



DEVELOPMENT OF PRODUCTIVE FORCES AND REGIONAL ECONOMY

DOI: 10.15587/2312-8372.2017.111555

ESTIMATION OF THE POSSIBILITIES OF MARKET- ECOLOGICAL TRANSFORMATION OF THE INSTITUTIONAL ENVIRONMENT FOR FOREST SECTOR OF ECONOMICS

page 4–8

Suska Anastasiy, PhD, Corresponding Member of the Academy of Economic Sciences of Ukraine, Head of the Department of Woodworking Technologies and Systems Engineering of the Forestry Complex, Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine, e-mail: n.suscka@gmail.com, ORCID: <http://orcid.org/0000-0002-7465-1776>

Babich Anatoly, PhD, Associate Professor, Department of Theory and Design of Automotive and Special Vehicles, Ivan Kozhedub Kharkiv National University of Air Force, Ukraine, e-mail: anatoliypetrovich88@gmail.com, ORCID: <http://orcid.org/0000-0002-9467-7754>

The processes of formation and functioning of the market for social and ecological forest services depend to a large extent on the availability of an institutional support system that establishes rules and norms for the behavior of market subjects.

The practice of institutionalizing new economic systems shows that the basis for designing and organizing the institutions of the new economic system is the existing institutional environment of the economic space, a certain development of which is the new economic system. Such institutionalization strategy envisages the evolutionary development of existing institutions in terms of their adaptation to new economic (ecological and economic) conditions, will allow maintaining existing inter-branch relations, saving financial and material resources.

The possibility of implementing the evolutionary strategy of institutionalization of the market of social and ecological services of forests as a new ecological and economic system of the forest sector of the economy is determined by the degree of market-ecological orientation of the main regulatory and legal acts of forestry.

Prospects for the transformation of basic legislative acts (formal institutions) to new economic conditions are determined using the method of institutional analysis, conducted according to groups of normative legal acts and their functional purpose.

Institutional analysis of program and conceptual institutions of forestry development has shown that these institutions are largely outdated and do not define such direction of development as capitalization of social and ecological forest benefits. This requires updating the program documents and setting priorities for the integrated use of the natural forest resource.

The main political and legal acts of the institutional environment of the forestry sector of the economy have a certain market-ecological orientation, it allows to determine the strategy of institutionalization of the market of social and ecological forest services as an evolutionary development of the existing institutional environment of forestry.

The existing financial and economic institutions of the institutional forestry environment provide for the financing of activities for the conservation of an environmentally safe environment through a number of environmental taxes, the possible development of such institutions can be the legal coverage of financial flows that can be formed during the capitalization of social and ecological forest benefits.

The absence of domestic experience and the institutionalization of ecological and economic systems in forestry require considerable efforts to study foreign experience and create conditions for the import of certain institutions and their adaptation to the conditions of forestry in Ukraine.

Keywords: forest sector institutions, formal institutions, informal institutions, institutional environment, ecological and legal aspects.

References

1. Veblen, T. (1991). *The Theory of the Leisure Class*. Routledge, 184. doi:10.4324/9781315135373
2. North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press, 152. doi:10.1017/cbo9780511808678
3. Vira, B. (1997). The Political Coase Theorem: Identifying Differences between Neoclassical and Critical Institutionalism. *Journal of Economic Issues*, 31 (3), 761–780. doi:10.1080/00213624.1997.11505964
4. Byrns, R. T., Stone, G. W. (1995). *Economics*. Ed. 6. New York: HarperCollins College Publishers, 796.
5. Hall, A. D., Fagen, R. E. (1956). Definition of System. *General Systems*, 1, 18–28.
6. Arrow, K. J. (2012). Information as an economic commodity. *Report at XIII International Academic Conference on Economic and Social Development, Moscow, April 3–5, 2012*. Moscow: HSE Publishing House, 15.
7. Soloviy, I. P., Monastyrskaya, L. F. (2005). Forest Policy Instruments towards Developing Markets of the Ecosystem Services of Forests. *Scientific Bulletin of UNFU*, 15.7, 119–125.
8. Markusen, A. R. (1994). *Sticky places in slippery space: The political economy of postwar fast-growth regions (Working papers/Center for Urban Policy Research)*. Rutgers: Center for Urban Policy Research, 35.
9. Danylyshyn, B. M. (2007). Problemy modernizatsii pryrodnoresursnoi sfery u formati ekolohichno-zbalansovanoho rozvytku Ukrainy. *Materialy naukovopraktychnoi konferentsii «Problemy modernizatsii lisovoi sfery v konteksti prostorovoho rozvytku»*. Kyiv: CSPF of Ukraine of the NAS of Ukraine, 7–14.
10. Khvesyk, M. A., Holian, V. A. (2007). Formuvannia novoho instytutsionalnogo formatu pryrodokorystuvannia v Ukraini: problemy i shliakh vyrishennia. *Produktyvni syly Ukrainy*, 2 (003), 31.

DOI: 10.15587/2312-8372.2017.112349

ASSESSMENT OF QUALITY OF LIFE OF THE RURAL POPULATION IN THE TERRITORY OF RADIOACTIVE CONTAMINATION

page 9–13

Dovzhenko Valentyna, PhD, Associate Professor, Department of Economic Theory, Intellectual Property and Public Administration, Zhytomyr National Agroecological University, Ukraine, e-mail: vdovzhenko@ukr.net, ORCID: <http://orcid.org/0000-0001-7441-3535>

Recently, the issue of reviving and returning normal radioactive contamination to the normal life of the area has been increasingly raised. For the formation of strategic directions for the restoration of production, social and economic processes in

the territory of radioactive contamination, it becomes necessary to assess the current level of the quality of life of the rural population in a remote period after the accident.

Therefore, an analysis of the socio-economic parameters of the quality of life of the rural population in radioactively contaminated areas is made. Demographic trends are considered, which tend to deteriorate in the remote post-accident period. However, the received results testify to insignificant interrelation between parameters of birth rate, death rate and age structure of the population and level of radioactive contamination of territory.

In the process of studying the level of the incidence of the population, it is established that cardiovascular diseases, diseases of bones and joints, which are most often noted as chronic, and the population is connected with the impact of radioactive contamination of the territory. The most accessible in the field of health care for the rural population in the territory of radioactive contamination is the services of paramedic-midwife points.

