

Аннотации

Т. В. Горбач

Оценивание дисперсий в выборочном обследовании капитальных инвестиций

Рассмотрена проблема оценивания дисперсии оценок суммарного объема капитальных инвестиций предприятий Украины. Исследовано применение репликационных методов оценивания дисперсий (случайных групп, джекнайф, бутстреп). Проведено их сравнение с использованием стандартных формул оценивания дисперсии. Проанализированы свойства вышеуказанных методов при помощи симуляционного исследования на основе оценок Горвица – Томпсона, по регрессии и при оценивании по отношению при стратифицированном отборе.

Ключевые слова: выборочное обследование, дисперсия, оценка, репликационный метод, джекнайф, метод случайных групп, бутстреп.

И. В. Калачева, Е. В. Шубравская, Е. А. Прокопенко

Инновационная деятельность сельскохозяйственных предприятий: препятствия и направления развития

Раскрыты методологические основы и рассмотрены результаты обследования инновационной деятельности сельскохозяйственных предприятий. Определены факторы их инновационной активности и препятствия к внедрению новаций. Установлена необходимость регулярного проведения таких обследований для оценки перспектив и направлений дальнейшего инновационного развития аграрного сектора.

Ключевые слова: сельское хозяйство, модернизация, инновационная деятельность, технологии, статистическое обследование, эффективность.

А. А. Фризоренко, С. И. Божко

Энергетический баланс Украины: от теории к практике

Рассмотрены шаги, проделанные Госстатом Украины от теоретических наработок до практических работ по формированию энергетических балансов страны. Проанализированы структура, динамика и основные тенденции развития рынка энергоресурсов Украины на основе энергетического баланса за 2011 год. Акцентируется внимание на проблемах отечественной энергетики. Очерчены роль и значение энергетического баланса в расчетах макроэкономических показателей страны.

Ключевые слова: статистика энергетики, энергетический баланс, поставки первичной энергии, конечное потребление, энергоемкость ВВП, Международное энергетическое агентство.

А. С. Бабанин

Статистика развития IT-рынка в США, Украине и мире

Проанализированы динамика и структура развития рынка информационных технологий в США, Украине и в мире в целом. Рассмотрены результаты прогнозирования позиций Соединенных Штатов как мирового лидера в IT-отрасли в послекризисный период (2012–2014 годы). Обращено внимание на высокий уровень компьютеризации украинских предприятий и подчеркнута важность проведения всеобъемлющего исследования рынка информационных технологий в Украине.

Ключевые слова: информационные технологии, компьютерная техника, программное обеспечение, IT-услуги, расходы бюджета, компьютеризация.

А. А. Чебанов, Л. А. Збаразская

Оценка эффективности структурных сдвигов в промышленности Украины в 2007–2010 гг.

Приведены и проанализированы результаты оценивания эффективности структурных сдвигов в промышленности Украины на основе сравнительной ресурсоотдачи в течение 2007–2010 гг. Полученные оценки дополнены результатами расчетов эффективности межотраслевого распределения экономического эффекта в соответствии с факторными расходами. Выявлены основные тенденции эффективности структурных сдвигов за указанный период.

Ключевые слова: экономический анализ, эффективность, государственное регулирование, межотраслевые пропорции, промышленность, распределение экономического эффекта, статистические оценки, структурные сдвиги.

Б. Е. Грабовецкий, О. В. Чаплыгина

Оценка уровня и анализ динамики концентрации земель, сданных в аренду

Рассмотрено содержание понятий “концентрация производства” и “эффект масштаба”. Очерчены показатели, определяющие размер предприятия. С использованием трех методов рассчитаны статистические параметры, характеризующие уровень концентрации, и рекомендован самый приемлемый метод. Предложены методические приемы для оценки эффективности роста уровня концентрации.

Ключевые слова: концентрация, средний размер показателя концентрации, оптимальный размер показателя концентрации, индекс концентрации, параметры уравнения регрессии, экономический эффект.

М. В. Щурик, Н. М. Чеверда

Социальные проблемы развития села в условиях земельной и аграрной реформ

Рассмотрено современное состояние социального развития села. Проанализировано влияние земельной и аграрной реформ на решение социальных проблем в селах Карпатского макрорегиона. Предложены организационные мероприятия по развитию социальной инфраструктуры на селе. Особое внимание обращено на формирование кадрового потенциала аграрного сектора.

Ключевые слова: приватизация, разгосударствление, агроформирование, уровень жизни, депопуляция, безработица, кадры.

И. А. Жукович

Интегральные индексы в измерении экономики знаний по методологии Всемирного банка

Рассмотрено возникновение термина “экономика знаний” и подход к ее измерению на основе расчета интегральных индексов по методологии Всемирного банка. Приведены результаты рейтингования 2012 года по индексу экономики знаний для стран мира, в частности Украины.

