

Аннотации

О. А. Васечко, М. Гран-Реомм

Проблема корректировки последних уровней временного ряда

Среди методов построения фильтров временных рядов наиболее популярными остаются подходы, базирующиеся на расчете скользящей средней. При этом последние уровни ряда являются очень чувствительными к типу используемого метода. Выбор предпочтительного метода является прерогативой статистиков, исходя из их собственных знаний и опыта. В статье исследуется вопрос выбора метода разложения ряда на основе сравнительного анализа существующих подходов. Рассмотрена проблема корректировки последних уровней ряда с использованием метода Хендерсона и предложен новый метод их сглаживания, базирующийся на методе ядерного сглаживания Епанечникова.

Ключевые слова: *последние уровни временного ряда, метод ядерного сглаживания, фильтр Хендерсона, симметричная скользящая средняя, асимметричная скользящая средняя.*

О. Э. Остапчук, Т. И. Лумпова

Процессный подход к планированию статистического производства в органах государственной статистики Украины

В статье рассматриваются результаты внедрения процессного подхода к планированию в органах государственной статистики Украины с использованием качественно нового формата технологической программы (плана) государственных статистических наблюдений (ТП ГСН), основанного на применении общей модели статистических бизнес-процессов и общей модели статистической информации. Проиллюстрированы преимущества использования этого нового формата для реализации статистического процесса в соответствии с едиными принципами и процедурами. Определены направления использования информации ТП ГСН для дальнейшего усовершенствования организации статистического производства.

Ключевые слова: *общая модель, описание статистических бизнес-процессов, процессный подход, статистическая информация, статистическое производство, планирование процесса статистического производства.*

И. А. Жукович

Международный опыт оценивания и сравнения smart-городов

В статье проведен анализ наиболее известных на сегодня международных рейтингов, которые дают возможность оценить разные аспекты развития smart-городов. Определены методологические особенности рейтингов и их результаты. Рассмотрены достоинства и особенности использования рейтингов как инструмента представления результатов для оценивания и сравнения smart-городов.

Ключевые слова: *инновации, информационно-коммуникационные технологии, smart-город, умный город, рейтинги, рейтинговая оценка, индекс smart-города.*

В. А. Шевчук, Л. Е. Момотюк, В. В. Попова, Г. В. Голубова

Анализ результатов Всеукраинской студенческой олимпиады по дисциплине «Статистика»

Статья посвящена анализу результатов Всеукраинской студенческой олимпиады по дисциплине «Статистика», проведенной в Национальной академии статистики, учета и аудита в 2015 году. Авторами обоснована целесообразность проведения Всеукраинской олимпиады по статистике, в частности для популяризации этой дисциплины, повышения статистической грамотности молодежи, развития у нее как логического, так и нестандартного мышления, содействия ее профессиональному и интеллектуальному росту.

Ключевые слова: *статистика, студенческая олимпиада, высшие учебные заведения Украины, статистическая грамотность, задание, тестирование.*

Е. А. Прокопенко, Л. О. Удова

Оценка развития аграрного сектора с учетом рекомендаций Комиссии Стиглица

В статье раскрыты основные положения теории благосостояния и некоторые методы оценивания уровня благосостояния. Обобщены проблемы оценивания благосостояния нации с позиции территориального размещения сельского и городского населения с целью воспроизводства человеческого капитала для обеспечения дальнейшего развития аграрного сектора.

Проанализированы рекомендации по измерению эффективности экономики и социального прогресса с точки зрения определения уровня благосостояния общества, предложенные Комиссией Стиглица. Рекомендации Комиссии Стиглица адаптированы для изучения уровня и качества жизни населения на базе данных, предоставляемых Госстатом Украины.

Ключевые слова: теория благосостояния, сельское население, городское население, Комиссия Стиглица, качество жизни населения, уровень жизни населения.