The study of housing and living conditions of the population living in the territory of radioactive contamination shows that the majority of residential premises in rural areas in the territory of radioactive contamination require improvement (about 90 %). The level of household services for residents of contaminated areas is low, which is due to the decline of this industry. It is also determined that the incomes of the population are formed mainly at the expense of pensions and wages, and a low level of income encourages residents to self-sufficiency.

Therefore, proceeding from the fact that the ultimate goal of managing the territory of radioactively contaminated rural settlements should be to improve the quality of life of its population, at the current stage it is necessary to reform the sphere of medical services, restore social infrastructure facilities and revive the economy of the region.

Keywords: quality of life, radioactively contaminated territories, demographic situation, living conditions, income level.

References

- Radermacher, W. (2010, April 8). Measuring prosperity and quality of life. *Keynote Speech at the Austrian Federal Ministry of Finance in Vienna, May 2010*. Available at: http://ec.europa.eu/eurostat/documents/118025/118135/wr_speech.pdf/fc309992-2367-49b7-9bdb-eb8e5bba2640
- Libanova, E. M., Hladun, O. M., Lisohor, L. S. et al. (2013). *Vymiriuvannia yakosti zhyttia v Ukraini. Analytical Report*. Kyiv: Institute of Demography and Social Studies named after M. V. Ptukha of the National Academy of Sciences of Ukraine, the United Nations Development Program, the Ministry of Economic Development and Trade of Ukraine. Available at: http://www.idss.org.ua/monografii/UNDP_QoL_2013_ukr.pdf
- Berenger, V., Verdier-Chouchane, A. (2007). Multidimensional Measures of Well-Being: Standard of Living and Quality of Life Across Countries. *World Development*, 35 (7), 1259–1276. doi:10.1016/j.worlddev.2006.10.011
- Talalushkina, Yu. N. (2008). Kachestvo zhizni naseleniia territorii radioaktivnogo zagriaznennia. *Vestnik of Orenburg State University*, 8 (90), 46–49.
- Talalushkina, Yu. N. (2015). Metodika otsenki kachestva zhizni naseleniia territorii radioaktivnogo zagriaznennia. *Ekonomicheskii zhurnal*, 4 (40), 15–24.
- Chemeris, S. L. (2014). Changes in the settlement network of radioactively contaminated areas of Zhytomyr region. *Ekonomichna ta sotsialna heohrafiia*, 2 (70), 115–122.
- Hunko, N. V., Dubova, N. F. (2012). Radioaktyvno zabrudneni terytorii Ukrainy: indeks zhyttievosti silskoho naselennia. *Problemy radiatsiinoi medytsyny ta radiobiologii*, 17, 55–62.
- Dovzhenko, V. (2016). Sotsialno-ekonomichne vidrodzhennia radioaktyvno zabrudnenykh silskykh terytorii v umovakh vitchyznianoj modeli detsentralizatsii vlady. *Bulletin of the Zhytomyr National Agroecological University*, 3(1(55)), 346–355.
- Libanova, E. M. Chornobylka katastrofa: 25 rokiv potomu. *Sotsialno-demografichni nashidky Chornobylskoi katastrofy*. Available at: <http://dse.org.ua/arhive/16/1.pdf>
- Romanchuk, L., Dovzhenko, V., Savych, A. (2016). Social infrastructure in radioactively contaminated rural territories as the basis of maintaining their activity. *Bulletin of the Zhytomyr National Agroecological University*, 2(2(57)), 3–14.

DOI: 10.15587/2312-8372.2017.113152

SPECIFICS OF DEVELOPMENT AND APPROBATION OF RESOURCE SAVING STRATEGY IN AGRO-INDUSTRIAL COMPLEX

page 13–20

Gerasyrchuk Nataliia, Doctor of Economic Sciences, Associate Professor, Department of Economic Analysis and Audit, University of State Fiscal Service of Ukraine, Irpen, Kyiv region, Ukraine, e-mail: 90999nag@gmail.com, ORCID: http://orcid.org/0000-0002-3931-5320

The author is grounded the peculiarities of resource saving for the agro-industrial complex, and accordingly – the need to develop the resource-saving strategy specifically for this area of the economy. The author investigates the solution of the scientific problem of the formation of a resource-saving strategy for the agro-industrial complex to ensure the systemic effect of the components of an active resource-saving policy aimed at overcoming the inertia of the influence of the driving forces by the national agricultural producers on the part of the continental and world agriculture and processing markets. In order to understand the readiness of the domestic agro-industrial complex the author makes the investigation of the use of the best practices of the developed resource-saving and resource utilization strategy on the enterprises of the three districts of the Poltava region, and the results are more than satisfactory. Application of the presented strategy will provide a steady growth of the final results of the functioning of the country's agro-industrial complex, implementation of the main directions of the developed strategy will ensure food security of the country, and the use of the integrated mechanisms of resource saving in the agro industrial complex will serve as attractor of the intensification of agro-industrial production which will enable optimization of the processes of resource use and resource efficiency in the form of interactive use of new progressive forms of organization of agricultural producers and processing of agricultural products.

Keywords: resource-saving development, resource-saving strategy, resource utilization in agro-industrial complex, agro-industrial complex, resource-saving mechanism.

References

- Nazarbaev, N. A. (1992). *Strategiia resursosberezheniia i perehod k rynku*. Moscow: Mashinostroenie, 352.
- Vovk, I. P. (2012). Features of resource conservation measures and methods of their effectiveness in engineering enterprises in the context of resourcenomy. *Visnyk of Sumy state University. Series Economics*, 4, 107–117.
- Andrushkiv, B. M., Vovk, Yu. Ya., Pohaidak, O. B. et al. (2012). *Resursonomika: teoretychni ta prykladni aspekty*. Ternopil: TzOV «Terno-hraf», 456.
- Yermoshenko, M. M., Hanushchak-Yefimenko, L. M. (2010). *Mekhanizm rozvytku innovatsiinoho potentsialu klasteroobiednanykh pidpriemstv*. Kyiv: National Academy of Management, 234.
- Yerokhin, S. A. (2002). *Strukturna transformatsiia natsionalnoi ekonomiky (teoretyko-metodolohichni aspekt)*. Kyiv: Svit Znan, 528.
- Liashenko, I. O. (2012). Specifics and perspectives of resource saving in Ukraine. *Electronic scientific edition «Efektyvna eko-*