Ключевые слова: экономика знаний, интегральные индексы, субиндексы, индекс экономики знаний, индекс знаний, рейтинг, нормализация.

Н. В. Ковтун

Методологические основы оценивания качества жизни населения Украины в контексте международных подходов

На основе методического обеспечения, разработанного с учетом международного опыта, оценено качество жизни населения Украины за период 2000–2011 гг. по компонентам.

Ключевые слова: международные концепции качества жизни, интегральная оценка, стандартизация, качество жизни, индекс качества жизни.

Э. В. Чекотовский, М. Ю. Потапова

Артур Лайон Боули: жизнь и вклад в развитие статистической науки

Рассмотрен жизненный путь выдающегося английского экономиста и теоретика статистической науки А. Боули. Показано значение его работ для развития статистики.

И. А. Дегтярева

Теоретическое обоснование составляющих разработки механизмов повышения конкурентоспособности региона

Очерчена проблематика конкурентоспособности региона, раскрыт концептуальный подход к разработке действенных механизмов ее повышения. По результатам научных исследований, а также анализа отечественного и зарубежного опыта предложена классификация характеристик указанных механизмов.

Ключевые слова: оценивание конкурентоспособности региона, парадигма региона, модель состояния региона, региональное управление, механизмы повышения конкурентоспособности региона, характеристики механизма.

С. А. Линник

Внедрение в Украине Глобальной стратегии профилактики инфекций, передающихся половым путем, и борьбы с ними

Проанализированы основные аспекты Глобальной стратегии ВОЗ по профилактике инфекций, передающихся половым путем, на 2006–2015 гг. Оценено выполнение положений указанной стратегии в Украине. Очерчен круг государственных задач по обеспечению реализации Глобальной стратегии ВОЗ в отечественной системе здравоохранения.

Ключевые слова: инфекции, передающиеся половым путем, Глобальная стратегия, ВОЗ, мероприятия по охране общественного здоровья, дерматовенерологическая служба.

Abstracts

T. V. Gorbach

Variance Estimation in Sample Survey of Capital Investment

In Ukraine, as well as in the whole world, sample surveys are intensively being introduced in statistical practice for they provide saving of material, labor, financial resources and time. Among these are household surveys, social surveys, surveys of capital investment of Ukraine's enterprises etc. The problem of data reliability is the most urgent one, since only the part of population is under study.

One of the main estimation accuracy indicators is variance, indicating variation (change) of estimation results according to the data obtained. The estimation variance calculation requires data on the whole population that is impossible in sample surveys. Therefore, it is also estimated by sampling.

The research is based on the survey of capital investment of Ukraine's enterprises. Since the enterprise population is sizable, it was decided to carry out sample survey instead of total survey of capital investment.

So, the article is devoted to the assessment problems of estimation variance of the total volume of capital investment of Ukraine's enterprises. The purpose of this study is to review the variance estimation methods, to compare them with each other and with the use of standard formulas for variance estimation, to analyze properties of these methods based on sample survey of capital investment of Ukraine's enterprises. The key objective of the study is to determine the method for obtaining estimates, the most close to real value of estimation variance obtained when using one estimator or another. Therefore, the article considers theoretical basis for carrying out analysis: it presents formulas for calculating Horwitz – Thompson estimates, by regression and by the ratio of the total volume of a certain characteristic of the total population and also standard formulas for calculating variance estimates.

The paper describes general principles of estimation by replication methods: the random group method; bootstrap; jackknife. These methods are used when there are no standard formulas for variance calculation (e.g., in situation when sample design becomes more complex and is carried out in several stages). As the capital investment survey is based on stratified sample, the theoretical information presented here, refers just to the stratified sampling. The indicated replication methods of variance estimation are compared with the use of standard formula by two criteria: 1) convergence of the average variance estimates to actual variance of one estimator or another; 2) a number of confidence intervals, constructed on sampling with a large number of simulations, which include the actual variance value.

It is shown, that the use of replication methods for variance estimation is inexpedient in such conditions, since these methods are intensive as to the calculations and do not show a significant improvement in comparison with standard formulas. The jackknife method is the best alternative, because for three estimators the estimates calculated by the jackknife method are the most close to those ones calculated by standard formulas.

