6.24	4.35	3.91	6.22	5.19	5.77	5.36	5.96	3.65	4.99	83917.55
United Kingdom	5.97	6.22	4.19	3.65	5.93	3.84	5.16	5.27	5.93	2.85	3.54	41671.34
USA	5.13	4.99	3.82	3.15	4.90	3.27	4.49	5.18	5.55	3.72	1.79	51395.87
Bulgaria	3.24	2.74	3.05	2.72	3.84	2.24	3.44	4.00	3.63	3.10	-2.77	7324.98
Croatia	3.74	3.03	2.94	2.81	3.78	2.10	3.91	3.98	3.71	2.48	-2.62	13747.70
Czech Republic	4.01	3.80	3.12	2.73	3.86	1.70	3.86	4.59	4.61	3.03	-1.53	13747.70
Estonia	5.08	5.54	3.80	3.50	5.57	3.63	5.15	4.86	5.23	3.02	2.14	17488.99
Greece	4.09	3.40	3.05	2.78	3.55	1.96	3.70	3.89	3.82	1.96	-2.76	23765.72
Hungary	3.96	3.91	2.98	2.77	4.29	1.92	3.74	4.25	3.95	2.25	-2.17	13403.99
Latvia	4.14	3.87	3.20	2.98	4.33	2.41	4.28	4.58	4.43	2.48	-1.0	13963.89
Lithuania	4.08	3.57	3.37	3.08	4.56	2.27	4.61	4.93	4.51	2.33	-0.56	14554.71
Poland	4.18	4.22	3.20	3.11	4.84	2.43	3.74	4.39	4.30	2.65	-1.01	13509.95
Portugal	4.71	4.15	3.22	3.03	5.17	2.92	4.12	4.30	4.19	2.50	-0.66	22006.37
Romania	3.66	3.11	3.09	2.69	3.95	1.95	3.31	4.13	3.68	2.71	-2.7	8727.03
Slovak Republic	3.95	2.57	2.83	2.48	3.61	1.82	4.07	4.57	4.38	3.11	-2.22	17648.05
Slovenia	4.33	3.74	3.09	2.83	4.89	2.21	4.67	3.89	4.03	2.16	-1.54	23671.03
Spain	4.49	3.72	3.47	3.08	4.80	2.48	4.04	4.32	4.56	2.10	-0.87	30400.53
Argentina	2.56	2.42	2.73	2.40	2.95	1.54	3.18	4.12	4.36	1.72	-4.2	13590.57
Brazil	4.03	3.69	3.43	2.93	3.91	1.89	3.83	4.75	4.74	2.92	-1.04	12028.50
Bolivia	2.91	2.98	3.18	3.04	2.58	2.85	3.50	3.89	3.49	3.21	-2.72	2507.66

End of table 5

Country	PR	JI	ELF **	DPF **	IPB	PTP	TGP	ECP	RPM	EAL	IP	GDP ***
Chile	4.65	5.33	3.90	3.62	5.72	3.88	5.26	5.05	4.95	3.66	2.51	14523.97
Columbia	3.62	3.21	3.32	2.78	3.48	2.17	4.15	4.71	4.23	2.94	-1.56	7531.25
Costa-Rica	4.21	4.94	3.70	3.21	4.44	3.11	4.42	4.82	4.65	2.27	0.19	9450.55
Dominican Republic	3.53	2.64	3.17	2.44	3.26	1.74	4.29	4.37	3.55	2.65	-2.71	5818.97
Honduras	3.52	3.26	3.38	2.75	3.48	2.23	4.08	4.68	3.80	2.68	-1.84	2262.35
Jamaica	4.01	4.45	3.35	2.77	3.83	2.15	3.88	4.51	4.45	2.03	-1.52	5083.11
Mexico	3.83	3.27	3.33	2.91	3.57	2.24	4.18	4.38	4.10	2.47	-1.71	10166.90
Nicaragua	3.13	2.20	2.98	2.76	3.37	2.29	3.69	4.10	3.49	2.68	-3.09	1693.83
Panama	4.62	2.46	3.36	2.83	3.85	2.24	4.57	4.51	3.76	4.05	-0.95	9384.82
Paraguay	2.80	1.74	3.10	2.57	2.85	1.57	3.93	4.06	3.28	3.00	-3.56	3795.83
Peru	3.38	2.54	3.20	2.92	3.92	1.89	4.11	4.85	4.54	3.46	-1.37	6007.00
Uruguay	4.61	5.36	3.71	3.49	5.52	4.36	4.87	4.47	3.95	2.70	1.16	14603.59
Albania	3.05	2.73	3.34	2.97	3.60	2.65	4.33	4.65	4.06	2.02	-1.88	4497.61
Azerbaijan	3.82	3.32	3.55	3.16	3.36	3.39	4.40	4.39	3.79	2.86	-0.99	7247.06
Armenia	3.81	2.82	3.32	2.95	3.61	2.70	4.80	4.10	3.79	2.49	-1.67	3053.05
Georgia	3.17	3.29	3.23	3.13	5.36	2.81	4.76	4.13	4.01	2.51	-1.11	3335.09
Kazakhstan	3.66	3.12	3.37	2.94	3.75	3.57	4.55	4.66	3.91	2.52	-1.08	11602.57
Kyrgyz Republic	2.57	2.12	2.95	2.66	2.58	2.02	4.01	4.12	3.41	1.96	-3.79	1155.52
Moldova	3.08	2.08	2.80	2.52	3.23	2.36	4.19	4.38	3.75	2.32	-3.12	2024.95
Russian	2.89	2.69	3.07	2.77	3.19	2.75	3.79	4.18	3.79	2.63	-2.73	13089.69
Serbia	3.03	2.50	2.54	2.58	3.70	2.10	3.77	3.73	3.24	2.30	-3.86	5983.39
Tajikistan	2.93	2.89	3.09	2.76	2.77	3.03	3.21	3.16	2.70	2.42	-4.00	937.91
Ukraine	2.63	2.17	2.83	2.71	2.78	2.10	3.62	4.22	3.41	2.23	-3.76	3537.66
Japan	5.68	5.90	3.78	3.91	6.21	3.53	4.98	5.18	5.52	3.27	3.13	42143.6
Kora, Rep.	4.38	3.70	3.20	2.9	4.47	2.17	3.40	3.99	4.75	2.15	-1.77	24967.4
Singapore	6.26	5.66	4.21	4.21	6.57	6.28	6.20	5.68	5.93	4.57	6.04	53313.7
Taiwan, China	5.56	4.53	3.634	3.54	5.16	4.06	5.58	4.97	5.23	3.77	2.50	21183
China	4.54	3.95	3.61	3.45	4.02	4.13	4.58	4.40	4.63	3.26	0.53	6121.51
India	4.1	4.52	3.63	2.95	3.47	2.47	4.34	4.44	4.51	3.37	-0.5	1516.63
Indonesia	4.0	3.70	3.57	3.41	3.35	3.27	4.14	4.67	4.64	3.92	0.03	3570.84
Malaysia	5.14	4.61	4.06	3.54	4.71	4.30	5.03	5.35	5.41	4.46	2.91	10041.2
Philippines	3.74	3.11	3.25	2.85	3.19	2.19	3.77	4.82	4.85	3.19	-1.41	2560.66
Thailand	3.61	4.03	3.51	2.92	3.78	2.20	4.02	4.56	4.38	3.54	-0.92	5269.28
Vietnam	3.37	3.52	3.42	3.00	3.19	3.55	3.86	4.17	3.76	2.49	-1.79	1707.34
Turkey	3.99	3.32	3.51	3.00	4.18	3.09	4.58	4.27	4.21	2.83	-0.79	10443.7

*Global Competitiveness Index [17], World Bank [18]; ** Average from 2010 till 2014; *** Per capita, average 2010 – 2014 (US\$).

The same institutions in different countries may be more or less significant in the analyzed interval (2010–2014). It varies depending on the group of analyzed countries. Several groups with different levels of market development and relevant institutions as well as cultural and historical proximity have been empirically identified. In addition, there are the groups of countries according to the IMF classification (*table 6*).

Table 6

Partial correlation between GDP per capita (average for 2010–2014) and institutional development value in different groups of countries (71 countries)

Countries	PR	JI	ELF	DPF	IPB	PTP	TGP	ECP	RPM	EAL
Total sample	0.35***	-0.14	-0.04	0.28**	0.33***	0.44***	0.39***	0.08	0.23*	-0.16
The developed countries of the EU and Western countries with developed market institutions	0.42**	-0.09	0.08	0.39*	0.1	0.46**	0.54***	0.06	0.31	0.37*
EU countries as well as Albania, Serbia and Turkey, that are experiencing institutional transformation	0.98***	0.86***	0.1	-0.17	0.26	0.17	0.59*	0.84***	0.82**	0.85***
According to the IMF classification:										
Developed countries	0.36*	0.24	-0.06	0.38*	-0.06	0.43**	0.46**	0.05	0.20	0.01
Emerging market countries with relevant institutions	0.28***	-0.09	-0.14	0.24	0.41***	-0.19	-0.27	0.35**	0.37**	-0.25

Note: null hypothesis of no correlation is rejected on: * – 10 % level; ** – 5 % level; *** – 1 % level.

Statistical significance assessment of partial correlation coefficients is based on *t*-test. Estimated criterion is supposed to be compared with the critical ($t_{\text{obs}} \geq t_{\text{crit}}$) for a certain number of degrees of freedom. After that the significance of particular factors is determined. Wherein correlations do not establish a causal link and do not indicate its strength, but indicate its presence. The correlation coefficients more than 0.7 indicate that the sample group is small. And its expansion leads to a reduction of the values. Besides correlation can also occur through indirect impact of institutions on economic growth, for example through investment, government spending.

The results are consistent with other researches in this area. The most substantial institutions for developed countries in the analyzed period (2010 – 2014) are property rights; public trust in government, and transparency of government policymaking. For countries with emerging markets and institutions – property rights, judicial independence, bribes and informal irregular payments, and reliance on professional management. The level of property rights protection and public trust in government are the universal

key determinants for all groups of countries. They provide the transformation of physical, financial and intellectual capital to company assets, as well as profitability and growth in a long term.

Conclusion. The theoretical assumption on the role of institutions in ensuring the unity of functioning and evolution of economic systems has been improved due to the expansion of the concept of institutional system. It includes stable fundamental component that fix system changes in the past and relevant functional that coordinate the actual foundation of economic institutions. Inter-country regression analysis proves a significant effect of institutional quality on economic development on the example of selected countries in the analyzed period from 2010 to 2014. The level of property rights protection and public trust in government are the universal key determinants for all groups of selected countries.

REFERENCES

1. *Rozmainskij I.* Neopredelennost' i institucional'naja jevoljucija v slozhnyh jekonomicheskikh sistemah: postkejnianskij podhod / I. Rozmainskij // *Voprosy jekonomiki*. — 2009. — № 6. — S. 48–59.
2. *Nort D.* Instytucii', instytucijna zmina ta funkcionuvannja ekonomiky / D. Nort. — K. : Osnovy, 2000. — 198 s.
3. *Rodrik D.* Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development / D. Rodrik, A. Subramanian, T. Francesco // *NBER Working Paper*. — 2002. — № 9305. — 46 p.
4. *Gricenko E. A.* Kachestvo institutov: metodologicheskie podhody k issledovaniju // *Problemy sovremennoj jekonomiki i institucional'naja teorija* / pod red. V. V. Dement'eva, R. M. Nureeva. — Doneck : DonNTU, 2009. — 500 s.
5. *Dement'ev V. V.* Instituty: problema opredelenija ponjatija / V. V. Dement'ev // *Problemy sovremennoj jekonomiki i institucional'naja teorija* / pod red. V. V. Dement'eva, R. M. Nureeva. — Doneck : DonNTU, 2009. — 500 s.
6. *Lipov V.* Institucional'naja komplementarnost' i morfologija social'no-jekonomicheskikh sistem / V. Lipov // *Biznesinform*. — 2010. — № 2. — S. 119–125.
7. *Barro R. J.* Determinants of Economic Growth: A Cross-Country Empirical Study / R. J. Barro // *NBER Working Paper*. — 1996. — № 5698. — 118 p.
8. *La Porta R.* Judicial Checks and Balances / R. La Porta, F. Lopez-de-Silanes, C. Pop-Eleches, A. Shleifer // *Journal of Political Economy*. — 2004. — Vol. 112 (2). — P. 445–470.
9. *Prasad E. S.* Foreign Capital and Economic Growth / R. G. Rajan, A. Subramanian, E. S. Prasad // *NBER Working Paper*. — 2007. — № 13619. — 64 p.
10. *Knack S.* Institutions and Economic Performance: Cross-country tests Using Alternative Institutional Measures / S. Knack, Ph. Keefer // *Economics and Politics*. — Vol. 7. — № 3. — 1995. — C. 207–227.
11. *Gwartney J.* Economic Freedom, Institutional Quality, and Cross-Country Differences In Income and Growth / J. Gwartney, L. Holcombe, R. Lawson // *Cato Journal*. — Vol. 24. — № 3. — C. 205–233.
12. *Stepanenko S. V.* Instytucional'nyj analiz ekonomichnoi' systemy (problemy metodologii') : monografija / S. V. Stepanenko. — K. : KNEU, 2008. — 312 s.
13. *Furubotn Je. G.* Instituty i jekonomicheskaja teorija: Dostizhenija novoj institucional'noj jekonomicheskoy teorii / Je.G. Furubotn, R. Rihter. — SPb. : Izdat. dom Sankt-Peterburg. gos. un-ta, 2005. — 702 s.

14. Reshetilo V. P. Jekonomicheskaja sinergetika institucional'nyh izmenenij / V. P. Reshetilo. — H. : Prometej-Press, 2006. — 288 s.
15. Beck Th. Financial Structure and Economic Development: Firm, Industry, and Country Evidence in Financial Structure and Economic Growth / Th. Beck, A. Demirguc-Kunt, R. Levine, V. Maksimovic. — Cambridge MA : MIT Press, 2001. — 60 p.
16. La Porta R. Legal Determinants of External Finance / L. La Porta, F. Lopes-de-Silanes, A. Shleifer, R. Vishny // Journal of Finance. — 1997. — Vol. 52. — P. 1131–1150.
17. The Global Competitiveness Index. World Economic Forum [Elektronnyj resurs]. — Rezhym dostupu : <https://agenda.weforum.org>.
18. The World Bank Data [Elektronnyj resurs]. — Rezhym dostupu : <http://data.worldbank.org/indicator/FI.RES.TOTL.CD>.

Articles submitted to editors office of 05.06.2015.

Миколенко О. Економічні інститути та їх вплив на розвиток господарської системи.

Постановка проблеми. Дослідження інституційного розвитку економічних систем і його детермінант набуває все більшої актуальності в сучасних умовах у зв'язку з поглибленням диференціації в рівні доходів, добробуті населення, обсягах накопиченого людського, фізичного та інтелектуального капіталів. При цьому вивчення економічної реальності потребує дослідження не тільки сутності економічних інститутів, але й їх ролі в забезпеченні функціонування механізму ринкової економіки.

Метою статті є дослідження ролі інститутів у забезпеченні єдності функціонування та еволюції господарських систем.

Матеріали та методи. Методологічною основою є інституційна теорія та результати досліджень вітчизняних та зарубіжних науковців з проблем інституційного розвитку господарських систем. Застосовано такі методи наукового пізнання: аналіз, синтез, абстракції при вивченні сутності інституційного устрою економіки, кореляційно-регресійний аналіз при обґрунтуванні значущого впливу економічних інститутів на розвиток та функціонування економічної системи.

Результати дослідження. Проведений аналіз інституційного устрою дозволив виокремити структурну і функціональну компоненти, що в своїй єдності забезпечують еволюцію і розвиток господарської системи. Функціональна компонента відображає важливий взаємозв'язок між інститутами і відтворювальним процесом в економіці. Кореляційно-регресійний аналіз дав змогу визначити значущий вплив якості інститутів на функціонування економічної системи. Для кожної групи країн, що сформовані автором за різними критеріями, виділені економічні інститути, які мають найбільше значення для їх економічного розвитку.

Висновки. Удосконалено теоретичне положення про роль інститутів у забезпеченні єдності функціонування та еволюції економічних систем за рахунок включення в зміст поняття інституційного устрою економіки розгорнутої характеристики стійкої фундаментальної компоненти, що фіксує зміни системи в минулому, і актуальної функціональної, яка координує діяльну основу економічних інститутів. Міждержавний регресійний аналіз продемонстрував значущий вплив якості інститутів на розвиток економіки на прикладі аналізованих країн за період з 2010 по 2014 рр. Рівень захисту прав власності та довіра виступають універсальними ключовими інституційними детермінантами в усіх країнах.

Ключові слова: інституційний устрій економіки, економічні інститути, якість інститутів, інституційний розвиток економіки.



ENTERPRISE

UDC 64.033:334.72

LULA Pawel, Doctor of Economics, Professor, Dean of Management Faculty of Cracow University of Economics

WÓJCIK Katarzyna, Assistant at Department of Computational Systems of Cracow University of Economics

OPINION MINING AND ITS IMPORTANCE IN THE ACTIVITY OF CONTEMPORARY ENTERPRISES

The concept of knowledge management has been presented. Economic and non-economic objectives of knowledge management have been determined. Typology (classification) of knowledge management strategies has been conducted. Author's vision of a comprehensive approach to knowledge management has been offered.

Keywords: knowledge, knowledge management system, concept, organization (enterprise), potential, knowledge resources, knowledge management strategy

Лула П., Войчик К. Анализ мнений потребителей и его значение в деятельности современного предприятия. Охарактеризован процесс извлечения /собирания мнений потребителей. Предложен метод анализа мнений на конкретном примере для эмпирической проверки его действенности. Обозначены отличия между «анализом настроений» и «извлечением мнений». Для комплексного решения задач такого анализа предложено использовать модель LDA (скрытого распределения Дирихле).

Ключевые слова: мнения потребителей, настроения потребителей, модель скрытого распределения Дирихле, автоматизация анализа мнений.

Introduction. Through the years the ways of collecting customer opinions has changed. The development of mass media and especially the Internet has influenced the form and availability of customer opinions. Customers not only search for opinions of others before buying a product or using a service but also tend to put their own opinions in the Internet. Often they are encouraged to leave their reviews on producer, vendor or intermediary service web site.

Increasing number of consumers' opinions created the need of its automatic analysis. This issue is gaining popularity for both – researchers and entrepreneurs, for whom consumers' reviews are important source of business information. The application of automated tools for opinions analysis opened new possibilities of their usage.

In the paper firstly opinion mining will be defined and characterized. Then we will move on to description of proposed solution for opinions analysis that uses domain knowledge. Next part of work will be devoted to empirical example of previously presented method. We will sum up with conclusions drawn from the conducted research.

Opinion mining definition and characteristics. In the literature phrases "sentiment analysis" and "opinion mining" are often used as synonyms. However the difference in its definitions and in the aim of each of them can be determined.

Sentiment is defined by Pang et al. [1] as overall opinion towards the subjects matter. So the sentiment analysis can be defined as actions aiming only to determine the attitude of speaker or writer to the subject of opinion (often this attitude is called a polarity).

In the same time opinion mining is defined by Dave et al. [2] as analysis:

- processing a set of search results for a given item;
- generating a list of product attributes (quality, features, etc.);
- aggregating opinion about them (poor, mixed, good).

Within the opinion mining three types of analysis can be conducted [3]:

- sentiment recognition – analysis of the general attitude to a product or service (positive, negative, neutral), also called sentiment analysis;
- feature-based analysis – identification and evaluation of main features of a given product;
- comparative analysis which allows to compare a given product or a given feature to others.

According to analysis of definition and aims presented above sentiment analysis is part of opinion mining. In the same time opinion mining covers a wide range of actions aiming to perform complete analysis of opinions (not only its polarity determination).

Description above makes opinion mining similar to information retrieval. However while information retrieval is defined as identification and analysis objective pieces of data, opinion mining (as well as sentiment analysis) can be defined as identification and analysis of subjective opinions, emotions and feelings in the text. Often the first step that must be done is determination if certain text is objective or subjective [4]. Then proper methods can be applied [5].

Nowadays analytics often don't have to ask customers for opinions. E-shops and shopping services are doing the job for them. Consumers also put their opinions willingly on blogs or different kinds of forums [2].

The accessibility of consumers opinions made entrepreneurs more interested in their content. Managers can acquire information how company's products or services are evaluated by its users. They can also gain detailed knowledge about the reasons why customers have positive or negative attitude to certain products or services. Data obtained from opinions can be used as a basis for future changes not only in product development but also in sources and ways of its advertisement.

Opinion mining has many advantages and is a very useful tool in business. In the same time there are some difficulties that have to be taken into account. Those difficulties can have technical character like:

- necessity to collect data from different sources;
- processing of large amount of data;
- different forms of opinions available in the Internet;
- opinions in different languages concerning the same product or service.

In the same time there are difficulties with analysis of the content of opinions resulting from the need of computational processing of textual data like:

- hidden character of emotions and sentiment (very often they are not expressed directly);
- sarcasm (irony) present in opinions;
- mistakes in writing or intentional changes like omitting national diacritics;
- language of the Internet used in opinions – emoticons, abbreviations, mixtures of letters and numbers when read phonetically sounds like certain words;
- repetitions of letters, words and phrases;
- co-references – two or more expressions refer to the same person or thing (mobile, phone, headphone, etc, ...);
- negations (dislike, do not like);
- entity recognition problem – identification of names of persons, organizations, locations, monetary values;
- comparisons (... better then...);
- polysemy (the word book can mean *reserve* or *manuscript*).

Another problem that is worthy consideration is existence of fake opinions written by competitor, special PR companies or even by employees (upon instructions or independently) or ex-employees. They can darken the results of analysis. To overcome possible negative consequences of difficulties in opinion mining some opinions' objectivization actions can be performed like:

- voting – taking into account a large number of opinions; it can be treated as a form of opinion aggregation;
- opinion evaluation – by other customers;
- evaluation of author's authority – publishing some details about opinion's author and evaluation of his/her authority by others.

Opinions that can be found in the Internet can be divided into different groups. Two division criteria can be pointed out: opinions form and the scope of knowledge. Taking opinions' form into account following groups can be distinguished:

- binary opinions (yes/no, like/dislike, good/bad);
- nominal values (about mobile phone: heavy, expensive, modern, ...);
- ordered values (bad/typical/good/excellent; Likert scale).

Text:

- structured opinions;
- unstructured opinions.

When the scope of knowledge is the division criteria following types of opinions are possible:

- without additional domain knowledge (based only on opinions);
- with additional domain knowledge (based on opinions and on knowledge about products or services).

The form of opinion is frequently connected with its source. For example opinions on forums and blogs usually have the form of unstructured text while opinions on different online shops, auctions online, opinions services etc. commonly are structured and supported with kind of binary, nominal or ordered values.

There are many different methods that can be applied to opinion mining:

- approach based on frequency matrix;
- probabilistic approach (topic modelling, probabilistic LSA);
- rule-based methods (used regular expressions);
- approach based on domain knowledge (ontology-based approach, logic models);
- summarization and keywords identification methods;
- classification methods – for sentiment classification;
- visualization methods;
- aggregation methods – used for increasing the level of objectivism.

The choice of the method must be influenced by the aim of analysis and by the form of opinions that is subjected to analysis. Different methods can give better results when analysis is conducted on certain type of opinions. Most methods require analysed opinions to be in one form.

Latent Dirichlet Allocation (LDA) is a model which is used for description of documents' contents as a mixture of homogenous topics. It was proposed in [6].

Using this approach the process of analysis is composed of two main steps:

1. Topics' identification.
2. Topics based documents reconstruction.

Relations between these two processes are presented in *figure 1*.

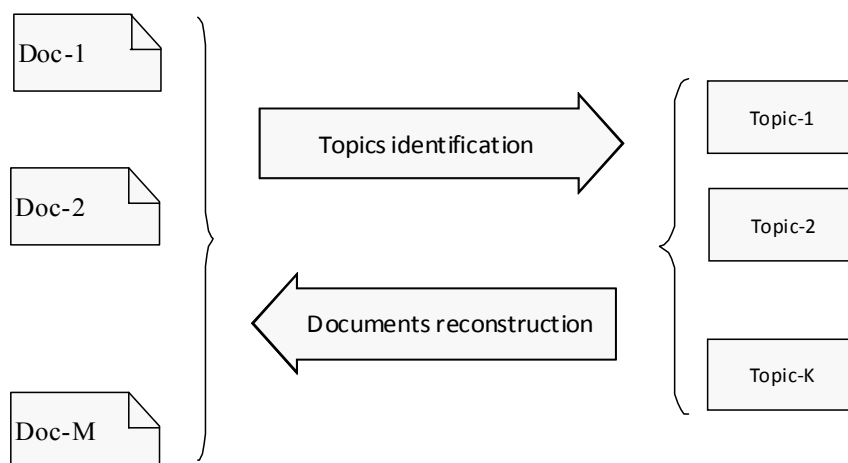


Figure 1. Main steps in Latent Dirichlet Allocation
(own elaboration)

Let's assume that WORDS is a set of all words which appear in the corpus (the collection of documents):

$$WORDS = \{word_1, word_2, \dots, word_N\}.$$

Each document is represented by the vector in which the number of occurrence for every word is stored (bag of words representation). The information about occurrence can be also expressed in terms of probabilities of occurrence (dividing the number of word's occurrence by the number of all words).

The same approach can be used for topics definition. Each topic is defined as a vector of probabilities over words.

$$topic_i = [p_{i1} \quad p_{i2} \quad p_{i3} \quad \dots \quad p_{iN}],$$

where p_{ij} is a probability of occurrence in j -th word in the i -th topic.

The distribution of words within a given topic is defined by Dirichlet distribution. The main goal of the topics identification process can be stated as finding such topics (described by distribution over words) which can be used for reconstruction of original documents. The contribution of topics to the contents of a given document also is represented by the Dirichlet distribution. Unfortunately, topics discovered by the learning algorithm are hard to interpret. The process of topics identification and documents reconstruction is shown in the *figure*.