- nomika», 11. Available at: <http://www.economy.nayka.com.ua/?op=1&z=1537>
7. Sotnyk, I. M. (2006). *Resursozberezhennia ta ekonomichnyi rozvytok Ukrainy. Formuvannia mekhanizmiv perekhodu subiektyv hospodariuvannia Ukrainy do ekonomichnoho rozvytku na bazi resursozberihaiuchykh tekhnolohii*. Sumy: Universytetska knyha, 551.
 8. Starytska, O. P. (2005). Resursozberezhennia v systemi ekonomichnoho mekhanizmu pidvyschennia efektyvnosti silskohospodarskoho vyrobnytstva. *Naukovi zapysky TDPU im. V. Hnatiuka. Serii: ekonomika*, 18, 199–205.
 9. Zaburanna, L., Gerasymchuk, N. (2014). Optimization of agriculture production on the basis of resource saving strategy. *Humanities and Social Sciences Quarterly*, 21 (3), 233–245. doi:10.7862/rz.2014.hss.50
 10. In: Yermoshenko, M. Aktualni problemy ekonomiky 2013–2014. (2014). *Materials of the VII International Scientific and Practical Conference, Kyiv, January 24, 2014*. Kyiv: National Academy of Management, 134.
 11. In: Garcia-Torres, L., Benites, J., Martinez-Vilela, A., Hologado-Cabrera, A. (2003). *Conservation Agriculture*. Springer Science+Business Media B.V., 516. doi:10.1007/978-94-017-1143-2
 12. In: Urban, B. (2010). *Frontiers in Entrepreneurship*. Berlin, Heidelberg: Springer-Verlag, 206. doi:10.1007/978-3-642-04502-8
 13. Andrieieva, N. M., Barun, M. V. (2014). Resursozberihaiucha skladova yak aspekt ekolohizatsii vyrobnytstva. *Ekonomichni innovatsii*, 57, 24–31.
 14. Gerasymchuk, N. A. (2015). *Pidpriemnytskyi mekhanizm resursozberihaiuchoho rozvytku APK*. Kyiv: TsP «Komprint», 464.
 15. Gerasymchuk, N. A. (2009). Rural entrepreneurship development by means of organization of cooperation between small agricultural and agrotourist enterprises. *Actual Problems of Economics*, 9 (99), 96–102.
 16. Kondratenko, N. O. (2010). *Startehiia resursozberezhennia rehionalnykh ekonomichnykh system*. Kharkiv: NTM, 362.

DOI: 10.15587/2312-8372.2017.113276

**MARKET OF COMMUNICATION AND INTERNET SERVICES:
RESEARCH OF COMPETITIVE ENVIRONMENT**

page 20–24

Striy Lyubov, Doctor of Economics Sciences, Professor, Department of Enterprises Economics, Odessa National Polytechnic University, Ukraine, e-mail: striyla@ukr.net, ORCID: <http://orcid.org/0000-0003-4683-1806>

Yepifanova Irina, PhD, Associate Professor, Department of Enterprises Economics, Odessa National Polytechnic University, Ukraine, e-mail: epifodessa@gmail.com, ORCID: <http://orcid.org/0000-0002-4564-688X>

Orlovskiy Boris, Department of Enterprises Economics, Odessa National Polytechnic University, Ukraine, ORCID: <http://orcid.org/0000-0002-2510-7950>

Sobirov Shukhrat, Department of Enterprises Economics, Odessa National Polytechnic University, Ukraine, ORCID: <http://orcid.org/0000-0001-7518-2548>

Miralibekov Behrouz, Department of Enterprises Economics, Odessa National Polytechnic University, Ukraine, ORCID: <http://orcid.org/0000-0002-3913-9929>

The article contains the results of the study of economic activity indicators of enterprises in the market of communication and Internet services, which is being formed in Ukraine at the

present time. The object of research is the process of formation and development of this market, as well as the state of the competitive environment and the development trends of this market. As methods of research, economic, marketing and competitive analyzes are chosen.

The analysis of the types of services that traditional telecommunications enterprises can provide to consumers has made it possible to segment the investigated market for communication and Internet services.

An analysis of the results of 2015 and 2016 makes it possible to establish some growth in the revenues of enterprises operating on the market. The greatest growth of revenues is shown by the enterprises of the segment of Internet services. The tendency of redistribution of incomes and a share of the market from the enterprises giving communications services to the enterprises rendering the Internet services is revealed. The main factor of the significant growth in the revenues of enterprises in the segment of Internet services (2016 – 48 %) is the impact of new more efficient technologies: the transition to the use of 3G technology, the introduction of mobile Internet technologies.

The competitive environment of the market is investigated with the purpose of an estimation of a competition condition in the market and revealing of a degree of market concentration. The study carried out by the calculation method of the Herfindahl-Hirschman index H makes it possible to assert that free competition exists in this market. A high level of competition is ensured by the steady demand of Internet users of Ukraine for access to Internet resources, which stimulates enterprises to develop this market.

Keywords: market share, Herfindahl-Hirschman index, Internet services, competitive environment, communication services.