Key words: *survey sampling, variance, estimation, replication method, Jackknife, random group method, Bootstrap.*

I. V. Kalachova, O. V. Shubravskaya, K. O. Prokopenko

Innovation Activity of Agricultural Enterprises: Obstacles and Lines of Development

Innovation activity is one of the most important factors of economic development and essential precondition for competitiveness assurance. The urgent problem to be solved in conditions of innovation economy is outrunning creation of effective mechanism of information support for innovation activity. Effectiveness of this mechanism to a great extent depends on quality of continuous socio-economic monitoring. The purpose of this paper is to develop methodological foundation for the innovation activity survey of agricultural enterprises and to determine factors of their innovation activity.

In October 2012 on the initiative of the SI "Institute of Economics and Forecasting of NAS of Ukraine" together with the State Statistics Service of Ukraine the first survey of agrarian enterprises was carried out in order to analyze work of innovatively active enterprises.

It should be mentioned that, as a rule, the utmost innovation activity is demonstrated by the companies with the higher profitability level. At the same time, innovation activity is one of the factors of farmers' income growth.

On the whole, producers use or modify (adapt) developments to their own conditions, as both resources and technologies are developed, first of all, by specialized organizations. In agriculture a significant part is formed by foreign developments, widely presented at the market.

It is proved that an effective innovatively active enterprise realizes innovation activity not only on its main specialization but is active in general that can be explained by the influence of managerial resource.

Taking into account the survey data, the low level of participation of research institutions in enhancing innovation activity of agricultural enterprises should be noted.

The primary objectives for implementing innovations, marked by enterprises, are the following: upgrading obsolete resources or processes; entering new markets or increasing the market share; reducing labour, material

and energy input per unit of production (over 50% of businesses give these incentives the highest appreciation). At the same time, enterprises are much less interested in reducing the negative impact on the environment and expanding the range of goods or services.

The survey outcomes showed that the innovation process in agricultural enterprises is characterized by the limited usage of their own innovations, interdependence of the level of innovation activity of an enterprise and its profitability, diversification of directions of innovation activity of efficient enterprises, absolute predominance of own funds in the innovation sources of financing, the low level of using institutional information sources on innovation developments, insufficient availability of positive effects on the environment from the introduction of agroinnovations. The main obstacles for innovation processes in agriculture are also revealed: the lack of financial support for businesses; low availability of credits and government support for industry modernization; the low-developed system of information support for innovation process.

The authors accentuate the necessity of carrying out such surveys as a basis of information support for managerial decision making, relating to the development of enterprise innovation strategy and innovation policy of the state.

Key words: *agriculture, modernization, innovation activity, technology, statistical survey, efficiency.*

A. O. Fryzorenko, S. I. Bozhko

The Energy Balance of Ukraine: from Theory to Practice

This article is devoted to the practical matter of building the energy balance of Ukraine. Practical-scientific works of the International organizations' specialists facilitate the energy statistics development. Thus, the IEA experts together with Eurostat have developed the Energy Statistics Manual; at present a manual on the energy efficiency indicators is being prepared. The approval of International Recommendations on Energy Statistics, offered by the UN Statistics Division, became an important event.

Based on the 2011 energy balance, the paper considers peculiarities of the country's energy balances formation and analyzes the structure, dynamics and main development tendencies of the Ukraine's energy resources market. A special attention is given to the problems of the domestic energy sector (losses in the electricity supply network in particular), and also to the role of the energy balance in calculations of macroeconomic indicators.

When building the energy balance it is necessary to use clear and unified definitions and methodologies that meet international standards, but are adapted to the peculiarities of the national energetics and potential of national statistics.

Energy balances give an opportunity for carrying out both an in-depth analysis of the energy flows and fuel and energy consumption in the country, and a comparative analysis of energy flows of Ukraine and other countries.

A special attention should be paid to the *statistical difference* item of the energy balance, which reflects discrepancy between production and final consumption of energy. In Ukraine statistical difference on such kinds of fuel as coal, gasoline and gas oil exceeds 7-12% that proves existence of the shadow economy.

The detailed analysis of the current situation in production of fuel and energy resources in Ukraine shows that in 2011 coal formed 47% of energy materials, nuclear power and natural gas – 28% and 18% correspondingly.

Ukraine is a country partly supplied with traditional primary kinds of energy, and therefore depends on import. Although the level of Ukraine's energy dependence tends to decrease (from 44.7% in 2004 to 31.9% in 2010), it is still characterized by lack of diversification of the energy-supply sources, especially of natural gas, crude oil and nuclear fuel.

The article presents the analysis of the country's level of energy losses in electricity networks in comparison with the OECD countries and the Russian Federation.

Thus, the analysis of the current situation allows to state, that modern energy statistics in Ukraine meets the IEA requirements as to design of the product and aggregated energy balances. Compiled and issued on a regular basis, the energy balance of the country provides information for decision making when forming energy policy of the state.