The proposal for solving a problem with interpretation of topics was presented by Ramage, Hall, Nallapati, Manning in 2009 and is called Labelled-LDA [7]. In this approach labels are manually assigned to every document. They are used for contents description and in further calculations

every label will be represented as one topic. It is possible to assign many labels for description of each document and the same label can be assigned to many documents. Also in Labelled-LDA topics are defined by expressing the probability distribution over words. But the number of topics is equal to the number of unique labels and every topic represents one concept identified by one label. The schema of Labelled-LDA approach is shown in *figure 2*.

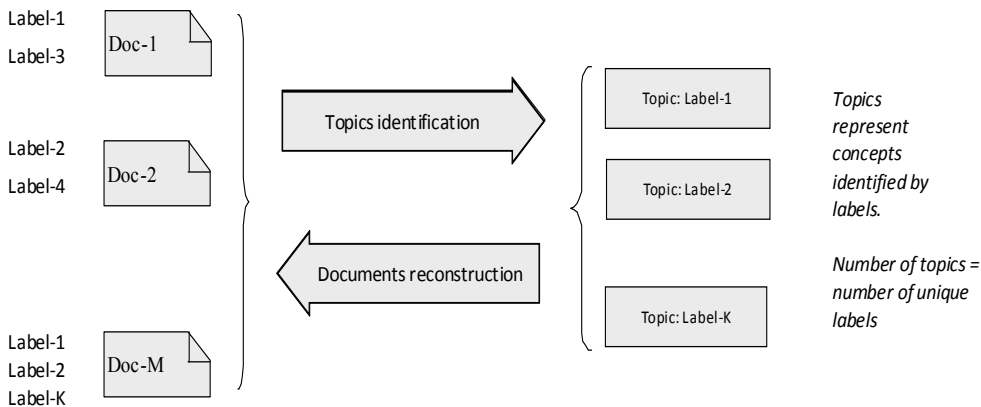


Figure 2. The idea of Labelled Latent Dirichlet Allocation
(own elaboration)

The possibility of topics’ interpretation as concepts is the main advantage of Labelled-LDA method.

In the reconstruction phase the contribution of every topic is estimated by expressing the probability of topic’s occurrence in the contents of a given document.

Empirical research. In the empirical research opinions about hotel rooms in London were used*. The feature-based analysis was performed. The scope of analysis was defined by a list of attributes related to the subject of research.

The list of attributes embraced several features of hotel rooms. For example: general evaluation, room size, staff evaluation, quality of bed, cleanliness, room equipment, room location, comfort, price, temperature and many others.

Opinions were manually labelled. For description of every room feature two labels were created which represented positive (feature name plus suffix *pos*) or negative (feature name plus suffix *neg*) evaluation of a given attribute. For example for staff evaluation two labels were used: *staff-pos* and *staff-neg*.

The set of 380 labelled opinions was used. The part of data set was presented in the *figure 3*.

* Source: <http://kavita-ganesan.com/opinosis-opinion-dataset>.

	A	B
1	LABELS	DESCRIPTIONS
2	staff-neg	We arrived at 23,30 hours and they could not recommend a restaurant so we decided to go to Tesco, with very limited choices but when you are hungry you do not careNext day they rang the bell at 8,00 hours to clean the room, not being very nice being waken up so earlyEvery day
3	size-pos	We had a room with two double beds which was surprisingly roomy, considering the small hotel rooms I have in previous trips to London .
4	staff-pos clean-pos bed-pos	The room was quiet, clean, the bed and pillows were comfortable, and the service was
5	readiness-pos	We arrived about 11 am, room was ready .
6	size-pos clean-pos	Room was good size for Europe , clean throughout .
7	staff-pos	The Concierge desk called our room to ask if we needed any information or assistance .
8	size-pos clean-pos bed-pos	Room was plenty big enough and clean and tidy, bed was comfortable .
9	equip-neg	First, we walked in and the restroom door was broken .
10	clean-pos	Our room was typical holiday inn the bathroom could have done with updating but was
11	readiness-neg	Our rooms were not ready, we were promised rooms at a later time, etc .
12	size-pos	My room was positively huge by European standards .

Figure 3. The dataset structure
(own elaboration)

The data set was divided into two parts: learning set (350 opinions) and testing set (30 opinions). For learning set the following stages of analysis were performed: stemming, usage of stop-list filter, building of Labelled-LDA model. For the last step the Stanford Topic Modeling Toolbox was used. All procedures were implemented in Scala language. Topics discovered during analysis represented main concepts which can be used for room evaluation. The final assessment can be expressed by calculating the probability of every topic's occurrence (concept) in the opinion.

For every concept (identified by a unique label) its importance was evaluated. The results of topic importance calculation was presented in the *figure 4*.

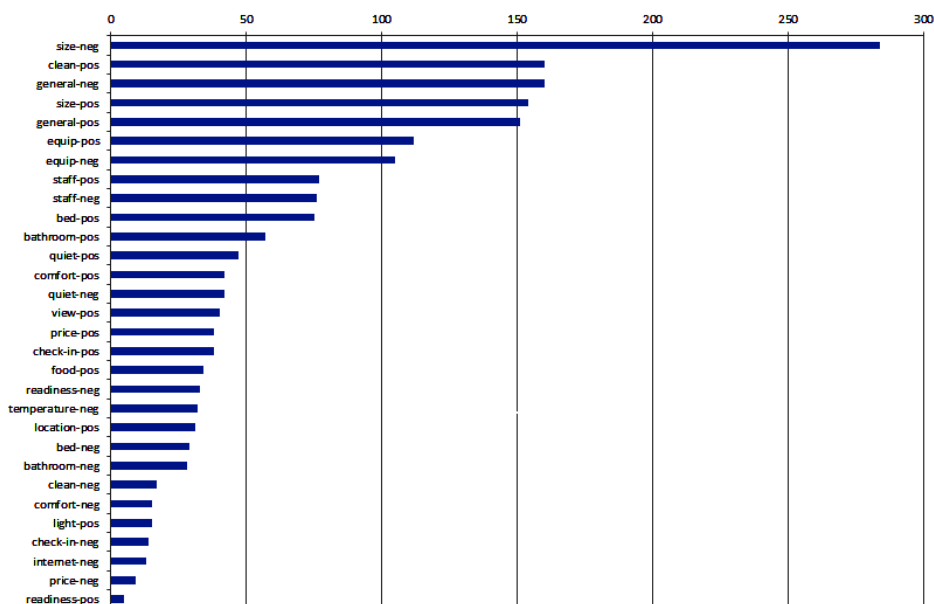


Figure 4. The importance of topics (concepts)
(own elaboration)

For every concept its description was estimated as a distribution over words. The *figure 5* shows an exemplary distribution for the concept *size-neg* (negative opinion about room's size).

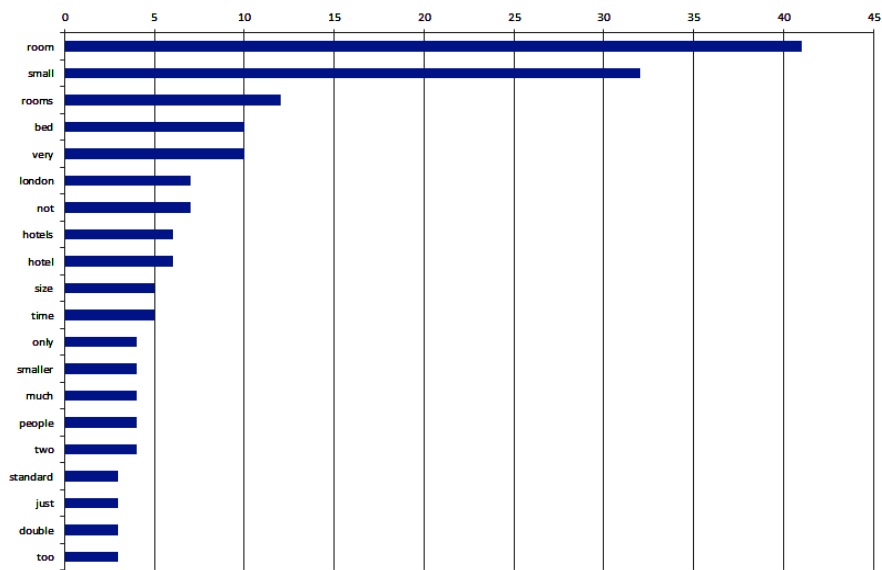


Figure 5. The distribution over words for *size-neg* topic
(own elaboration)

The model created as a result of the above procedure can be used for analysis of new, unseen before opinions.

Table

The results of usage of Labelled-LDA model for new opinions
(own elaboration)

Opinion	Labels assigned manually	Labels assigned by the model (with probabilities of occurrence in the document's contents)
The bathroom is a good size.	bathroom-pos	bathroom-pos (1.0)
The room was clean and, by London standards, decently sized.	clean-pos size-pos	size-pos (0.98), clean-pos (0.02)
When we tried to use a phone card from our room it would not work so I asked the front desk to help me and was told they couldn't really!	staff-neg	staff-neg (1.00)
The hotel room was very clean and the cleaning staff and breakfast staff were very attentive.	clean-pos staff-pos	staff-pos (0.7) clean-pos (0.3)

For evaluation of the quality of the built model two measures were calculated for testing set.

Precision (which is defined as the fraction of retrieved instances that are relevant) was equal to 0.94. And the recall (defined the fraction of relevant instances that are retrieved) was 0.98. These two measures indicate that the quality of the model is very high.

Conclusion. Thanks to the development of information technology consumers can express their opinions about products and services. Their views can be used as a valuable information source provided that the process of their analysis is automated. Unarguably the Latent Dirichlet Allocation seems to be a very useful tool for automatic opinion analysis, especially its supervised version called Labelled-LDA.

Main properties of Labelled-LDA prove that it is useful for feature-based opinion analysis. Unfortunately this approach requires manually tagged opinions for model building and therefore is very time-consuming.

REFERENCES

1. *Pang B.* Thumbs Up?: Sentiment Classification Using Machine Learning Techniques. Proceedings of the ACL-02 Conference on Empirical Methods in Natural Language Processing, 10 / Pang B., Lee L. i Vaithyanathan S. — 2002. — P. 79–86. Stroudsburg, PA, USA: Association for Computational Linguistics. — Way of access : doi:10.3115/1118693.1118704.
2. *Dave K.* Mining the peanut gallery: Opinion extraction and semantic classification of product reviews / Dave K., Lawrence S. i Pennock D. M. : Proceedings of the 12th international conference on World Wide Web, 2003. — P. 519–528.
3. *Liu B.* Web DataMining. Exploring Hyperlinks, Contents, and Usage Data / Liu B. — Heidelberg : Springer-Verlag Berlin, 2007.
4. *Wibe J.* A corpus study of evaluative and speculative language / Wibe J., Bruce R., Bell M., Martin M. i Wilson T. : Proceedings of the Second SIGdial Workshop on Discourse and Dialogue, 16, 2001. — P. 1–10.
5. *Pang B.* Opinion Mining and Sentiment Analysis. Foundations and Trends in Information Retrieval / Pang B. i Lee L, 2008. — P. 1–135.
6. *Blei David M.* Latent Dirichlet allocation / Blei David M., Ng Andrew Y., Jordan Michael , Lafferty John, ed. // Journal of Machine Learning Research 3 (4–5). — P. 993–1022. — Way of access : doi:10.1162/jmlr.2003.3.4-5.993.
7. *Daniel Ramage.* Manning, Labeled LDA: A supervised topic model for credit attribution in multi-labeled corpora / Daniel Ramage, David Hall, Ramesh Nallapati, Christopher D. : Proceedings of the 2009 Conference on Empirical Methods in Natural Language Processing // Association for Computational Linguistics. — 2009. — Vol. 1. — P. 248–256.

Articles submitted to editors office of 10.11.2015.

Лула П., Войчик К. Аналіз думок споживачів та його значення у діяльності сучасного підприємства.

Постановка проблеми. Протягом років шляхи накопичення даних споживачів щодо товарів (продуктів), які вони купують, змінилися. Зростання кількості думок споживачів про товари і послуги, що, зокрема, накопичуються в Інтернеті, обумовлюють необхідність автоматизації процесу їх аналізу.

Мета і завдання дослідження, представленого у статті, полягають у: визначенні та характеристики процесу видобутку / збирання думок споживачів; пропозиції рішення щодо того, як проводити їх аналіз; презентації описаного методу аналізу думок на конкретному прикладі для емпіричної перевірки його дієвості.

***Результати дослідження.** Визначено відмінності між «аналізом настроїв» та «видобутком думок». Для всебічного розуміння думки споживача слід застосовувати три типи аналізу: настроїв, де визначається ставлення до товару (продукту); основних характеристик товару, у ході якого визначаються його особливості; порівняльній. Встановлено, що нині аналітики, як правило, не запитують думку споживача. Споживач сам викладає свої думки у блогах та на різних форумах. Оскільки збір думок є корисним інструментом для прийняття рішень щодо розвитку бізнесу, виникає необхідність у пошуку нових методів щодо накопичення і обробки думок споживачів в інший спосіб, ніж раніше. При цьому у сучасних реаліях (внаслідок розвитку електронної торгівлі і т. п.) під час видобутку думок виникають певні труднощі: необхідність збору даних з різних джерел та обробка великих масивів інформації; різні форми представлення думок в Інтернеті; наявність думок про один і той самий товар на різних мовах тощо.*

***Висновки.** Існує багато різних методів для вивчення думок споживачів. При цьому вибір методу має залежати від мети аналізу і форми представлення думки, що аналізується. Більшість методів вимагають, щоб думки були представлені в одній формі. Для вирішення цієї задачі запропоновано використовувати модель LDA (прихованого розподілення Діріхле). Відповідно до цього аналіз думок потрібно проводити у два етапи: ідентифікація теми та реконструкція.*

Ключові слова: думки споживачів, настрої споживачів, модель прихованого розподілення Діріхле, автоматизація аналізу думок.

MIKULA Bogusz, PhD, Professor of UEK Department of Organizational Behavior Cracow University of Economics, Poland

KNOWLEDGE MANAGEMENT AS A TOOL FOR IMPROVING THE GROWTH POTENTIAL OF ENTERPRISES

Process of opinion mining of consumers has been described. Method for the opinion analysis on a concrete example for empiric verification of its effectiveness has been offered. Difference between "sentiment analysis" and "opinion mining" has been defined. It has been proposed to use the LDA (latent Dirichlet allocation) model for a comprehensive approach to this analysis.

Keywords: consumer opinions, consumer sentiment, latent Dirichlet allocation model, automation of analysis of opinions.

© **Mikuła B.**, 2015

ISSN 1727-9313. *HERALD OF KNUTE*. 2015. № 6 ===== 69

Микула Б. Управление знаниями как средство улучшения потенциала роста предприятий. Представлена концепция управления знаниями. Определены экономические и неэкономические цели управления знаниями. Проведена типология (классификация) стратегий управления знаниями. Предложено авторское видение комплексного подхода к концепции управления знаниями.

Ключевые слова: знания, система управления знаниями, концепция, организация (предприятие), потенциал, ресурсы знаний, стратегия управления знаниями.

Introduction. Looking at the history of the development of business activity in the industrial era, we can claim that enterprises never operated in the conditions perfect for them, which would guarantee satisfactory financial results and development. Striving for development and beating the competition, they applied tools for improving the organization of labour, implemented new instruments for motivating employees, built long-term strategies of operations based on detailed SWOT analyses, implemented quality management systems, based information processing on computer systems, etc. Today, in the conditions of knowledge based economy, enterprises aim to reduce operating costs, implement lean production and lean management, apply more and more perfect decision support systems, optimum use of possessed assets. Firms which are aware of contemporary conditions of competing manage non-material resources. Knowledge management (KM) is coming to the fore. Special significance of knowledge consists in the fact that among factors of production it is of primal character and determines the scope of the use of the organization's remaining assets.

This paper introduces a coherent KM concept which can be effectively applied in businesses aiming at the improvement of their growth potential.

The real essence of knowledge management. In the literature of the subject there are tens of definitions which try to depict the essence of KM. They are a narrower (applied to computer systems) or a broader (applied to the set of strategies, methods, functions and tasks) approach to KM.

Starting from the essence of management, it is assumed that KM consists in the realization of cyclical and continuous functions of management which are focused on the organization's knowledge resources, processes involving knowledge and the conditions of their realization to achieve the organization's goals (*figure 1*). The cyclical functions include planning, organizing and controlling. The functions are implemented within undertakings referring to knowledge, processes involving it, and the conditions of their course in a cyclical, consecutive way. Continuous functions, which are implemented within each cyclical function, include: work with people, acquisition and use of financial and other resources, use of non-material resources, decision making, coordinating. The basic processes involving knowledge, which can be also defined as KM operational functions (tasks), include: identification, transfer, creation, combination, accumulation, selection, recording, storage,

assessment, application of knowledge. In order to enable the processes to run smoothly, it is necessary to select and use adequate KM instruments (tools and methods) and shape organizational, social and technical conditions.

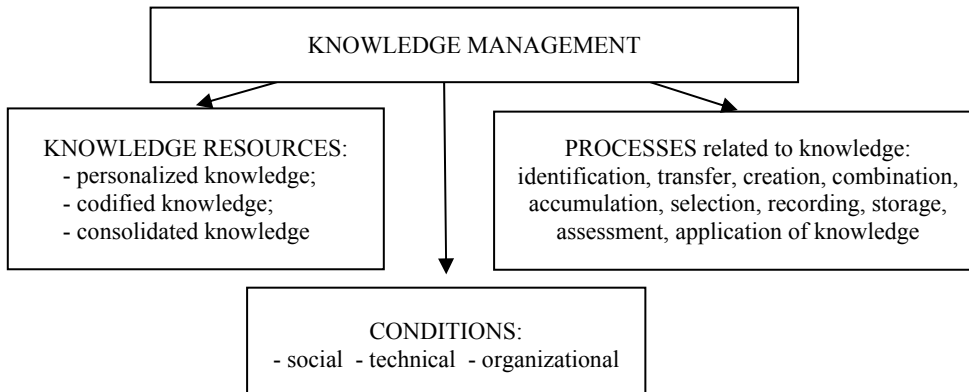


Figure 1. The basic areas of operations in KM
(own study)

Knowledge management goals. One of the most general goals of KM application in the organization is to facilitate regarding knowledge a resource by managers and inspire them to search for practical application of this resource [1].

Probably the most extended set of KM goals was presented by R. Maier. They are [2]: achieving transparency of knowledge, introduction of documenting knowledge, changing the organizational culture, enhancement of communication and cooperation, transformation of tacit knowledge into explicit knowledge (externalization), upgrading educational processes, training and creating networks of newly-recruited employees, refinement of employee development processes, improvement of knowledge retention (organizational memory), upgrading access to existing knowledge, improvement of knowledge distribution, enhancement of innovation management, cost reduction, sales of knowledge.

R. Maier also gave business goals which KM faces, among which he mentioned [3]: cost reduction, improving productivity, increasing the speed of innovative processes, developing new areas of business activity or objects, risk reduction in business, enhancing employee motivation and satisfaction, improving the organization’s development, upgrading product quality, enhancing customer satisfaction and/or service quality, improvement of planning, increase in efficiency, optimization of operation time and keeping deadlines.

KM goals can be divided into economic and non-economic goals (figure 2). The obtained economic results are usually the secondary effect of the accomplishment of non-economic goals.

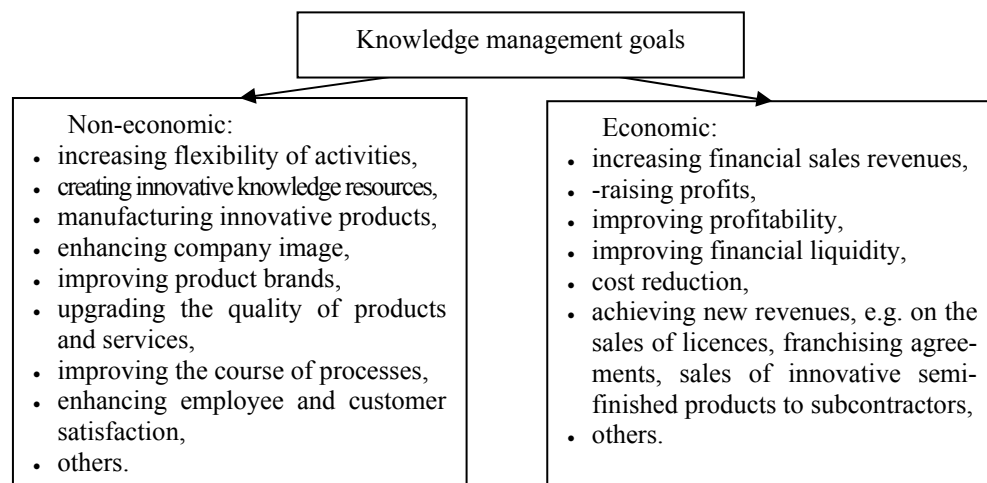


Figure 2. Examples of KM goals
(own study)

Knowledge management system. For the purposes of KM, a knowledge management system (KMS) is created in the organization. Similarly as in the case of KM, also KMS is variously defined in the literature of the subject. For example, it is boiled down to the tools of computer technique improving the course of processes involving knowledge [4]. Of course, there are broader definitions of KMS. For example, in the set of KMS universal elements J. Beliczyński, Cz. Mesjasz and A. Stabryła include [5]: knowledge sets (data/knowledge bases and banks), relationship networks, methods of knowledge transfer, IT systems, e.g. MRP/ERP class systems, IT networks (Internet, extranet, intranet), semantic systems (the language of the organization and the language of KMS), organizational culture.

In this paper, two approaches to KMS are adopted: a narrow and a broad one. In the narrow approach it is a systemic platform created by IT and communication technologies based on the computer technique. In the broad approach, KMS is a group of rules, methods, measures, sets of knowledge (including information), people and networks of their interrelations, which enables to adopt and implement KM strategies and tasks to achieve goals of the organization [6].

Strategic knowledge management. Within KM, we can distinguish activities implemented on the strategic, tactical and operational level. A special role falls to strategic knowledge management (SKM) because it gives direction to undertakings with regard to the organization’s knowledge resources on the operational level. On the other hand, the role of the tactical level is to transfer the vision of knowledge, the knowledge strategy and the KM strategy into specific operational activities implemented at the workplaces.

SKM is an information and decision-making process supported by the realization of cyclical and continuous knowledge management functions, which is aimed to make the basic decisions as for the directions of development

and the ways of using knowledge resources, considering the changes in the knowledge resources of the environment, forecasts on their development and directions of applications, as well as own knowledge resources, capabilities of developing and using them. The decisions taken within SKM primarily concern [7]:

- development of the organization's knowledge resources, ability to use them and knowledge-related competitive moves;
- defining new directions and the scope of using the organization's knowledge resources;
- development of organizational systems (including IT), enabling efficient realization of functions, tasks and processes related to knowledge;
- the shaping of knowledge resources of business environment (including partners, competitors).

The basic SKM tasks include [8]:

- consolidation of the focus on knowledge in the organization's mission and vision;
- the strategic analysis of the enterprise's internal environment, including monitoring, analyzing, assessing and reporting of its personalized, codified and consolidated knowledge resources, as well as the network of intra-organizational relationships among its components, the level of self-organization, organizational climate;
- the strategic analysis of the external environment (near and far), on the basis of constantly acquired information, with special consideration to knowledge of the environment (partner firms, competitors and non-competing organizations, including B+R institutes, consulting firms, universities) and the networks of relationships in the environment, assessing acquired information and reporting;
- creating the vision of knowledge;
- formulating the strategy of knowledge;
- establishing knowledge and relationship gaps;
- establishing barriers to filling knowledge and relationship gaps;
- the choice of the basic and supportive KM strategies necessary to fill knowledge gap and the ways of shaping desired relationships;
- defining the prevailing approach determining the structure and the operation of KMS (social or technical one), support for the KM strategy by shaping relationships with the environment, redesigning KM operational tasks, organizational structure, roles, processes and information and communication infrastructure;
- defining the level of the enterprise's openness to the environment in respect of making own knowledge resources available (protecting them) – defining the strategy of shaping the environment knowledge and enterprise knowledge resources with regard to which they will be used;
- planning methods and tools and selecting people for the implementation of the KM strategy, specifying necessary funds and organizational conditions;

- creating the model of climate and organizational culture focused on knowledge;
- assessment of the level of the accomplishment of the goals set and the correctness of undertaken actions in comparison with knowledge resources;
- economic and non-economic assessment of knowledge, intellectual capital and conducted KM activities.

Enterprise knowledge strategy and knowledge management strategies. Under KM, we can distinguish general enterprise level strategies (knowledge strategies) and functional level strategies (knowledge management strategies). The general strategy – of the enterprise level – is the knowledge strategy. It is detailing the strategy of an enterprise’s competing by the issues concerning knowledge. Examples of knowledge strategy are strategies distinguished by the American Productivity and Quality Centre [9]:

- enterprise-wide strategy;
- transfer of knowledge and best practice strategy;
- customer-focused knowledge strategy;
- personal responsibility for knowledge strategy;
- intellectual asset management strategy;
- innovation and knowledge creation strategy.

Knowledge strategy gives direction to the entirety of the enterprise functioning concepts with regard to the ways of acquiring, creating and using knowledge. On the other hand, KM strategies are detailed strategies. They determine specific approaches with reference to the issues like building KMS, the way of filling knowledge gaps and the the approach to knowledge resources lying in the environment. Therefore, we can distinguish the following KM strategies (*figure 3*):

- building KMS – codification and personalization, which were distinguished by M. T. Hansen, N. Nohria and T. Tierney [10];
- strategies of filling knowledge gaps – internal creation strategy, strategy of creation via cooperation, absorption strategy, internal extension strategy [11];
- strategies of shaping knowledge of the environment – knowledge protection strategy, strategy of making knowledge available [12], knowledge dissemination strategy.

