



## THE METHODOLOGICAL APPROACH TO ASSESSING TRADE-OFF BETWEEN THE ECONOMIC EFFICIENCY AND SOCIAL EQUITY (IN THE CONTEXT OF THE INDUSTRIAL SECTOR OF UKRAINE)

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**Abstract.** The priority direction of the state policy is to increase economic efficiency and ensure social equity in the Ukrainian industry. It is substantiated by the fulfillment of basic goals of the state policy and the need to eliminate contradictions between ensuring economic growth and compliance with social standards. There developed a methodological approach to assessing the trade-off between economic efficiency and social equity in the industrial sector, which implies the following sequence: determination of partial and general criteria of economic efficiency, determination of criteria of social equity, construction of a matrix for positioning the industries in coordinates of economic efficiency and social equity to identify the industries requiring additional attention, namely, those not effectively using and not fairly distributing own resources.

**Keywords:** social equity, economic efficiency, trade-off, methodological approach.

## МЕТОДИЧНИЙ ПІДХІД ДО ОЦІНКИ ЗБАЛАНСОВАНOSTI ЕКОНОМІЧНОЇ ЕФЕКТИВНОСТІ ТА СОЦІАЛЬНОЇ СПРАВЕДЛИВОСТІ (НА ПРИКЛАДІ ПРОМИСЛОВОСТІ УКРАЇНИ)

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**Анотація.** Пріоритетним напрямом державної політики є підвищення економічної ефективності та забезпечення соціальної справедливості у промисловості України. Це обумовлене виконанням базових цілей державної політики та необхідністю зняття суперечностей між забезпеченням економічного зростання і дотриманням соціальних стандартів. Розроблено методичний підхід до оцінки збалансованості економічної ефективності та соціальної справедливості у промисловості, що передбачає таку послідовність: визначення часткових і узагальнюючого критеріїв економічної ефективності, визначення критеріїв соціальної справедливості, побудову матриці позиціонування галузей промисловості в координатах економічної ефективності та соціальної справедливості, яка дозволяє визначити галузі промисловості, що потребують додаткової уваги, а саме: не ефективно використовують і несправедливо розподіляють власні ресурси.

**Ключові слова:** соціальна справедливість, економічна ефективність, збалансованість, методичний підхід.

## МЕТОДИЧЕСКИЙ ПОДХОД К ОЦЕНКЕ СБАЛАНСИРОВАННОСТИ ЭКОНОМИЧЕСКОЙ ЭФФЕКТИВНОСТИ И СОЦИАЛЬНОЙ СПРАВЕДЛИВОСТИ (НА ПРИМЕРЕ ПРОМЫШЛЕННОСТИ УКРАИНЫ)

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**Аннотация.** Приоритетным направлением государственной политики является повышение экономической эффективности и обеспечения социальной справедливости в промышленности Украины. Это обусловлено выполнением базовых целей государственной политики и необходимостью снятия противоречий между обеспечением экономического роста и соблюдением социальных стандартов. Разработан методический подход к оценке сбалансированности экономической эффективности и социальной справедливости в промышленности, который предусматривает следующую последовательность: определение частичных и обобщающего критериев экономической эффективности, определение критериев социальной справедливости, построение матрицы позиционирования отраслей промышленности в координатах экономической эффективности и социальной справедливости, которая позволяет определить отрасли промышленности, заслуживающие дополнительного внимания, а именно: не эффективно используют и несправедливо распределяют собственные ресурсы.

**Ключевые слова:** социальная справедливость, экономическая эффективность, сбалансированность, методический подход.

**Target Setting.** Effective operation of industrial enterprises not only greatly assures the level of the country's development, but is also identified with the high level of social and economic development of the regions, these enterprises are located in. Therefore, one of the priority directions of the state policy is to increase the economic efficiency and ensure the social equity of the Ukrainian industry. This is stipulated in the strategic plan - the fulfillment of the basic goals of the state policy in relation to sustainable development, and tactically - the need to eliminate contradictions between ensuring economic growth and comply with social standards [19].

The actuality of searching for the rational ratio of economic efficiency and social equity, adequate to the present realities in the socio-economic development of Ukrainian regions is conditioned, on the one hand, by the dynamism of this ratio, and on the other hand, by the variability of the conditions of socio-economic development.