References

1. Golubev, A. K., Striy, L. A., Zakharchenko, L. A.; In: Vorobienko, P. P. (2015). *Ekonomika i upravlenie na predpriatii: osnovnye tendentsii i problemy razvitiia*. Saarbrücken: LAP Lambert Academic Publishing, 292.
2. Striy, L. A., Mamedov, M. A., Rustamov, O. M.; In: Orlov, V. N. (2015). *Marketing predpriatii infokommunikatsii: sovremennyye vidy marketingovoi deiatel'nosti*. Saarbrücken: LAP Lambert Academic Publishing, 244.
3. Striy, L. A., Golubev, A. K., Sakun, A. A. (2016). Razvitie konkurentnoi sredy na rynke uslug svyazi Ukrainy. *Prychornomorski ekonomichni studii*, 6, 116–120.
4. Striy, L. A., Zakharchenko, L. A., Golubev, A. K. (2016). Setevaia organizatsiia rynekov infokommunikatsionnoi otrasli. *Naukovyi visnyk Khersonskoho derzhavnoho universytetu. Ser.: Ekonomichni nauky*, 16 (4), 43–47.
5. Striy, L., Orlov, V., Zakharchenko, L., Golubev, A., Bogatyreva, L. (2017). Enterprises of telecommunications in Ukraine: research of the present state and directions of development. *Technology Audit and Production Reserves*, 4(4 (36)), 15–21. doi:10.15587/2312-8372.2017.108664
6. Orlov, V. M., Novytska, S. S. (2016). Suchasnyi stan ta perspektyvy rozvytku IKT Ukrainy. *Ekonomika i finansy*, 4, 46–54.
7. Hranaturov, V. M., Vorobienko, S. P.; In: Hranaturov, V. M. (2009). *Analiz konkurentospromozhnosti telekomunikatsiinykh posluh*. Kyiv: Osvyta Ukrainy, 254.
8. Herfindahl index. (2017, June 17). *Wikipedia*. Available: https://en.wikipedia.org/wiki/Herfindahl_index
9. *State Statistics Service of Ukraine*. Available at: <http://www.ukrstat.gov.ua>
10. *National Commission for the State Regulation of Communications and Informatization*. Available at: <http://www.nkrz.gov.ua/>
11. *Ukrtelecom*. Available at: <http://ukrtelecom.ua>
12. *Kyivstar*. Available at: <http://www.kyivstar.ua>
13. *Vodafone*. Available at: <http://vodafoneua.in.ua>
14. *Lifecell*. Available at: <http://www.lifecell.com.ua>

DOI: 10.15587/2312-8372.2017.113218

OPTIMIZATION OF EXPENDITURES ON ENVIRONMENTAL ACTIONS IN UKRAINE

page 25–30

Mashchenko Maryna, PhD, Associate Professor, Department of Political Economy, Simon Kuznets Kharkiv National University of Economics, Ukraine, e-mail: Maryna.Mashchenko@hneu.net, ORCID: <http://orcid.org/0000-0002-8863-6040>

Klimenko Olena, PhD, Associate Professor, Department of Political Economy, Simon Kuznets Kharkiv National University of Economics, Ukraine, e-mail: Olena.Klimenko@hneu.net, ORCID: <http://orcid.org/0000-0002-2573-9333>

Dykan Olena, Doctor of Economic Sciences, Professor, Department of Management and Administration, Ukrainian State University of Railway Transport, Kharkiv, Ukraine, ORCID: <http://orcid.org/0000-0001-9469-6528>

The necessity of Ukraine transition to developing ecologically safe national economics and limited financial input into the environment preservation have determined the need to optimize the expenditures on securing, reconstructing and recreating the natural environmental potential of the Ukrainian economics. Dynamic analysis of governmental expenditures on environment preservation has been performed via expert assessment method, during which experts have been defined and surveyed, matrix of ranks of the directions in environment preservation has been created, obtained results have been verified with coefficient of multiple ranks correlation and the criteria of results randomness. The performed analysis has allowed to define the most significant directions of the country environment preservation actions from the point of financial input priority.

The performed analysis of governmental expenditures on environment preservation is the beginning of long-term research, the main goal of which is the creation of complex methodic of rational environment resources usage. Consequently, the current paper describes the created methodological approach towards environment preservation, one of the most important result of the mentioned approach is the forecast of social, ecological and economical development of Ukraine.

All in all, the current paper contains intermediate, even preliminary results that are to be further investigated in the future works.

Keywords: directions of the state's environmental expenditures, natural resources, ecology, environmental expenditures, rational nature management, economics.

References

1. Baldzhy, M. D. (2010). *Orhanizatsiino-ekonomichni zasady kompleksnoho pryrodokorystuvannya na rehionalnomu rivni*. Odesa: Atlant, 500.
2. Honcharuk, L. Ya., Bashnianyn, H. I.; In: Bashnianyn, H. I. (2006). *Sotsializatsiia ekonomichnykh system: problemy pryrody, typolohizatsii ta metrolohichnoho analizu. Ekonomichni systemy. Vol. 1*. Lviv: Lviv Commercial Academy, 100–116.
3. Koppel, J. (2017). *Germany's Energiewende. Innovation Society Today*. Fachmedien, Wiesbaden: Springer, 273–293. doi:10.1007/978-3-658-19269-3_13
4. Armstrong, F., Blundell, K. (2007). *Energy ... beyond oil*. Oxford: Oxford Univ. Press, 229.
5. Gubanova, E. R. (2009). *Mehanizm ekonomiko-ekologicheskogo stimulirovaniia ispol'zovaniia vtorichnykh resursov*. Odesa: «TES», 280.
6. Yevtushenko, M. Yu., Hliebova, Yu. A. (2013). *Biologichni resursy hidrosfery*. Kyiv: Ukrainskyi fitosotsiologichnyi tsentr, 179.

7. Harrington, W., Morgenstern, R., Sterner, T. (2010). *Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe*. Taylor & Francis, 296. doi:10.4324/9781936331468
8. Hoepner, A. G. F., Kant, B., Scholtens, B., Yu, P.-S. (2012). Environmental and ecological economics in the 21st century: An age adjusted citation analysis of the influential articles, journals, authors and institutions. *Ecological Economics*, 77, 193–206. doi:10.1016/j.ecolecon.2012.03.002
9. Hoepner, A. G. F., Kant, B., Scholtens, B., Yu, P.-S. (2013). Is the journal *Ecological Economics* really in itself a poor and misleading guide to what ecological economics is about? A reply to «Influencing the perception of what and who is important in ecological economics». *Ecological Economics*, 89, 174–176. doi:10.1016/j.ecolecon.2013.03.001
10. Daw, T. M., Hicks, C., Brown, K., Chaigneau, T., Januchowski-Hartley, F., Cheung, W., Rosendo, S., Crona, B., Coulthard, S., Sandbrook, C., Perry, C., Bandeira, S., Muthiga, N. A., Schulte-Herbruggen, B., Bosire, J., McClanahan, T. R. (2016). Elasticity in ecosystem services: exploring the variable relationship between ecosystems and human well-being. *Ecology and Society*, 21 (2), 11. doi:10.5751/es-08173-210211
11. Villamagna, A., Giesecke, C. (2014). Adapting Human Well-being Frameworks for Ecosystem Service Assessments across Diverse Landscapes. *Ecology and Society*, 19 (1), 11. doi:10.5751/es-06173-19011
12. Zerkalov, D. V. (2012). *Ekolohichna bezpeka ta okhorona dovkillia*. Kyiv: Osnova, 514.
13. Development strategy. (2017, March 30). *Ministry of Environment and Natural Resources Ukraine*. Available at: <https://menr.gov.ua/content/misiya-ta-strategiya.html>
14. *Natsionalna dopovid pro stan navkolishnoho pryrodnoho sere-dovyschcha v Ukraini u 2014 rotsi*. (2016). Kyiv: Ministry of Environment and Natural Resources Ukraine, FOP Hrin D. S., 350. Available at: <http://old.menr.gov.ua/docs/activity-dopovidi/NacDopovid2014.pdf>
15. Press service of the Ministry of Finance. (02.04.2014). Stan ekonomiky Ukrainy. Analiz. *Government portal*. Available at: http://www.kmu.gov.ua/control/uk/publish/article?art_id=247169548
16. Maliarets, L. M. (2014). *Ekonomiko-matematychni metody ta modeli*. Kharkiv: KhNEU n. a. S. Kuznets, 412.