А. Ф. Ревенко

Конвенция Международной организации труда № 160

«О статистике труда» 1985 года: целесообразность полной ратификации Украиной

В статье обоснована целесообразность полной ратификации Верховной Радой Украины Конвенции Международной организации труда № 160 «О статистике труда» 1985 года. Раскрыта сущность этой Конвенции, освещены идеологические ограничения для ее ратификации, существовавшие в условиях СССР. Охарактеризовано современное состояние имплементации ратифицированных и нератифицированных статей этой Конвенции отечественной статистикой. Доказано, что в современной Украине есть все основания для полной ратификации этой Конвенции.

Ключевые слова: Конвенция Международной организации труда № 160 «О статистике труда», статистика труда, занятость, стоимость рабочей силы, заработная плата, индекс потребительских цен, доходы и расходы домохозяйств.

Р. В. Кузина

Требования Международных стандартов финансовой отчетности: признаки соответствия

В статье рассмотрены нерешенные проблемы практического внедрения международных стандартов финансовой отчетности (МСФО) в Украине, выделены косвенные признаки соответствия отчетности требованиям МСФО 1 «Первое применение МСФО», проведен анализ соответствия 30 украинских предприятий по подгруппам.

Ключевые слова: международные стандарты финансовой отчетности, косвенные признаки соответствия, требования МСФО, первое применение МСФО, анализ соответствия.

Т. А. Каменская

Риски в аудите и их оценка

В статье рассмотрены основные виды аудиторских рисков, их определение, классификация, методы расчета. Приведены примеры их оценки и показано возможное их влияние на последующий выбор и применение отдельных аудиторских процедур, количество аудиторских доказательств и методы их получения.

Ключевые слова: аудиторский риск, неотъемлемый риск, риск контроля, риск невыявления, оценка рисков, аудиторские доказательства.

Н. Н. Пономаренко

Оценка реальной стоимости финансовых инвестиций

Выполнен анализ подходов к определению экономической сущности понятия «инвестиции», показано разнообразие определений этого понятия в соответствии с потребностями анализа, дано его определение для потребностей бухгалтерского учета. Предложены рекомендации по усовершенствованию методики оценивания реальной стоимости финансовых инвестиций, касающиеся этапов оценивания, алгоритма оценивания их реальной стоимости, выбора методов оценивания в зависимости от их вида.

Ключевые слова: инвестиции, финансовая инвестиция, реальная стоимость финансовой инвестиции, принятие решений, инвестиционный процесс, экспертная оценка, управление процессом приобретения финансовых инвестиций.

Е. В. Ромат, М. А. Иртлич

Бренды телеканалов в системе телевизионных брендов

В деятельности телевизионных организаций в последнее время кардинально возросла роль инструментов брендинга. Прежде всего они направляются на формирование и развитие телевизионных брендов, которые на определенном этапе развития создают достаточно разветвленную систему. В качестве основных типов элементов системы телебрендов следует рассма-

тривать: бренди телевізійних каналів, бренди телепрограм, бренди телеведучих, бренди телевізійних компаній і др.

Ключевые слова: бренд, брен-менеджмент, СМІ, система телевізійних брендів, телевізійний бренд, бренд телевізійного каналу.

Abstracts

O. Vasyechko, M. Grun-Rehonne

Endpoints Issue in Time Series Adjusting

Time series analysis aims to reduce the effects of random variations in order to extract meaningful statistics from the data. There are many methods for time series decomposition, to be chosen by a statistician according to his/her experience. To estimate a seasonally-adjusted time series, the most common tool is moving averages. The paper contributes to the issue of a choice by examining the properties of different moving average methods.

This paper analyzes endpoints' smoothing of the time series following the Henderson technique and proposes a new technique to treat the endpoints based on Epanechnikov kernel. The kernel method is generally used to estimate the density of a probability distribution of a sample, taking into account the local character of this density

The main advantage of this kernel approach is that the current value has a larger weight, while the weights of past and future values decrease, when moving away from the present value. Such a property remains also valid for asymmetric moving averages. The greatest weight at the current date allows showing the most recent variations.