**Analysis of recent research studies and publications.** The problems of social equity and inequality have been considered by the following scientists: D. Lvov [11], V. Dobrenkov [4], T. Zaslavskaiia [5], G. Kanarsh [6], E. Libanova [11], R. Grinberg [3], V. Semenov and V. Novikov [13], O. Chubuchna [18], I. Yakunina [20], and others. Separate issues of assessing economic efficiency have been considered in the works of I. Ansoff [1], M. Kizim [7], A. Kogan [8], A. Krasnov [10], T. Saati [15] and others.

Specialists of the Institute of Demography and Social Studies named after M.V. Ptukh of the National Academy of Sciences of Ukraine, State Enterprise Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine, State Enterprise Institute of Regional Studies named after M.I. Dolishnii of the National Academy of Sciences of Ukraine, Institute of Industrial Economics of the National Academy of Sciences of Ukraine systematically study the problems of social equity and economic efficiency in Ukraine.

However, despite a large number of publications, existing developments devoted to the problems of studying social equity and economic efficiency, the issues of assessing their sustainability in Ukrainian industry remain controversial leading to further scientific developments.

This thesis object is the development of a methodical approach to assessing sustainability of economic efficiency and social equity in Ukrainian industry.

**Presentation of the main research material.** The methodical approach to assessing sustainability of economic efficiency and social equity in Ukrainian industry requires combining different methods. Such methodical practice is called "triangulation", which "involves the use of different methods in studying the same situation, object, process. The variety of tools used allows to offer a more comprehensive, as stereoscopic, interpretation, and thus to achieve its greater convincingness" [9].

The methodical approach to assessing sustainability of economic efficiency and social equity in Ukrainian industry implies the following sequence (Fig. 1).

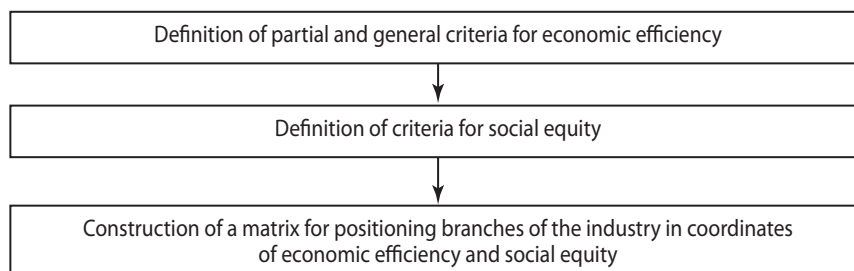


Fig. 1. The sequence of assessing sustainability of economic efficiency and social equity in Ukrainian industry

At the first stage, we create an information array of data on the criteria of economic efficiency of the industry. To calculate the integral indicator of economic efficiency, we use the data given in Tab. 1

When determining the criteria of social equity at the second stage, we base our calculation on the real cost of minimum subsistence level of a Ukrainian worker, taking the prices in 2015 and the average monthly nominal wages of staff industrial workers into account.

For most industrial workers, their wage is the dominant source of income. The assessment of the manifestations of social equity in the industry will be performed via the indicators of average monthly nominal wages of staff industrial workers as a whole and in some of its branches.

The dynamics of the average monthly wages of industrial workers is shown in Fig. 2.

The data shown in Fig. 2 indicate that during the period from 2010 to 2015 there was a tendency of growth of average monthly nominal wages of staff industrial workers. The average monthly wage in the industry as a whole increased by 1.86 times. In 2010 - UAH 4789. However, if we consider the average monthly salary of mining and quarrying workers, then during the analyzed period it increased 1.73 times (2010). The same trend is observed

in the processing industry. The average monthly nominal wage of workers employed in the processing industry increased by 1.96 times.