Keywords: *energy statistics, energy balance, primary energy supply, final consumption, data comparison analysis, macroeconomic indicators.*

O. S. Babanin

Statistics of IT Market Development in the USA, Ukraine and in the World

The Ukraine's IT market is in the making. Its development is under essential effect of cooperation with the USA, the world leader in this sphere, and processes at the global IT market. However, this subject has not been sufficiently studied.

The purpose of the article is to examine the problems of the IT industry in the United States, Ukraine, and all over the world in 2008–2011, and to forecast the development of this sector for 2012–2014.

The global crisis of 2008–2009 had an impact on the world IT market. Thus, in 2009 the sales volume of computer equipment in the world fell by 12.3%, software – by 2.5% and IT services – by 5.1%. In the world as a whole (excluding the USA) the sales volume of computer equipment and the IT services expenses, recorded

in 2008, were exceeded only in 2011. As predicted, over 2012–2014 the demand for computers in the USA will decrease slightly but nearly two-thirds of the world software will be consumed in the United States. The annual volume of the US software market is approximately equivalent to the Ukraine's GDP volume.

Due to introduction of the public funds saving program in 2009–2014 fiscal years the annual volume of the US federal spending will remain at the level of USD 79 billion; however, as expected, a growth (by 40%) in expenditure for information technology will exceed an increase (by 26%) in IT spending in the world as a whole.

In 2011 the total volume of the Ukraine's information technology market was equal to UAH 16 billion. By the PMB Publications' forecasts, the volume of the Ukrainian IT market will reach UAH 18.9 billion in 2013. The computerization level of enterprises in Ukraine is high (87.7%), although the citizens and public authorities apply IT more actively than enterprises do.

The national system of indicators for estimating the level of IT penetration has been developed by S. Polumiynenko and L. Rybakov. The comparative analysis shows that in 2011 the value of indicator of the US society informatization exceeded the value of the similar indicator for Ukraine 2 times, and the value of technological application indicator was 2.5 times higher.

Thus, the USA remains a global technological leader, and the volume of IT spending per capita in the USA is eleven times higher as compared to other countries. By 2015 the growth in per capita spending on technological modernization in the IT industry in the USA is expected to exceed the increase of expenditures for similar purposes in the same terms in the rest of the world by 20%. The current situation in Ukraine as to providing users with information on the IT sector is unsatisfactory. For more close estimation of the Ukrainian IT market volume the government statistical agencies should carry out regular observations and studies.

Key words: *information technology, computer equipment, software, IT services, budgetary expenditures, computerization.*

O.O. Chebanov, L.O. Zbarazska

Estimation of Structural Change Efficiency in Ukraine's Industry in 2007–2010

The paper analyses the estimation results of structural change efficiency in the Ukraine's industry in 2007–2010, based on the comparative asset turnover indicator. The information basis of this study is formed by statistical data on cost of fixed assets, personnel number, payment for work of employees, gross operation return, mixed income and gross value added by economic activity for the analytical period from the official publications of the State Statistics Service of Ukraine.

The article examines the differences in the rate of change of segments of different industries in aggregated resource, conditioned by different dynamics of their shares in fixed assets and the number of employees and also the discrepancy in dynamics of comparative asset turnover because of different rates of change in corresponding shares of GVA in factor prices and in aggregated resource. The rating positions for industrial activities are presented by comparative asset turnover indicator in 2007–2010.

The main trends in structural change efficiency over the indicated period are revealed. It was determined that in the analyzed period industry as a key sector of the national economy was in sufficiently active process of structural changes. A relative reduction in aggregated resource and its factor components was recorded for the industry as a whole (in the whole economy) and also for the most industrial activities. In the context of approximation of the structural proportions of the national economy and industry to those ones in developed countries it can be perceived as an objective process in the market environment. At the same time, the movement of resources from industry with relatively higher asset turnover to other economic sectors is not economically justified and reasonable in the view of ensuring dynamic and efficient growth.

The crisis of 2008–2009 has intensified “a shift” of the resource potential of the national industry to low-tech energy-intensive industries. Taking into account problems of energy dependency of the economy, high rates of energy consumption in these sectors, their monopolization, the revealed tendency can be regarded as one more confirmation of further structural deformation of industry.

The processes of substitution of capital for labor were observed in the industry of Ukraine and accordingly – a rise in its capital – labour ratio. At the same time, the “capital” factor increase in the aggregated resource of the national industry shows capital intensive orientation of production. Significant economic effects of this phenomenon are investment requirements and further emphasizing of problems relating to employment since labor-intensive industries do not show positive trends.