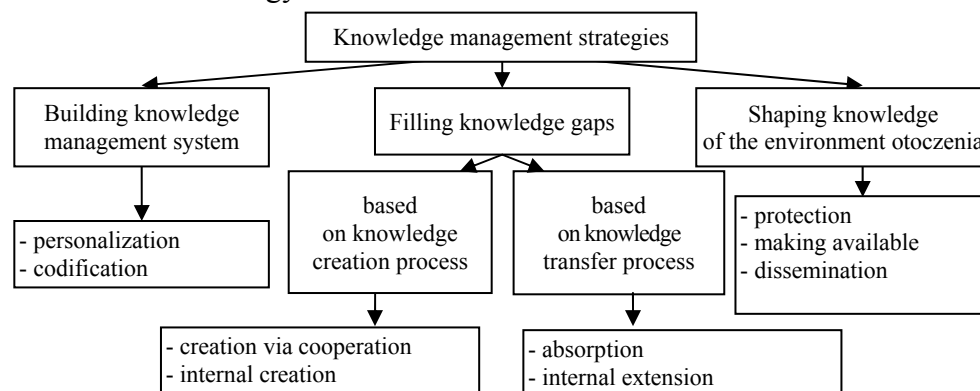


Figure 3. The typology of knowledge management strategies (own study)

Tasks of knowledge management on the operational level. KM focuses on knowledge resources of the organization, as well as its environment, mainly through the implementation of processes involving knowledge, so-called KM operational tasks. When implementing the KM concept in a firm, it is necessary to define those tasks precisely, to avoid in the future the omission of important activities within implemented undertakings, for example recording knowledge. In the presented KM concept, ten basic processes involving knowledge are proposed:

- identification of knowledge – the process of searching for and locating knowledge resources, e.g. establishing who knows what in the organization (explicit personalized knowledge), who can perform an activity (tacit personalized knowledge), in which file stored in the computer memory required codified knowledge can be found;

- transfer of knowledge – a process during which a flow of personalized, codified or consolidated knowledge takes place, e.g. the flow of personalized knowledge during a conversation between people, handing over documentation in the paper form or sending electronic files attached to an e-mail, acquiring the latest product of the competition, in which innovative technical knowledge is embedded;

- accumulation of knowledge – systematic collection of knowledge in the codified form (e.g. books, articles, documents) or in the consolidated form (embedded in the artefacts of human activity, e.g. electronic devices);

- selection – a division into groups of accumulated or acquired sets of knowledge from the point of view of their usefulness or another criterion, e.g. innovativeness, expensiveness;

- creation – the process of creating new knowledge, for example with the use of heuristic methods;

- combination – consolidating the existing knowledge resources – can lead to achieving a new quality of knowledge. The process supports knowledge creation;

- recording – an activity mainly consisting in recording knowledge in the codified form (e.g. written, drawn), but personalized knowledge is remembered by people, and consolidated knowledge is embedded in the artefacts of human activity;

- storage – storing media of knowledge (e.g. printed, electronic, audiovisual, products). Personalized knowledge is stored in people's minds;

- assessment – studying usefulness of knowledge or evaluation of knowledge with the use of another criterion, e.g. value;

- application of knowledge – the use of knowledge. Knowledge is applied mainly during: creating the vision and concept of the organization's activities, products and services, technology and its use, solving everyday problems, realizing ongoing tasks.

When working with knowledge resources, transfer of knowledge takes on special importance. It is one of more complex processes which occurs between people, as well as between people and machines and only between

machines (excluding man, which arises from the ability of the automation of processes involving knowledge, e.g. identification of knowledge, recording knowledge). The transfer of knowledge can take the form of:

- acquiring knowledge – gaining knowledge from various sources, e.g. from other people, from data bases, textbooks, websites;
- making knowledge available – a process which is opposite to acquiring knowledge, namely passing knowledge directed to specific people;
- spreading knowledge – a developed form of sharing knowledge aiming to create from specific knowledge a generally accessible resource;
- sharing knowledge – mutual passing of knowledge by people (also machines can take part) in the communication process.

It is not necessary to argue that KM should steer the course of the indicated processes so that they proceeded in an efficient and economical way. Their correct implementation is the basis for achieving strategic goals of the organization, as well as achieving desired effects of every venture and activity realized by the enterprise.

Creating a consistent line of solutions. To let KM bring desired effects in the form of the enhancement of enterprise growth potential, it is necessary to adopt a "consistent line of solutions". It means that first of all the following must be agreed in the logical shape: the way of understanding knowledge, kinds of knowledge and the sequence of solutions: vision of knowledge – knowledge strategy – strategies of building KMS – strategies of filling gaps of knowledge – instruments (tools and methods) of KM. We cannot forget that the backbone of every organization are people, therefore, their proper selection, training, dedication and "rooting" of organizational culture focused on KM in their minds is necessary. The general model of the described KM concept is presented in (figure 4).

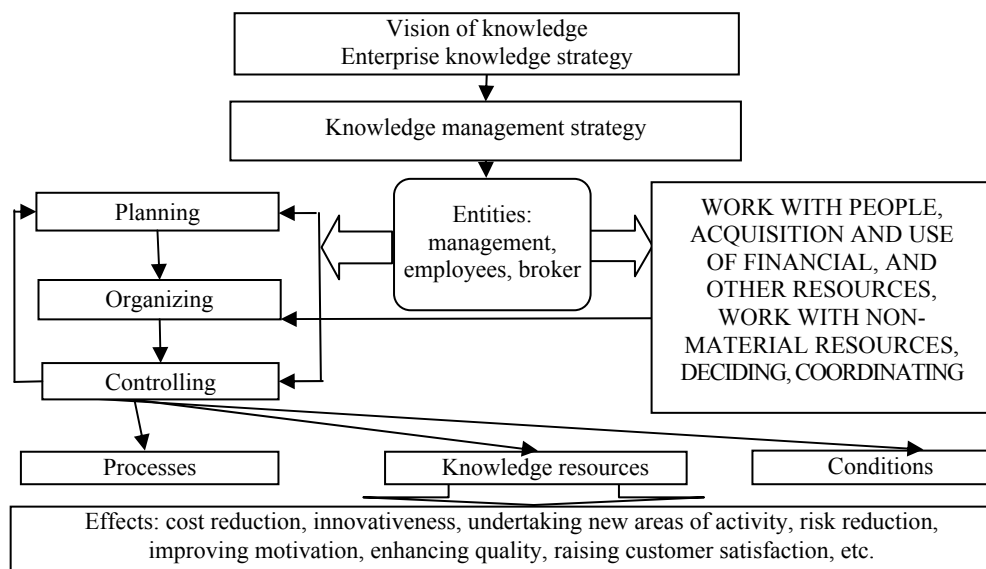


Figure 4. The comprehensive approach to the KM concept
(own study)

Conclusion. The KM theory is a coherent concept. It includes a lot of different views and various proposals concerning the solutions to problems occurring in an enterprise. However, it makes the KM concept a very interesting tool within which not everything has been perfected yet, thus, there is a large margin for the creation of innovative solutions. It should be a special motivator for managers and specialists implementing KM in an enterprise.

The implementation of KMS requires changes in the technical infrastructure and the organizational culture [13]. But this is not everything. All such changes must be precisely thought out and planned considering organizational aspects (e.g. the organization of the course of the processes, building the organizational structure, the choice of applied team forms of the organization of labour, heuristic methods used, the ways of holding meetings), technical aspects (e.g. the choice of computer hardware, the choice of communication means, the choice of software), economic aspects (e.g. the volumes of financial outlays and fast return on investment), social aspects (e.g. the choice of managing styles, shaping organizational climate, shaping organizational culture) and legal aspects (e.g. legal aspects of using foreign knowledge, the sales of knowledge created in the enterprise, protection of non-material values created by the enterprise). The superior aspect required to be considered in the process of change is the aspect of purpose – concerning the enterprise’s vision and mission, and long-term strategic goals. Omitting any of the indicated aspects in the process of KMS implementation can cause to the failure in the application of the KM concept and disorganization of the enterprise functioning.

REFERENCES

1. *Beliczyński J.* Podstawy teoretyczne gospodarki opartej na wiedzy, [in:] Doskonalenie struktur organizacyjnych przedsiębiorstw w gospodarce opartej na wiedzy ; scientific editor A. Stabryła / J. Beliczyński, Cz. Mesjasz, A. Stabryła. — Warszawa : Wydawnictwo C. H. Beck, 2009.
2. *Gamble P. R.* Knowledge Management. A State of the Art Guide / P. R. Gamble, J. Blackwell. — London : Kogan Page, 2001.
3. *Hansen M. T.* What’s your strategy for managing knowledge? / M. T. Hansen, N. Nohria, T. Tierney // Harvard Business Review. — 1999. — March-April.
4. *Maier R.* Knowledge Management Systems. Information and Communication Technologies for Knowledge Management, Springer-Verlag / R. Maier. — Berlin : Heidelberg, 2002.
5. *Mikula B.* Istota zarządzania wiedzą w organizacji, [in:] Komunikacja w procesach zarządzania wiedzą ; col. work edited by A. Potocki / R. Maier. — Kraków : Cracow University of Economics, Foundation of Cracow University of Economics, 2011.

6. *Mikula B.* Kreowanie systemu zarządzania wiedzą w organizacji, [in:] *Metody badania i modele rozwoju organizacji* ; edited by Adam Stabryła and Sławomir Wawak, Mfiles.pl. / B. Mikula. — Kraków, 2012.
7. *Mikula B.* Organizacje oparte na wiedzy / B. Mikula. — Kraków : Wydawnictwo Akademii Ekonomicznej w Krakowie, 2006.
8. *Probst G.* Zarządzanie wiedzą w organizacji / G. Probst, S. Raub, K. Romhardt. — Kraków : Oficyna Ekonomiczna, 2002.
9. *Syed Aktharsha U.* Knowledge Management System and Learning Organization: An Empirical Study in an Engineering Organization / U. Syed Aktharsha, H.Anisa // *The IUP Journal of Knowledge Management*. — 2011. — Vol. IX. — № 2.
10. *Tabaszewska E.* Implementation and Development of Knowledge Management System – Research Results / E. Tabaszewska // *Argumenta Oeconomica*. — 2011. — № 1 (26).

Articles submitted to editors office of 10.11.2015.

Мікула Б. Управління знаннями як засіб покращання потенціалу зростання підприємств.

Постановка проблеми. В умовах розвитку економіки, заснованої на знаннях, підприємства прагнуть зменшити свої операційні витрати, запровадити ресурсоощадне виробництво та управління, застосовувати все більш досконалі системи прийняття рішень, оптимізувати використання активів. За такої ситуації управління знаннями виходить на перший план.

Саме тому **метою** представленого дослідження є презентація концепції управління знаннями (знанневого менеджменту).

Результати дослідження. Обґрунтовано, що сутність управління знаннями полягає в реалізації циклічних і безперервних функцій управління, що сфокусовані на ресурсах знань (персоналізованих, кодифікованих та консолідованих) організації, процесах, пов'язаних зі знаннями (ідентифікація, трансфер, накопичення, відбір і т.п.) та умовах їх реалізації (соціальних, технічних, організаційних) для досягнення цілей організації (підприємства).

Визначено цілі управління знаннями: економічні (підвищення рентабельності, фінансової ліквідності, прибутку, зниження витрат і т.п.) та неекономічні (покращання іміджу компанії, якості продукції та послуг, підвищення рівня задоволеності клієнтів і т.п.).

Охарактеризовано два підходи до системи управління знаннями: вузький, відповідно до якого системна платформа створюється за допомогою ІТ та комунікаційних технологій; широкий, що є сукупністю правил, методів, набору знань, людей та їх взаємовідносин, які дозволяють ухвалювати та реалізовувати стратегії управління знаннями, та завдань, спрямованих на досягнення цілей організації. Проведено типологію (класифікацію) стратегій управління знаннями.

Висновки. Запропоновано авторське бачення комплексного підходу до концепції управління знаннями. Правильно організоване управління знаннями сприятиме зростанню потенціалу підприємства.

Ключові слова: знання, система управління знаннями, концепція, організація (підприємство), потенціал, ресурси знань, стратегія управління знаннями.

UDC 004.738.5:640.41

DANYLENKO Mariia, Postgraduate student at the Department
of Hospitality Business of KNUTE

INTERNET DISTRIBUTION OF HOTEL SERVICES

Main trends and patterns of alternative reservation systems in the hospitality industry have been considered. Degree of participation of alternative reservation systems in marketing policy of enterprises of hotel economy has been established. Influence of alternative reservation systems for marketing activities of domestic enterprises of hospitality industry has been investigated.

Keywords: online reservation systems, alternative reservation systems, hotel business, hotel services, Internet marketing instruments.

Даниленко М. Интернет-дистрибуция гостиничных услуг. Рассмотрены основные тенденции развития и структуры альтернативных систем бронирования в гостиничном бизнесе. Установлена степень участия альтернативных систем бронирования в маркетинговой политике предприятий гостиничного хозяйства. Исследовано влияние альтернативных систем бронирования на маркетинговую деятельность отечественных предприятий гостиничного хозяйства.

Ключевые слова: интернет-системы бронирования, альтернативные системы бронирования, гостиничный бизнес, гостиничная услуга, инструменты интернет-маркетинга.

Background. Modern realities of the domestic hotel market testify globalization of the Internet environment and the increasing role of joint marketing. Formulation and implementation of hotel services are impossible without the integrated use of Internet marketing tools with the creation of complex mechanisms of the relationship between enterprises of the hotel industry and other subjects of the tourism market based on Internet technologies. To achieve the economic purposes of the enterprise of hotel industry they interact with the Internet reservation system, which is currently a major marketing instrument for hotel services. Dissemination of Internet distribution, availability to consumers and high technical quality booking lead to a significant reduction in the number of direct bookings on the own Internet resources of companies. The search forms of such co-operation and the establishment of equilibrium in the implementation of marketing activities provide the foundations for research.

Analysis of recent research and publications. Intensive development of Internet reservation systems and global scale of their practical application in the marketing activity of enterprises of hotel industry catalyze scientific researches within this problem. The question of appropriateness of usefulness

of Internet reservation systems in the domestic hotel industry is the subject of scientific dispute, described in the writings of the following scientists: N. Gumenyuk, K. Zakharova, K. Lemish, S. Melnichenko, A. Steshenko [1–5] and others. Scientific interest is the issues of adaptation of Internet distribution of hotel services to potential Ukrainian hotel market.

Recognizing the importance of existing scientific developments it lack of study of certain aspects of the Internet reservation systems in Ukraine should be noted. Outlined problem covered in scientific professional literature only in the context of development and opportunities of application of global reservation systems (GDS). Uncertain is the question of the use of alternative reservation systems (ADS) in the marketing activities of enterprises of hospitality industry.

The **aim** of article a research of the major development tendencies and structure of alternative reservation systems in the hospitality industry, establishing the extent of their participation in the marketing policy of enterprises hospitality, determining the impact of alternative reservation systems for marketing activities of domestic enterprises of hospitality industry and prospects for their use in the hospitality industry.

Materials and methods. For the theoretical and practical foundation for analytical research and presentation of the results in the article served research works of scientists, websites of state statistics, enterprises of hotel industry, alternative reservation systems. Research within the proposed problems was conducted on the basis of generally accepted methods: abstraction, analysis and synthesis, induction and deduction.

Results. Dynamics of global hotel market and Internet technologies leads to an increase in the number of participants and intermediaries in the formation and sale of hotel services. Along with global distribution systems in the hospitality industry, alternative reservation system has sustainable development that, in contrast to global systems, allows potential consumer to carry out direct booking of hotel services, excluding from this process link of tourism enterprises. A growing number of alternative reservation systems complicates their internal structure and provokes the emergence of intermediaries (*figure 1*).

The availability of the Internet for consumers and the deep penetration of Internet technologies in the tourism industry form understanding of practical workers the feasibility of using alternative reservation systems in sales of hotel services. However, the mechanism of their implementation of marketing activities is not worked enough, causing an imbalance in the application of Internet marketing instruments.

Extensive analysis of hotel industry enterprises located in 22 regions of Ukraine (excluding the Crimea, Donetsk and Lugansk regions) give evidences of detailed activities of enterprises of hotel industry to attract alternative systems of distribution to sales of hotel services. For some

enterprises of hotel industry such cooperation is the foundation of activity in the Internet.

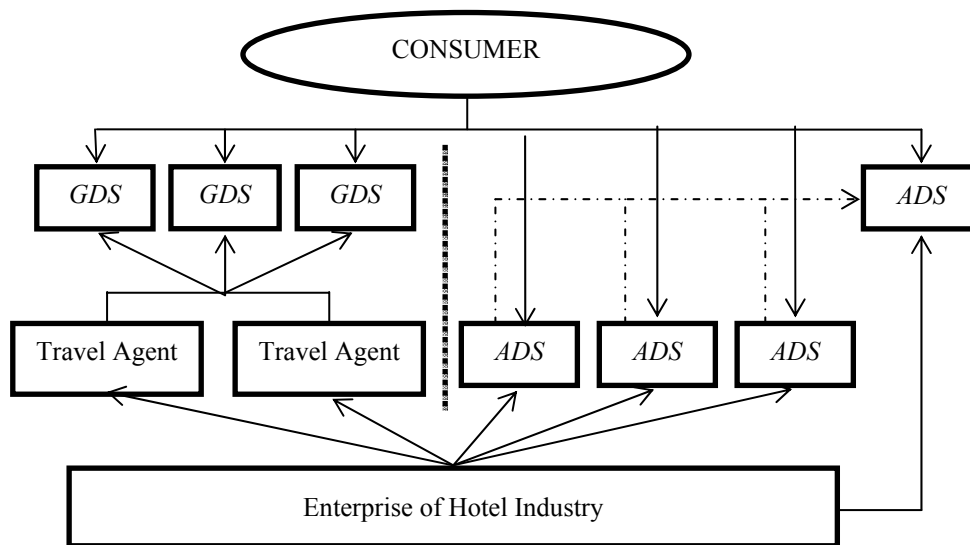


Figure 1. The general scheme of the relationship between the hotel industry enterprise and hospitality customer on the basis of the use of GDS and ADS (developed by the author)

Because of total increase in reservation systems of today their total number it can not be set. There aren't relevant all ADS for Ukrainian enterprises of hotel industry. Research results of popularity of these resources and analysis of their search engine optimization show that for the domestic hotel market there are such promising alternative distribution systems: *booking.com*, *trivago.com*, *tripAdvisor.com*, *hotels24.ua*, *hotelium.com*, *hotels-scanner.com*. It is important to note that the activities of *hotelium.com* and *hotels-scanner.com* are based on a comparison of prices for the various booking systems. The functioning of other submitted systems has individual character of interaction with hospitality industry enterprises.

The dynamic expansion of ADS sinherent to domestic enterprises of hotel industry. However, such actions are not always systemic, logic and consistent, for example, hotels of Kyiv, Lviv, Odessa, Kharkiv and Dnipropetrovsk are characterized by the highest concentration of accommodation means and have a high level of tourist and business attractions (*figure 2*).

Highest position is currently occupied by celebrated booking system *hotels-scanner.com*, which globalizes activity of reservation systems. However, similar to the structure of activity the system *hotelium.com* does not cause the interest of managers of hotel industry. Pretty high ratings have the resources *booking.com*. and *trivago.com*. This is quite logical, given the

general trend of striving for reduction of the intermediary chain in the sale of hotel services.

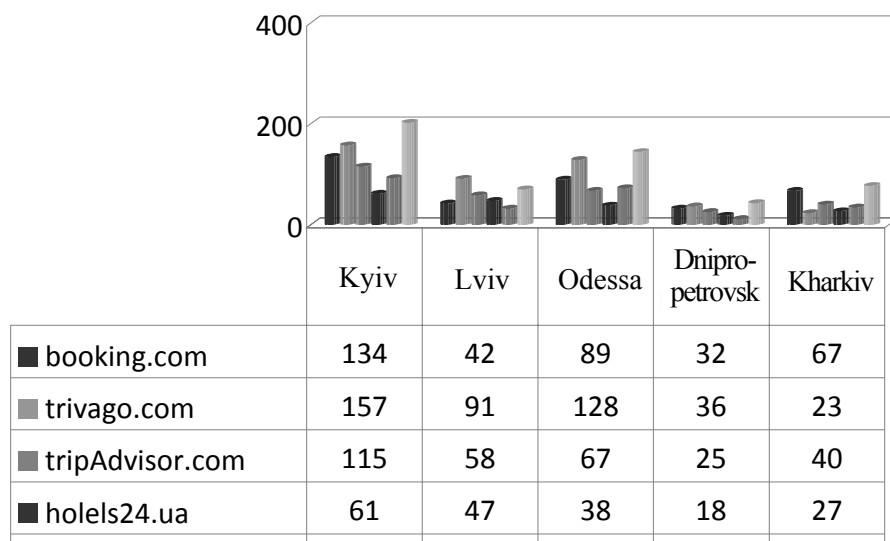


Figure 2. Number of Hotels of Kyiv, Lviv, Odessa, Dnipropetrovsk, Kharkiv in alternative reservation systems
(developed on the basis of the author [6–11])

The relationship hotel industry of enterprises and ADS is carried out by a single principle: there is no fixed fee for services of distribution and their functioning is financed by fees (10–25 %) from sales of hotel services. At first sight transparency and simplicity of this structure are indisputable because enterprise of hotel industry maximizes the number of sources of sales and reservation system makes a profit only in case of realization of its hotel services. However, a high degree of internal competition between alternative distribution systems directly affects on the development of own Internet resources of hotels.

Systems of reservation establish only the starting amount of fees and, therefore, are interested in improving its importance for the enterprises of hotel industry. Concomitant factors of this is the improvement of the technical quality of booking and making efforts for their promotion, an example of what can be called a transformation of engine optimization. Using the desire of consumers to receive information which is focused on one resource, ADS try to increase its position in search engines. Own studies show that even when you are looking for a particular hotel in search engine before you get to the site of the enterprise, the customer must visit the alternative reservation systems (*figure 3*).

Thus, today alternative booking systems are the easiest way to get information about the hotel industry company.

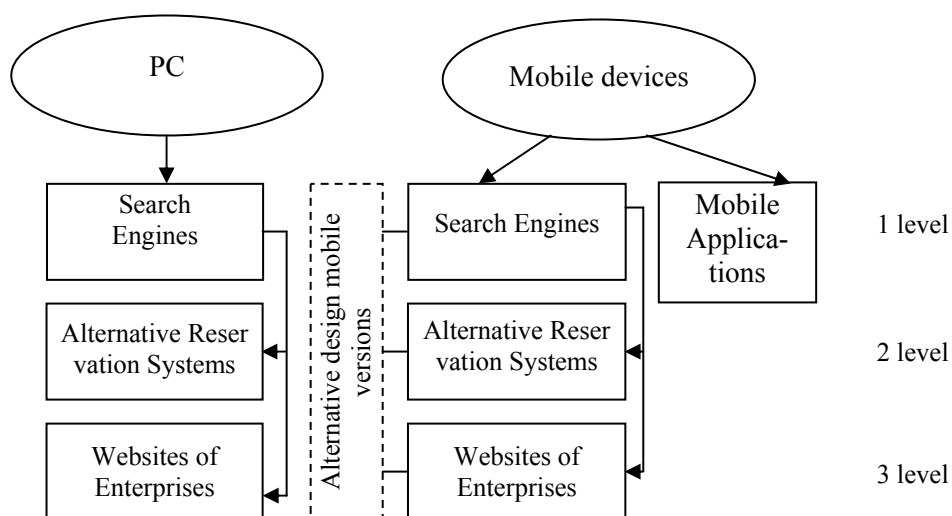


Figure 3. Transformation of search engine optimization in the development of alternative reservation systems
(developed by the author)

All ADS have typical structure and are distinguished by ease of interface and set of filters to search. To increase interface usability of reservation systems is developed adaptive design of websites and is created mobile applications that are not inherent to the sites of business hotel industry. The obvious advantage of ADS compared to the websites of the enterprises is clarity of structure in the presentation of hotel services. However, the analysis points to limitations of spectrum of information about the company (*table*).

Table

Presentation of hotels in alternative reservation systems *

Information	Booking.com	Hoteliium.com	Hotels-scanner.com	Trivago.com	TripAdvisor	Hotels24.ua
Filters:						
geolocation	+	+	+	+	+	+
by: type	+	+	+	+	+	+
categories	+	+	+	+	+	+
opinions	+	+	+	+	+	+
price	-	-	-	+	+	+
services	-	-	-	+	+	+
number of rooms	-	-	-	+	-	-
Total:						
Room types	+	+	+	+	Link to website Hotel	+
room filling	+	-	-	-		+
catering	+	-	-	-		+
extras	+	-	-	-		+
parking	+	-	-	-		+
Photo	+	+	+	+		+

* Developed by the author based [6–11].

None of the reservation systems provides full information about hotel services due to lack of graphic material. This applies particularly to representation of room stock with unique naming.

Rational in terms of developing their own Internet resources of enterprises of hospitality, is the approach of reservation systems TripAdvisor, which provides condensed information about hotel services and creates the possibility of booking, and if you want more information you can go to the website of the company.

A negative phenomenon in collaboration with ADS is the inability to respond dynamical by to changes in demand and timely decrease (increase) prices for hotel services. It is logical to assume that the direct booking through the site of enterprise is profitable both for consumers and hotel. However, different distribution systems motivate internet users with the Best price guarantee: if a consumer makes a reservation of hotel services through the selected system, and in the search detects loyal price, this distribution system is obligated to reimburse the difference to the consumer. To avoid similar situations in the contract booking systems put strict conditions on the establishment of the minimum price, the coordination of loyalty programs and discounts. Given the fact that at the present stage over 90 % of Internet bookings are made through the distribution systems, enterprises of hotel industry are forced to agree with proposed terms. This trend can be clearly traced on the example for hotels category 4* (figure 4).