Table 1

**Initial data for calculating economic efficiency criterion**  
(by industry branches) [16]

	Manufacturing industry	Mining and quarrying industry	Processing industry	Manufacturing of textiles, clothing, leather, leather goods and other materials	Manufacture of basic pharmaceutical products and pharmaceuticals	Metallurgical production, production of finished metal products, except machinery and equipment	Machine-building, except for repair and installation of machinery and equipment
Volume of sales, mln. UAH	1776603,7	191599,3	1139213,2	17384,4	20295,8	278502,8	115261,7
Average number of full-time employees, ths.	2040	255	1339	72	21	244	346
Labor productivity	870,884	751,370	850,794	241,450	966,467	1141,405	333,126
Industrial production index, %	87	86,9	87,4	92	92,4	83,9	85,9
K1	1,000	0,863	0,977	0,277	1,110	1,311	0,383
K2	1,000	0,999	1,005	1,057	1,062	0,964	0,987
<b>Int. coefficient</b>	<b>1,000</b>	<b>0,931</b>	<b>0,991</b>	<b>0,667</b>	<b>1,086</b>	<b>1,137</b>	<b>0,685</b>

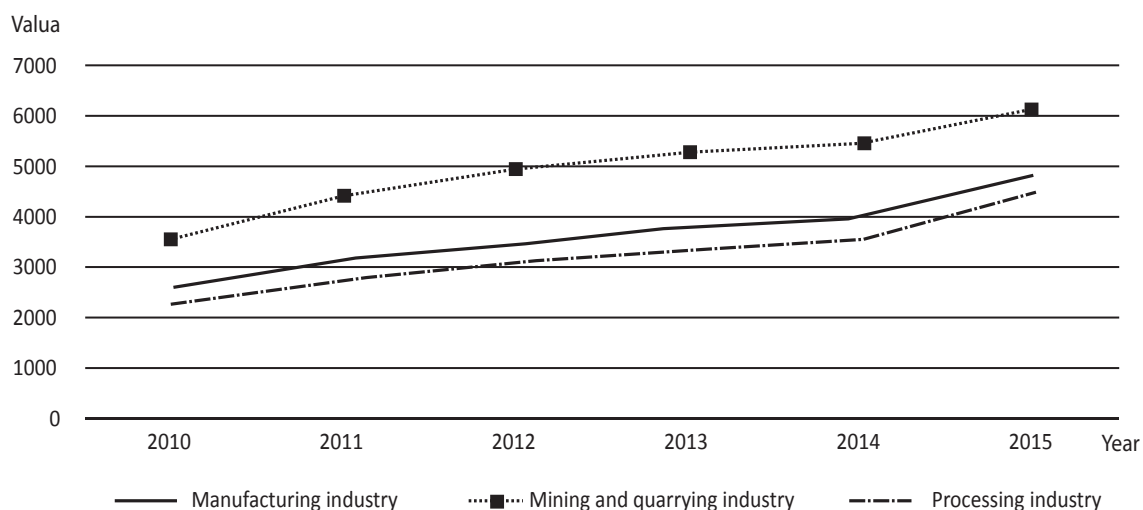


Fig. 2. Dynamics of the average monthly nominal wage of staff industrial workers [17]

Let us analyze the dynamics of the average monthly nominal wages of staff workers in the processing industry (Fig. 3).

The analysis of the average monthly nominal wages of staff workers of the processing industry showed that there were imbalances in the payment to its staff. Thus, in 2015, the average wage of the workers in the pharmaceutical industry was 1,72 times higher than the average for industry and 2,9 times higher than the wages of textile workers. Fig. 2 shows that the monthly average nominal wages of staff workers engaged into mechanical engineering and textile industry was lower than average nominal wages of staff industrial workers.

