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For scientists, scientists, students, graduate students, representatives of business and public organizations and higher education institutions and a wide range of readers.

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CLUSTER ANALYSIS OF THE HEALTH CARE STATE IN EUROPEAN DEVELOPING ECONOMIES

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A key issue for researchers is socio-economic disparities in health care systems of different economies. A significant number of publications is devoted to the issue of researching the efficiency of health care systems. For example, 115 studies were found in the Scopus database for the period from 2011 to 2021 for the query «efficiency of the health care system». Their bibliometric analysis made it possible to form 4 clusters based on the logic of coexistence in publications of 3 or more keywords according to the research topic. The number of relationships between publications is 612 units.

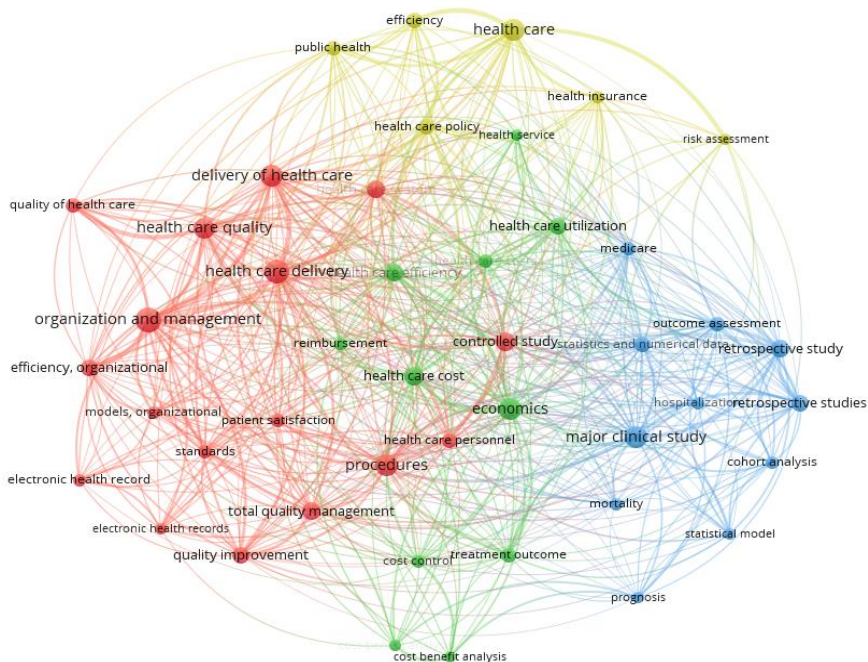


Fig. 1. Bibliometric analysis of scientific publications on the topic of the efficiency of the health care system

Source: author's elaboration based on the Scopus database using the VOSviewer 1.6.17 toolkit.

It is necessary to note the significant contribution to the study of practical aspects of socio-economic disparities, which was carried out by such scientists as Makarenko I., Sirkovska N., 2017; Druzhynina, V. et al., 2018; Kyrychenko, K. et al., 2018; Mohsen Yo. et al, 2018; Antosova I. et al., 2019; Gallo P. et al., 2019; Letunovska N. et al., 2020; Njegovanović A., 2020; Serpeninova Yu., 2020; Tenytska T. et al., 2020; Tovmasyan G., Minasyan D., 2020; Vasylieva T. et al., 2020; Yelnikova J., Kwilinski A., 2020; Keliuotytė-Staniulėnienė G., Daunaravičiūtė K., 2021; Oteh O. et al., 2021; Zhuravka O. et al., 2021; Hasan F. et al., 2022. Studies (Gupta S., Verhoeven M., 2001; Herrera S., Pang G., 2005; Gupta S. et al., 2007; Verhoeven M. et al., 2007; Afonso A. et al., 2010; Joumard I. et al., 2010; Grigoli F., Ley E., 2012; Jaba E. et al., 2013; Asandului L. et al., 2014; Grigoli F., Kapsoli J., 2018; Hrytsenko et al., 2021) show inefficiency of public spending on health care both in countries with developed economies and in countries with developing economies. The latter differ significantly from countries with developed economies in terms of the efficiency of the health care system, socio-economic conditions and the quality of public administration. The absolute majority of scientists focus their research on developed countries. This can be explained by the greater availability of the research information base for these countries.

Higher health spending tends to be associated with better health system performance. But there are significant differences between economies, even within the group of developing economies. According to the current classification of the International Monetary Fund, the regional European group of countries with developing economies includes such countries as (IMF, 2022): Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, Moldova, Montenegro, North Macedonia, Poland, Romania, Russia, Serbia, Turkey, Ukraine.