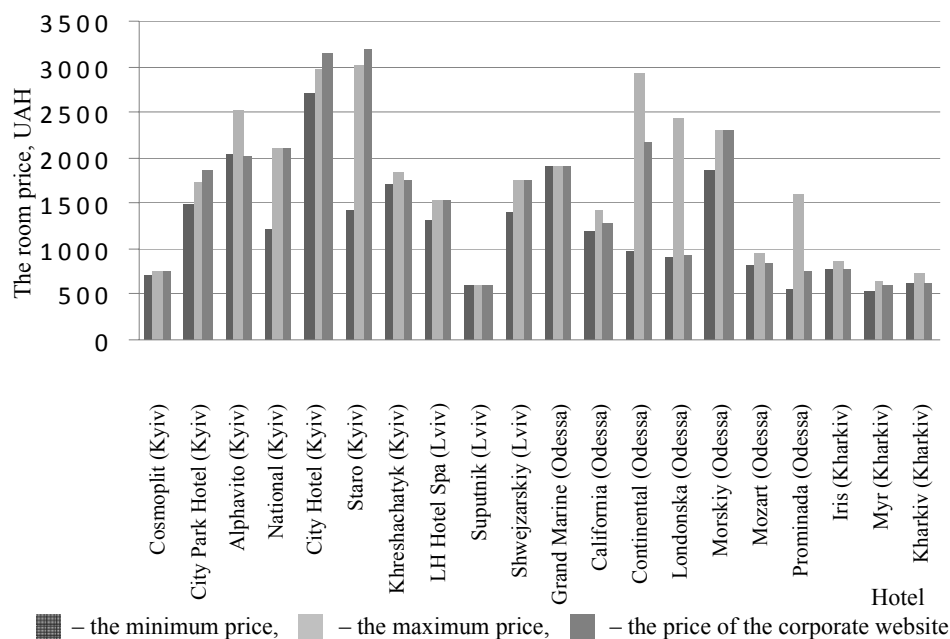


Figure 4. Comparison of the cost of a standard double room in hotels of category 4* (developed by the author on the basis of [6–30])

Note. The prices were analyzed on the same date (12 June 2015) at different reservation systems and corporate website of the company.

As shown in *figure 4*, for individual hotel industry enterprises there is price parity on the corporate website and all booking systems. But mostly there are significant differences in prices depending on the chosen ADS, and, according to the survey, in any case, the price offered by the corporate site, is not the lowest.

Barrier of direct sales on the sites of enterprises is dissonance as a booking. Most systems of distribution operate on a clear algorithm that provides the consumer a guarantee of rapid and secure bookings. At the same time a large number of companies does not consider appropriate to create the possibility of booking on the site, there is facts of non-performing booking pages. Only 2 % of companies have a "basket" and conditions of Repayment of funds outlined only 3 % of companies of the investigated sites.

The impact ADS of branding of enterprises of hospitality industry remains disputable question. Representing of hotel industry enterprise in alternative reservation systems increases the degree of recognizability of the brand. It is necessary to take into account the negative consequences.

Old problems of certification of accommodation means and imperfection of conducting of statistical research in Ukraine create obstacles in establishing of credibility of a number of enterprises of hotel economy that have a certificate for a particular category. There are facts of unreliability of information on the categories of enterprises of hotel economy in alternative reservation systems. The analysis gives reason to believe that the mentioned number of certified enterprises of hotel economy in distribution systems exceeds their actual number more than 3 times. These facts can be demonstrated at research of represent of the capital market of hotel services in alternative reservation systems (*figure 5*).

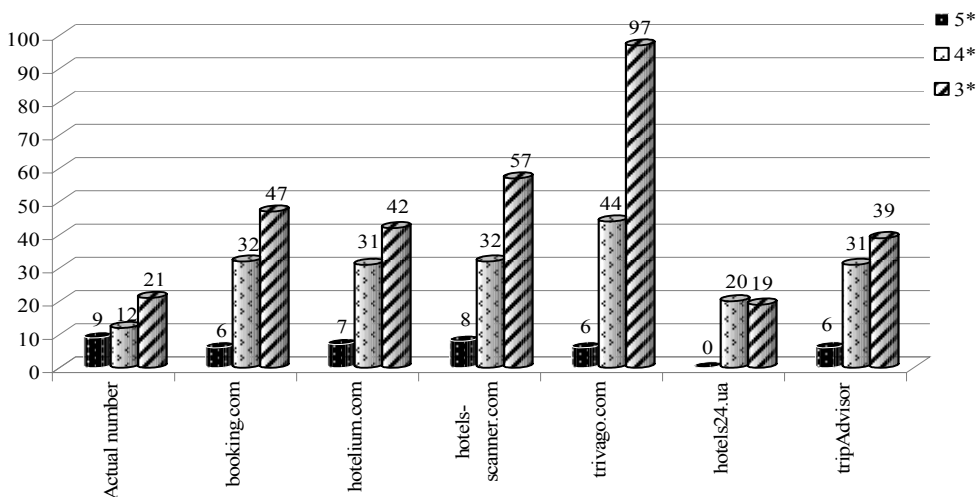


Figure 5. The number of enterprises of hotel industry in Kyiv by categories in alternative reservation systems (developed on the basis of the author [6–11, 31])

The greatest discrepancy between the real number of certified enterprises of hotel economy is observed in the segment of 3*. There are cases of appropriation of categories of luxury homes with referring to the type of hotels. Most clearly this trend is observed during the presentation in English reservation systems *booking.com*, *hotelium.com*, *hotels-scanner.com*. Less popular among Ukrainian enterprises of hotel economy booking systems often do not have accurate structure. For example, selection parameters can not be installed in system *hotels360.net.ua*, resulting in hotels 5* and 4* are often located ranked below private housing. Booking systems don't react enough dynamically on the change of categories of hospitality enterprises. For example, the hotel "Ukraine" (Kyiv), "Khreshchatyk" (Kyiv), "Prominada" (Odessa), which in 2015 raised a category to 4*, in certain booking systems still are presented as the 3*.

In conclusion alternative reservation systems have a significant effect on the components of marketing activities. Among the positive factors of their application can be distinguished convenience for the consumer; transparency of cooperation; expansion of sources of sales of hotel services. The negative consequences of interaction with ADS are to reduce of attendance of own Internet resources, dynamics braking reaction when setting prices for hotel services, unreliable information.

Conclusion. A result of research is established that alternative reservation systems form the basis of sales of hotel services, affecting the other components of the marketing activities of enterprises of hospitality industry. Domestic enterprises are widely represented in the distribution system, but such cooperation is different chaotic and requires a systematization. Paying attention to such cooperation, companies often ignore the development of its own Internet resources, which increases the importance of alternative reservation systems in their marketing activities and is a barrier to the full implementation of other internet marketing instruments. The balance at use of alternative reservation systems should be based on the development of a clear algorithm for implementation of internet marketing in marketing activities of enterprises where reservation system will be just one of the tools of marketing and development of their own Internet resources will reduce their importance in the formation and realization of hotel services. Further research will be aimed at harmonizing the use of Internet distribution in the system of Internet marketing of enterprises of hotel industry.

REFERENCES

1. *Gumenjuk N. V.* Global'ni komp'juterni systemy rezervuvannja: praktyka vykozystannja v turystychnij galuzi [Elektronnyj resurs] / N. V. Gumenjuk, A. O. Palamarchuk // *Visnyk Hmel'nyc'. nac. un-tu.* — 2010. — № 4. — Rezhym dostupu : http://journals.khnu.km.ua/vestnik/pdf/ekon/2010_4_4/061-064.pdf.

2. Zaharova K. V. Ispol'zovanie sovremennyh informacionnyh tehnologij v turistichej ottrasli Kryma [Elektronnyj resurs] / K. V. Zaharova // Jekonomika Kryma. — 2009. — № 27. — Rezhym dostupu : http://www.nbu.gov.ua/portal/soc_gum/Ekonk/2009_27/econ_27_2009.pdf.
3. Lemish K. V. Udoskonalennja upravlinnja gotel'nym pidpryjemstvom na osnovi informacijnyh tehnologij [Elektronnyj resurs] / K. V. Lemish // Global'ni ta nacional'ni problemy ekonomiky. — 2014. — № 2. — Rezhym dostupu : <http://www.global-national.in.ua/archive/2-2014/119.pdf>.
4. Mel'nychenko S. V. Informacijni tehnologii' v turyzmi : teorija, metodologija, praktyka : monografija / S. V. Mel'nychenko. — K. : Kyi'v. nac. torg.-ekon. un-t, 2008. — 493 s.
5. Steshenko O. D. Optyimizacija vytrat gotel'nogo pidpryjemstva [Elektronnyj resurs] / O. D. Steshenko // Komunal'ne gospodarstvo mist. — 2013. — № 108. — Rezhym dostupu : <http://eprints.kname.edu.ua/33022/1/563570%20%D0%A1%D1%82%D0%B5%D1%88%D0%B5%D0%BD%D0%BA%D0%BE%20%D0%9E%D0%94.pdf>.
6. *Internet-sajt* systemy bronjuvannja booking.com [Elektronnyj resurs]. — Rezhym dostupu : <http://www.booking.com>.
7. *Internet-sajt* systemy bronjuvannja trivago.com [Elektronnyj resurs]. — Rezhym dostupu : <http://www.trivago.com>.
8. *Internet-sajt* systemy bronjuvannja tripAdvisor.com [Elektronnyj resurs]. — Rezhym dostupu : <http://www.tripadvisor.com>.
9. *Internet-sajt* systemy bronjuvannja hotels24.ua [Elektronnyj resurs]. — Rezhym dostupu : <http://hotels24.ua>.
10. *Internet-sajt* systemy bronjuvannja hotelium.com [Elektronnyj resurs]. — Rezhym dostupu : <http://www.hotelium.com>.
11. *Internet-sajt* systemy bronjuvannja hotels-scanner.com [Elektronnyj resurs]. — Rezhym dostupu : <http://www.hotels-scanner.com/?languageCode=RU>.
12. *Internet-sajt* gotelju "Kosmopolit" [Elektronnyj resurs]. — Rezhym dostupu : <http://www.cosmopolit-hotel.com>.
13. *Internet-sajt* gotelju "Siti Park Gotel'" [Elektronnyj resurs]. — Rezhym dostupu : <http://ukrainian.citypark-hotels.com>.
14. *Internet-sajt* gotelju "Alfavito" [Elektronnyj resurs]. — Rezhym dostupu : <http://www.alfavito.com.ua/ru/index.htm>.
15. *Internet-sajt* gotelju "Nacional'nyj" [Elektronnyj resurs]. — Rezhym dostupu : <http://www.natsionalny.kiev.ua/index.php?idd=3&hl=ru>.
16. *Internet-sajt* gotelju "Siti Gotel'" [Elektronnyj resurs]. — Rezhym dostupu : <http://cityhotel.ua/ru>.
17. *Internet-sajt* gotelju "Staro" [Elektronnyj resurs]. — Rezhym dostupu : <http://staro.com.ua/ru/destination>.
18. *Internet-sajt* gotelju "Hreshhatyk" [Elektronnyj resurs]. — Rezhym dostupu : <http://www.hotel-khreschatyk.kiev.ua/ua>.
19. *Internet-sajt* gotelju "LH Hotel & Spa" [Elektronnyj resurs]. — Rezhym dostupu : <http://lhhotel.com.ua/ru>.
20. *Internet-sajt* gotelju "Suputnyk" [Elektronnyj resurs]. — Rezhym dostupu : <http://suputnyk.lviv.ua>.

21. *Internet-sajt* gotelju "Shvejcars'kyj" [Elektronnyj resurs]. — Rezhym dostupu : <http://swiss-hotel.lviv.ua/ru>.
22. *Internet-sajt* gotelju "Grand Marine" [Elektronnyj resurs]. — Rezhym dostupu : <http://grand-marine.com.ua>.
23. *Internet-sajt* gotelju "Kalifornija" [Elektronnyj resurs]. — Rezhym dostupu : <http://hotelcaliforniaodessa.com>.
24. *Internet-sajt* gotelju "Londonskaja" [Elektronnyj resurs]. — Rezhym dostupu : <http://londred.com>.
25. *Internet-sajt* gotelju "Mors'kyj" [Elektronnyj resurs]. — Rezhym dostupu : <http://morskoy.com>.
26. *Internet-sajt* gotelju "Mocart" [Elektronnyj resurs]. — Rezhym dostupu : <http://mozart-hotel.com>.
27. *Internet-sajt* gotelju "Prominada" [Elektronnyj resurs]. — Rezhym dostupu : <http://prominada.com>.
28. *Internet-sajt* gotelju "Iris" [Elektronnyj resurs]. — Rezhym dostupu : <http://hoteliris.com.ua/rus>.
29. *Internet-sajt* gotelju "Myr" [Elektronnyj resurs]. — Rezhym dostupu : <http://www.hotel-mir.com.ua>.
30. *Internet-sajt* gotelju "Harkiv" [Elektronnyj resurs]. — Rezhym dostupu : <http://hotel.kharkov.com>.
31. *Internet-sajt* Derzhturyzmkurortu [Elektronnyj resurs]. — Rezhym dostupu : <http://www.tourism.gov.ua/ua>.

Articles submitted to editors office of 02.10.2015.

Даниленко М. Інтернет-дистрибуція готельних послуг.

Постановка проблеми. Наукову статтю присвячено актуальному питанню взаємодії підприємств готельного господарства з альтернативними системами бронювання у процесі формування та реалізації готельних послуг, що здійснюються на основі інтернет-технологій. Пошук доцільності форм їх співпраці та встановлення паритету у здійсненні маркетингової діяльності створюють підґрунтя для наукових досліджень.

Аналіз останніх досліджень і публікацій у межах визначеної проблеми свідчить, що вітчизняними науковцями неодноразово підкреслювався високий потенціал українського готельного ринку щодо використання глобальних систем бронювання. Аргументовано актуальність цього процесу та досліджено бар'єри впровадження. У той же час питання використання альтернативних систем бронювання у маркетинговій діяльності підприємств готельного господарства є малодослідженими.

Мета статі – дослідження основних тенденцій розвитку та структури альтернативних систем бронювання у готельному бізнесі, встановлення ступеня їх участі у маркетинговій політиці підприємств готельного господарства, визначення впливу альтернативних систем бронювання на маркетингову діяльність вітчизняних підприємств готельного господарства та перспектив їх застосування у готельному бізнесі.

Матеріали та методи. Теоретичним і практичним підґрунтям для аналітичного дослідження та представлення результатів у статті слугували наукові праці вчених, інтернет-сайти органів державної статистики, підприємств готельного господарства,

альтернативних систем бронювання. Дослідження у межах запропонованої проблеми проведено на основі загальноприйнятих методів: абстрагування, аналізу та синтезу, індукції і дедукції.

Результати дослідження. Сучасні реалії готельного ринку формують у практичних працівників розуміння доцільності застосування альтернативних систем бронювання. Збільшення їх кількості та встановлення високого ступеня конкуренції супроводжується постійним покращанням технічної якості та швидкості бронювання на сайтах систем. Поступово системи дистрибуції стають основним джерелом збуту готельних послуг, витісняючи пряме бронювання з власних інтернет-ресурсів підприємств готельного господарства. Недостатня відпрацьованість механізму такої співпраці призводить до виникнення дисбалансу при використанні інструментів інтернет-маркетингу.

Висновки. Встановлення балансу у використанні альтернативних систем бронювання має базуватися на розробленні чіткого алгоритму впровадження інтернет-маркетингу у маркетингову діяльність підприємства, де системи бронювання будуть лише одним з інструментів збуту, а розвиток власних інтернет-ресурсів знизить їх значення у процесі формування та реалізації готельних послуг.

Ключові слова: інтернет-системи бронювання, альтернативні системи бронювання, готельний бізнес, готельна послуга, інструменти інтернет-маркетингу.



FINANCE AND BANKING

UDC 336.71

SHULGA Natalya, Doctor of Economics, Professor, Head of Banking Department, KNUTE

CHORNYI Anton, PhD in Economics, Associate Professor, Statistics and Econometric Department, KNUTE

STEPASHOVA Alina, Senior Economist of Credit Risk Management Department of PJSC "UKRINBANK"

SYSTEMATIC RISK ASSESSMENT OF BANKS

Definition of "systemic risk" has been improved. Global approaches to assessment and identification of systemic risk and the basic indicator of their determination have been analyzed. Mathematical model of predicting the emergence of systemic risk in the banking system of Ukraine has been developed and its test has been conducted.

Keywords: systemic risk, systemically important banks, risk assessment, indicators of systemic stress, statistical model of nonlinear regression.

Шульга Н., Черный А., Степашиова А. Оценивание системного риска банков. Усовершенствовано определение понятия "системный риск". Проанализированы мировые подходы к оценке и выявлению системных рисков и основные индикаторы их определения. Разработана экономико-математическая модель прогнозирования возникновения системного риска в банковской системе Украины и проведено ее тестирование.

Ключевые слова: системный риск, системно важные банки, оценка риска, индикаторы системного стресса, статистическая модель нелинейной регрессии.

Background. The phenomenon of systemic risk was at the turn of the twentieth century. But most of all it was during the last global crisis, which led to catastrophic losses. Only state financial support of banking and non-banking financial institutions during the crisis in individual countries ranged from 1–44 % of GDP. Increased globalization, concentration of banking capital and the volatility of prices in financial and commodity markets poses a threat of a new wave of systemic risk, the consequences of which can be even more devastating for the economy in general and the banking sector

© Shulga N., ChornyA., Stepashova A., 2015

90 ISSN 1727-9313. HERALD OF KNUTE. 2015. № 6

in particular. This requires not only research the causes of systemic risk, but also the formation of a new paradigm of risk management in the context of their relationship, which together can generate systemic risk, diagnostic tools and risk of its occurrence the signal for different time horizons and also to develop the preventive measures actions by mega- and national regulators.

Analysis of recent research and publications. The issue of determining the nature and causes of systemic risks, their assessment methodologies, risk management system is a subject of numerous scientific papers, authored by Nobel laureates M. Spence and I. Stiglitz [1; 2], as well as famous foreign and domestic researchers: N. Roubini, C. Johnson, J. Nhuyyen, N. Kuznetsov, A. Baranowski, S. Naumenkova [3–8] and others. Paying tribute to the scientific achievements in this area still remains a debatable question of interpretation of the term "systemic risk" definition of methodological approaches to its recognition in the countries belonging to the group of developing countries, including Ukraine. After all, traditional systemic risk indicators used in foreign banking practices can not be calculated in Ukraine due to lack of appropriate information base, as well as some distortion of the data presented in the financial statements of banks. This requires further research, defines its goals and objectives.

The **aim** of the article is to open theoretical and methodological provisions on the nature of systemic risk indicator and its measurement, and develop economic and mathematical models that predict the emergence of this risk in the banking sector of Ukraine. There are the following objectives to achieve this goal: to provide interpretation of the definition of "systemic risk"; to determine the causes of systemic risk; to build a mathematical model predicting systemic risk of the domestic banking system for different time horizons.

Materials and methods. The study was conducted on the basis of scientific works of foreign and domestic scientists on the theory of systemic risk banks. The study entrusted with general scientific and special methods of cognition: abstract logic – for professional analysis of scientific literature, theoretical generalization and forming conclusions on the economic nature of systemic risk and its causes; decomposition – to disclose the purpose of the study and setting goals; analysis and synthesis – to determine the influence of the most important risk factors for the emergence of a systemic crisis in the banking sector; statistical and economic – for the prediction of systemic risk on the basis of certain indicators of macroeconomic development of Ukraine and its banking system.

Results. In English scientific literature there are two concepts: "*systemic risk*" as an event that can cause the collapse of a sector or the economy; "*systematic risk*" as general risk in the market [5]. But it is often when describing systemic risk (SR) used the first concept. The second term is used in some scientific publications as a synonym of systemic risk.

A critical review of the literature revealed debate around the definition of "systemic risk". Some researchers use the term "systemic risk" to the characteristics of particular problems, such as the payment system. But it is often seen as SR arising as a result of multiple risks. They are liquidity, credit, market and so on. In particular, the Center for Macroeconomic Analysis and long-term forecasting (RF) defines SR banking sector as a combination of credit, foreign exchange and liquidity risks, leading to a systemic banking crisis, that crisis, which covers most of the banking sector, including systemically important banks [6].

Systemic risk is aggregated inherent in the system as a whole as a combination of elements that are certain types of risks are interrelated. It should be emphasized that the total value of bank losses SR is not equal to the sum of losses on all types of risks because of the correlation between them.

Systemic risk leads to disruption of the normal functioning of some systemically important banks, the banking system and balance in the financial market. In economies where financing dominates through financial markets SR regarded as systematic market risk characteristic of all assets that can not be eliminated through diversification. In economies with handling financing through a bank loan the systemic risk is usually interpreted as the risk of the banking sector [3].

It was established that the vast majority of authors emphasize that cause of systemic risk is global financial imbalances. For example it was a high leverage ratio with a positive balance of the state budget (as in Spain), which led to an unjustified increase in lending to real estate. Extreme fiscal imbalance had a negative impact on economic growth (e.g. in Greece). Financial and economic imbalances have led to dangerous fiscal imbalances, as tax revenues declined and the cost of social insurance and "rescue" measures increased. Moreover, global financial imbalances were caused by "consumer" behavior of some countries, including the US and some European, which caused an unjustified increase in mortgage lending and, consequently, led to the so-called "financial bubbles" [1].

In the banking sector systemic risk often appears through bankruptcy of systemically important banks. For example, the bankruptcy of investment bank *Lehman Brothers* in 2008 caused a "domino effect" and many problems and defaults of related banks and corporations. SR rather turns at break (in any reason) the established relationship between financial market participants, which in turn leads to the inability to implement the overwhelming majority of their own strategic goals and objectives, the loss of added value, and perhaps bankruptcy etc.

Identification and regulation of systemic risk of the financial sector should be viewed on three levels: *individual* (at the level of a particular financial institution); *country* (at the level of national regulator); *global* (at the level of mega regulator).

At the level of mega regulator the permanent monitoring and assessment of systemic risks are carried out by the IMF, the ECB, World

Bank Group and the leading rating agencies *Fitch* and *S & P*. Methods of calculating these codes are constantly changing and the majority of them were designed by 2010–2011. Refusal to calculate a number of indicators of systemic stress associated with not enough accurate assessment of systemic risk. A striking example is the calculation of financial stress index, which was determined by IMF in 2010, and further any information on its use are not available. The purpose of this index was to determine the breadth and intensity of the crisis and the troubled financial market segments (banking, securities, and foreign exchange markets) that lead to the systemic risk. The critical level was considered excess value of 1.5 standard deviation values of this index. The index had differences in the calculations for the developed countries and developing countries.

For developed countries included subindexes 7 in the calculation, that belonged to the banking sector, stock market volatility and foreign exchange. Among the indicators of the banking sector it was taken into account the volatility of prices of bank shares, spreads on interbank rates and rates on Treasury bonds; stock market – the spreads on corporate bonds, the yield on the stock market volatility and stock returns.

For developing countries, the method of calculation of this index had the following features. First, the calculation included the compression rate of the currency market because it is the most widespread source of stress in these countries. Although many of them officially adopted flexible exchange rate regime, the regulator often allowed only minimal fluctuations (the effect of "fear of free navigation"). Second, the calculation of the index was not included on corporate bonds due to its low value.

The most reliable indicator of systemic risk today is the *Composite Indicator of Systemic Stress (CISS)*, which is based on the application of the basic portfolio theory to five aggregated market-specific subindexes that derived from 15 individual indicators of financial stress. The calculation also takes into account the cross-correlation between the temporal change of sub-indices [9]. *CISS* has three levels (*figure 1*).

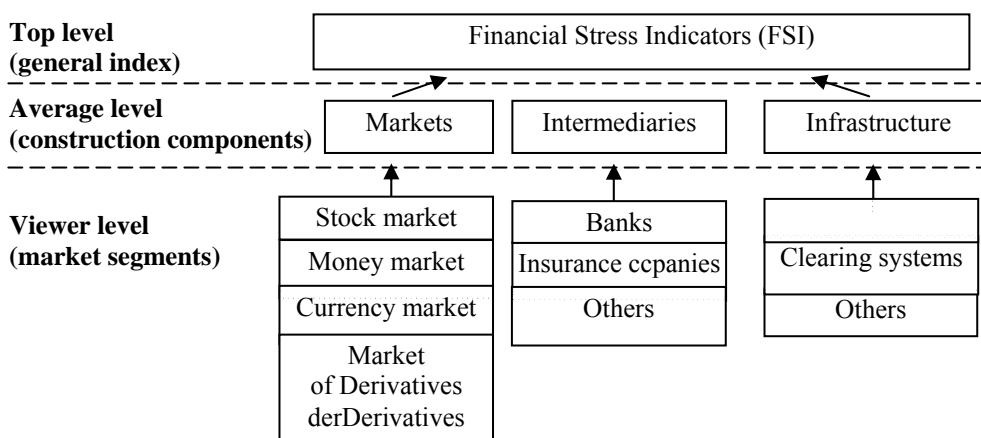


Figure 1. Indicators of Eurozone systemic stress with three levels of using [9]

This index indicates with sufficient certainty the "symptoms" of the crisis in the euro area. However, given the specificity of the functioning of the EU, it is unlikely it can be used for measuring risk in other countries. In addition, there is an objective need to identify national regulators from certain groups of indicators of systemic risk that would determine the features of each country. So, the appearance of SR source is macro level that creates the need for additional studies and national regulation of systemic risk regulator.

Most regulators of developed countries expect their own indicators of SR, for example, Federal Reserve Banks (FRB) in the United States. The most famous of them are FRB of St. Louis and FRB Kansas that define indicators of financial stress *STLFSI* (*St. Louise Financial Stress Indicator*) and *KCFSI* (*Kansas City Financial Stress Indicator*) respectively. Indices have similar methods of calculation. Both include 11 indicators, 7 of which are spread between different types of bonds, the remaining evidence of price volatility on key financial instruments (shares of banks, treasury bonds) and general stock market volatility through the index. The results of calculations are aimed at identifying increasing uncertainty about asset values and behavior of investors, asymmetry of information, reducing the desire of investors to hold risky and illiquid assets [10]. Indicators are accurate enough to identify adverse events for US markets, but absolutely unsuitable for any other countries. Index calculation example for countries with less weight the stock market can serve as a combined proactive indicator (CPI), determined by the Center for Macroeconomic Analysis and Short-term Forecasting (RF). The calculation is made for the three countries of the Customs Union: Russia, Belarus and Kazakhstan – on the basis of the actual amount of their GDP. It takes into account in calculating of this index the volume of industrial production, retail trade turnover, investment in fixed assets, the RTS index, price index for oil and nickel, as well as some indices of industrial production sector. However, this indicator has a number of significant shortcomings that does not allow it to assess the systemic risk of the banking sector. First, it virtually ignores the purely banking indicators, but focuses mainly on the real sector. Second, the indicator is inaccurate and does not reflect reality, and not adjust to changing market conditions. Thus, at the end of December 2014 CPI of currency market showed high probability of the exchange rate USD / RUB by 15 % and the inflation rate for 2014 was planned at 6.7 %. Even after the events of December 15, 2014, a day when the ruble lost nearly 30 % of its value, meaning of the forecast inflation for 2015 Russian currency remained unchanged in the updated data as at 12.26.2014 by 5.8 % [11]. This may indicate limited performance and inappropriate definition of this indicator.