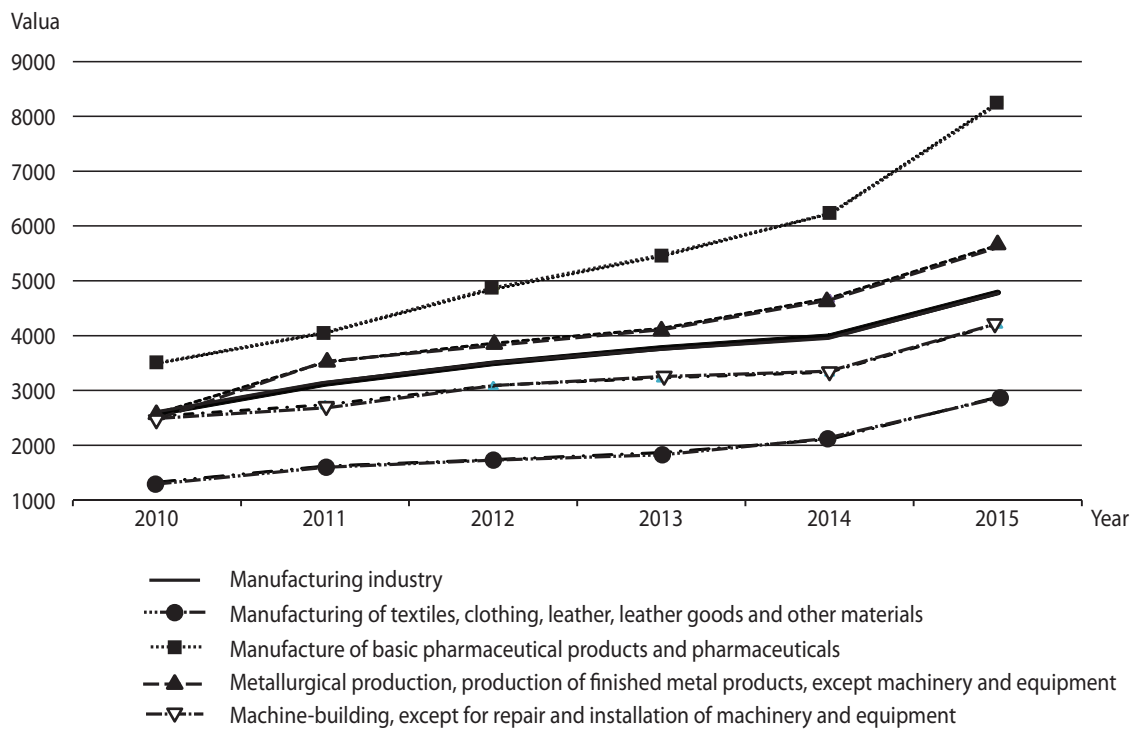


Fig. 3. Dynamics of average monthly nominal wages of staff workers in the processing industry [17]

Analysis of data [14] showed that the average wage of top managers employed in the industry in 2015 amounted to 5,181 thousand UAH per year (431.78 thousand UAH per month). The wage factor of a top manager employed in the industry is 90.16. The share of the average wage of workers in the industrial sector compared to the average wage of top managers in 2015 is 0.01. This testifies to the lack of a fair distribution of monetary remuneration for work between top managers and workers engaged in the industry of Ukraine.

At the third stage we will arrange the indices of average nominal wages of staff industrial workers, minimum subsistence level and integral indicator of economic efficiency in the matrix (Fig. 4). The horizontal axis reflects the coordinates of the criterion of social equity, the vertical axis - the integral indicator of economic efficiency.

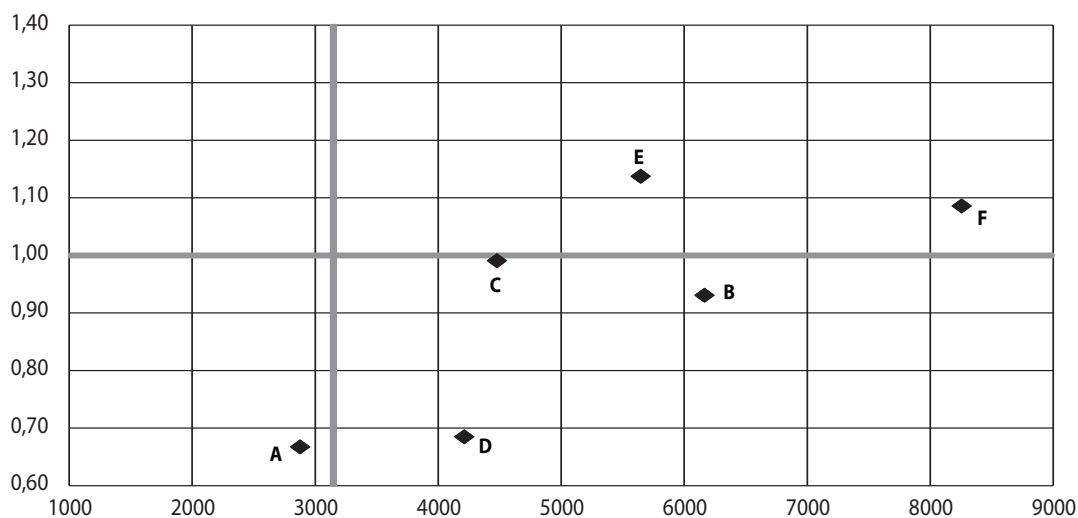
Interpretation of the obtained values: from 0 to 3147,67 UAH - low level of social equity; from 3147,67 UAH - high level of social equity; from 0 to 1 - low level of economic efficiency; from 1 to 0 high level of economic efficiency.