For the kernel approaches, two elements remain constant:

1. In the method which keeps the parabolas, a shift takes place between asymmetric moving averages of order 9-3 and those of order 10-2, when we move from a concave curve to a convex curve. A concave curve attributes a dominant weight coefficient to the current value that seems to be reasonable. A convex curve attributes the largest weight to the last observed value, which is less reasonable.

2. With the kernel method which keeps only constants, the largest weight is always the weight of the current value and the weights decrease as we move away from the current value. This suggests that for the last values, it may be better to take moving averages which keep only constants (even the straight lines); otherwise the last observed values are over-weighted and strongly influence the trend. This is in contrast to the definition of a trend, which describes the long-term evolution of the series and must be relatively robust.

Key words: endpoints of times series, kernel smoothing, Henderson filters, symmetrical moving average, asymmetrical moving average.

O. E. Ostapchuk, T. I. Lumpova

Process-Based Approach to Planning of Statistics Production in Official Statistics Bodies of Ukraine

The process-based approach with use of radically new format for technological plan of official statistical observations (TP OSO), based on the Generic Statistical Business Process Model (GSBPM) and the Generic Statistical Information Model (GSIM), has been introduced in planning in Ukrainian official statistics bodies, which results are discussed. The nomenclature of finished works preceding the construction of the new TP OSO format is given, which allows for an assessment of the scopes of already finished work in view of the coverage of various aspects of statistical activities. The authors' analysis of the phases of the statistical production life cycle and the factors that may cause the need for revisions of the course of production process at various phases is illustrated by a chart, where the processes on which realization of demands and needs of each group engaged in official statistics activities is focused are shown in correlation with relevant causal factors.

Reorganization of statistical production in Ukraine by use of the process approach to introducing the integrated statistical information system controlled by metadata is fixed as a key objective of the Strategy for Development of Official Statistics till 2017. This will allow for flexibility and topicality of the official statistics production in the dynamic and competitive information environment. As part of this task, in 2014 the State Statistics Service of Ukraine compiled descriptions of the statistical

production process, for making up a technological plan of official statistical observations by the process scheme based on GSBPM.

Spatial visualization of use of the process-based approach in the statistical production planning gives a good idea of the results of already made rationalization of procedures involved in planning of statistical works, and illustrates advantages from use of the new TP OSO format as a standardized description of production processes, which enables for implementation of the whole statistical process by standard principles and procedures.

Specific purposes of TP OSO information descriptions are outlined, for further improvements in organization of statistical production. The analysis of results of the introduced TP OSO constructed by the process-based algorithm, which also contains information on the results of operation of each process component (which is the specification of sub-process) and links between them, allows for the conclusion about feasibility of constructing a multi-level model of information objects with use of GSIM.

Although the State Statistics Service of Ukraine has accumulated sufficient information to launch GSIM development, this information needs systematization to be fit for GSIM purposes. The areas of preparatory work on GSIM development with further construction of CSPA are highlighted.

Key words: *general model, description of statistical business processes, process-based approach, statistical information, statistical production, planning of the statistical production process.*

I. A. Zhukovych

Smart-Cities: International Experiences of Evaluation and Comparison

The article deals with international experiences in estimation and comparison of smart-cities. Best known rankings are analyzed, their methodological features and results are discussed.

The study allows for some conclusions. There has been no unified methodology for evaluation and comparison of smart-cities. Ranking is still preferred by researchers working in this area as a tool for presenting the results of the survey. The integral index is computed by aggregating all the characteristics of a smart-city, defined by many indicators, thus providing compactness and clarity of the results. The produced ranks are informative, as they allow for positioning the surveyed cities by their strong sides, which can be used in elaborating strategies for development of the cities, to enhance their investment attractiveness.

In addition to these advantages, ratings of smart-cities have some disadvantages and specifics. First of all, it concerns the existence of correlations between parameters of different characteristics. Also, researchers are free in the choice of weights when constructing the integral index. The weights of coefficients may vary depending on the goal or preferences of rating developers.