Due to the limited information base, none of these indicators can be used in Ukraine, so it put forward a number of hypotheses about the reaction of some indicators of the macroeconomic situation of the country and its banking sector to the emergence of systemic risk [12; 13].

The level of systemic risk in Ukraine increased:

hypothesis 1: with a decrease in the ratio of reserves to GDP (indicator x1). Reducing reserves, which caused depreciation of the national currency to foreign, leads to an increase in money supply, which is a symptom of the instability of the economic environment;

hypothesis 2: the growth of the ratio of budget deficit to GDP (x2). This is due to the fact that the increase in the budget deficit leads to a significant breach of redistributive relations that arise due to a significant decline in business activity of economic entitie;

hypothesis 3: the growth ratio of public debt to GDP (x3). The increase in government debt due to the lack of funds and the state is a negative factor. The growth of debt increases the role of banks in the redistribution of public funds, because they buy government securities in order to obtain small but stable income as well as their use as collateral for refinancing from the central bank. Covering an acute shortage of bank liquidity at the expense of refinancing leads to wheeling of "financial flywheel" which affects the interests of not only individual banks but also gives financial equilibrium of the banking sector as a whole. You can make the hypothetical assumption that, in turn, promotes the deployment of systemic risk in the banking sector;

hypothesis 4: the growth ratio of monetary aggregate M2 to GDP (x4). The more liquid money supply in circulation, the lower the value of the currency, forcing banks to adjust interest rates adjusted for inflation, and thus leads to higher costs and a decrease in lending;

hypothesis 5: the growth of the volatility of the interbank exchange rate EUR (x5). There had been an administrative regulation of the exchange rate In Ukraine by 2014, which took into account not the real economic situation. Since February 2014, the National Bank of Ukraine began to pursue the policy of free navigation of the exchange rate of the national currency to the foreign language. This period chosen for comparison EUR exchange rate against the hryvnia on the interbank market, actively varies depending on supply and demand of foreign currency;

hypothesis 6: the growth of the average interest rates on loans (x6). Rise credits automatically means reducing the number of creditworthy borrowers, and hence the fall in lending;

hypothesis 7: the growth of the average interest rates on deposits (x7). The cost increases due to the outflow of deposits from the resource base of the banking sector, which also causes increase in the cost of active operations of banks;

hypothesis 8: with a decrease in interest rates (x8). In times of crisis, so as not to incur losses, banks reduced the number of planned revenues. Such a trend in the banking system suggests approaching crisis;

hypothesis 9: the growth of consumer price index (x9). This shows a decline in purchasing power and, therefore, the decrease in loans and deposits;

hypothesis 10: with increasing volatility in balances on correspondent accounts with the NBU (x10). Index is a reflection of liquidity in the banking system of Ukraine, and thus to a reduction in stability balances of these funds decreased ratio of deposits and loans of banks;

hypothesis 11: with a decrease in value of loans granted by banks to GDP (x11). The reduction in lending suggests slowing the movement of capital and thus economic slowdowns;

hypothesis 12: with a decrease in the ratio of trade balance to GDP (x12). Significant changes in this indicator show the imbalance in export-import operations and cash flow between Ukraine and other countries;

hypothesis 13: with a reduction in value of the ratio of deposits to loans to banks in Ukraine (x13). During the crisis of active operations are carried out largely by the borrowed funds in connection with the outflow involved;

hypothesis 14: the growth ratio of non-performing loans to the loan portfolio of banks of Ukraine (x 14). This shows a decline in credit quality and reduce borrowers' solvency;

hypothesis 15: with a decrease in loan portfolio ratio to the share capital of banks (x15). This is reflected in the reduction in lending and the degree of use of the most expensive resource which are own funds for active operations;

hypothesis 16: with a decrease in the ratio of liquid assets to current liabilities (x16). This indicator describes the liquidity of the banking system and the ability of banks to fully pay for current obligations;

hypothesis 17: with increasing volatility in overnight lending rates in the interbank market (x17). For comparison, the interest rate is taken *KievPrime*. The choice of indicator due to the fact, that the loans "overnight" are used to cover liquidity gaps. The higher the overnight rate, the greater the demands for liquid funds and, therefore, lower liquidity of the banking system;

hypothesis 18: the growth of the composite Eurozone stress indicator system (CISS) (x18). The indicator is chosen to study the relationship of national and European economies, that the impact of external factors on the banking system of Ukraine.

econometric modeling was applied to test these hypotheses, i.e. assumptions about these indicators respond to the emergence of a systemic crisis. These methods include regression model that reveals change dependent parameter influenced by other variables (factors), due to the existence of causal relationships between them.

As dependent variable was used indicator of systemic crisis, it may take two mutually exclusive (binary) values: the one in the case of crisis,

and 0 is for its absence. A value of 1 describes a period of economic downturn or recession profitability of the banking business by most researchers as a crisis. Thus, this period: the end of 2008 – beginning of 2009, the second half of 2010 – beginning of 2011 and the second half of 2014. In the case where the dependent variable takes only two values, usually 0 and 1, that is a binary variable using classical linear regression model is inappropriate. This change between the levels of the dependent variable is nonlinear, so it is appropriate to use non-linear regression model that estimates the probability of acquiring the dependent variable corresponding value [14]. Among the most popular are *Logit* and *Probit* model. This study uses logit model in which the explanatory variables are the logs (preliminary value) factor variables and the probability of crisis is modeled by logistic distribution law.

In general logit model with lagged explanatory variables can be represented as:

$$Y_t = a_0 + BX_{t-n} + \varepsilon,$$

where Y_t – dependent variable that takes the value $Y = 1$, if the crisis;

$Y = 0$ – the absence of crisis;

B – vector of estimated coefficients;

X_{t-n} – vector of lagged explanatory variables, n – lag order;

ε – "white noise" [14].

An important prerequisite for the estimation of logistic regression models for time series data is stationarity of latter. We use ADF test (appropriate criteria) to define stationarity of all time series, and if it was identified as non-stationary, we take first difference in order to brought it to a stationary state [15].

We test stationarity of variables (factor) and estimate parameters of logit models with package *Gretl* 1.10 [16], which is freely available and designed for econometric modeling. It was investigated a number of models with lags of explanatory variables to identify factors that can be used as leading indicators. For the purpose of early warning the lag of 12 months is set, medium-term – 6 months and late warnings (i.e. the least to the time of the crisis) – 3 months. Models were selected by successive exclusion of variables with the highest probabilities (P-value) that included a variable effect are insignificant, i.e. coefficients equal to 0. Finally, as the best were defined the models with the lowest values of Akaike and Schwarz information criteria and all statistically significant regression coefficients [15]. Assessment criteria and adequacy of appropriate models for 3, 6 and 12 months are given in the (tables 1–6). Full multicollinearity was found between x_8 and other variables, making it possible to exclude this variable from further investigations. In addition in order to the reduce variation (especially distinctive presence of total value) we used logarithms of variables (and) x_{10} and x_{17} .

Table 1

**Parameter estimation results of binary logit model with lagged variables
for 12 months in the banking system Ukraine**

Model: logit used observations 2009: 02-2013: 12 (T = 59)

Parameter	Coefficient	Statistical Error	<i>z</i>	<i>P</i> -value	Significance
<i>const</i>	-12.9431	3.7560	-3.4457	0.0005	***
<i>d x3</i>	-0.0002	0.0001	-1.5413	0.1232	–
<i>d x6</i>	0.8651	0.4783	1.8109	0.0701	*
<i>x7</i>	1.0573	0.3151	3.3538	0.0008	***
<i>x12</i>	-3.3922	1.2652	-2.6796	0.0073	***
<i>d x13</i>	95.8342	35.4160	2.7059	0.0068	***
<i>d x16</i>	0.1232	0.0900	1.3628	0.1729	–
<i>l x17</i>	-0.5531	0.2313	-2.3974	0.0165	**
Indicators of model adequacy					
MacFadden <i>R</i> -squared	0.4207	Adjusted <i>R</i> -squared	0.2179		
The logarithm of credibility	-22.8535	Criterion Akaike	61.7070		
Schwartz Criterion	78.3273	Hannan-Quinn Criterion	68.1949		

Note. The first difference between the levels of factor indicated as *d*.

Number of stars indicates the statistical significance of the coefficient at the appropriate level: * – 10 % ** – 5 % *** – 1 %.

Table 2

**Distribution of observed and predicted events of crisis
of Ukraine's banking system with 12 months lagged variables**

	Estimated indicators of crisis	
	0	1
The observed indicators of crisis		
0	30	6
1	6	17

Overall adequacy of the model is confirmed by sufficiently high value of McFadden *R*-square (0.42), and its significance at 5 %. It is analogous to the traditional coefficient of determination for (models) logistic regression.

Based on the results it can be concluded that reveal the crisis for 12 months is possible based on the model with a (significant influence) factors *x6*, *x7*, *x12*, *x13* and *x17* that enabled correctly identified 47 cases of the system of 59 (79.7 %), 17 of them as crisis (73.9 %) and (to) identify the start of two crisis's (2008–2009 and 2014). In this model, there are variables whose impact is insignificant, but their exclusion leads to increase in Akaike and Schwartz criteria and reduce the adjusted coefficient of determination, so this model specification was selected.

Table 3

Parameter estimation results of binary logit model with lagged variables for 6 months in the banking system Ukraine

Model: logit used observations 2008: 08-2013: 12 (T = 65)

Parameter	Coefficient	Statistical error	<i>z</i>	<i>P-value</i>	significance
<i>const</i>	-3.3632	7.2031	-0.467	0.6405	
<i>d_x1</i>	1.0322	0.4222	2.4452	0.0144	**
<i>x2</i>	-0.5441	0.2231	-2.4330	0.0149	**
<i>x4</i>	0.0424	0.0181	2.3070	0.0210	**
<i>d_x6</i>	-1.8470	0.8352	-2.2102	0.0270	**
<i>x7</i>	0.5942	0.3524	1.6870	0.0915	*
<i>d_x9</i>	-3.1501	1.3642	-2.3090	0.0209	**
<i>x11</i>	-0.04083	0.0153	-2.6863	0.0072	***
<i>d_x15</i>	0.2412	0.0921	2.6161	0.0089	***
<i>l_x17</i>	-1.1390	0.5123	-2.2221	0.0262	**
<i>d_x18</i>	16.8022	7.8421	2.1421	0.0321	**
Indicators of model adequacy					
<i>McFadden R-squared</i>	0.6814	Adjusted R-squared		0.4300	
The logarithm of credibility	-13.9371	Criterion Akaike		49.8741	
Schwartz Criterion	73.7924	Hannan-Quinn Criterion		59.3114	

Table 4

Distribution of observed and predicted events of crisis of Ukraine's banking system with 6 months lagged variables

		Estimated indicators of crisis	
		0	1
The observed indicators of crisis	0	37	2
	1	3	23

In six months it possible to identify crisis with a model that includes variables (~~) *x1, x2, x4, x6, x7, x9, x11, x15, x17, x18*, which correctly identified 60 cases of the system of 66 (92.3 %) of including 23 crisis (88/4 %), and promptly found early 2 crises (2008–2009. and 2014).~~

For 3 months before the start of the crisis signals the model with factors such as *x3, x4, x5, x6, x10, x11, x12, x13, x16, x17*, which (generally) correctly identified 59 cases of the system from 68 (86.8 %), and 22 of them as crisis of 26 (84.6 %) and detects the beginning of the crisis with an average probability of 66.7 % (2 cases out of 3).

An important practical criterion of predictive power of the model is its ability to correctly identify the beginning of the crisis, i.e. high probability of correct estimation for the first month of the crisis period. Therefore, when comparing models a lot of attention is paid to the assessment of the probability of crisis for the first month of each crisis period. In the event that the probability is greater than 0.5, this assessment is defined as successful,

otherwise – no. As a result, the best model will be defined that will correctly predict the first three months of systemic crises that have occurred over the period of study. In this regard, even better (smaller) value of information as the ultimate criterion has been chosen a model which enabled correctly predict the beginning of the crisis or had higher compared with other predictive probability for the initial month crisis.

Table 5

Parameter estimation results of binary logit model with lagged variables for 3 months in the banking system Ukraine

Model: logit used observations 2008: 05-2013: 12 (T = 68)

Parameter	Coefficient	Statistical error	z	P-value	Significance
<i>const</i>	-2.8833	4.0694	-0.7085	0.4786	
<i>d_x3_3</i>	4.09494e-05	1.78586e-05	2.2930	0.0218	**
<i>x4_3</i>	0.04898	0.0170	2.8905	0.0038	***
<i>d_x5_3</i>	12.5941	6.4929	1.9397	0.0524	*
<i>d_x6_3</i>	1.7497	0.7904	2.2135	0.0268	**
<i>ld_x10_3</i>	1.2266	0.7074	1.7339	0.0829	*
<i>x11_3</i>	-0.0323	0.0111	-2.9100	0.0036	***
<i>x12_3</i>	5.3051	2.0687	2.5644	0.0103	**
<i>d_x13_3</i>	-250.3551	78.9197	-3.1723	0.0015	***
<i>d_x16_3</i>	-1.7465	0.6143	-2.8430	0.0044	***
<i>l_x17_3</i>	-0.8272	0.2790	-2.9647	0.0030	***
Indicators of model adequacy					
McFadden R-squared	0.5930	Adjusted R-squared	0.3498		
logarithm of credibility	-18.4104	Criterion Akaike	58.8208		
Schwartz Criterion	83.2354	Hannan-Quinn Criterion	68.4946		

Table 6

Distribution of observed and projected indicators of crisis in the banking system of Ukraine study period

		Estimated indicators of crisis	
		0	1
The observed indicators of crisis	0	37	5
	1	4	22

Analyzing (representation) model signals the start of the crisis (table 7) we can conclude that with it could be in time to determine the beginning of the crises of 2008 and 2013 with their help, but the crisis in 2010 was detected by models of late warning with a delay of one month and conditionally – early warning model. Note that the warning signal based on model with 3-month lags failed on May 2013, (that is) so, from a formal point of view the signal is wrong, (and) but practically – it has provided useful information, therefore, fulfilled its predictive function.

Table 7

Comparison of the crisis probability estimates for models with varying time lag

Time	Crisis availability	Estimates of crisis probability		
		3 months	6 months	12 months
2008:10	0.0000	0.0552	0.0011	–
2008:11	1.0000	0.8533	0.3903	–
...
2010:07	0.0000	0.0140	0.0000	0.5063
2010:08	1.0000	0.4831	0.0057	0.5321
...
2013:05	0.0000	0.9790	0.1470	0.3482
2013:06	1.0000	0.9914	0.7812	0.7872

Analyzing these models, we can conclude that as indicators of early (one year) warning can be used (serve) lagged variables x_7 , x_{12} , x_{13} , together with the variables (of) x_{17} and x_{10} , and as indicators of medium and late warning are variables x_4 , x_6 , x_{11} , x_{17} (included of the models from these periods) lagged on 3 and 6 month. Factors 8 and 14 are not significant in any model specifications, so they can not be used as indicators of systemic crisis. At the same time, factors 6 and 17 are (part) included in (of) all models, precisely because of the change should be given the focus in predicting the development of the crisis.

Thus, current study confirms all hypotheses, except 8 and 14 which were rejected. It means that the spread in interest rates and the ratio of non-performing loans to the loan portfolio does not indicate the presence of systemic risk in Ukraine, because of its incorrect calculations of domestic banks.

Due to the novelty of the problem, this work has (been studied with) certain assumptions and limitations. The first limitation is the selection of variables, due to the available information base and can be subjective, the second one is a clearly defined range forecasting crises is somewhat arbitrary, and use only static logistic models to identify crisis.

Conclusion. Systemic risk is the risk inherent in the banking system as a whole as a combination of elements that are certain types of risks, that are interrelated and interact. To assess the level of systemic risk in Ukraine put forward a number of hypotheses. It is used nonlinear regression model to test them that helped to identify changing binary indicator of the presence of systemic crisis, under the influence of other factors.

It is proved that the rate of spread of interest rates and the ratio of non-performing loans to the loan portfolio does not indicate the presence of systemic risk in Ukraine. However, in all regression models designed for different time horizons, interest rates on bank loans and rates on loans overnight interbank credit market are the key indicators of forecasting the crisis in the banking sector of Ukraine.

Using regression models described in practice of the National Bank of Ukraine will take regulatory measures in advance to avoid certain risk

factors or mitigation of action that will strengthen financial stability and reliability of the domestic banking system.

REFERENCES

1. *Michael Spence*. Can We Regulate Systemic Risk [Elektronnyj resurs] / Michael Spence, 2010. — Rezhym dostupu: <https://www.project-syndicate.org/commentary/can-we-regulate-systemic-risk>.
2. *Joseph E. Stiglitz*. Too Big to Live [Elektronnyj resurs] / Joseph E. Stiglitz, 2009. — Rezhym dostupu : <https://www.project-syndicate.org/commentary/too-big-to-live/russian>.
3. *Nouriel Roubini*. The Changing Face of Global Risk [Elektronnyj resurs] / Nouriel Roubini, 2014. — Rezhym dostupu : <https://www.project-syndicate.org/commentary/nouriel-roubini-warns-that-even-as-many-threats-to-the-world-economy-have-receded--new-ones-have-quickly-emerged/russian>.
4. *Simon Johnson*. Taking Systemic Risk Seriously [Elektronnyj resurs] / Simon Johnson, 2014. — Rezhym dostupu : <https://www.project-syndicate.org/commentary/simon-johnson-praises-us-regulators-effort-to-assess-a-broader-array-of-financial-operations>.
5. *Joseph Nguyen*. What is the difference between systemic risk and systematic risk [Elektronnyj resurs] / Joseph Nguyen. — Rezhym dostupu : <http://www.investopedia.com/ask/answers/09/systemic-systematic-risk.asp>.
6. *Kuznecov N. G.* Metodologija issledovanija sistemnyh riskov: razvitie sovremennyh podhodov / N. G. Kuznecov, E. N. Alifanova, Ju. S. Evlahova // *Finansy i kredit*. — 2011. — № 39 (471). — S. 2–8.
7. *Baranovs'kyj O. I.* Sutnist' i riznovydy finansovyh kryz / O. I. Baranovs'kyj // *Finansy Ukrainy*. — 2009. — № 5. — S. 3–20.
8. *Naumenkova S. V.* Rozvytok finansovogo sektoru Ukrainy v umovah formuvannja novoi' finansovoi' arhitektury // S. V. Naumenkova, S. V. Mishhenko. — K. : UBS, CNDNBU, 2009. — 384 s.
9. *Daniel Hollo*. CISS – A composite indicator of systemic stress in the financial system [Elektronnyj resurs] / Daniel Hollo, Manfred Kremer, Marco Lo Duca // Working paper series. ECB. — 2012. — № 1426. March. — P. 8–20. — Rezhym dostupu : <http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp1426.pdf>.
10. *Kevin L. Kliesen*. Measuring Financial Market Stress [Elektronnyj resurs] / Kevin L. Kliesen, Douglas C. Smith // Economic synopses. Federal Reserve Bank of St. Louise. — 2010. — № 2. — Rezhym dostupu : <http://research.stlouisfed.org/publications/es/10/ES1002.pdf>.
11. *Raschet* Svodnyh operezhajushhijh indikatorov dlja gosudarstv – chlenov Tamozhennogo sojuza i Edinogo jekonomicheskogo prostranstva. Centr makro-jekonomicheskogo analiza i kratkosrochnogo prognozirovanija RF [Elektronnyj resurs]. — Rezhym dostupu : http://www.eurasiancommission.org/ru/act/integr_i_makroec/dep_makroec_pol/investigations/Documents/LEI_example.pdf.
12. *Statystychni pokaznyky*. — Rezhym dostupu : http://www.bank.gov.ua/control/uk/publish/category?cat_id=57896.
13. *Mizhbankivs'kyj* valjutnyj kurs EUR/UAH stanom na 01.01.2008 – 18.12.2014. — Rezhym dostupu : <http://mezhsbank.org.ua/history/eur/01.01.2008/18.12.2014>.

14. *Ekonometryka: pidruchnyk* / O. I. Chernjak, O. V. Komashko, A. V. Stavyc'kyj, O.V. Bazhenova ; za zag. red. O. I. Chernjaka. — K. : Vyd.-poligraf. centr "Kyiv. un-t", 2010. — 359 s.
15. *Luk'janenko I. G. Suchasni ekonometrychni metody v finansah* / I. G. Luk'janenko, Ju. O. Gorodnichenko. — K. : Litera, 2003. — 348 s.
16. *Sajt rozrobnykiv paketa ekonometrychnogo modeljuvannja GRETl* [Elektronnyj resurs]. — Rezhym dostupu : <http://gretl.sourceforge.net/index.html>.

Articles submitted to editors office of 02.10.2015.

Шульга Н., Чорний А., Степаніова А. Оцінювання системного ризику банків.

Постановка проблеми. Посилення глобалізаційних процесів, концентрації банківського капіталу та волатильності цін на фінансових і товарних ринках створює загрозу появи нової хвилі системного ризику, наслідки якої можуть виявитись руйнівними як для економіки в цілому, так і банківського сектора, зокрема.

Метою статті є розкриття теоретико-методичних положень щодо сутності системного ризику й індикаторів його виміру, а також розробка економіко-математичної моделі прогнозування виникнення цього ризику в банках України.

Матеріали та методи. У процесі дослідження практики зарубіжних країн щодо оцінювання системних ризиків у банківській сфері використано такі методи: абстрактно-логічний, декомпозиції, аналізу та синтезу, статистично-економічний.

Результати дослідження. Уточнено тлумачення дефініції "системний ризик". Висунуто гіпотези щодо реагування окремих індикаторів макроекономічного розвитку України та її банківського сектора на появу системного ризику за різними часовими горизонтами та проведено їх перевірку. Доведено, що процентні ставки за кредитами банків та ставки овернайт за кредитами міжбанківського кредитного ринку є ключовими індикаторами прогнозування розвитку кризових явищ у банківському секторі України.

Висновки. Системний ризик – це ризик, притаманний банківській системі в цілому як сукупність елементів, що представлені окремими видами ризиків, які взаємопов'язані та взаємодіють між собою. Для оцінки рівня системного ризику в Україні висунуто ряд гіпотез, для перевірки яких використано модель нелінійної регресії, що дозволила виявити зміну бінарного індикатора наявності системної кризи під впливом інших факторів. Розрахунки проведено для часових горизонтів 3, 6 та 12 місяців.

Доведено, що показник спреду процентних ставок і коефіцієнт співвідношення недіючих кредитів до кредитного портфеля не свідчать про наявність системного ризику в Україні. В той же час при усіх моделях регресії, розрахованих за різними часовими горизонтами, процентні ставки за кредитами банків та ставки овернайт за кредитами міжбанківського кредитного ринку виступають ключовими індикаторами прогнозування розвитку кризових явищ у банківському секторі України.

Використання описаної моделі регресії у практиці НБУ дозволить заздалегідь прийняти регулятивні заходи щодо уникнення окремих ризик-факторів або пом'якшення їх дії, що сприятиме зміцненню фінансової стійкості й надійності вітчизняної банківської системи.

Викладені концептуальні положення потребують подальшого наукового дослідження в напрямі розробки системи превентивних регулятивних заходів з боку НБУ, що підвищить результативність управління системним ризиком, а відтак забезпечить фінансову рівновагу в суспільстві.

Ключові слова: системний ризик, системно важливі банки, оцінка ризику, індикатори системного стресу, статистична модель нелінійної регресії.

UDC 336.71

BUS'KO Kateryna, Postgraduate student of Banking Department, KNUTE

PRINCIPLES OF RISKS TRANSPARENCY IN BANKS' ACTIVITY

Principles of risks transparency in banks' activity considering international experience and specialties of functioning national market of bank services were formed. Role and practical importance of each principle in the process of supplying transparency of risks in the activity of national banks have been identified.

Keywords: risks transparency of banks activity, Basel Committee, National Bank of Ukraine, "risk appetite", stress-testing, financial market, commodity market, deivative financial instrument, securitized assets.

Бусько Е. Принципы транспарентности рисков деятельности банков. Сформулированы принципы транспарентности рисков деятельности банков с учетом международного опыта и специфики функционирования национального рынка банковских услуг. Определены роль и практическое значение каждого принципа в процессе обеспечения транспарентности рисков деятельности отечественных банков.

Ключевые слова: транспарентность рисков деятельности банков, Базельский комитет, Национальный банк Украины, "аппетит к риску", стресс-тестирование, финансовый рынок, товарный рынок, производный финансовый инструмент, секьюритизированные активы.

Background. The complication of architecture of financial and commodity markets and the development of processes of globalization and concentration of banking capital raises the actuality of the problem of risks transparency of banks activity (RTBA). The support of necessary RTBA level helps to increase the level of believe from the subjects of market, and, initially, gives an opportunity to enlarge essentially the value of client base and as a result to gain profits.