DOI: 10.15587/2312-8372.2017.113285

USE OF THE APPROXIMATE METHOD FOR SOLVING THE ASSIGNMENT PROBLEM

page 31–33

Marco Maria, Postgraduate Student, Department of Mathematical Modeling of Economic and Social Processes, Ivan Franko National University of Lviv, Ukraine, e-mail: mariamarko@gmail.com, ORCID: <http://orcid.org/0000-0002-7795-7121>

Tsegelik Grigorii, Doctor of Physics and Mathematics, Professor, Head of the Department of Mathematical Modeling of Economic and Social Processes, Ivan Franko National University of Lviv, Ukraine, ORCID: <https://orcid.org/0000-0002-2758-4283>

The object of research is the assignment problem, which consists in finding the minimum (or maximum) weight between the elements of two finite sets. An approximate method of solving the assignment problem is considered, which makes it possible to distribute the workers in such way so that the total costs in performing the work are minimal. Also, an algorithm is constructed to solve the task of assigning workers for work distribution, using the Hungarian method, where in a specific example, its use is

shown. Three iterations are carried out, that is, one worker is relocated from work, after which more than one worker is assigned to work, for which no worker is assigned. Also, an approximate method to solve this problem is used and a concrete example is given. These algorithms allow to find the minimum costs when performing work by workers.

Keywords: approximate method, approximate solution, assignment problem.

References

1. Cayley. (1882). On Monge's «Mémoire sur la Théorie des Déblais et des Remblais». *Proceedings of the London Mathematical Society, s1-14 (1)*, 139–143. doi:10.1112/plms/s1-14.1.139
2. Egevary, E. (1931). Matrixok Kombinatorius Tulajdonsagairol. *Matematikai es Fizikai Lapok*, 38, 16–28.
3. König, D. (1931). Grafok es matrixok. *Matematikai es Fizikai Lapok*, 38, 116–119.
4. Kvyk, M. Ya. (2015). *Matematychni metody i modeli pidtrymky pryiniattia rishen v upravlinni malymy pidpriemstvamy*. Lviv: LNU n. a. I. Franka, 20.
5. Frank, A. (2005). On Kuhn's Hungarian Method? A tribute from Hungary. *Naval Research Logistics*, 52 (1), 2–5. doi:10.1002/nav.20056
6. Dantzig, G. B. (1949). Programming of Interdependent Activities: II Mathematical Model. *Econometrica*, 17 (3/4), 200. doi:10.2307/1905523
7. Busacker, R. G., Gowen, P. J. (1960). *A Procedure for Determining a Family of Minimal-cost Network Flow Patterns*. Maryland: The Johns Hopkins University, 49. doi:10.21236/ad0249662
8. Voloshyn, O. F., Mashchenko, S. O. (2010). *Modeli ta metody pryiniattia rishen*. Kyiv: Vydavnycho-polihrafichnyi tsentr «Kyivskyi universytet», 336.
9. Marko, M. Ya., Tsegelik, G. G. (2017). *Nablyzhenyi alhorytm rozviazuvannia zadachi pro pryznachennia*. Pereyaslav-Khmelnytsky: Pereyaslav-Khmelnytsky State Pedagogical University named after Gregory Skovoroda, 24.
10. Barsuk, V. A., Gubin, N. M. (1966). *Matematicheskie metody planirovaniia i upravleniia v hoziaistve sviazi*. Moscow: Sviaz, 340.
11. Tselhik, G. G. (2011). *Matematychni prohramuvannia*. Lviv: LNU n. a. I. Franka, 337.

DOI: 10.15587/2312-8372.2017.113268

STUDY OF INFORMATION SECURITY IN THE SYSTEM OF INFORMATION AND ANALYTICAL SUPPORT OF FORMATION AND USE OF INTELLIGENT CAPITAL OF CONSTRUCTION ENTERPRISES

page 34–38

Mamonov Konstantin, Doctor of Economic Sciences, Professor, Department of Land Administration and Geoinformation Systems, O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine, e-mail: kostia.mamonov2017@gmail.com, ORCID: <http://orcid.org/0000-0002-0797-2609>

Prunenko Dmitry, PhD, Associate Professor, Department of Transport Systems and Logistics, O. M. Beketov National University of Urban Economy in Kharkiv, Ukraine, e-mail: kostia.mamonov2017@gmail.com, ORCID: <http://orcid.org/0000-0001-7322-9998>

The analysis of existing theoretical provisions to the definition of information security in the system of information and analytical support for the formation and use of intellectual capital is carried out. The components of information security in the system of formation and use of the intellectual capital of construction enterprises are determined: regulatory, legal, technical and functional.

The work defines the importance of intellectual capital, which in developed economic systems occupies 60–80 % of the business value, low level of formation and use of intellectual capital in domestic construction enterprises is established, theoretical approaches to the definition of information security of information and analytical support for the formation and use of intellectual capital of construction enterprises, the components of information security are defined, recommendations are proposed for the creation and implementation of the information security system of information and analytical support for the formation and use of intellectual capital construction companies.

The study is carried out in connection with the need to address issues related to the formation of information and analytical support for the growth of management efficiency of intellectual capital in construction enterprises.

The results of the research allow to identify the directions and features of creating and implementing economic security in the system of information and analytical support for the formation and use of the intellectual capital of construction enterprises.

Keywords: construction enterprises, information and analytical support, information security, formation and use of intellectual capital.