According to researchers, problems that arise in collecting information for ranking are due to the deficit of statistical indicators at city level. When the questionnaires constructed by researchers are filled, partialities cannot be avoided, which causes overestimation of some factors' weights. Avoidance of statistical indicators causes problems of indicators' comparability and debates about interpretations of the results. Quite often rankings can be constructed with political considerations; they have specific purposes and reflect the interest of specific parties. Also, local authorities do not propagate ranking results if a city has taken a low rank.

Researchers evaluating and comparing smart-cities argue that although such ranks only confirm the facts and overlook the prospects, yet they are a reasonable tool for those who make decisions, and the ideal tool to determine the direction.

Keywords: *innovation, Information and Communication Technologies, smart-city, ratings, rating estimation, smart-city index.*

V. O. Shevchuk, L. Ye. Momotyuk, V. V. Popova, H. V. Holubova

Analysis of Results of the All-Ukrainian Student Olympiad on the Discipline "Statistics"

The article analyzes the results of the All-Ukrainian Student Olympiad on the discipline "Statistics", held at the National Academy of Statistics, Accounting and Audit in 2015.

The authors analyzed the dynamics of the number of participants in the competition in 2014–2015, the geographical structure of participants. The largest share of participants comes from the Northern regions of Ukraine (59.1%), 20.5% are from Central Ukraine, 13.6% are from the Western region of Ukraine, and 6.8% from the South of Ukraine.

The mistakes made by the participants of the Olympiad are thoroughly analyzed. The most difficult for the participants was the fifth task, whereas the lowest number of errors is made in the third

task, which shows the student's knowledge of the conceptual and categorical apparatus of statistics and their interest in the task content and form.

Using the Kolmogorov–Smirnov test, the authors evaluated the consistency of the empirical distribution with the normal one and proved that the hypothesis about normal distribution of participants for the number of points is not rejected. At the same time, high variation of points earned by the participants (69 points), the coefficient of oscillation (174.5%) and the quadratic coefficient of variation (40.6%) showed high variation and unreliability of the average.

The authors proved the effectiveness of the All-Ukrainian Olympiad on the discipline “Statistics”, especially in promoting statistical literacy among young people, developing logical and lateral thinking, enhancing professional and intellectual capacities.

Key words: *statistics, student's Olympiad, higher educational institutions of Ukraine, statistical literacy, task, testing.*

K. O. Prokopenko, L. O. Udova

**Measurement of the Agrarian Sector Performance
with Account of the Recommendations of Stiglitz Commission**

The social welfare in Ukraine is measured by territorial location of the population (rural and municipal), which is required for the even extended reproduction of human capital and comprehensive development of a human with account for social issues. Recommendations on social welfare measurement, given by the Commission on measurement of economic performance and social progress (Stiglitz Commission), are reviewed. Stiglitz Commission points out to the need for re-emphasizing the existing measurement system from economic production to human welfare, by linking it to the sustained development. This approach requires a statistical system that would supplement the market performance indicators with the indicators measuring human welfare and the sustained development. The benchmark for human welfare measurement is measurement of the material welfare or the living standards.

Recommendations given by Stiglitz Commission are adapted to the analysis of level and quality of life of the Ukrainian population, using the data collected by the Ukrainian State Statistics Service (USSS). The following data are taken for the analysis: key macroindicators of the Ukrainian economy; parameters of the labor market in rural and municipal areas of Ukraine; structure of monetary incomes of Ukrainian households in rural and municipal areas; data produced from the sample survey of households, as of January 1, 2014; data on self-appraisal of own incomes by Ukrainian population and their economic expectations, produced from the USSS survey; data on subjective appraisal of the welfare, produced from the USSS survey, which covered males and females aged 15–24 aimed to find out their satisfaction by various aspects of life.

The following conclusions are made from the analysis: (i) the shrinking employment in the Ukrainian agrarian sector entails the reducing share of salary in the structure of monetary incomes of the rural population; because the salary still remains a major source of income for the rural population, the latter's material welfare has been deteriorating; (ii) the rural population have far lesser demand for money than the municipal one, to provide for the welfare level referred by themselves as sufficient; (iii) the rural residents suffer more than the municipal ones from virtually all the kinds of poverty and deprivation; (iv) the rural females have higher level of life satisfaction than the municipal ones, which may be explained by more modest demands of the former.