The question RTBA is paid a special attention in the documents of Basel Committee, mainly, in Chapter III "Market Discipline" within the context of the second version of agreement "International convergence of capital evaluation and capital standards", known as "Basel II". In this document there are Basel Committee recommendations for banks, directed on raising the transparency level of their risks by determining the list of indexes, information about which should be described by banks in official financial reports, and establishing requirements as for regularity of their announcement. National Bank of Ukraine, taking into consideration international transparency standards and foreign banks' practice in this sphere, adopted the list of legislative documents, which regulates the list of information about risks, what information banks are obliged to show in the content of their official financial reports, and alternate of its revelation.

© Busko K., 2015

But in spite careful attention of supervisory organs to the level of banks transparency the questions of methodological bases of its supplement, mainly principles, on which the determining of financial information by banks and their activity is shown, are still not investigated. The meaning describes the actuality of this scientific investigation.

Analysis of latest research and publications. Different aspects of transparency supporting of banks' activity, for instance, determination of essence, proving the necessity and connection between the level of transparency and banks market discipline were investigated by such foreign and native scientists as: A. Belver, D. Kaufmann, I. Ivasiv, K. Melnyk, S. Moiseev, A. Lytovskiyh, M. Semenova [1–6]. But the notion of banks' transparent activity is depicted too narrow in the works of these scientists, besides, not enough attention is paid to the analysis its risk-constituent.

Besides scientific works of foreign and domestic authors do not cover in detail with the principles of RTBA in general and their risks, including formulation and following which is a key to increase and maintain a high level of transparency of banks. Disclosure of these issues is described in this scientific research.

The **aim** of the article is the formulation of the banks' activity transparency risks principles, allowance of which provides an opportunity to provide its high level.

Materials and methods. In the process of investigation we used such general methods: induction and deduction, analysis and synthesis, scientific abstraction, formalization; scientific works of native and foreign authors, dedicated to described problem; standard and legislative acts in this sphere.

Results. The lessons of the last world crisis testified, that, despite created standards and claims to RTBA, the level of information described by the last in public financial reports is left on relatively low level, that didn't allow market participants to conduct an adequate evaluation of financial conditions and results of banks' activity. One of the reasons of low banks' RTBA level as in pre-crisis period, as well as in post-crisis may be considered an absence of methodological points of its assurance in the form of clearly formed system of principles. Foreign and native authors in their scientific works on this problem don't pay attention to the principles of transparency in banks' activity in general, as well as their risks namely, and the role of the last in the process of its assurance. Fragment information is in the recommendations of Basel Committee and in regulative and restrictive documents of NBU. But still the approach of supervisory organs to the formation of RTBA principles may be considered disputing, because it presumes comparison of principles of information revelation and its quality properties, on which this revelation is based. For example, Basel Committee according to Chapter III "Market Discipline" "International convergence of capital and its standards evaluation" (Basel II) [7] means, that the revelation of information by banks must be based on such principles as, essence, periodicity and expediency. NBU in "Methodical recommendations as for approving of corporative managing in Ukraine banks", adopted by the resolution of the Board of Directors of NBU № 98 on 2007, March, 28 [8] to this

principles add also principles of fullness and consistency. By this the emphasis is made only on principles of banks' transparency activity in general without considering the specific of information revelation about the risk of their activity.

Taking into consideration specific of banks' activity and the peculiarities of banking market functioning, it's necessary to describe *general* principles of RTBA according to transparency of banks' activity in general, and *special*, that considers the demands to revelation by banks the information on risks, to which they are exposed.

General principles of transparency of banks' activity are advisable to combine into three groups. The *first* group includes principles, connected with legislative requirements to the transparency, within which are the following:

standardization – on the international and national levels must be developed general standards of transparency in banks' activity and their risks as requirements of the regulative in this sphere organs. These standards serve as points for national legislative organs during the development of legislative RTBA requirements on the local level. Main international standards for revelation the information on banks' activity and their risks are requirements of Basel Committee on banking. The first its document in the sphere of the supplying the transparency of banks' activity was prepared and introduced in September 1988, special report "Increasing of banking clearance" [9]. In the most complex way the demands to banks in the context revelation the information on risks of their activity was written in new verse of the deal "International convergence of capital evaluation and capital standards" ("Basel II") [7], in which a great attention is paid to the clearance revelation the information on risks of banks' activities. This document can be used by national regulative organs as recommended during the development of internal standard-legislative documents in this sphere;

regulatory approach – means, that regulator must give a clear list of information on banks' activities and their risks, which has to be described in the official financial reports and other sources of data distribution. This is a condition of clearance in the activity of national banking system. The first document of NBU, in which partially the list of information about risks was restricted, which must be published by native banks in official resources, were "Methodical recommendations as for improving of corporative management in the banks of Ukraine", adopted by the resolution of the Board of Directors NBU № 98 on March, 28 2007. [8]. Besides this document had more recommended character, as a result most banks ignored it. This problem is partially decided by the introducing "The instruction about the order of making and publishing the financial reports of banks' of Ukraine", adopted by resolution of the Board of Directors NBU №373 in 24.10.2011 [10], according to which in the content of addition № 39 to the annual financial reports banks must revel the detailed information about risks and methods of their management;

responsibility – foresees approving on the legislative level statement about the responsibility of banks owners and members of their Board for

delinquency standards demands of information revelation on their activities and risks, connected with it, in public financial report and due to other sources. That is, according to this principle, a necessary condition of maintenance proper level of transparency is using sanctions against banks, namely as fairs in delinquency legislative demands of information revelation. The development of sanction gradation system on the level of strictness depending on the value and condition of delinquency the regulators' demands as for the level of their transparency is also necessary. That is why in "The statement about the adopting by the National Banks of Ukraine influence measures for the delinquency of banking legislation", adopted by the resolution of the Board of Directors of the NBU № 346 on 17.08.2012 [11] foresees the implementation to the national banks three kinds of sanctions in case of legislation delinquency as for transparency, namely: written restriction; restriction, stop maintaining the bank operations or inserting penal sanction, which size determines in per cents to the registered status capital sum;

internationalization – the necessity to stick to this principle is connected with the complication of financial market architecture and the development of globalization and banking capital concentration processes. Because of this, the demanded question of revelation the information on national banks' activities and their risks in couple languages become up-to-date, according to as national as well as international accounting and reporting standards. It gives an opportunity to banks to receive freer access to international capital markets and entice foreign investors, which is a gurantee of the increasing the level of liquidity and capital basis. Conducted investigation proves that domestic banks provide information in the content of public financial report only in Ukrainian, which gives an opportunity to conduct its adequate analysis and interpretation from the point of view only Ukrainian market bodies. Positive moment is that, on the official sites of Ukrainian banks, firstly those, in the capital of which there is a stake of foreign investors, there is an additional option to represent data in several languages except of national. It partially decides the question of this data acceptance for foreign users.

To realize these principles of transparency of banks activities acceptance and their risks must be supplied of:

- increasing of banks' responsibility level for the completeness, accuracy and timeliness of information, that is published by them;
- awareness of market actors regarding the list and contents of information on the activities of banks and the risks that accompany it, which they should have access through official sources dissemination in accordance with legally binding requirements;
- free access of banks to the international capital market;
- the possibility to attract additional capital to maintain liquidity as a result of increased confidence of foreign investors.

In the content of *the second group*, which deals with the mechanisms of cooperation of banks and market actors, must be put such principles:

equal tightness (equal access) – according to this all without exception market actors (clients, counteragents, depositors, creditors, investors, super-

vision organs, rating agencies, shareholders, employees) must have free and without any barriers access to competent and timeless information about financial conditions and results of banks activities and risks, which come by. It achieves due to optimal combination of different channels data spreading as official and unofficial sources, each of them is characterized by the high level of competence. During this the information, received by the market players, must be relevant for acceptance by them strong economic decisions. The main source for data acceptance about the results of activity and risks of domestic banks is an annual and intermediate financial report, which is acceptable for any market actor. This information is partially doubled on the official bank sites in the Internet, where you can additionally check some aggregated data, published in annual and quarterly reports. Unofficial sources of data spreading about the activity of Ukrainian banks may be used the results of conducting the conferences, round tables, presentations, on which the representatives of banks are invited. But the information, represented on such occasions, in general has an introductory character and cannot be used as a separate channel of data publishing;

correction retraction – foresees publishing by banks full, essential, and distinct information on their activity and risks connected with it in acceptable form to market actors, that must be supplied with the opportunity of conducting by the latest back influence on banks through economic decisions, which are approved by them on the basis of such data, due to the activation of market discipline mechanism. In general, market actors, through the economic and financial actions have to stimulate banks' financial actions: control its "appetite to risk"; maintain constant monitoring of risks positions; control carefully banking market condition and maintain stress-testing of hypothetical accidents, and also make sure the society in the acceptance preventive precautions in case of the necessity; to maintain an effective risk-management system.

Acceptance of these principles helps:

- to increase the level of trust to banks from the market actors, what provides an opportunity to enlarge the values of clients basis;
- to establish and support long-term and stable relations between all market actors, what allows banks to increase the size of actives and constantly increase incomes rates;
- to assure backside influence on banks on the side of market actors by stimulating them to control their "appetite to risk" through economic decisions, which are made by us based on data, published by banks.

The third group is connected with the peculiarities of the organization of internal bank activities, in the content of which such principles may be separated:

protection – foresees the division of separate category of informational data, which may be characterized as "own banking information". Here belongs data about informational saturated products and technologies, introducing which to the competitors will lead to the loss of value of banks

capital investments and the decrease of their competitiveness on the market. According to this principle banks must insure optimal balance between the level of their transparency for the market actors and the necessity of their commercial interest protection;

effectiveness – additional banks expenses, connected with implementation and maintenance on the high level informational system functioning, including accounting systems, as well as payment for IT-employees work, accountant department and risk-managers, must be lower than positive effects, which banks receive in case of publishing the information about their activity and its risks for market actors. Positive effects in this case are: firstly, increasing of banks profitability level as a result of increasing the level of trust to it from the market actors; secondly, enlarging its client basis by receiving additional bonuses comparing to main competitors; thirdly, strengthen of banks financial stability due to free access to national and international capital markets.

Following these principles allows:

- protect banks from of abusive activity and cheating of main rivals;
- maximize the level of banks profitability by the optimization of values of additional expenses, connected with the process of supplying of transparency in banks activity, on the one hand, and the values of additional incomes, received from positive effects in case of increasing its level, on another.

Except of general principles which deal with transparency of banks activity in general, it is necessary to describe *specific* principles, which should be considered during publishing by banks the information on risks of their activity. They can be divided into two groups.

To *the first group*, that is connected with changeability of natural environment and flotation of conjuncture of financial and commodity market should be concerned such principles:

reality – banks must describe the information on all factual risks, on which they are awarded in the process of their activity, considering the current situation on the national and international financial markets and the specific of maintaining operations, including the structures of active and passive balance articles. Important, from the point of view the conducting of real and determined analysis from the hand of market actors of banks' financial conditions and levels of risks and profitability of their activity, is publishing by the latest the retrospective information about general risk level, including separate its categories, for latest categories. This information let the market actors to evaluate the dynamics and possible tendencies of risks' level changes, which banks overcome, what is a promise of making thoughtful economic decisions as for perspectives of establishing of long-term relations or making single deals with them;

providence (forecasting) – according to it banks must also publish to the market players the information about all potential risks, which may appear in the process of maintenance of one operation or another or providing the very same service and their harming to the changes of conjuncture of financial and commodity markets. Coming from this principle and taking into consideration everything written above, an important thing for objective

evaluation capacity of banks to compete negative changes of external environment and ability of saving of competitive position on the market is publishing the information on model and results of conduction of stress-testing conditions hypothetical accidents and implementation of precautions, which allow to forecast or to minimize negative consequences of their appearance. Ukrainian banks provide in their annual reports information about factual level of credit, percentage and currency risks liquidity on the current year and previous periods. Making this the information on forecasting flotation of these meanings in the future taking into consideration possible changes in macro- and microenvironment functioning of the banks is left under investigated. At the same time some banks with foreign capital publish pretty full information about models of conduction of stress-testing of currency and percentage risk and liquidity development. During this the quantity information about the results of its conduction remains closed, what makes difficult the process of analysis of adequately of these models and the level of banks stability in crisis situations;

cause-result connection – to maintain proper evaluation of current financial condition of banks and their ability to keep positive indexes in the development in future. Banks have to publish information not only about general risk level, on which they are exposed, and their meaning by separate kinds, but also about the influence of each risk and their integrated value on general financial result and size of banks' capital bases. Acceptance of this principle is a condition for creation of additional opportunities for market actors to analyze and forecast possible changes of income value and banks' capital in case of the change of general conjuncture of commodity and financial markets. Native banks in a content of annual financial report publish the information about the influence of percentage and currency risk on their financial result and the size of capital. During this there is one-side publishing of this information including two mentioned categories of risk. Closed for market actors remains the information about the changes of profitability and banks' capital basis under the influence of other types of the risk, especially credit and liquidity, which in modern crisis conditions greatly influence on the results of their activity;

contra cycling – means, that publishing by banks full, essential and distinct information about main types of risks in accessible and understandable form to all market actors is one of the main means of predicting of liquidity crisis appearance on the level national banking system and allows to banks easily overcome the consequences of financial economic distortions on the international and local levels. Maintenance of high level of risks transparency in banks activity allows to restrict system effects of market destabilization or decrease greatly their negative appearance due to the opportunity of market actors, under the influence of stress conditions, to make approved economic decisions and maintain backside influence on banks in the direction of stimulation them to hold their "risk appetite".

Following these principles mean:

- an opportunity to identify any gaps in banks activity on the initial stage and usage of precaution measures for their disqualification and

predicting more serious problems in the future;

- constant monitoring of banks functioning conditions and forecasting of possible influence any price changes on external markets on financial condition and the results of their activity;
- increasing the level of banks' stability to the main negative consequences of financial-economic crisis and the opportunity of quick overcoming their negative consequences.

The second group is connected with the difficulty and peculiarities of banks risk-profile, in the content of which such principles must be described:

- *complexity (integrity)*, judging or which banks must publish the information about separate kinds of risks which they overcome in the process of their activity, without separation one from another, and including the connections and interdependence between them, and also the influence each of them on general level of bank risk and some kinds of its operations. It should be mentioned, that each kind of bank activity is connected with corresponded risk categories. That is why, as consequences, while publishing the information about main characteristics separate services, that provides by banks, and results of conducting particular operations, should publish there the information about risks as well;

- *single source (single approach)*, according to which by the describing the information about the separate kinds and categories of risks, banks should keep to the common study to the content and the structure of information, published about each of them. That is, banks have to publish the information about the policy and the order of identification, detection, control and monitoring of each risks kinds, which influence greatly on the results of their activity, as well quantity meanings of these risks at the moment and the forecasts of their possibly changes in the future. Keeping to this principle RTBA is an important as an opportunity of conduction by the market actors' comparative analysis of the level of separate risks, occurred by banks, and determination of those, which have the greatest influence on the latest. But banks of Ukraine during publishing the information about risks of their activity in public financial report don't keep to the single approach in data publishing. Next to publishing of information about separate risks categories in pretty detailed way (namely, credit, liquidity, percentage and currency), data about other can be not published at all, which makes the opportunity of proper evaluation of general risk level of the banks from the point of view of market actors much more difficult. That is, the publishing of information about the risk of operation maintenance with the security actives and branching financial documents isn't taken into consideration by Ukrainian banks. As well in domestic banks reports isn't practically described the information about operational risk, except of the first group banks, which represent general information about it without mentioning proper strategies and methods of its evaluation and monitoring.

Showing these principles in the process of maintenance of risks transparency in banks activity on the proper level is in the following:

- there appears an opportunity of conducting from the side of market

actors adequate comparative analysis for risk level as in general, as well as in some kinds, what is associated with separate banks inside national banking system;

- a high level of information understanding is guaranteed, which described by banks for all persons interested, due to the high level of its detailing and concretization;

- kinds of operations are determined, which lead banks to the highest risk level, to maintain further control and monitoring proper directions of their activity and avoiding approaches of internal limits and norms, established by the regulator.

Thus, to increase of transparency level of national banks it is recommended: *firstly*, to fulfill new redaction of "Methodic recommendations of improvement of corporative management in banks of Ukraine" in the chapter, dedicated to the description of the information (Chapter VII. Publishing the information and its clearness), having implemented mentioned principles as basic methodologist bases of risk transparency in banks activity [8]; *secondly*, approve the changes into the Instructions about the order of making and publishing financial reports of Ukrainian banks, approved by the resolution of the Board of Directors of NBU in 24 October 2011 № 373 [10] considering additional demands, connected with the given principles of risk transparency in banks activity, namely obligate banks:

- to publish annual and quarterly financial reports on several languages for the possibility to conduct adequate evaluation of their financial condition and the results of activities and risks, which accompany it, from the side of foreign investors. Especially this considers banks, in which capital there is a stake of foreign investors participation or domestic banks, which have daughter companies abroad;

- to publish the information about forecasted meanings of risks, which have the most essential influence on the capital and bank's income, taking into consideration the plans of development and spreading the activity in the next periods and possible changes of the conjuncture of financial and commodity markets. It will give an opportunity to the supervisory organs to identify beforehand the possibility of appearance some crisis events inside the bank and maintain precaution measures for preventing their appearance;

- to publish the information about the models and results of stress-testing of main kinds of the risk considering the variety of sceneries of factor change of external environment. It will let the market actors to conduct the evaluation of banks constancy level to the possibly flotation on the financial and commodity markets, as well as finding the reserves on covering negative consequences of hypothetic crisis events;

- to publish the information about all kinds of risks according to distinct and logic structure, which includes such blocks:

- strategy, policy and procedures, used while managed each kind of risk (e.i. its determining, measuring, controlling and monitoring);
- organs, which take part in the process of managing of each kind of risk;

- forms, order of preparing and giving the reporting forms on each kind of risk;
- policy of limitation for each kind of risk mentioning boundary meanings of limits, causes of their disruptions and measures, targeted on removing of these disruptions;
- factual meanings of each kind of risk and the forecasts of their changes on couple next periods including the suppositions, used for their calculating;
- the influence of each kind of risk on the capital and bank's income;
- models and suppositions, used during conducting stress-testing each kind of risk and quantity results in borders of each scenery.

Publishing the information in this state is a necessary condition of maintaining by market players comparative analysis of all kinds of risks, which bank occurs, and determining those, which influence on it essentially. It allows identifying risks beforehand, increasing of which may lead to essential capital losses and reducing bank's profit level.

Conclusion. Reaching a high level of risks transparency of domestic banks is impossible without forming the system of principles of their assurance as methodological bases of describing and publishing the information by banks to all interested persons. Principles of RTBA can be as general, which may be used as basic in the process of publishing by banks the information on any operations and kinds of activity, as well as specific, which include the peculiarities of establishing and acceptance the relations between banks and market actors under the conditions of constant change of external environment and difficulty of determination and forecasting the risk level, that is associated with the very same bank. Establishing of these principles and making necessary changes in legislative documents, which regalement the order of publishing the information by domestic banks, let to increase the level of their transparency and gives them additional competitive advantages in international banking space.

REFERENCES

1. *Bellver A.* Towards Transparency: New Approaches and Their Application to Financial Markets / A. Bellver, D. Kaufmann // *The World Bank Research Observer*. — 2001. — № 16 (1). — P. 41–57.
2. *Ivasiv I. B.* Universal'nyj banking: ryzyky ta perevagy / I. B. Ivasiv. — *Vcheni zapysky : nauk. zb. / vidp. red. A. F. Pavlenko*. — K. : KNEU, 2003. — S. 100–105.
3. *Mel'nyk K. K.* Transparentnist' jak neobhidna umova zabezpechennja efektyvnosti systemy komunikacij central'nogo banku / K. K. Mel'nyk // *Problemy i perspektyvy rozvytku bankivs'koi' systemy Ukrainy*. — 2010. — Vyp. 29. — S. 23–29.
4. *Moiseev S. R.* Transparentnost' bankov i rynochnaja disciplina: poisk jeffektivnyh reshenij / C. Moiseev // *Bankovskoe delo*. — 2011. — № 1. — S. 30–36.
5. *Litovskih A. M.* Transparentnost' i ee vlijanie na dejatel'nost' bankovskogo sektora / A. M. Litovskih // *Izvestija TRTU*. — 2006. — № 17 (22). — S. 310–313. — (Tem. vyp. "Sistemnyj analiz v jekonomike i upravlenii").

6. *Semenova M. V.* Prozhrachnost' bankovskoy sistemy i rynochnaja disciplina: poisk zavisimosti [Elektronnyj resurs]. — Rezhym dostupu : http://lia.hse.ru/data/2010/10/26/1222931597/semnova_prozrachnost.pdf.
7. *Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework – Comprehensive Version.* — BCBS. — 2006. — Jun. — 347 p.
8. Pro shvalennja Metodichnyh rekomendacij shhodo vdoskonalennja korporatyvnogo upravlinnja v bankah Ukrai'ny : Postanova NBU vid 28 berez. 2007 r. № 98 [Elektronnyj resurs]. — Rezhym dostupu : <http://search.ligazakon.ua>.
9. *Enhancing bank transparency.* — BCBS. — 1998. — Sep. — 29 p.
10. *Instrukcija pro porjadok skladannja ta opryljudnennja finansovoi' zvitnosti bankiv Ukrai'ny* : Postanova NBU vid 24 zhovt. 2011 r. № 373 [Elektronnyj resurs]. — Rezhym dostupu: zakon.rada.gov.ua/go/z1288-11.
11. *Polozhennja pro zastosuvannja Nacional'nym bankom Ukrai'ny do bankiv ta inshyh finansovo-kredytnyh ustanov zahodiv vplyvu za porushennja bankivs'kogo zakonodavstva* : Postanova NBU vid 17 serp. 2012 r. № 346 [Elektronnyj resurs]. — Rezhym dostupu : http://search.ligazakon.ua/l_doc2.nsf/link1/RE21902.html.

Articles submitted to editors office of 02.10.2015.

Бусько К. Принципи транспарентності ризиків діяльності банків.

Постановка проблеми. Питання розробки системи принципів транспарентності ризиків діяльності банків з урахуванням міжнародного досвіду та специфіки функціонування національного ринку банківських послуг є сьогодні актуальним. Його розгляд здійснюється на основі аналізу принципів транспарентності діяльності банків у цілому та їх ризиків зокрема.

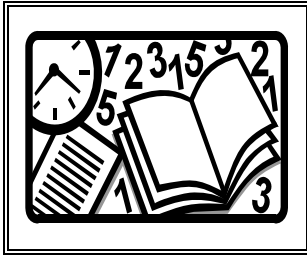
Метою статті є формулювання принципів транспарентності ризиків діяльності банків, врахування яких дозволить забезпечити її високий рівень.

Матеріали та методи. У процесі дослідження використано такі загальні методи: індукції та дедукції, аналізу та синтезу, наукової абстракції, формалізації; праці зарубіжних та вітчизняних авторів, присвячені зазначеній проблематиці, нормативні та законодавчі акти у цій сфері.

Результати дослідження. Принципи транспарентності ризиків діяльності банків поділяються на загальні, що можуть бути базовими у процесі розкриття банками інформації про будь-які операції та види діяльності, та специфічні, які враховують особливості встановлення й підтримки відносин між банками та суб'єктами ринку в умовах постійної зміни індикаторів зовнішнього середовища й складності визначення та прогнозування рівня ризику, що асоціюється з конкретним банком. Закріплення цих принципів та внесення відповідних змін до законодавчих документів, що регламентують порядок розкриття інформації вітчизняними банками, дасть змогу значно підвищити рівень їх транспарентності й створить їм додаткові конкурентні переваги в міжнародному банківському просторі.

Висновки. Досягнення високого рівня транспарентності ризиків вітчизняних банків є неможливим без формування системи принципів їх забезпечення як методологічних основ розкриття й представлення банками інформації усім зацікавленим особам.

Ключові слова: транспарентність ризиків діяльності банків, Базельський комітет, Національний банк України, "апетит до ризику", стрес-тестування, фінансовий ринок, товарний ринок, похідний фінансовий інструмент, сек'юритизовані активи.



ACCOUNTING AND AUDIT

UDC 657.7-047.76

KOROL Svitlana, PhD in Economics science, Accounting Department of KNUTE

FORMATION OF ACCOUNTING: SOCIAL ASPECT

Approaches to periodization of accounting history are considered. Social factors which influenced accounting formation have been defined. It has been proved that the accounting evolution is connected with rebalancing of economic interests of business process participants. Necessity of building modern accounting concept of business social responsibility has been justified. Accounting history periodization considering changes of its information users has been developed.

Keywords: accounting periodization, periodization criteria, business process participants, social responsibility of business, social accounting.

Король С. Становление бухгалтерского учета: социальный аспект. Рассмотрены подходы к периодизации истории бухгалтерского учета. Определены социальные факторы, повлиявшие на формирование бухгалтерского учета. Доказано, что эволюция бухгалтерского учета связана с изменением баланса экономических интересов участников хозяйственного процесса. Обоснована необходимость построения современной концепции бухгалтерского учета социальной ответственности бизнеса. Разработана периодизация истории бухгалтерского учета, которая учитывает изменения состава пользователей его информации.

Ключевые слова: периодизация бухгалтерского учета, критерии периодизации, участники хозяйственного процесса, социальная ответственность бизнеса, социальный учет.

Background. Accountings formation as a science and practice is inextricably connected with a society history, the development of economic intercourse, in the centre of which is process of production, economic goods exchange and consumption.

As the researches confirm, "accounting was developing at the same time with increase in population and rationalization of productive forces and production relations that defined level of economy of any country. Only with a significant increase in population at the beginning of Common Era productive forces were increasing and production relations were improving in headmost countries at that time and the necessity of accounting standards

development was becoming reliable" [1, p. 56]. Priority inversion of social and economic country development and updating of property subject social responsibility willingly demands from accountancy system comparable adjustment. Methodology development background and references of accountancy organization of social responsibility is understanding of scientific stages of accountancy development based on heritage philosophy and social factors influence.

Analysis of recent research and publications. As far as just historical analysis allows us to "distinguish the new one from something, that is offered as the last one" [2, p. 5] and to learn the previous experience of resolving the problems, many times the evolution of accounting yielded to a depth analysis.