The dynamics of interindustry resources structure with permanent changes of trends shows that these processes are not based on reliable mechanisms related to long-term economic cycles, on the ground of technological and product innovations. The character of fluctuations and uncertainty of tendency point out market-oriented nature of structural changes and indicate minimum influence of the state on the processes of the system structural transformations.

Key words: *efficiency, industry, economic efficiency distribution, structure, structural change.*

Leased Lands Concentration: Estimation of the Level and Analysis of Dynamics

Market transformation of the agrarian sector of Ukraine's economy in the context of the development of world agriculture emphasizes the importance of the problem relating to the concentration of production. The latter should be considered as a process of concentration of area, production volume, means of production and labor force at the large-scale enterprises of the agrarian sector. Technical and economic advantages of such enterprises, as compared to medium and small ones, are conditioned by the positive influence of "scale effect" that makes preconditions for industrial introduction of the latest achievements of scientific and technological progress, the advanced forms of organization of production and work etc. The production efficiency increase is shown in a decrease of the rate of capital investments, in an increase of using labor and material resources, production price reduction and a rise of enterprise profitability.

The absolutely essential precondition for successful functioning of an effective competitive agrarian enterprise is optimization of the concentration level that provides maximum results with minimum inputs. Therefore, it is important to solve the problem of quantitative estimation of the concentration level and a choice of the most acceptable indicator from a set of those ones, characterizing quantitative aspects of production (namely: the agricultural production volume, agricultural land area, number of workers, the value of production assets etc.). In the most researchers' opinion, land area, rented land in particular, is just the right indicator.

The level of concentration of production in the agrarian sector is estimated mainly by two groups of indicators. Absolute indicators determine the level of concentration by the average size of an enterprise, the relative ones – by the share of large enterprises in the total number of investigated enterprises. The article considers advantages and lacks of the indicated approaches.

As to the variation values, in 2006–2011 a steady decrease was observed that is shown in gradual smoothing of size of land leased in certain years. It allows making a conclusion, that over the period of 2006-2011 no increase in the concentration level has practically been observed.

The results of estimation by an enumerative method illustrate dependence of the concentration level on the number of enterprises; with some exceptions, a gradual decrease of the leased land concentration level has been observed.

Calculation of the concentration index follows interval grouping of the corresponding data with further determination of: the number of groups in the studied population and intervals; the number of objects in each interval and their proportion in the general population; the volume of studied characteristic in each interval and its ratio in the total population.

It is proved that when choosing a method of the concentration level estimation, an advantage should be given to that one, which has no or less influence of the subjective factor. It is more expedient to carry out research of changing tendency of the concentration level on the base indices obtained over the whole period. Methods of correlation and regression are effective for establishing correlation between production costs and the volume of output and for determining the share of fixed costs in total input.

The results of calculations can be used for making different plans (decision-making) and for choosing optimal size of agricultural enterprise.

Key words: *concentration, land lease, optimum index of concentration, index of concentration, economic effect.*

M. V. Shchuryk, N. M. Cheverda

Social Problems of Rural Development in Conditions of Land and Agrarian Reforms

The article studies the current state of rural development. It analyses the influence of the land and agrarian reforms on solution of social problems in the Carpathian macroregion. It is proved that economic problems in agricultural sphere can not be solved without taking human factor into consideration. Organizing measures for the development of the social infrastructure in the countryside are proposed. A special attention is paid to formation of human resources in the agricultural sector.

The purpose of the article is the analysis of causes, which put the brakes on the socio-economic development of the countryside, working out of the mechanism directed to enhancing the role of farmers in the processes of effectiveness increase in the agricultural sectors of the economy and solution of problems.

The authors reveal the main obstacles in solving social problems in the countryside. First of all it is the low level of privatization of land and property of the former agricultural formations. The processes of denationalization and privatization caused an increase of unemployment, considerable aggravation of the demographic situation. The qualified agricultural specialists have been left without work although considerable funds were spent for their training. Moreover, the landowners are mostly representatives of intelligentsia, in particular, teachers, medical personnel and workers of cultural sphere, who are not able to provide the proper use of lands.

In the authors' opinion, as a result of the transformation of land relations, the officials have put performance of their own duties as to solution of social problems on the farmers' shoulders. However, farmers can not speed up development of the social infrastructure without assistance. The local administration also is not capable to do it because of constant lack of financial resources.

The only really important national problem, but still not solved, is creation of an appropriate socio-economic system peculiar to the Ukraine's people mentality. A farmer with his interests and social needs should be the key figure in the agrarian sector. All this requires well-formed socio-economic policy.

Nowadays these problems can be solved due to revival of former agricultural enterprises and formation of the new ones. A special attention should be given to agricultural co-operatives, state enterprises and other formations organizing agricultural processes on the collective basis. Owing to them it will be possible not only to solve economic and ecological problems, but to develop the appropriate social sphere in the countryside.