Fig. 3 indicates that the manufacture of textiles, clothing, leather, leather goods and other materials (position A) is not efficient and fair. Its coordinates are "0.66 - 2877". The quadrant of the matrix rightly but not efficiently contains mining and quarrying (position B), the coordinates "0.931-6164", processing industry (position C) coordinates "0.99 - 4477" and machine building, except for repair and installation of machines and equipment (position D) coordinates "0.69 - 4211". Two branches of processing industry, namely, the manufacture of basic pharmaceutical products and pharmaceuticals (position F) and metallurgical production, production of finished metal products, except machinery and equipment (position E), are effective and fair. Point E metallurgical production, the production of finished metal products, except for machinery and equipment has the coordinates "1.14 - 5645", point F - "1.09 - 8254".

Thus, we can conclude that the industries that have fallen into the squares of the matrix "not efficient - not fair", "fair - not efficient" require additional studying.

**Conclusions.** In recent years, the Ukrainian industry has gradually lost its main sources of life support. Along with the individual achievements of production modernization in separate segments of the domestic industry, the industry as a whole ceased to independently provide for efficient functioning and stable development. It is noteworthy that the Ukrainian industry is rapidly losing its competitive position.

Moreover, it is not only comparable to the leading industrialized countries (the USA, China), but also the nearest neighboring countries that have undergone severe trials of market transformation (Belarus, Poland, Russia). In essence, there is a deindustrialization of the domestic economy, which is reflected in the reduction of industrial production and its efficiency.



Symbols: A – Manufacture of textiles, clothing, leather, leather goods and other materials is not efficient and fair;  
 B – mining and quarrying industry; C – processing industry;  
 D – machine building, except for repair and installation of machinery and equipment;  
 E – metallurgical production, production of finished metal products, except for machinery and equipment;  
 F – manufacture of basic pharmaceuticals and pharmaceuticals

Fig. 4. Matrix of positioning industry branches in the coordinates of economic efficiency and social equity

The use of the developed methodical approach to assessing sustainability of economic efficiency and social equity makes it possible to quickly identify the industries that fail to equitably distribute and effectively use their own resources and require additional government intervention.