In order to identify disparities between the state of health care in the European developing economies, a cluster analysis was carried out using the k -means method with preliminary standardization of cluster indicators x according to the formula $\bar{x} = (x - x_{cep.}) / \sigma_x$.

The average value of public health spending per capita (PPP, international dollars) for the four-year period (2012-2015) and the average values of life expectancy, infant mortality rate under 5 years, the tuberculosis treatment success rate for the next four-year period (2016-2019) were used as cluster indicators.

Table 1

Mass centers of formed clusters

Indicators	Cluster			
	1	2	3	4
Public health spending per capita (PPP, international dollars)	598	812	265	1195
Life expectancy (in years at birth)	75,5	73,8	70,8	76,8
Infant mortality rate under 5 years (per 1000 live births)	12,2	7,3	13,6	5,3
tuberculosis treatment success rate (% of new cases)	87,75	79,83	73,5	34,5

The biggest difference was found between the countries included in cluster 3 (Ukraine, Moldova) and cluster 4 (Croatia, Poland) (Table 1, Fig. 1).

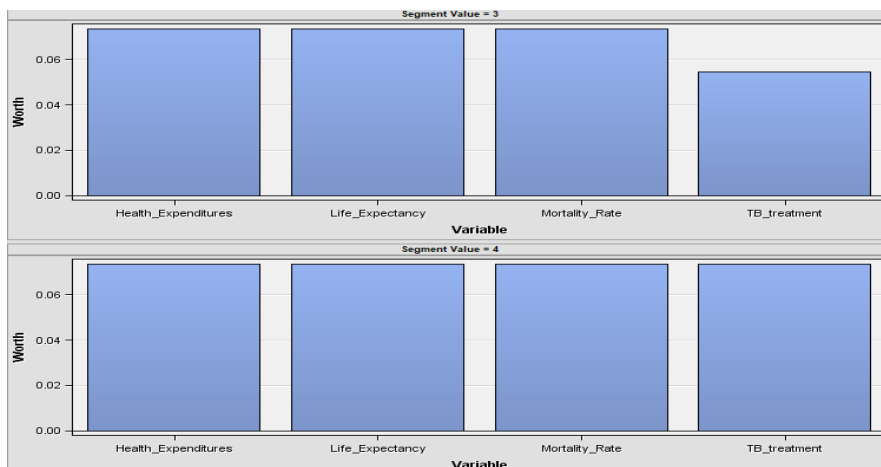


Fig. 1. Worth of clusters 3 and 4 indicators

Cluster 1 includes Albania, North Macedonia, Romania, Turkey. Cluster 2 includes Belarus, Bosnia and Herzegovina, Bulgaria, Hungary, Russia, and Serbia.

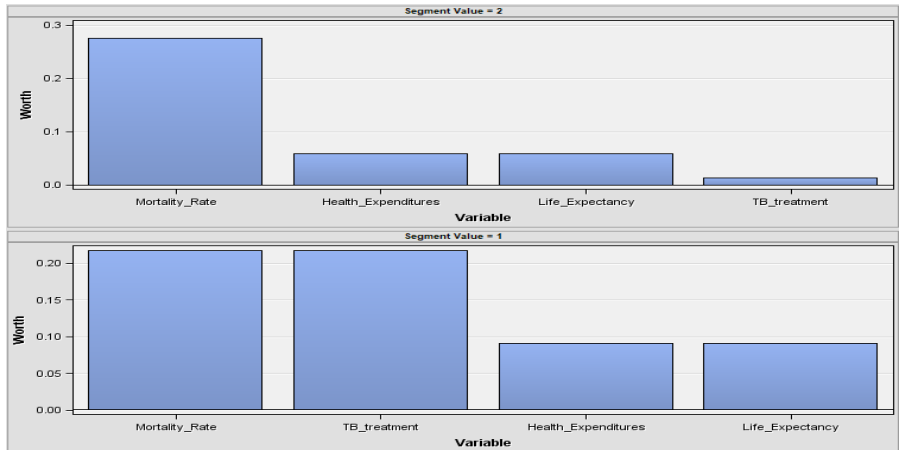


Fig. 2. Worth of clusters 1 and 2 indicators

Source: author's elaboration using SAS Enterprise Miner 15.1 toolkit.

Analyzing presented results, we conclude that public spending on health care per capita in the European countries with developing economies has a significant impact on health care indicators. Among the mentioned above countries, Ukraine and Moldova are in the worst condition, therefore they need an urgent reform of the health care financing system.