Key words: *privatization, agricultural formations, standard of life, depopulation, unemployment, personnel.*

I. A. Zhukovych

Integral Indices in Measuring the Knowledge Economy by World Bank Methodology

The article considers evolution of the term "knowledge economy". For the first time it was used in the works of Fritz Mahlup at the beginning of 1960s. Since the mid-1990s the concept of the knowledge economy has been actively developed by many economists and supported by international organizations. Currently, the term "knowledge economy" is used on a global scale for determining a society of the future, which civilization of the developed countries aims at. It is generally recognized that only through knowledge a competitive economy ensuring up-to-date living standard can be created and developed.

The problems of measuring the knowledge economy and the level of countries' achievements in this sphere have become the basic ones in the development of the knowledge economy concepts.

There is no universal and generally recognized methodological approach. The approaches associated with building of integral (composition) indices have become widely practiced.

The most famous of integrated approaches to the knowledge economy measurement is that one offered in 2004 by the World Bank within the framework of a special program "Knowledge for Development Program – K4D". Experts of the World Bank Institute have developed the Knowledge Assessment Methodology (KAM).

The thesis underlying this methodology states that transition to the knowledge economy requires working out long-term strategies focused on the development of the four components of the knowledge economy: economic incentives and institutional regime, skilled personnel, an efficient innovation system and a modern information infrastructure.

The article reviews the changes that have occurred in the KAM methodology from 2005 to 2012. It examines the Knowledge Economy Index (KEI) – an indicator of the overall level of a country's or region's readiness for the knowledge economy. The KEI determines each country's performance by 12 variables corresponding to the four components of the knowledge economy. The KEI is constructed as a simple average of the normalized values of these indicators, from 0 to 10. If the KEI value is close to 10, it means that the country has a relatively high development of the four knowledge economy components as compared to other countries, while the value close to 0 indicates a relatively low development.

According to the World Bank calculations in 2012, Sweden is a leader-country on the KEI (9.43). This country has a particular advantage in the innovation sphere and ICT, taking the second place by both sub-indices. The Scandinavian countries were also among the five best knowledge economies: Finland (9.33), Denmark (9.16), the Netherlands (9.11) and Norway (9.11). The last in the KEI rating is Myanmar, because of the low values of all four sub-indices (KEI=0.96).

Singapore is the first on sub-index of economic and institutional regime with high indicators for all components of this sub-index.

Switzerland is a leader on the innovation sub-index, New Zealand – on the education sub-index and Bahrain – on the ICT sub-index.

As for Ukraine, according to the World Bank calculations by the KAM-2012 version, among 146 countries Ukraine was the 56th on the Knowledge Economy Index in the general ranking with index equal to 5.73, and it was the first among the countries with lower than average income. The Ukraine's nearest neighbors in the rating are: Russia (55th place with index equal to 5.75) and Macedonia (57th place with index=5.65). Education remains the main competitive advantage of Ukraine, (21st place in the rating). The coverage ratio for higher and secondary education among the population aged 17 – 21 years over the past years was equal to 81%.

Ukraine's participation in international rankings is very important both in economic and political aspects. It will promote objectivity of data presented to international organizations for making ratings. Taking into account international experience and peculiarities of the national economy, it is necessary for Ukraine to develop its own methodology of estimation and to form the system of indicators for permanent monitoring of the knowledge economy at all stages of production, distribution, sharing and application of knowledge in the economy.

Key words: *knowledge economy, indexes, sub-indices, knowledge economy index, knowledge Index, rating, normalization.*

Evaluation of Quality of Life of the Ukraine's Population in the Context of International Approaches

In the developed countries the results of evaluation of quality of life underlie formation of public policy of social development. For the time being, in Ukraine such studies are of exploratory nature and there is no generally accepted technique. In addition, in the scientific circles an idea is wandering as to the development of a national evaluation technique of quality of life of the population, which will be not only essentially different from a measuring technique of Human Development Index, but also will allow positioning Ukraine in international quality-of-life ratings.

Some components of evaluation of quality of life of the population have been studied in publications of A. Boulin, A. Ivanov, E. Libanova, M. Hagerti and other well-known scientists. Theoretical, methodological and organizational issues, related to ensuring international comparability of quality of life of the Ukraine's population and based on application of modern instruments for monitoring of quality of life and their implementation to present-day practice of evaluation of quality of life of the population in Ukraine, remain indeterminate.

The purpose of the research is evaluation of quality of life of the population in Ukraine as a criterion of progress of social development based on the application of international experience.