Key words: *welfare theory, rural population, municipal population, Stiglitz Commission, quality of life, living standards.*

A. P. Revenko

**International Labor Organization Convention “On Labor Statistics” (No 160, 1985):
Expedience of the Complete Ratification by Ukraine**

The reasons for ultimate ratification of the Convention of the International Labor Organization No 160 “On Labor Statistics” from 1985 are grounded. The essence of the Convention is explained, ideological constraints for its ratification, existing in times of the USSR, are outlined.

The Convention contains 9 essential chapters, of which only four has been ratified by Ukraine so far: 7 (employment); 8 (distribution of economically active population); 9 (average salary and duration of working time); 10 (structure of salary). The chapters not ratified are either ones in mismatch with the political and economic ideas dominating in the USSR (chapters dealing with cost of workforce, strikes), or ones on which statistical data were classified, or ones pertaining to statistical data measuring the events that were supposedly nonexistent in the USSR. There are 5 chapters yet to be

ratified by Ukraine: 11 (cost of workforce); 11 (consumer price indexes, or inflation); 12 (incomes and expenditures of households); 13 (production traumatism and professional deceases); 15 (labor conflicts, or strikes). The Convention is, therefore, still ratified by Ukraine only partly. The interpretation of this situation in the political context is that Ukraine has failed to change the negative view of the major part of the Convention's chapters, which is an evidence of out-date political standing.

The contents of nine essential chapters of the Convention and their implementing in the Ukrainian official statistics are discussed in the historic and contemporary perspective. It is shown that Ukraine has the necessary background for ultimate ratification of this Convention, which, above all, is expected to be a step forward to the EU membership and a contribution in reforms of the national statistics.

Key words: *Convention of the International Labor Organization No 160 "On Labor Statistics", labor statistics, employments, cost of workforce, salary, consumer price index, incomes and expenditures of households.*

R. V. Kuzina

Requirements of the International Financial Reporting Standards: Signs of Compliance

The unresolved issues of practical implementation of International Financial Reporting Standards (IFRS) in Ukraine are analyzed. Indirect signs of the Ukrainian reporting compliance with IFRS 1 "First-time Adoption of IFRS" are outlined: the increase of fixed assets value (fact of revaluation is analyzed); presence of articles on additional capital (which need not be present, because, when transformed, they are offset to retained earnings); presence of articles on deferred taxes; calculation of the reserve for doubtful debts and the reserve for employees' vacations.

The compliance analysis covering the reporting of 30 Ukrainian companies by subgroup shows that most of them, in obligatory introduction of IFRS, have preferred the reporting format that complies with the international one but doesn't show the actual reporting figures. The reporting, if made in this way, will fail to attract investors or diminish the IFRS significance for Ukraine and the image of Ukraine.

It is proved that implementation of IFRS by all the Ukrainian companies has been premature, being beneficial for only those listed at the stock-exchange or planning to attract foreign loans, with others approaching this issue but formally.

The following measures are recommended to improve the effectiveness of regulatory and institutional framework for corporate reporting at national level: to establish independent bodies for audit or accounting supervision, responsible for training, certification, education, up-grading of professional skills, quality control and disciplinary penalties for auditors and audit firms; to introduce mechanisms for regular and effective information sharing with international bodies developing standards and other international bodies in the accounting and reporting field; to expand the role of the stock-exchanges that have become promoters of relevant guidelines for management of the companies listed at them; to enhance coordination of all institutions involved in preparation of corporate reporting; to ensure coordination of the key institutions involved in education and training of professional accountants, such as the Ministry of Education and professional organizations of accountants, for harmonization of curricula with the latest national and international standards.