The main informational base of any current researches in this branch of knowledge is represented in the proceeding of Y. Sokolov "Accounting: from the river-head to nowadays" [2] as the most detailed, consecutive and widely recognized in modern scientific world. The author explored an evolution of a discount opinion from past times to the end of the XX century and the approaches to its periodization by foreign and domestic accountants.

Other publications, that reflect the analysis of historical facts according to ideological perception of accounting by their authors, are of interest.

The researches of a French scientist J. Rishar "Accounting: theory and practice" reflects the western European view of paradoxes and history of accounting as a "social activity and the object of science". The representative of American scientific school L. Herbert also appeals to the history of accounting and monitors it to the moment of appearance of the social accounting [4].

The most detailed research, that reflects the national view on a history of accounting and modern trends of accounting science, is represented by monographs of M. Pushkar [5], scientific publications by S. Legenchuk [6], O. Kanzhurov [7] and other explorers of accounting history. Scientists use different criterions for researching the evolution of accounting and offer its oriental periodization.

These publications provide rich material for theoretical generalizations and conclusions concerning social aspects of evolution of accounting. However, the authors analyzed historical heritage, focusing on traditional view about the interests of users and providers of information. Changing of social priorities and recognition of the principle of transparency of decisions and activities of the subject concerning their impact on society and environment requires from accountants reviewing an accrued experience and answering the questions about the adequacy of methodology of accounting to modern requests in the economic process.

The **aim** is the recognition of the social aspects, which influence the development of accounting, and perfection of its history considering socially oriented criteria.

Materials and methods. Scientific proceeding of domestic and foreign authors in history of accounting served as theoretical and methodological basis. The main method of researching is an evolutionary approach, which provides a retrospective analysis of the modern accounting position. Therewith, there are used general scientific methodological techniques of induction, deduction, systematization, generalization others, which allow reaching the goal.

Results. First periodization of accounting evolution appeared in the beginning of the formation of accounting as a science and up to now have not lost their relevance. Their authors are K. Rodbertus (1870), Dj. Cherboni (1873), L. Sei (1883), F. Ezepekii (1908), A. Rudanovskii (1925), A. Galagan (1928), K. Leierer (1928), A. Haar (1926), D. Sterninson (1936), N. Stasei, N. Steki (after the Second World War), J. Sharara-Russo (1963), L. Herbert (1971), R. Ober (1979), I. Djinnai (1980), A. Kantsani (1980), V. Bekster (1983), M. Glaut'er (1983), V. Shu (1987), D. Edwards (1989), P. Lassek (1990), B. Kollas (1991), R. Mattessich (1994), M. Met'yus (1996), J. Rishar (1996), M. Pushkar' (2004), Ya. Sokolov and V. Sokolov (2004), S. Legenchuk (2010), O. Kanzurov (2014) and O. Lemishevs'ka (2015, [8]). Periodizations, that were offered in 1870–1950, are outside the social context. They were proposed in the next decade, only single have the social aspect and match the purpose of the study. They are considered in chronological order in the study.

First periodizations, which Y. Sokolov characterizes as "sociological", belong to an Englishman N. Steki and N. Stasei [2, p. 14]. Similar periodization – "one more variant of Marxist interpretation offered and D. Edwards (USA, 1989) [2, p. 17]. The peculiarity of periodization of these authors lies in identification of accounting with capitalism. In particular, N. Steki defined such periods in the history of accounting, as precapitalistic, capitalistic and advanced capitalistic era, that to some extent, is consistent with the ideological approach of the accounting in first years of the Soviet government and, like the last one, is wrong, because he substituted the evolution of accounting by the development of capitalistic relation.

Development of double entry accounts by J. Sharara-Russo (France, 1963) [2, p. 14] was linked to the expansion of warehouse accounts and built such number: using only accounts of correspondents – third individuals (settlement accounts); agents accounts, that served for accounting relations with employees of the company; general accounts system, including wealth accounts. In general laying the dynamics of a certain credit or their group in every situation just meet the needs of accumulating the information about the corresponding object of accounts. However, "impersonation" of accounts for J. Sharara-Russo connected with an appearance of new objects of accounts, but not with an expansion of the users of accounting information, as the concept of corporate social business responsibility involves.

In 1971, L. Herbert (USA) proposed a multifactor model of periodization, which he connected with forming the method of accounting, its

objects (chart of account), accounting job and using of new informational technologies [2, p. 15]. Attracts attention the fact, that the last of fifteen selected periods, which starts in 1955, author identified as "social accounting". However, L. Herbert does not give comments to the periodization, only shows the connection with human activity, human resources and intergovernmental relations [4, p. 31].

Instead, M. Glaut'er (Japan, 1983) delivers the most simplified periodization, which was built on the independence of development of accounting and controlling. It is important, that the choice of this criterion the author explains in the way that control in all cases led to the occurrence of people with reporting obligations [2, p. 16] and demanded an accountability. M. Glaut'er distinguishes the state and the autonomous control. The first is typical for oriental despotism, where "in theory everything belongs to the state, but on practice – to its officials". On second – accounting (enterprise, its owners) opposed to the interests of the people, who occupied in business process, and in this way ensured the control of their activities. In both variants, accounting serviced an "accountability" of subject of policy management or the owner. Therewith, in terms of social responsibility, accountability of public enterprises is actual. This context refers about the next, the third period in history of accounting, which can be defined as social control.

Complex (multifactorial) periodization by P. Lassek (France, 1990), that ignored the evolution of technical and instructional techniques of accounting and focuses on changes in macro- and microenvironment [2, p. 18–19], includes such periods.

First (until 1914) – dominated only by relatively small enterprises; stable prices. Accounting information has the records status "for memory" and did not serve the purposes of management. Accounting entries adequately reflects the business processes.

Second (1914–1960) – creation of giant companies, transfer to paper money, high inflation and unstable prices. Accounting becomes a source of information for financial analysis of enterprises business activity. The method of calculating financial results changes.

Third (from 1960) – the emergence of huge corporations and multi-nationals; radical changes in accounting because of continuous use of computers and expansion of accounting objects. An aim of accounting is the provision of an enterprises management. A number of alternative theories of accounting is growing.

P. Lassek focuses on the fact, that, starting from the second stage, especially from the creation of the alternative methods of calculating the financial results, the problem of adequate understanding of this indicator is exacerbating, the topicality of the social aspect in enterprises business activity is growing. However, the author remains out of the fact, that except the financial results in the traditional sense, another approach to determine the activity outcome is possible, that would take into account its impact on

society. Exactly the last one today acquires the relevance in the context of corporate social responsibility.

Domestic scientists M. Pushkar, N. Gavrishko and R. Romaniv in 2003 chose as the periodization criterion the aim of introduction of accounting that allows them to select such stages of development:

1. From Middle Ages to 1920s – the display of business activity of enterprises.

2. 1920–1980s – selection the facts of business activity in the way you can predict on these base the events development and make management decisions.

3. From 1980s to nowadays – providing senior management data, that allow to orientate in situation and select an adequate line of conduct, ensure the continued and successful existence of a company.

4. 2005–2025s. – the service of social development optimization and the use of accurate methods of determining and fulfilling the needs and desires of every person and society in general [9, p. 10].

The scientific prediction of authors (fourth period) starts to get confirmed: exactly in 2005 the first domestic report about the social responsibility was published by a company "SKM", and the number of scientific researches on this topic is growing. As the theme of foreign and domestic publishes of the last decades, and the positive dynamics of the number of enterprises, that recognized the principles of social responsibility, the relevance of the goal declare by authors of the modern period is growing rapidly. The question about particular aspect of this aim remained opened, however its clarifying is beyond of this study.

As a base of their periodization Y. Sokolov and V. Sokolov (Russia, 2004) lid the methodology of accounting and gave such periods: naturalistic, valuable, theory-practical, scientific and modern. Criterion selected by authors most fully reflected and summarized the various aspects of accounting development. It allowed them to give in particular such characteristic to the last phase: "it is realized, that accounting is maintained for the benefit if various groups, which take part in business activity, and the only one accounting appears in various forms: tax accounting is keeping in the public interest, financial-for actual and potential owners, administrative-as a result of administration needs [10, p. 12]. Shown characteristic is substantially close to characteristic of the modern period of accounting development of P. Lassek. However, the Sokolov pay attention to one more aspect of accounting: accounting of social responsibility, exactly in the interests of participants in business activity, and other interested person, which stay out of it.

It also is necessary to note the results of researching the evolution of accounting by O. Kantsurov (Ukraine, 2014). Scientist considers accounting as a social-economical institute and, making an accent on a set of periodization (the interest of persons, who occupied in changes in a business

activity, an ensure of data accounting reliability, institutional changes in economics), offers such periods of accounting development:

- *pre-institutional*, during which there is no social need for institutionalization through individual interest to economic information (individual user of information that is formed in accounting and disclosed in the daily sales report dominates);

- *primary institutionalization* – informal rules dominate, institute is localized within a business entity (a few influential special interest groups interested in the development of accounting, primarily the state, owners, creditors become notable);

- *national institutionalization* – activity in accounting (information) acquires social value, institutionalization is based on the formal adoption of national rules (the dominant group of special interests is determined by the model of the national economics, needs of external users of economic information become prioritized, circle of interested users of financial statements is expanding);

- *global institutionalization* – integration of accounting in the global economic system and adapting to global institutional environment (formation of an unified socially significant data system that provides formation information in the various consumer's interests) [7, p. 45].

According to the evolution of accounting as an information system, A. Kantsurov's periodization demonstrates progress from monopoly of one information demander – owner of the enterprise to open (global) information system. However, we should pay attention to the way in which proposed to solve the problem of information service "consumers" of information. Despite the external similarity, "unification" (or reduce to a single form) O. Kantsurov's information system and "single" accounting by Y. Sokolov and V. Sokolov have different directions. If A. Kantsurov's single information system is the result of accounting or, put the matter another way, unified recording, for Sokolovs single information system is only the database or the basis for the different types of accounting and recording. Consequently, Y. Sokolov and V. Sokolov interpret perspective of accounting methodologically closer to tasks of accounting business's social responsibility.

Carried out research about the evolution of accounting shows the possibility of its improvement for execution contemporary tasks. J. Rishar (France, 1996) states: "If the accounting is based on a double-entry book-keeping, so long has managed to resist the pressure of time, just because it meets the needs of those objective circumstances in which it existed and continues to exist" [3, p. 20–21]. Methodological accounting in different periods of its development and, considering its different modern kinds combines more than a trend toward standardization or unification. This, first, compliance with social needs, information demander's requests.

These different kinds of accounting history periodization show that their authors use one or combination of the following criteria: 1 – accounting books; 2 – type of accounting books; 3 – kind of technology for accounting; 4 – accounting methodology (including the evolution of the subject and method of accounting; 5 – organizational structure; 6 – accounting forms; 7 – expense tracking; 8 – economic sector; 9 – the interests of participants in the economic process (including formal and non-formal); 10 – purpose of accounting; 11 – acc structure; 12 – scientific doctrine. They can be divided into three groups: methodological and technical (1–8), social important (9) and derivatives (10–12). In the context of this study the most interesting are second and third group of criteria that have some social aspect. Analysis of these criteria is important for understanding the past and predicting the future of accounting.

Interests of the participants in the economic process should not be seen only as a criterion for periodization, but as a factor that determines the development pathway of accounting at all stages of its history. This factor reflects the changing socio-economic relations and economic interests of stakeholders, institutional frameworks of accounting, and now defines the basic content of accounting paradigm of social responsibility. However, scientists have traditionally laid different meaning in the term "members of the economic process" and in other way imagined their interests than it is envisaged in the concept of social responsibility. In particular, Y. Sokolov, like its predecessors, proceeds from legally defined responsibilities of the owner, administrator, employees, advance holders, creditors and debtors of the company. By they ignore the economic interests of other stakeholders.

State and economic interests of the economic process participants were primarily represented at the structure of accounts that have been data storage device of the relevant account data. The development of economic relations and changing of interests in economic process inevitably influences the structure of accounts. Thus, the emergence of inventory accounting, which provided direct drafting a list of what belongs to the owner, requires the usage of different types of account assets (inventory accounts). With the appearance of the coins as payment type in V century BC people began to use special account funds for cash management. And then understanding of it as a single accounting meter objects allowed to make an overall assessment of the property owner. The next step in the formation of accounts, particularly in Italy, was the introduction of personal accounts or accounts calculations (reskontro) for debt accounting, and than – accounts for own funds (B. Kotruli, 1458), "rezultative" (I. Quinet, 1817) and only later operating accounts (Leote E. and A. Guilbeaux, 1860) [2, p. 23–24, 55]. Every time account emergence was the result of accounting interpretations in contemporary business practice. Each account served as a model of corresponding accounting objects. Analysis of the transformation structure process accounts confirmed that throughout most of its history particular

importance was attached to the payments with participants in the economic process and search for "harmony of interests" at the accounting system.

Practice of impersonation accounts and using personal accounts are interesting. As it was noted, the accounts reflect the interests of those or other persons engaged in the economic process. The appearance of separate accounts linked to the need to protect the interests of specific persons or obtain certain information. Measure of the impact of user interests on account structure of accounting is that, as for B. Pesendorfer (Germany, 1928), at first it was given only receivables [2, p. 12]. However, even in the III century B.C., as evidenced the papyri of Zenon was found in 1915, to personal accounts in addition to accounts of debtors, attributed the account of calculations with employees – accounting for private estates [2, p. 39; 12, p. 60]. In ancient Rome, civil law strictly protects the rights of the owner. Thus, it "does not distinguish debtor as a passive subject property and its liability as the object of the claim" [11, p. 27]. That is the absence or failure to repay debt in the debtor's property he personally became "a means for calculating" (object exchange). It explains the fact that for a long time, including L. Pacioli, identified the owner and the company. With the changing forms of social relations and the norms of civil and commercial law, this practice has now disappeared. A. Di Pietro (Italy, 1550–1590), the first clearly divided the owner and the company and defined capital as accounts receivable company owner [2, p. 73]. In the nineteenth century, growth in economic activity has resulted in a large increase in the number of companies and administrative, accounting system. With the development of joint stock companies increased distance between the owner and managers and, therefore, between the owner and the business. As argued Vanier I. (1870), "accounting is not on behalf of the owner and the name of the economy" [2, p. 22]. However, discussions on accounts of capital A. Pietro has called "the cornerstone of the entire accounting system" has not ceased by this day. Duality interpretation of its nature in the twentieth century appeared in views on accounting problems two main Anglo-American schools – institutionalists (F. Pikslej, England) and personalist (V. Paton, United States). While the formers consider a capital as a property company free of debt, the latter – both payable to the owner of the enterprise that ultimately affects the number of conceptual provisions of accounting [2, p. 359]. The discussion about the nature of equity accounts remains relevant in the twenty-first century in relation of the concept of social responsibility accounting company.

The system of priorities of economic process participants appears in the goal formulation of accounting. According to this study, the evolution of accounting is directly related to the transformation of its goals at every stage of development of society. This goal "is subject to social objectives – the organization of functioning economic mechanism so that with limited resources to achieve maximum results" [5, p. 18]. Feature of transformation goal of accounting for the past ten thousand years, as writings of

R. Matesich [1, p. 32], demonstrates, has manifested in the fact that none of them has lost its relevance – appropriate accounting task from "main" becomes "auxiliary" needed to achieve the revised goal. Thus, registration of economic facts is a prerequisite to informative providing control of conservation and movement values – the registration of property, which then continues to run for performance and the preservation of property, and finally, the last one is needed for information servicing management process. As noted by M. Pushkar at the beginning of XXI century with changes in the participants' interests of the economic process the transformation of accounting goal happens again [9]. In developed market economies, this process began in the middle of the last century, which allowed R. J. Chambers (1955) to determine on prospect "the aim of accounting is execution of the function providing users with the necessary information" [12, p. 33]. However, throughout the history of accounting on the practice accountants consciously guided by the need to provide information to certain customers. Until the second half of the XX century, the main users of accounting information were the owners, the State and creditors. Subsequently, at the request of society the activity of the enterprise becomes more "transparent" to the business community and other stakeholders. That is R. J. Chambers actually witnessed a change of perception of entities economic interests of stakeholders. Y. Sokolov described the national "answer" to the problem: for English-speaking countries is characterized by professional approach, the account is in the interests of investors and creditors. In Continental Europe, account principles are determined by public authorities, which principles are binding on all undertakings, account is conducted in the interest of State, regulatory and including the tax authorities; in socialist countries accounting mainly conducted on behalf or on behalf of public authorities [2, p. 429]. Such ambiguity ranking of users of accounting information, on the one hand, is a manifestation of national cultures and legal requirements, and on the other – indicates the conflict of interests of participants of economic process and accounting concepts. In the early 1960 s, E. Edwards and P. Bell determined managers of company the main users of financial information and other less important in English-speaking countries. Opinion of external users of financial statements was not, in their view, dominant in decision making regarding preference for separate accounting procedures [6, p. 33]. It is in the context of increasing "importance" of a wide range of stakeholders should occur further development of accounting and reporting.

However, do not say that there are no problems in English-speaking countries. Analysis of classification users of information based on their information needs, proposed by prof. R. Sterling (USA, 1970), is one of the evidence. Scientists identified two main categories of information users, managers (traders' commodities) and "other", including lenders, owners, employees and public authorities (government). R. Sterling did not examine in detail the information requirements of each group of external users, as well as did not consider them important. However, for him, unlike E. Edwards

and P. Bell, the external users are "homogeneously smart" and, accordingly, they are interested in obtaining information [6, p. 35]. Over time, the situation began to change and, in the words of M. Haffikin (Australia, 2005), accounting "begins to be dependent on the whims of the market accounting information. There is a shift of accounting toward users of accounting information" [13, p. 15]. At all levels, there is expansion of the economy and formalization of requirements "important" users of accounting information.

The retrospective analysis shows, that accounting was formed under the influence of variable economic and social factors. This gives ground Y. Sokolov to maintain that exact periodization of accounting theory, in fact, is impossible. The scientist says: "the history of accounting mind deals with entity but not with existence the process of accounting development" [2, p. 26]. Prior research confirms P. Feyerabend's specification of accounting history: it is "quite as complex, chaotic, riddled with errors and diversity as those ideas that it comprehends" [11]. Inasmuch as a set of criterion, that defined the process of accounting development, is so multi-faceted, that is why obviously inappropriately attempt to construct its all-embracing periodization.

At the same time, it is possible to unravel periods of accounting development, which are related to widening of amount of individuals those economic interests are served by accounting; this determined its evolution from ancient times to present days. Such periodization was suggested:

before the II century BC – prepotency of economic entity (subsistence farming) owner's interests as individual user of accounting information; absence of public need for economic information; accounting entity is limited by property of economic entity;

from the II century (Roman Empire) – necessity in tax amount determination in accordance with amount of property or economic entity's income, it requires furnishing of information to public authority; coexistence of two groups of interests, which are interested in accounting development, owners and state; economic entity's incomes were added to structure of accounting entity;

approximately from the X century (High Middle Ages) – banks joined to contributors of economic process and accounting data users, banks operate clients' accounts, represent their interests in exchange operations, carry out clearing settlements; monetary means became accounting objects;

XVI–XVII centuries (Late Middle Ages) – creditors affiliated to contributors of economic process, it was conditioned by the need in involvement of supplementary capital from commercial bank and investors; indebtedness against invoices became an important accounting objects;

XVIII–XIX centuries (Industrial Revolution) – business partner affiliated to "important" contributors of economic process, their informational service stays non formalized; financial influence of independent and internal factors on enterprise performance is emphasized;

from the XX century – perception of necessity in special informational support for managers; financial result settled in accounts; management account appears;

since the 1970s – formalization and standardization at the international and national levels of approach to accounting operation for independent (business community, media, research institutes etc.) and internal (employees) contributors of economic process; special attention is paid to calculation of financial statements of enterprises and its standardization;

since the 1990 – unclosed socially significant informational system is created, it provides formation of information under due consideration of the interests and requests of different interested individuals; enterprises prepare integrated reporting, which shows its environmental and social societal impact.

Recognition of corporate social responsibility conception stipulated new social priorities in enterprises' economic activity and necessity in appropriate adaptation of accounting and reporting.

Conclusion. Undertaken study permitted to took up the position that accounting development was affected by wide range of factors, which had social aspect. The most essential among them are interests of contributors of economic process, aim of operation, structure of accounting records (objects) and scientific doctrine of accounting.

The authors of envisaged periodization notify in recent decades exacerbation of problem with congruence of interests of contributors of economic process and its reflection in accounting. The basic factor that determined the evolution of accounting is the composition of people, on whom its information service focused. Now it is determined in the context of corporate social responsibility. So when constructing the accountancy system consideration must be given to economic interests and informational requests not only of contributors of economic process, but also of other interested individuals. Suggested periodization reflects the evolution of accounting, which is a result of changes in the composition of interested individuals and proves actuality of development the accounting concept of social responsibility.

REFERENCES

1. *Istorychnyj aspekt rozvytku buhgalters'kogo obliku: Teorija buhgalters'kogo obliku : monografija / L. Napadovs'ka, M. Dobija, Sh. Sander, R. Matezich ta in. ; za zag. red. L. Napadovs'koi'. — K. : Kyi'v. nac. torg.-ekon. un-t, 2008. — 732 s. — S. 55–66.*
2. *Sokolov Ja. V. Buhgalterskij uchet: ot istokov do nashih dnei : ucheb. posobie dlja vuzov / Ja. V. Sokolov. — M. : Audit, JuNITI, 1996. — 638 s.*
3. *Rishar Zh. Buhgalterskij uchet: teorija i praktika / Zh. Rishar ; per. s fr. ; pod red. Ja. V. Sokolova. — M. : Finansy i statistika, 2000. — 160 s.*
4. *Herbert Leo. The environment in governmental accounting in the seventies / Leo Herbert // The GAO review. US Gov.Print.Off. — 1972. — P. 22–32.*
5. *Pushkar M. S. Filosofija obliku : monografija / M. S. Pushkar. — Ternopil' : Kart-blansh, 2002. — 157 s.*
6. *Legenchuk S. F. Istorychni aspekty rozvytku teorii' buhgalters'kogo obliku v anglomovnyh kraii'nah / S. F. Legenchuk // Visnyk ZhDTU. — 2010. — № 2 (52). Ch. 2. — S. 32–41.*

7. *Kancurov O. O.* Evoljucija instytutu buhgalters'kogo obliku / O. O. Kancurov // *Oblik i finansy*. — 2014. — № 3 (65). — S. 42–46.
8. *Lemishevs'ka O. S.* Periodyzacija rozvytku obliku: istorychnyj aspekt / O. S. Lemishevs'ka // *Molodyj vchenyj*. — 2015. — № 3 (18). — S. 8–11.
9. *Pushkar M. S.* Istorija obliku ta kontrolju gospodars'koi' dijal'nosti : navch. posib. / M. S. Pushkar, N. V. Gavryshko, R. V. Romaniv. — Ternopil' : Kart-blansh, 2003. — 223 s.
10. *Sokolov Ja. V.* Istorija buhgalters'kogo ucheta / Ja. V. Sokolov, V. Ja. Sokolov. — M. : Finansy i statistika, 2004. — 272 s.
11. *Fejerabend P.* Protiv metoda. Ocherk anarhistskoj teorii poznanija / P. Fejerabend ; per. s angl. A. L. Nikiforova. — M. : AST, 2007. — 413 s.
12. *Al-Hogail A. A.* Chambers' contributions to the development of accounting thought / A. A. Al-Hogail, G. J. Previts // *Accounting Historians Journal*. — 2001. — Vol. 28. — № 2. — P. 1–30.
13. *Gaffikin Michael.* Creating a Science of Accounting: accounting theory to 1970. UOW, School of Accounting & Finance, Working Paper. — 2005. — 05.08. — 49 p.

Articles submitted to editors office of 18.08.2015.

Король С. Становлення бухгалтерського обліку: соціальний аспект.

Постановка проблеми. *Нерозвиненість підходів до обліку соціальної відповідальності потребує наукового осмислення історії бухгалтерського обліку та визначення ролі ключових соціальних факторів.*

Аналіз наукових досліджень і публікацій з цієї проблематики свідчить про те, що одним з головних факторів зміни концепцій бухгалтерського обліку є соціальний. Проте історичний доробок аналізується на основі традиційного уявлення про інтереси як користувачів, так і надавачів інформації. Зміна соціальних пріоритетів і визнання принципу прозорості бізнесу вимагає перегляду накопиченого минулого досвіду.

Метою дослідження є визначення соціальних аспектів, які вплинули на розвиток бухгалтерського обліку, й удосконалення періодизації його історії з урахуванням обраних соціально орієнтованих критеріїв.

Матеріали та методи. Теоретичну та методологічну основу дослідження становлять наукові праці вітчизняних і зарубіжних авторів з історії бухгалтерського обліку. Основним методом цього дослідження є еволюційний підхід, а також загальнонаукові методичні прийоми: індукція, дедуція, систематизація, узагальнення та ін.

Результати дослідження. Періодизація бухгалтерського обліку насамперед пов'язана зі зміною балансу економічних інтересів учасників господарського процесу і, як наслідок, мети обліку, складу рахунків і наукових доктрин, тобто тих чинників, які прямо чи опосередковано відображають зміну підходів до розуміння і визнання ролі соціального фактору у господарській діяльності підприємства. Зазначені чинники будуть не повними без урахування зміни складу учасників господарського процесу, інформаційні запити яких обслуговує бухгалтерський облік.

Висновки. При побудові системи бухгалтерського обліку необхідно враховувати економічні інтереси й інформаційні запити всіх зацікавлених осіб. Запропонована періодизація відображає еволюцію бухгалтерського обліку в результаті зміни їх складу і доводить актуальність розробки концепції обліку соціальної відповідальності.

Ключові слова: періодизація бухгалтерського обліку, критерії періодизації, учасники господарського процесу, соціальна відповідальність бізнесу, соціальний облік.