According to the results of previous research, several basic international techniques, oriented to the quality of life evaluation, have been studied for the purposes of their information content and the possibility of adaptation to the national system of indicators. The comparative tables of informational support for the system of indicators have been built by different concepts, and the level of providing each concept with relevant information for the Ukraine's needs has been determined.

As a result, the following two techniques, which are the most suitable for Ukraine and allow making international comparisons, have been chosen:

1. A technique for evaluation of standards of life and quality of life (SLQL); the level of informational content can be equal to 95%.
2. A technique based on the OECD concept: Better Life Index; the level of informational support can reach 87.5%.

The highest information support has a technique based on the OECD concept: Better Life Index, according to which quality of life is estimated by 11 components, which include 24 indicators; in Ukraine 21 indicators have information support.

The developed methodical support has made it possible to evaluate quality of life in Ukraine in different periods both as a whole and by the components. Thus, the integrated assessment of quality of life was being formed unequally by its different components. According to calculations, up to 2008 positive dynamics has been observed in all groups of indicators with the higher level in different components of quality of life in different years. Since 2009, 6 of 11 components have deteriorated, namely: indicators of income, labor, society, life satisfaction, safety, balance of work and personal life. The dynamics was positive for three groups of indicators: education, social activity and health. The others are characterized by contradictory dynamics.

The assessment of possible increase in life satisfaction is not optimistic: if this tendency remains, the level of life satisfaction will be equal just only to 35% and the level of work satisfaction will continue to decrease and can reach critical values. Because this component of quality of life includes a material constituent, as well as socio-cultural, political, environmental, moral and emotional ones, i.e. it covers all elements of human life, it is determinative. According to the forecasts, the share of discouraged workers will grow, that also will raise neither quality-of-life index nor quality of life itself.

Key words: *international quality-of-life models, integral estimation, standardization, quality of life, quality-of-life index.*

E. V. Chekotovskiy, M. Yu. Potapova

Arthur Lyon Bowley: Life and Contribution to the Development of Statistical Science

The article is devoted to the famous English scientist Arthur Lyon Bowley (18.02.1869 – 26.06.1957). It describes his life and the contribution he has made to the development of statistics. A. Bowley is the prominent English economist and theorist of statistical science of the first half of XX century, the author of theoretical foundations of a sampling method, a pioneer of the wide use of different statistical and economic methods for studying mass social and economic phenomena.

A. Bowley was born in Bristol, England, in the family of a priest. Aged 7 years, Arthur began his education at the prestigious Cotham Park School, where he mastered arithmetic, Latin, English grammar and other subjects. After leaving school he won a scholarship for studying mathematics at the Trinity College, Cambridge University. A. Bowley was one of the best students. When studying at the university, he also took a training course of the famous scientist and economist Alfred Marshall (1842 – 1924). Under his direction Bowley wrote the "Account of England's Foreign Trade", which was published and rewarded.

Having graduated from university, A. Bowley worked as a mathematics teacher since 1893 till 1899. In 1895 he was invited as a part-time teacher to the London School of Economics and Political Science (LSE) which had

been just opened. Bowley worked there until his retirement in 1936. He became a professor in LSE in 1915, and in 1919 he was appointed a head of the first Department of Statistics in England and held this post till 1936. In 1920 A. Bowley was elected a member of the British Academy. He was the president of the Royal Statistical Society (1938–1940), a member of the Royal Economic Society, the director of the University of London Institute of Statistics (1940–1944), the honorary president of the International Institute of Statistics since 1949.

A. Bowley successfully combined his pedagogical activity with scientific work. He has left a considerable scientific heritage. A. Bowley published more than 260 scientific papers, including more than 25 books, which elucidate the problems of economics, statistics, mathematical statistics, sociology, the use of statistical and mathematical methods in economic and social research. As a scientist A. Bowley was being formed under the influence of works of such famous representatives of the British biological school of statistics as Karl Pearson, George Udny Yule, Ronald Aylmer Fisher, Francis Ysidro Edgeworth.

A. Bowley is the author of books, textbooks and numerous articles on statistics. His first fundamental scientific work on statistics “Elements of Statistics”, published in 1901, was the first textbook on statistics in English. In Bowley’s opinion, statistics is a science of measuring social organisms as a whole and the individual parts, the total measure of which are the averages. He identified the averages with the understanding of the essence of statistical science.

A. Bowley paid great attention to the methodology issues of mathematical statistics. The scientist has made a significant contribution to the sampling theory. He was the first who started developing its theoretical and applied principles.

A. Bowley was also interested in the market research. His work, related to the construction of a barometer of current economic situation (called the Bowley barometer) for business tendency forecasting based on British data, is worth mentioning. In his works the scientist focused attention on the theoretical and practical aspects of the index method.