References

1. Karpenko, A. V. (2014). Osoblyvosti rozvytku intelektualnoho kapitalu v Ukraini. *Visnyk Donetskoho natsionalnoho universytetu. Serii V. Ekonomika i pravo*, 1, 77–82.
2. Karpenko, A. V., Pyrohovska, Yu. O. (2014). Formuvannia ta vykorystannia intelektualnoho kapitalu v Ukraini. *Zbirnyk naukovykh prats Tavriiskoho derzhavnoho ahrotekhnolohichnoho universytetu (ekonomichni nauky)*, 4, 197–201.
3. *Global Innovation Index*. Available at: <https://www.globalinnovationindex.org/>
4. *World Economic Forum*. Available at: <http://www3.weforum.org/maintenance/public.htm>
5. *KOF Index of Globalization*. Available at: <http://globalization.kof.ethz.ch>
6. Table 2: Trends in the Human Development Index, 1980–2013. *Human Development Reports*. Available at: <http://hdr.undp.org/en/content/table-2-human-development-index-trends-1980-2013>
7. Stupniker, H. (2010). Formuvannia i otsinka intelektualnoho kapitalu pidpriemstva. *Ekonomichni analiz*, 5, 189–192.
8. Mamonov, K. A., Prunenko, D. O. (2017). Kharakterystyka napriamiv formuvannia kapitalnykh investysii dlia zabezpechennia efektyvnosti vykorystannia intelektualnoho kapitalu budivelnnykh pidpriemstv. *Naukovyi visnyk Uzhhorodskoho universytetu. Serii Ekonomika*, 1(1 (49)), 183–187.
9. The Constitution of Ukraine. *Law of Ukraine from June 28, 1996 No. 254к/96-ВР*. Available at: <http://zakon2.rada.gov.ua/laws/show/254к/96-вр>
10. On the Fundamentals of National Security of Ukraine. *Law of Ukraine from June 19, 2003 No. 964-IV*. Available at: <http://zakon2.rada.gov.ua/laws/show/964-15>
11. Doctrine of Information Security of Ukraine. *Decree of the President of Ukraine No. 47 from February 25, 2017*. Available at: <http://www.president.gov.ua/documents/472017-21374>
12. On Information. *Law of Ukraine from October 2, 1992 No. 2657-XII*. Available at: <http://zakon5.rada.gov.ua/laws/show/2657-12>
13. On the National Informatization Program. *Law of Ukraine from February 4, 1998 No. 74/98-ВР*. Available at: <http://zakon5.rada.gov.ua/laws/show/74/98-вр>
14. *DSTU 3396.0-96. Zakhyst infomatsii. Tekhnichniy zakhyst informatsii. Osnovni polozhennia*. Introduced from January 1, 1997. Available at: http://www.dsszzi.gov.ua/dsszzi/control/uk/publish/article?art_id=38883&cat_id=38836
15. Tykhomyrov, O. O. (2015). Informatsiini pravoporushennia: teoretyko-pravova kontseptsiiia. *Informatsiina bezpeka liudyny, suspilstva, derzhavy*, 1 (17), 38–47.

PROBLEMS OF MACROECONOMICS AND SOCIO-ECONOMIC DEVELOPMENT

DOI: 10.15587/2312-8372.2017.113138

INDICATORS OF EFFECTIVE BANK PERFORMANCE

page 39–40

Havryliuk Oleksandr, Postgraduate Student, Department of Informational Technologies, Kyiv State Maritime Academy named after hetman Petro Konashevich-Sahaydachnyy, Ukraine, e-mail: gavryliukom@gmail.com, ORCID: <http://orcid.org/0000-0001-9098-4522>

The essence of the concepts «rate of return and profitability of the bank» is investigated. The analysis of rate of return and profitability indicators of Raiffeisen Bank Aval JSC is carried out. Recommendations are given on raising the income level of Raiffeisen Bank Aval JSC for the future.

In this research:

- the essence of the concepts «rate of return and profitability of the bank» are defined;
- theoretical aspects of the bank's rate of return and profitability are grounded;
- the peculiarities of forming the income of Raiffeisen Bank Aval JSC by 2016 are analyzed;
- the main profitability indicators of Raiffeisen Bank Aval JSC are evaluated;
- areas for increasing Raiffeisen Bank Aval's income level for the future are identified.

The profitability of the banking system of Ukraine is constantly under the control of the NBU, it requires improvement of the procedures for reorganization and liquidation of banks, so that these measures will not reduce the population's distrust of banks. The object of research is the analysis of rate of return and profitability indicators of Raiffeisen Bank Aval JSC. As a result of the research, such research methods as: analysis and synthesis, logical generalization, analogy and comparative comparison are used.

Disclosure of the essence of the concepts of rate of return and profitability, as well as the definition of specific indicators allows both shareholders, investors and customers of the bank to orient themselves in the results of the bank's activities and its prospects, without conducting an in-depth analysis of the bank's activities in the areas. After all, the analysis of indicators in the dynamics indicates the effectiveness or not the effectiveness of management of the bank's resources. It is the analysis of these key indicators – indicators that allows to see trends and prospects in the bank's activities, and in time to receive a signal regarding further actions.

Exceeding the critical values of rate of return and profitability indicators, the implementation of aggressive credit policy, the lack of formed reserves in the required volume in accordance with credit, interest, currency, investment and other risks, failure to comply with the requirements of banking legislation leads to a deterioration in the bank's financial stability, which can create a real threat of non-fulfillment its obligations to customers, and in the future may lead to bankruptcy.

Among the promising areas for further research on the theoretical, practical and advisory aspects of justifying the features of profitability management of the bank is the implementation of the details of the components of the profitability calculation and determining the impact of changes in each of them on the change in the profitability of the banking institution as a whole.

Keywords: profitability analysis, banking system, profitability level, financial results, rate of return, efficiency.