UDC 657.633:640.43

КОПОТИЕНКО Tetiana, postgraduate student of Financial Analysis and Control
Department of Kyiv National University of Trade
and Economics

INTERNAL AUDIT OF THE OPERATING COSTS OF RESTAURANT ENTERPRISES

The theoretical and methodological provisions of internal audit of expenses restaurants in setting goals of implementing such control measures are studied, the classification of expenditure targeted to achieve those objectives is done. The necessity of separation of operating costs for the ability to stimulate the revenue of growth the company restaurants is substantiated, what allowed to differentiate the approach to manage of the costs, which are able to provide growth of business income, and expenses that do not affect its growth.

Keywords: classification of costs, the purpose of internal audit costs, network of restaurants.

Копотиенко Т. Внутренний аудит текущих расходов предприятий ресторанного хозяйства. Исследованы теоретико-методологические положения внутреннего аудита расходов предприятий ресторанного хозяйства в части определения целей реализации такого контрольного мероприятия, разработана классификация расходов, ориентированная на достижение установленных заданий. Обоснована необходимость разделения текущих расходов по способности стимулировать рост дохода предприятия ресторанного хозяйства, что позволило дифференцировать подходы к управлению затратами, способными обеспечивать рост дохода предприятия, и расходами, не влияющими на его увеличение.

Ключевые слова: классификация расходов, цель внутреннего аудита расходов, сеть предприятий ресторанного хозяйства.

Background. The crisis in the economy and society much more complicated the conditions of the restaurant business, led to the bankruptcy of individual enterprises and decline of the institutions related network form of business organization. One of the determining factors strengthening of negative tendencies is an inefficient cost management and low level of the internal controls that allow the misuse of resources, abuse, fraud and low awareness of owners about the state of their business. The economic threat to encourage business development view forms of control that are currently used in the networks of restaurants and actualize the need for introduction of the internal audit costs.

Achieving qualitative results of the internal audit costs promotes the consideration of different approaches to their classification. Using the classification of expenditures allows the internal auditors to investigate the costs of different aspects to take into account the various manifestations of their impact on the business, to direct attention to the most significant areas of audit and give the actors, taking economic decisions, recommendations to improve the effectiveness of cost management. However, the currently existing approaches to the classification of the expenses are mainly general economic nature, while implementation and internal auditing costs in the network of restaurants (PRG) leads to the definition of the objectives of the control measure and improve the classification of costs, focused on achieving the objectives.

Analysis of recent research and publications. An important contribution to the theory and methodology of the internal audit have made the scientists: S. Bardash, T. Kamensky, K. Nazarov, M. Douglas, D. Hermanson, B. Badercher, B. Dzhonsen, D. Boyle, A. Wilkins [1–6]. The scientists have studied the genesis of the internal audit, its nature, purpose, objectives, principles and stages of objects.

The classification of the expenses of the restaurants were investigated by I. Andryushchenko, I. Desyatkina, V. Novodvorskaya, A. Supruchenko [7–10] and others. In particular, the scientists such as Alexander Chumak [11], A. Didyk and S. Gnativ [12] have made grouping expenditure for accounting purposes. However, proving that the purpose of the internal audit costs differs from the accounting purposes, one could argue that the determined problem remains unresolved.

The **aim** of the study is the development of theoretical and methodological provisions of the internal audit of the expenses restaurants in the identification of the objectives of the control measure implementation and development of the classification of costs, focused on achieving a goal.

Materials and methods. The information base of the article is the scientific works of foreign and domestic scholars on this matter, as well as international and domestic regulations. The following methods of scientific knowledge: dialectic, a theoretical comparison, generalization, abstraction, grouping, analysis and synthesis are used in the study.

Results. Classification of costs involves their division based on the identification of common features and natural connections between them. The results of the study of existing approaches to the classification of costs PWG indicate a plurality of scientific views on the criteria of division and types of the classifications, given to existence different objectives and tasks which require information on the cost of the entity. The study finds out that different approaches to grouping cost to form the most significant and the least significant abstraction of signs reflect a different practical meaning and can be used to achieve different management objectives.

The studying of theoretical and methodological aspects of the internal audit and review of information requests of government networks PWG allowed to identify the priority objectives of the implementation of control measures. The main objectives of the internal audit costs are proposed to attribute: a match cost accounting (including the formation of the cost) defined criteria; optimizing the volume and the cost structure; assessment of the effectiveness of management decisions to minimize risks in management costs.

Matching the indicators of actual accounting costs (including the cost of formation) the certain criteria associated with supporting approach to auditing, which has not lost its relevance by our time. Achievement of this goal plays a decisive role in the management of enterprise information on the accuracy of cost accounting, the reliability of financial reporting, helps validity of management decisions, timely detect signs of fraud and the conservation of the entity's resources. The principle of the comparativeness that involves comparing actual data with defined criteria is based on its implementation. The criteria for comparison in this case are the certain rules reflecting the costs for the accounting system and financial reporting are governed by regulations and documents adopted directly by business entities, namely the recognition criteria expenses in the accounting system [13]; compliance with accounting principles [14]; financial reporting compliance statement [15, p. 408]. Use each of these groups of criteria is equally weighted in the audit process for the formation of high quality information on the results of the internal audit costs PWG.

For matters related to the management and the internal audit costs, we can say that a significant number of scientists insist on the need to minimize them [16–21]. However, minimizing costs should not be an end in itself and is not always a good thing. Unfounded minimization may lead to lower quality products and service and as a result, the loss of customers. However, in some situations it is necessary to consider a significant increase in profits from the increase in certain expenses. Given the above, it is appropriate to accept the authors, whose work is not about minimizing costs and optimizing their [22–24].

Modern Encyclopedic Dictionary defines the term "optimization" as the process of selecting the best possible option for a given solution of the requirements and restrictions [25]. Based on this thesis, under optimal volume and cost structure it is advisable to consider the most profitable entity values of costs that allow it to maximize profits. The practical implementation of this is possible through the using of the parameterization method, which involves determining the factors and assessment of their impact on the qualitative and quantitative characteristics (formation) of the object. Therefore, one of the priority objectives of the internal audit costs determined to optimize their scope and structure.

According to the definition given in the International Standard on Auditing 610, "Internal Audit division – a division of the entity that performs activities to provide assurance and advice designed to evaluate and improve the effectiveness of management entity, risk management processes and the internal control. Internal Audit Division may assess an entity through identification and risk assessment, contributing to the improvement of risk management and the internal control" [15, p. 676]. The international standards of professional practice of internal auditing (p. 2120 – "risk management") also states that internal auditors should assess the effectiveness and promote enhanced risk management processes, but it required to refrain from taking any management responsibility by direct participation risk management entity.

In this case, the opinion of S. Bardash it is quite reasonable [1], which argues that the legal basis for the establishment of the internal audit units exist only on medium and large enterprises as well as various types of corporate entities, which features current ownership and business management demarcated and thus, the owner of a need to control the executive management body of the company (hired management). This scientist holds a position that the internal audit is not an element of risk management entity, as in the interests of the owners exercises the same control system and evaluates how effective employed management controls the company. In the context of the internal research expenditure PWG it was possible to isolate one of its priority objectives – the evaluation the effectiveness of management decisions to minimize risks in management costs.

The next stage of the research is a development costs classification PWG focused on achieving the identified objectives of the internal audit costs (*figure 1*). The proposed classification is not exhaustive, since during its creation was put the aim to reflect the separation costs of those classifications, which most significantly affect the achievement of those objectives.

Presented in (*figure 1*) classification criteria and types of costs are quite common in the scientific literature, and they remain relevant to PWG. Their great practical significance due to regulations applicable regulations and practical relevance of the management and control of entities of this kind of activity. Based on research the classification types of expenses restaurants for sale are identified by the criterion of significance to achieve each of the goals internal audit costs. Within each of these objectives can be divided into the appropriate range of tasks, implementation of which will contribute to their achievement.

Given that the key for effective operation PWG have current costs (current (reporting) period) to achieve optimization of coverage and structure the classification ability was identified on the basis of their ability to stimulate revenue growth businesses restaurants. The need to separate current expenses on such grounds due to the difference in approaches to cost management, which can stimulate the growth of income of the enterprise and those that do not affect its growth.

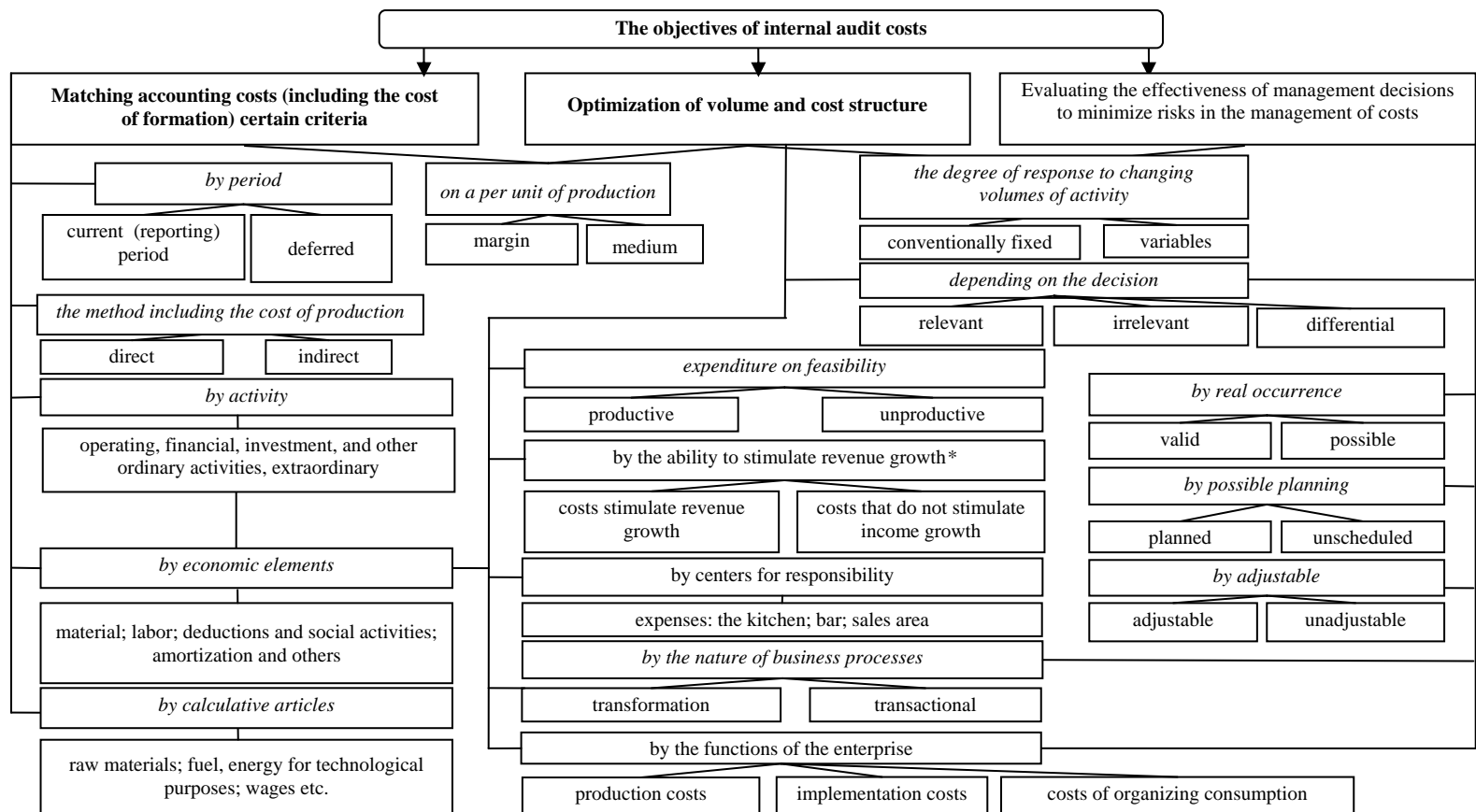


Figure 1. Classifications of expenses restaurants (grouped author)

* Proposed by author

The symptom of the classification of costs in their ability to stimulate the growth of income of the enterprise may be used only to current expenditures PWG and is not eligible for capital expenditures for the purchase or creation of fixed assets and capital expenditures for the repairs, reconstruction and modernization of fixed assets increase their acquisition cost and lead to increase of the expected economic benefits. This is because the capital costs are essentially investments for profit, so consider this group of costs from the perspective of their ability to stimulate the growth of income of the enterprise restaurant management would be incorrect.

The present composition of the PWG operating costs based on their ability to stimulate the growth of income from sales of the products (goods and services) on the specific examples demonstrates the difference in approaches to their separation, though it is not final and may be supplemented by other positions (*figure 2*).

Costs	
do not stimulate	stimulate
technological fuel, electricity and other utilities	bonuses commercial and operational personnel in percentage terms depending on the results
taxes, fees and other mandatory payments	salary and bonus payments depending on results cooks
allocations for social activities	for training and staff development
rents	on improving preparation technology
current – the repair and maintenance of fixed assets	on marketing activities
logistics spending	on innovation
inventory shortages within the rules on attrition	loyalty program (bonus program)

Figure 2. Structure of operating costs baseg on their ability to stimulate incom increase of restaurant industry enterprise
(developed by the author)

The difference in approaches to the management of these groups operating costs is that the costs associated with the lease and utility bills, taxes, logistics processes, as well as current repairs and maintenance of fixed assets (business premises, equipment) and so it is necessary to optimize by providing them with the minimum acceptable value, subject to the necessary level of product quality and production and trading activities of the company. This is because the increasing costs of the group (except for a significant expansion of their business, opening branches) has a determining influence on the growth of income of the entity, but only reduces its net loss.

Next presented in (*figure 2*) group of the current expenditure subject to rational distribution of income leads to an increase of the company

through the growing number of customers and volume of turnover and, therefore, require additional investments.

The costs are aimed at improving preparation technology, foreseen the growth of the taste qualities of meals, minimizing raw material costs and reducing losses in its mechanical and heat treatment. Spending resources in these areas provides the development and market for a network of restaurant business.

Identical, at first glance are, the signs of the classification of costs in their ability to stimulate the growth of income of the enterprise (expenditure that stimulate and those that do not stimulate the growth of income) to the classifications costs depending on the response to the change in volume of activity (conventionally fixed and variable) and by expediency spending (productive and non-productive) is false, because between them there is a fundamental difference.

Classification costs are stimulating, and those that do not stimulate the growth of business income, and sharing costs of conventionally fixed and variable carry different semantic meaning, since in the latter case the cost are shared depending on the response to changes in the volume of activity, and in the proposed sign up defining feature is the ability or the potential costs stimulate revenue growth of the company.

Presented in (figure 2) list of expenses indicates the absence of overlapping part of the specified grounds and degree of response to changing volumes of activity as the designated groups to include both variable and fixed costs. Thus, an expense which can not stimulate the growth of business income, mainly reflected conditionally fixed costs. But by the same group we propose to attribute costs pertaining to activities are variable (logistics, lack within the limits of attrition, etc.) or partly variables (technological fuel, electricity, telephone fees, etc.).

Stimulate the income of the growth of PRG can only productive expenditures, that is, caused by production technology and organization of the company restaurants. But this is not typical of all costs that can be attributed to the group productive. Any costs arising from the deficiencies of the manufacturing process, failure of technology, are recognized as unproductive. For the expenses that do not stimulate the growth of income can be attributed both productive (technological fuel, electricity and other utility costs, logistics costs, etc.) and inefficient (lack of resources). Obviously, the company has avoided overhead that do not stimulate the growth of income of the enterprise as a loss is not always reimbursed.

The identified objectives of the internal audit of costs and aims to achieve the classification of expenditure must be integrated into the overall system of the internal expenditure network of restaurants. These objectives are a fundamental component of the internal audit of costs, since their content reflects, on the one hand, the reasons that lead to carrying out such a control measure, on the other, indicate what information a user must obtain

on the results of the internal audit costs. Simulation of the internal expenditure networks PWG should be based on the harmonious combination and interaction of the components required – subject, object, goal, goals, objectives, process, results and organizational methods of accounting and analytical support given the features of creation such a system only in network form of business organization.

Conclusion. The result of achieving a goal of this research is to identify the priority objectives of the internal audit of costs and development of costs classification, focused on achieving them. For priority objectives were proposed to attribute: a match cost accounting (in t. H. Forming cost) defined criteria and optimization of cost structures and reduce risks in managing them. The features of the classification of current expenditures for the ability to stimulate revenue growth enterprise restaurant management to be used to optimize the amount and structure of current costs are identified in this study. The division of operating costs on this basis will allow to differentiate approaches to cost management, which can stimulate the growth of business income, and expenses that do not stimulate its growth. The present approach to grouping classifications and types of expenses restaurants will contribute for achieving of the quality results of the internal audit costs and improvement of efficiency of this subject.

The possible areas for further research are the following: development of methodical approach to determining the optimal level of expenditure entities through their parameterization; modeling of internal expenditure in networks of restaurants.

REFERENCES

1. *Bardash S. V.* Ekonomichnyj kontrol' v Ukrai'ni: systemnyj pidhid : monografija / S. V. Bardash. — K. : Kyi'v. nac. torg.-ekon. un-t, 2010. — 656 s.
2. *Kamens'ka T. O.* Vnutrishnij audyt: metodologija ta organizacija : dys. ... doktora ekon. nauk : 08.00.09 / Kamens'ka Tetjana Oleksandrivna. — K., 2011. — 560 s.
3. *Nazarova K. O.* Audyt: evolucija, potencial, efektyvnist' : monografija / K. O. Nazarova. — K. : Kyi'v. nac. torg.-ekon. un-t, 2015. — 464 s.
4. *Douglas M. B.* The Effects of Internal Audit Report Type and Reporting Relationship on Internal Auditors' Risk Judgments / M. B. Douglas, F. T. DeZoort, D. R. Hermanson // *Accounting Horizons*. — 2015. — № 3. — P. 695–718.
5. *Badertscher B.* Public Equity and Audit Pricing in the United States / B. Badertscher, B. Jorgensen, S. Katz // *Journal of Accounting Research*. — 2014. — № 52 (2). — P. 303–339.
6. *Boyle D.* Ethics Audits: Implications for Internal Auditors / D. Boyle, D. Hermanson, A. Wilkins // *Internal Auditing*. — 2014. — P. 3–8.
7. *Andrjushhenko I. S.* Klasyfikacija vytrat operacijnoi' dijal'nosti na pidpryjemstvah restorannogo gospodarstva / I. S. Andrjushhenko // *Ekonomichna strategija i perspektyvy rozvytku sfery torgivli ta poslug*. — 2010. — Vyp. 1. — S. 216–224.

8. *Desjatkina I. V.* Buhgalters'kyj oblik i kontrol' vytrat vyrobnyctva ta obigu na pidpryjemstvah restorannogo gospodarstva : dys. ... kand. ekon. nauk : 08.00.09 / Desjatkina Iryna Volodymyrivna. — Zhytomyr, 2012. — 198 s.
9. *Novodvors'ka V. V.* Oblik i kontrol' vytrat u gromads'komu harchuvanni v umovah rynkovoï ekonomiky : dys. ... kand. ekon. nauk : 08.00.09 / Novodvors'ka Viktorija Viktorivna. — K., 2004. — 177 s.
10. *Supruchenko O. L.* Pidhody do klasyfikacii' vytrat na pidpryjemstvah restorannogo gospodarstva [Elektronnyj resurs] / O. L. Supruchenko // Global'ni ta nacional'ni problemy ekonomiky. — 2015. — № 3. — Rezhym dostupu : <http://global-national.in.ua/archive/3-2015/186.pdf>.
11. *Chumak O. V.* Oblik ta analiz sobivartosti produkcii' v pidpryjemstvah restorannogo gospodarstva : dys. ... kand. ekon. nauk : 08.06.04 / Chumak Oksana Volodymyrivna. — Harkiv, 2006. — 180 s.
12. *Didyk A. M.* Klasyfikacija vytrat dlja cilej upravlins'kogo ta buhgalters'kogo oblikiv / A. M. Didyk, S. B. Gnativ // Visn. Nac. un-tu "L'viv. politehnika". — 2007. — № 594. — S. 219–227.
13. Polozhennja (standart) buhgalters'kogo obliku 16 "Vytraty" : zatv nakazom M-va finansiv Ukrai'ny vid 31.12.1999 № 318 [Elektronnyj resurs]. — Rezhym dostupu : <http://zakon4.rada.gov.ua/laws/show/z0027-00>.
14. Pro buhgalters'kyj oblik ta finansovu zvitnist' v Ukrai'ni : Zakon Ukrai'ny vid 16 lypnja 1999 r. № 996-XIV. — Rezhym dostupu : <http://zakon2.rada.gov.ua/laws/show/996-14>.
15. Mizhnarodni standarty kontrolju jakosti, audytu, ogljadu, inshogo nadannja vpevnenosti ta suputnih poslug. Ch. 1 ; per. z angl. O. L. Ol'hovikova [ta in.]. — K. : Mizhnar. federacija buhgalteriv ; Audytors'ka palata Ukrai'ny, 2013. — 976 s.
16. *Bezrodna S. M.* Upravlinnja jakistju produkcii' na pidpryjemstvah gromads'kogo harchuvannja : avtoref. dys. na zdobuttja nauk. stupenja kand. ekon. nauk : 08.00.04 / Bezrodna Stella Mykolajivna. — K., 2014. — 21 s.
17. *Vjatin P.S.* Upravlinnja vyrobnychymy vytratamy pidpryjemstva jak chynnyk znyzhennja sobivartosti produkcii' / P. S. Vjatin : zb. nauk. pr. Cherkas. derzh. tehnol. un-tu. Ch. II.T. 2. — Cherkasy : ChDTU, 2012. — Vyp. 31. — S. 124–127. — (Serija : Ekonomichni nauky).
18. *Gusarov O. O.* Minimizacija vytrat na operatyvne reguljuvannja dijalnosti pidpryjemstva / O. O. Gusarov, O. Ju. Antypceva // Visnyk ekonomiky transportu i promyslovosti. — 2013. — Vyp. 42. — S. 280–283.
19. *Pomirko N. M.* Klasyfikacija logistychnyh vytrat u formuvanni systemy upravlinnja nymy na promyslovomu pidpryjemstvi / N. M. Pomirko // Visnyk Nac. un-tu "L'vivs'ka politehnika". — 2010. — № 669: Logistyka. — S. 99–107.
20. *Shashenko O. O.* Vyrobnychi vytraty na promyslovomu pidpryjemstvi: sutnist', klasyfikacija, vydy / O. O. Shashenko // Stalyj rozvytok ekonomiky. — 2013. — № 3. — S. 295–300.
21. *Shevchuk O.* Evoljucija naukovyh pidhodiv do upravlinnja vytratamy / O. Shevchuk // Visnyk Kyi'v. nac. torg-ekon. un-tu. — 2009. — № 3. — S. 77–84. — Rezhym dostupu : http://nbuv.gov.ua/j-pdf/Vknteu_2009_3_11.pdf s. 82.
22. *Kajnova T. V.* Shljahy optymizacii' vytrat na personal / T. V. Kajnova // Krym. ekon. visnyk. — 2013. — № 4 (05). — S. 67–69.

23. Tkachenko S. O. Vdoskonalennja systemy optymizacii' vytrat obigu / S. O. Tkachenko // Problemy ekonomiky. — 2012. — № 1. — 91–95.
24. Chepil' B. A. Analizuvannja ta rozpodil upravlins'kyh vytrat iz zastosuvannjam lancjuzhka cinnosti / B. A. Chepil' // Visnyk Nac. un-tu "L'vivs'ka politehnika". Menedzhment ta pidprijemnyctvo v Ukraini: etapy stanovlennja i problemy rozvytku. — 2013. — № 769. — S. 118–124.
25. Suchasnyj encyklopedychnyj slovnyk [Elektronnyj resurs]. — Rezhym dostupu : <http://slovar.cc/enc/sovremenniy/1843223.html>.

Articles submitted to editors office of 21.09.2015.

Копотієнко Т. Внутрішній аудит поточних витрат підприємств ресторанного господарства.

Постановка проблеми. Подолання сучасних економічних загроз для розвитку бізнесу потребує перегляду форм контролю, які нині використовуються в мережах ресторанів, і впровадження внутрішнього аудиту витрат. Розгляд різних підходів до класифікації цього об'єкта сприяє досягненню якісних результатів внутрішнього аудиту витрат.

Аналіз останніх досліджень і публікацій. Питання класифікації видатків ресторанів вивчали І. Андрущенко, І. Десяткіна, І. Карпенко, В. Новодворська, А. Супруненко та ін. Зокрема, такі вчені, як А. Чумак, А. Дідик та С. Гнатів згрупували витрати ресторанного бізнесу за цілями бухгалтерського обліку. Проте цілі витрат внутрішнього аудиту відрізняються від цілей бухгалтерського обліку витрат, тому реалізація витрат внутрішнього аудиту в мережах ресторанів дає змогу визначити цілі заходів контролю і розвитку класифікації видатків, орієнтовані на їх досягнення.

Метою дослідження є розробка теоретичних та методичних положень внутрішнього аудиту витрат ресторанів, ідентифікація цілей реалізації заходів контролю, класифікація видатків, спрямованих на досягнення мети.

Матеріали та методи. Інформаційною базою статті є наукові праці зарубіжних і вітчизняних вчених з цього питання, а також міжнародні та національні законодавчі акти. У дослідженні використано такі методи наукового пізнання: діалектичний, теоретичного порівняння, узагальнення, абстракції, групування, аналізу та синтезу.

Результати дослідження. Теоретичні та методологічні положення внутрішнього аудиту витрат ресторанного бізнесу потребують дослідження в частині визначення цілей контрольних заходів та розробки класифікації витрат, спрямованих на їх досягнення. Обґрунтовано необхідність розподілу витрат відповідно до їх здатності стимулювати зростання доходів ресторанного бізнесу. Це дало змогу диференціювати підходи до управління витратами, що сприятиме зростанню доходів і витрат підприємства.

Висновки. Представлений підхід до класифікації типів видатків ресторанів сприятиме досягненню якості внутрішнього аудиту витрат і підвищенню його ефективності. Можливими напрямками подальших досліджень є розроблення методичного підходу до визначення оптимального рівня витрат через їх параметризацію.

Ключові слова: класифікація витрат, мета внутрішнього аудиту витрат, мережа ресторанних підприємств.