**Literature:** 1. Ансофф И. Новая корпоративная стратегия. СПб. : Питер Ком, 2005. 206 с. 2. Гринберг Р. С. Социальная справедливость и парадоксы становления социального государства в России. *Россия сегодня и завтра*. 2008. № 10. С. 1-5. URL: <http://library.fes.de/pdf-files/bueros/moskau/05936.pdf>. 3. Гриненко А. М. Соціальна справедливість як ключовий принцип у реалізації соціальної політики держави. *Наукові праці. Серія : Педагогіка*. 2009. Вип. 99. Том 112. С. 104–107. 4. Добренев В. И. Социально-гуманитарные проблемы становления глобального общества. *Человек и современный мир*. М. : ИНФРА-М, 2002. 279 с. 5. Заславская Т. И. Социальная справедливость: шесть лет спустя. *Свободная мысль*. 1992. № 1. С. 78–86. 6. Канарш Г. Ю. Социальная справедливость: философские концепции и российская ситуация: монография. М. : Изд-во Моск. гуманит. ун-та, 2011. 236 с. 7. Кизим Н. А., Тищенко А. Н., Догадайло Я. В. Экономическая результативность деятельности предприятий : монография. Харьков : ИД «ИНЖЭК», 2005. 144 с. 8. Коган А. Б. Новации оценки локальной и глобальной эффективности реальных инвестиций : монография. Новосибирск: НГАСУ (Сибстрин), 2012. 95 с. 9. Кошарная Г. Б. Триангуляция как способ обеспечения валидности результатов эмпирического исследования. *Известия высших учебных заведений. Поволжский регион. Общественные науки*. 2016. № 2 (38). С. 117–122. 10. Краснов А. Н. Эффективность как фундаментальная экономическая категория. *Экономика региона*. 2007. № 18. С. 20–26. 11. Лібанова Е. Аналіз бідності та соціальних наслідків економічної кризи в Україні. Київ, 2010. URL: [http://www.undp.org.ua/files/ua\\_35927](http://www.undp.org.ua/files/ua_35927). 12. Львов Д. С. Нравственная экономика: [социальная составляющая современной экономики]. *Свободная мысль-21*. 2004. № 9. С. 24–36. 13. Новиков В., Семенов В. Социальная справедливость: сущность, оценка, реализация. Теоретико-экономическое исследование. Г. : Palmarium Academic Publishing, 2014. 63 с. 14. Рейтинг зарплат 2015. URL: <http://forbes.net.ua/magazine/forbes/1401549-rejting-zarplat-2015>. 15. Саати Т. Л. Принятие решений при зависимостях и обратных связях: Аналитические сети. М. : Изд-во ЛКИ, 2008. 360 с. 16. Статистичний збірник «Промисловість України у 2011–2015 роках» / за ред. І. С. Петренко. Київ : Державна служба статистики України, 2016. 381 с. 17. Статистичний щорічник України за 2015 рік / за ред. І. М. Жук. Київ : Державна служба статистики України, 2016. 574 с. 18. Чубучна О. В. Соціальна справедливість у трансформаційній економіці. *Економіка. Управління. Інновації*. 2014. № 1. URL: [http://nbuv.gov.ua/UJRN/eui\\_2014\\_1\\_110](http://nbuv.gov.ua/UJRN/eui_2014_1_110). 19. Шипунова Т. В. Социальная справедливость: понятие, виды, критерии оценки. URL: [http://deviantology.spb.ru/etc/publications/Shipunova-Sotsialnaya\\_spravedlivost.pdf](http://deviantology.spb.ru/etc/publications/Shipunova-Sotsialnaya_spravedlivost.pdf). 20. Якунина И. Н. Баланс социальной справедливости и экономической эффективности как условие гармонизации экономических интересов в условиях формирования постиндустриального общества. *Вестник ОрелГИЭТ*. 2011. № 3 (17). С.120–125.