References

1. Herasymovych, A. M., Alekseienco, M. D., Parasii-Verhunencko, I. M. et al. (2013). *Analiz bankivskoi diialnosti*. Kyiv: KNEU, 600.
2. Sinkey, J. F. (1998). *Commercial Bank Financial Management in the Financial-services Industry*. Prentice Hall, 920.
3. Grin, V. P. (2013). Nekotorye problemy deiatel'nosti kommercheskogo banka. *Dengi i kredit*, 3, 48–53.
4. Barabash, N. S., Kupchenko, T. A. (2004). Analiz ryzyku, dokhodu i dokhodnosti finansovykh investytsii. *Visnyk Lvivskoi komertsiiinoi akademii. Seriya: Ekonomichna nauka*, 16, 136–142.
5. *Official site of the National Bank of Ukraine*. Available at: <https://www.bank.gov.ua>
6. Krepak, O. O. (2016). Mekhanizm upravlinnia prybutkovisti banku. *Ekonomichniy analiz*, 26 (1), 73–76.
7. Liehostaieva, O. O., Sopko, O. V. (2014). Vdoskonalennia metodyky analizu dokhodiv banku ta yoho prybutkovosti. *Molodyi vchenyi*, 12 (15), 191–194.
8. Volska, S. (2010). Analysis and ways of increase of profitability of bank activity. *Finance, accounting and audit*, 15, 23–32.
9. Kolodiziev, O. M. (2013). Pidvyshchennia efektyvnosti funkcionuvannia bankiv Ukrainy na osnovi systemy finansovoho planuvannia. *Formuvannia rynkovoi ekonomiky v Ukraini*, 26 (2), 306–314.
10. In: Kovalenko, V. V. (2014). *Rozvytok bankivskoi systemy v umovakh formuvannia novoi arkhitektury finansovoho rynku*. Odesa: Atlant, 765.
11. Kopyliuk, O. I. (2015). Tsilovi oriientyry rehionalnoi polityky bankivskoi systemy ta instrumentarii zabezpechennia yii rozvytku. *Naukovyi visnyk Uzhhorodskoho universytetu. Seriya Ekonomika*, 1 (42), 120–126.
12. Khailuk, S. O. (2012). Otsinka efektyvnosti diialnosti bankiv: porivnialnyi analiz metodiv ta modelei. *Finansovo-kredytna diialnist: problemy teorii ta praktyky*, 1(8 (2)), 112–118.
13. Lypchanska, O. V. (2006). Metodyka ta orhanizatsiia analizu finansovykh investytsii. *Formuvannia rynkovykh vidnosyn v Ukraini*, 2, 10–15.
14. Pro banky i bankivsku diialnist. *Law of Ukraine from December 12, 2000 No. 2121-III*. Available at: <http://zakon2.rada.gov.ua/laws/show/2121-14>
15. Bank Reports. *Official site of the Raiffeisen Bank Aval*. Available at: https://www.aval.ua/about/bank_reports/
16. In: Pshyk, B. I. (2008). *Bankivska diialnist v Ukraini: problemy, perspektyvy rozvytku, napriamy vdoskonalennia*. Kyiv: UBS NBU, 119.

DOI: 10.15587/2312-8372.2017.113272

INVESTIGATION OF ADVANTAGES OF OUTSOURCING OF INDEPENDENT FISCAL INSTITUTIONS IN THE COUNTRIES OF PERIPHERAL CAPITALISM

page 44–49

Hatska Liudmyla, PhD, Associate Professor, Department of Environmental Management and Entrepreneurship, Taras Shevchenko National University of Kyiv, Ukraine, e-mail: gatska@ukr.net, ORCID: <http://orcid.org/0000-0003-1704-1768>

The article shows that the periphery of Ukraine's development is determined by the imperfection of state institutions, including fiscal ones. It is established that the defects of fiscal

institutions are related to the fact that the process of institutional transformation in Ukraine is under the excessive influence of the oligarchic and political elite and reflects primarily its interests. This creates a deficit of effective institutions serving the entire society, and not just its privileged part.

In order to find ways to overcome this situation, the work summarized the world theory and practical experience of introducing fiscal institutions in developed countries and assessed the possibilities of their adaptation to the conditions of Ukraine.

As a result of the research, it is found that outsourcing has advantages over other methods of implementing independent fiscal institutions in the economy of a peripheral country. It can become one of the tools to strengthen the economic soundness and transparency of fiscal policy, its reorientation to the interests of society.

This is important for overcoming the periphery and direction of the vector of economic development of Ukraine towards the center. The introduction of independent financial institutions can contribute to the development of Ukraine in the dialogue field of European integration, strengthening of Ukraine's competitiveness and economic security of the European economy.

Keywords: world-system analysis, independent fiscal institutions, outsourcing of financial institutions, fiscal policy.

References

- Kopits, G. (2011). Independent Fiscal Institutions: Developing Good Practices. *OECD Journal on Budgeting*, 11 (3), 1–18. doi:10.1787/budget-11-5kg3pdgcpn42
- Kalytchuk, V. M. (2010). Kontseptualni napriamy minimizatsii ryzykiv derzhavnoho borhu. *Naukovi pratsi NDFI*, 2, 94–103.
- Calmfors, L. (2011). *The role of independent fiscal policy institutions*. Stockholm: Stockholm University, 38. Available at: <http://su.diva-portal.org/smash/get/diva2:388833/FULLTEXT02>
- Calmfors, L. (2010). *Fiscal policy coordination in Europe*. Stockholm: IIES, 19. Available at: <http://su.diva-portal.org/smash/get/diva2:354734/FULLTEXT03.pdf>
- Knut, K. (2013). *Opros o protsedurah biudzhetrovaniia OESR v 2012 g.* Riga, 41. Available at: https://www.pempal.org/sites/pempal/files/event/attachments/budget-survey-preliminary-results-riga-26-june-2013_rus_mg.pdf
- Wren-Lewis, S. (2012, June). *Fiscal Councils*. Available at: <https://sites.google.com/site/sjqwrenlewis/fiscal-councils>
- Naert, F. (2010). Credibility of fiscal policies and independent fiscal bodies. *Presented at the International Association of Schools and Institutions of Administration*. Bali, 18. Available at: <https://biblio.ugent.be/publication/1086232/file/1086234.pdf>
- Polterovich, V. M. (2001). Transplantatsiia ekonomicheskikh institutov. *Ekonomicheskaja nauka sovremennoi Rossii*, 3, 24–50.
- Polishchuk, L. (2013). Institutional Outsourcing. *Voprosy Ekonomiki*, 9, 40–65.
- World Bank. (2016). *Doing Business 2017: Equal Opportunity for All*. Washington, DC: World Bank, 356. Available at: <http://www.doingbusiness.org/-/media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB17-Report.pdf>. doi:10.1596/978-1-4648-0948-4
- Kaufmann, D., Kraay, A., Mastruzzi, M. (2010). *The Worldwide Governance Indicators: Methodology and Analytical Issues*. Washington, DC: World Bank, 29. Available at: https://www.brookings.edu/wp-content/uploads/2016/06/09_wgi_kaufmann.pdf. doi:10.1596/1813-9450-5430
- Independent Fiscal Institutions in the EU Member States: The Early Years. (2017, July 25). *European Commission*. Available at: http://ec.europa.eu/economy_finance/db_indicators/fiscal_governance/independent_institutions/index_en.htm
- Country Data Report for Ukraine, 1996–2013. (2015). *Worldwide Governance Indicators*. World Bank. Available at: <http://info.worldbank.org/governance/wgi/index.aspx#countryReports>
- About the EBA. European Business Association: the premier organisation for foreign business in Ukraine. *European Business Association*. Available at: <http://www.eba.com.ua/en/about-eba>
- Yavlinskii, G. A. (2003). *Periferiinyi kapitalizm*. Moscow: Yabloko, 65.