Key words: *International Financial Reporting Standards, indirect signs of compliance, requirements of IFRS, first application of IFRS, compliance analysis.*

T. O. Kamenska

Risks in Audit and Their Assessment

Audit activities involve the existence of various risks having implications for a final auditor's judgment. As a risk can never be reduced to zero, the auditor's task is in its minimization. The purpose of the study is to analyze the audit risks and methods for their assessment when planning audits of financial reporting, systematization of the auditor's actions in view of the existing risks, and identification of potential risks.

Factors affecting the level of the audit risk are outlined; the principal task of an auditor is highlighted. The audit risk and its components (inherent risk, control risk, detection risk) are defined. The algorithm for audit risk assessment on the basis of factor model, the potential effect of the audit risk for subsequent selection and use of auditor procedures, for the number of audit evidences and methods of their obtaining are shown. The existence of inverse relationship between the detection risk and the totality of inherent risk and control risk is shown.

Because the audit risk is a criterion for quality of auditor's work, its estimates and factors should be part of the audit strategy. The algorithm for evaluating the audit performance at the phase of audit planning is shown.

The conclusion is made that the stronger is the system for internal control with an entity subject to audit, the weaker emphasis is needed on detailed tests. The weaker are the evidences obtained from assessment of the efficiency of the internal control with an entity subject to audit, the more comprehensive should be audit, to have the audit risk minimized.

Key words: *audit risk, inherent risk, control risk, detection risk, risk assessment, audit evidences.*

N. M. Ponomarenko

Estimating Real Value of Financial Investments

Interpretations of the economic substance of investment and investment objects are the key for effective investment management and high performance of investment activities. That is why of great significance are the issues of correspondence between the category of investment and other related categories and quality of investment accounting methods.

The purpose of the article is to review and sum up approaches to definition of the "investment" category, and elaborate guidelines for improvement of methods for the estimating the real value of financial investments.

Decision-making on financial investment methods at enterprise level should take account of the following aspects. Firstly, the exchange of in-house emission securities for financial investments forms the capital base of an enterprise, and the prime cost of a financial investment is defined by the fair value of the transferred securities, which is made equivalent to fair market value of these or similar securities on the stock market, or is formed by expert estimation given the absence of fair market value. Secondly, acquisition of investments in exchange for issued shares is feasible in the two cases only: when the fair value of the latter is higher or lower than the notional value. However, the possibility of inefficient economic management of joint-stock companies is not stipulated in the current Ukrainian legislation at all, so only one option of the two is possible, the one that leads to the emergence of share premium. Thirdly, when a financial investment is acquired as a result of an exchange transaction, its fair value is not taken into account: an investment is estimated according to the fair value of the transferred assets.

The procedure of financial investments estimation depending on investment method is proposed as a tool for effective management of financial investments acquisition, which can be considered as a significant element in decisions-making.

Key words: *investment, financial investment, real value of financial investment, decision-making, investment process, expert estimation, management of financial investments acquisition process.*

Ye. V. Romat, M. O. Irtlach

Broadcast Channels Brands in the System of TV Brands

The intertwining major trends in TV services markets (increased competition, media convergence and consolidation of media holdings) have led to almost unlimited freedom of choice for TV viewers and advertisers procuring resources of TV channels to place their advertising.

The role of branding instruments has, therefore, dramatically increased. First of all, they are utilized for designing and developing TV brands, thus creating a ramified TV brands system. The main types of system elements of TV brands should be considered: brands of TV channels, TV programs' brands, brands of broadcasters, brands of TV companies, brands of TV broadcasters' owners, TV brands of international organizations, TV festivals and other TV brands. Brands of TV channels and associated programs' brands and brands of TV moderators have a priority role in that system. As a result, representatives of groups of brands are the main constituents in the structure of the TV broadcaster brand architecture, whereas brands of TV channels act as a leading strategic brand (Master Brand) in the TV brands portfolio.

The main objectives of this paper are to analyze the system of TV brands, determine their structure and study their basic elements. The terms of TV brands system and TV brands structure are conceptualized. The analysis allows for outlining main fields of actions in building up systems of TV broadcaster brands.

Key words: *brand, brand management, mass media, TV brands system, TV channel brand.*