**References:** 1. Ansoff I. *Novaya korporativnaya strategiya*. SPb. : Piter Kom, 2005. 206 p. 2. Grinberg R. S. *Sotsialnaya spravedlivost i paradoksy stanovleniya sotsialnogo gosudarstva v Rossii* [Social Justice and the Paradoxes of the Emergence of a Social State in Russia]. *Rossiia segodnya i zavtra*. 2008. No. 10. P. 1-5. URL: <http://library.fes.de/pdf-files/bueros/moskau/05936.pdf>. 3. Hrynenko A. M. *Sotsialna spravedyvist yak kliuchovyi pryntsyp u realizatsii sotsialnoi polityky derzhavy* [Social Justice as a Key Principle in Implementing Social Policy of the State]. *Naukovi pratsi. Seriya : Pedagogika*. 2009. Issue 99. Vol. 112. P. 104–107. 4. Dobrenkov V. I. *Sotsialno-gumanitarnyye problemy stanovleniya globalnogo obshchestva. Chelovek i sovremennyy mir*. M. : INFRA-M, 2002. 279 p. 5. Zaslavskaya T. I. *Sotsialnaya spravedlivost: shest let spustya* [Social Justice: Six Years Later]. *Svobodnaya mysl*. 1992. No. 1. P. 78–86. 6. Kanarsh G. Yu. *Sotsialnaya spravedlivost: filosofskiy kontseptsiy i rossiyskaya situatsiya: monografiya* [Social Justice: Philosophical Concepts and the Russian Situation: monograph]. M. : Izd-vo Mosk. gumanit. un-ta, 2011. 236 p. 7. Kizim N. A., Tishchenko A. N., Dogadaylo Ya. V. *Ekonomicheskaya rezul'tativnost deyatel'nosti predpriyatiy* : monografiya [Economic Performance of Enterprises: monograph]. Kharkov : ID «INZhEK», 2005. 144 p. 8. Kogan A. B. *Novatsii otsenki lokal'noy i global'noy effektivnosti realnykh investitsiy* : monografiya [Innovations in Assessing the Local and Global Effectiveness of Real Investments: monograph]. Novosibirsk: NGASU (Sibstrin), 2012. 95 p. 9. Kosharnaya G. B. *Triangulyatsiya kak sposob obespecheniya validnosti rezul'tatov empiricheskogo issledovaniya* [Triangulation As a Way to Ensure the Validity of the Results of Empirical Research]. *Izvestiya vysshih uchebnykh zavedeniy. Povolzhskiy region. Obshchestvennyye nauki*. 2016. No. 2 (38). P. 117–122. 10. Krasnov A. N. *Effektivnost kak fundamental'naya ekonomicheskaya kategoriya* [Efficiency As a Fundamental Economic Category]. *Ekonomika regiona*. 2007. No. 18. P. 20–26. 11. Libanova E. *Analiz bidnosti ta sotsialnykh naslidkiv ekonomichnoi kryzy v Ukraini*. Kyiv, 2010. URL: [http://www.undp.org.ua/files/ua\\_35927](http://www.undp.org.ua/files/ua_35927). 12. Lvov D. S. *Nravstvennaya ekonomika: [sotsialnaya sostavlyayushchaya sovremennoy ekonomiki]* [Moral Economics: [Social Component of Modern Economy]]. *Svobodnaya mysl-21*. 2004. No. 9. P. 24–36. 13. Novikov V., Semenov V. *Sotsialnaya spravedlivost: sushchnost, otsenka, realizatsiya. Teoretiko-ekonomicheskoye issledovaniye*. G. : Palmarium Academic Publishing, 2014. 63 p. 14. *Reyting zarplat 2015*. URL: <http://forbes.net.ua/magazine/forbes/1401549-rejting-zarplat-2015>. 15. Saati T. L. *Prinyatiye resheniy pri zavisimostyakh i obratnykh svyazyakh: Analiticheskiye seti*. M. : Izd-vo LKI, 2008. 360 p. 16. *Statystychniy zbirnyk «Promyslovist Ukrainy u 2011–2015 rokakh» / za red. I. S. Petrenko*. Kyiv : Derzhavna sluzhba statystyky Ukrainy, 2016. 381 p. 17. *Statystychniy shchorichnyk Ukrainy za 2015 rik / za red. I. M. Zhuk*. Kyiv : Derzhavna sluzhba statystyky Ukrainy, 2016. 574 p. 18. Chubuchna O. V. *Sotsialna spravedyvist u transformatsiinii ekonomitsi* [Social Justice in a Transformational Economy]. *Ekonomika. Upravlinnia. Innovatsii*. 2014. No. 1. URL: [http://nbuv.gov.ua/UJRN/eui\\_2014\\_1\\_110](http://nbuv.gov.ua/UJRN/eui_2014_1_110). 19. Shipunova T. V. *Sotsialnaya spravedlivost: ponyatiye, vidy, kriterii otsenki*. URL: [http://deviantology.spb.ru/etc/publications/Shipunova-Sotsialnaya\\_spravedlivost.pdf](http://deviantology.spb.ru/etc/publications/Shipunova-Sotsialnaya_spravedlivost.pdf). 20. Yakunina I. N. *Balans sotsialnoy spravedyvosti i ekonomicheskoy effektivnosti kak usloviye garmonizatsii ekonomicheskikh interesov v usloviyakh formirovaniya postindustrial'nogo obshchestva* [Balance of Social Justice and Economic Efficiency as a Condition for the Harmonization of Economic Interests in the Conditions of the Formation of a Postindustrial Society]. *Vestnik OrelGIET*. 2011. No. 3 (17). P.120–125.

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