DOI: 10.15587/2312-8372.2017.113188

DETERMINATION OF AGRICULTURAL EXPORT FEATURES IN DEVELOPING COUNTRIES

page 49–54

Kuzminov Mykola, Department of International Management, SHEE «Kyiv National Economic University named after Vadym Hetman», Ukraine, e-mail: normativu@ukr.net, ORCID: <http://orcid.org/0000-0003-0371-2452>

The object of research is the process of development of agricultural exports in the context of globalization. The subject of research is an identification of the features of agricultural exports in developing countries, in terms of the possibility of achieving the global goals of sustainable development.

In the work general scientific and special research methods are used, based on a systematic approach, a comparative analysis of scientific literature and statistical information, a graphical method and a correlation analysis.

The article examines countries with different levels of development in accordance with the World Bank methodology groupings: high-income, middle-income and low-income countries with above-average income, lower-middle income, middle-income and least developed countries (LDCs). The statistical information for the period 1990–2016 of the open databases of the World Bank and FAO is used.

Agricultural exports in developing countries reflect the relative importance of the agricultural sector in GDP, the state, level and structure of agricultural production, the government's long-term general economic plans for infrastructure projects, the state of the financial sector, the dependence of the balance of payments on agricultural exports and the ability to level price fluctuations in the world agricultural market etc. Despite the national, geographical and natural resource specificity, the developing countries have common problems that determine the specific features of agricultural exports inherent in this group of countries.

The specific features of agricultural exports in developing countries are the dependence of their economies on agriculture, the high role of agricultural exports as a stimulus to economic growth and sources of income, the vulnerability of agricultural exports from the conjuncture in external agricultural markets and the state of the production, transport and trade infrastructure. The positive and negative effects of agricultural exports on the economies of developing countries are determined.

Keywords: agricultural export, world market, food security, poverty, developing countries.

References

- The State of Agricultural Commodity Markets 2015–16. *FAO*. Available at: <http://www.fao.org/publications/soco/the-state-of-agricultural-commodity-markets-2015-16/en/>
- Issues in Agricultural Trade Policy. (2015). *Proceedings of the 2014 OECD Global Forum on Agriculture*. OECD, 152. doi:10.1787/9789264233911-en
- Diao, X., Kennedy, A., Mabiso, A., Pradesha, A. (2013). Economy-wide impact of maize export bans on agricultural growth and household welfare in Tanzania: A Dynamic Computable General Equilibrium Model Analysis. *IFPRI Discussion Paper 1287*.

- Washington, D.C.: International Food Policy Research Institute (IFPRI), 28.
4. Iizuka, M., Gebreyesus, M. (2016). Using Functions of Innovation Systems to Understand the Successful Emergence of Non-traditional Agricultural Export Industries in Developing Countries: Cases from Ethiopia and Chile. *The European Journal of Development Research*, 29 (2), 384–403. doi:10.1057/s41287-016-0004-0
 5. Lee, Y., Kennedy, L. (2016). Analyzing Collective Trade Policy Actions in Response to Cyclical Risk in Agricultural Production: The Case of International Wheat. *Annual Meeting, 2016, July 31–August 2*. Boston, Massachusetts: Agricultural and Applied Economics Association, 235430.
 6. Fang, L. (2016). Anhui agricultural products export promotion system based on the perspective of agricultural products export base. *Journal of Changchun Institute of Technology (Social Sciences Edition)*, 1, 010.
 7. Galperina, L. (2014). Main Challenges of Agriculture of Ukraine in Globalization. *European Researcher*, 87 (11-2), 1996–2004. doi:10.13187/er.2014.87.1996
 8. Kuzminov, M. V. (2017). Eksportnyi potentsial silskohospodarskoi produktsii Ukrainy v YeS. *Scientific letters of academic society of Michal Baludansky*, 5 (1), 76–78.
 9. Ostashko, T. O. (2016). Mozhyvosti ta obmezhenia eksportu silskohospodarskykh tovariv u zoni taryfnykh kvot YeS. *Stratychni priorityty*, 1 (38), 99–105.
 10. Saikivych, M. I., Saikivych, O. D. (2013). Eksportnyi potentsial silskohospodarskykh pidpryemstv. *Innovatsiina ekonomika*, 3, 104–110.
 11. Kuzminov, M. V. (2016). Rozvytok systemy pidtrymky eksportnoi diialnosti silskohospodarskykh kompanii. *Ekonomika ta pidpryemnytstvo*, 36–37, 239–248.
 12. Galperina, L. P., Girenko, A. T., Mazurenko, V. P. (2016). The Concept of Smart Economy as the Basis for Sustainable Development of Ukraine. *International Journal of Economics and Financial Issues (IJEFI)*, 6 (8S), 307–314.
 13. Townsend, R. (2015). Ending poverty and hunger by 2030: an agenda for the global food system. *Report No. 95768*. Washington, D.C.: World Bank Group, 32. Available at: <http://documents.worldbank.org/curated/en/700061468334490682/Ending-poverty-and-hunger-by-2030-an-agenda-for-the-global-food-system>
 14. Indicators. *World Bank*. Available at: <http://data.worldbank.org/indicator>
 15. Mazurenko, V. P. (2006). *Statystyka*. Kyiv: Vydavnycho-polihrafichnyi tsentr «Kyivskyi universytet», 315.