A. Bowley made a significant contribution to the development of such important sphere of statistics as social statistics. In his book “The Nature and the Purpose of the Measurement of Social Phenomena” the scientist makes one of the first attempts to present a planned program of social statistics, its methodological system.

In the 20’s and 30’s of the twentieth century A. Bowley was engaged in the development of methodological problems of the national income estimation.

Summing up pedagogical and scientific activity of A. Bowley, it is necessary to note that his works not only promoted development of statistical science, but were of great value, which has not been lost till now, and it is proved by their modern republications.

I. O. Degtiarivna

Components of Mechanisms for Enhancing Competitiveness of a Region: Theoretical Substantiation

The state strategy of regional development up to 2015 and the draft law on regional policy in Ukraine determine competitiveness of a region as a main purpose. At the same time, since characteristics and factors of regional competitiveness are taken into account not completely, the existing mechanisms of ensuring the development of regions in Ukraine are imperfect, that hinders the development of the state. The article outlines the problems and presents theoretical substantiations of the development of mechanisms for enhancing competitiveness of a region. Herewith the author offers:

1. The process-oriented approach to the region’s competitiveness estimation that allows considering management as a dynamic process and envisages the following components for the analysis: 1) the level of satisfaction with quality of life and business conditions in the determined sectors in a region; 2) the needs and interests of all groups of subjects of regional development relating to their competitiveness and competitiveness of a region; 3) the state and strategic lines of the development of a certain region and territories-competitors; 4) movement of material and nonmaterial flows relative to the region (logistic analysis).

2. A new paradigm of a region, within the frames of which a region should be considered as a competitive system. According to the paradigm “region - competitive system”, a region is a multilevel socio-economic network and at the same time, an administrative and territorial formation, that determines a scope of interests and activity of this network and its co-operation with other similar subjects on the network principle.

3. The key objects of region’s competitiveness management: a man and quality of his vital environment; network structures; regional and municipal innovation systems; result-oriented information of community; culture; balanced movement of resources; competitive industries and competitive advantages of a region.

4. Approaches to construction of a model of enhancing competitiveness of a region, in particular that one adjusted for correlation of the region’s state and control of its development.

5. Classification of mechanisms for raising competitive efficiency of a region that allows to determine the missing components of a complex mechanism for enhancing competitiveness of a region and directions of its improvement.

It was concluded that effective mechanisms for ensuring competitiveness of a region can be formed just taking into account general tendencies of social and territorial development and using a system approach that requires

high professional qualification of regional authorities. Therefore, modernization of regional management and its quality support should become special priorities for state policy.

Key words: *evaluation of competitiveness of a region, paradigm of a region, region' state model, regional management, mechanisms for enhancing competitiveness of a region, mechanism characteristics.*

S. O. Lynnyk

**The Global Strategy for Prevention and Control of Sexually Transmitted Infections:
Introduction in Ukraine**

The article analyzes the key aspects of the WHO global strategy for prevention of sexually transmitted infections for 2006–2015 and principles for its realization in Ukraine.

Implementation of the Global strategy regulations is estimated in the paper. It is shown that just these regulations should be an integral part of comprehensive services for ensuring sexual and reproductive health to achieve the Millennium Development goals and to respond to the call for strengthening sexual and reproductive health, formulated by the UN International Conference on Population and Development. The range of state tasks for the implementation of the Global Strategy in the national health protection system has been determined as well as the responsive group for successful realization. The responsive group includes: managers of national programs on HIV / AIDS / STI prevention and sexual and reproductive health; interested parties of the health care sector, including public and private medical care providers; health ministers; persons responsible for policy and decision-making in this sector; international organizations and non-governmental partners, other government agencies and departments and donors.

It is proved that in spite of the determined strategic elements for realizing the program of STI control in Ukraine at the national and regional levels, there is no effective integrated system of STI prevention and control in our country. Cooperation of specialists of dermatological and venereologic clinics with family doctors and other specialists (urologists, gynaecologists, therapists), called to control STI in the society, is not organized well enough.

Unwillingness to establish such relations can partly be explained by shortage of skilled specialists and by independence of certain specialized agencies.

Health care and social services should cooperate more effectively in order to organize prevention and control of STI at the local level.

The article gives proof of the system of measures for realization of the Global strategy and determines the need for further development of the system of integrated medical and sanitary service, providing medical services for teen-agers and rural population, guaranteeing equal reproductive rights for men and women as well as free access to medical service, organization of the system of services on diagnostics and treatment of STI by physicians and family doctors.

Key words: *sexually transmitted infections, Global Strategy, WHO, activities, dermatological and venereologic service.*