References

1. Afonso A., Schuknecht L., Tanzi V. (2010). Public Sector Efficiency: Evidence for New EU Member States and Emerging Markets. *Applied Economics*, vol. 42, no. 17, 2147–2164.
2. Akpoviro, K.S., Adeleke, O.A.O. (2022). Moderating Influence Of E-Learning On Employee Training And Development (A Study Of Kwara State University Nigeria). *SocioEconomic Challenges*, 6(2), 83-93. [https://doi.org/10.21272/sec.6\(2\).83-93.2022](https://doi.org/10.21272/sec.6(2).83-93.2022)
3. Antosova, I., Hazuchova, N., Stakova, J. (2019). Market Segmentation in Healthcare. *Marketing and Management of Innovations*, 3, 151-166. <http://doi.org/10.21272/mmi.2019.3-12>
4. Asandului L., Roman M., Fatulescu P. (2014). The efficiency of healthcare systems in Europe: A data envelopment analysis approach. *Procedia Economics*, 10, pp. 261-268.
5. Awojobi, O.N. (2022). Cash Transfer Programmes For Reducing Poverty And Vulnerabilities: Effects On Children's Health In Sub-Saharan Africa And Latin

America. SocioEconomic Challenges, 6(1), 5-23.
[https://doi.org/10.21272/sec.6\(1\).5-23.2022](https://doi.org/10.21272/sec.6(1).5-23.2022)

6. Druzhynina, V., Likhonosova, G., & Lutsenko, G. (2018). Assessment welfare of the population in the synergetic system of socio-economic exclusion. *Marketing and Management of Innovations*, 2, 54-68.
<http://doi.org/10.21272/mmi.2018.2-05>

7. Elisabeta Jaba, Christiana Balan, Ioan Bogdan Robu (2013). The Assessment of Health Care System Performance Based on the Variation of Life Expectancy. *Procedia – Social and Behavioral Sciences*, vol. 81, pp. 162-166.

8. Gallo, P., Mihalцова, B., Vegsoova, O., Dzurov-Vargova, T & Busova, N. (2019). Innovative Trends in Human Resources Management: Evidence for the Health Care System. *Marketing and Management of Innovations*, 2, 11-20.
<http://doi.org/10.21272/mmi.2019.2-01>

9. Grigoli F., Kapsoli J. (2018). Waste not, want not: The efficiency of health expenditure in emerging and developing economies. *Review of Development Economics*, 22(1), 384-403.

10. Grigoli F., Ley E. (2012). Quality of Government and Living Standards: Adjusting for the Efficiency of Public Spending. *IMF Working Papers*, No. 12/182, International Monetary Fund. DOI: 10.5089/9781475505306.001

11. Gupta S., Schwartz G., Tareq S., Last D. (2007). Fiscal Management of Scale-Up Aid. *IMF Working Papers*, No. 07/222, International Monetary Fund. DOI: 10.5089/9781451867862.001

12. Gupta S., Verhoeven M. (2001). The Efficiency of Government Expenditure. Experiences from Africa. *Journal of Policy Modelling*, vol. 23, pp. 433-467.

13. Hasan, F., Islam, M.R., Ishrat, F. (2022). COVID-19 Pandemic Impact on the Supply Chains of UK-Based Multinational Manufacturing Companies. *Business Ethics and Leadership*, 6(2), 44-67. [https://doi.org/10.21272/bel.6\(2\).44-67.2022](https://doi.org/10.21272/bel.6(2).44-67.2022)

14. Herrera S., Pang G. (2005). Efficiency of Public Spending in Developing Countries: An Efficiency Frontier Approach. *Policy Research Working Paper*, No. 3645, The World Bank. Retrieved September 14, 2022, from: <https://openknowledge.worldbank.org/handle/10986/8325>

15. Hrytsenko K., Hrytsenko A., Mogilina A. (2021). Assessing efficiency of health care system functioning. *Economic analysis*, volume 21, no. 4, 6-18.
<https://doi.org/10.35774/econa2021.04.005>

16. International Monetary Fund (2022). Database – WEO Groups and Aggregates Information. Retrieved September 14, 2022, from: <https://www.imf.org/external/pubs/ft/weo/2021/02/weodata/groups.htm#cee>

17. Joumard, I., André, C., Nicq, C. (2010). Health care systems: Efficiency and institutions. *OECD Economics Department Working Papers*, no. 769, OECD Publishing. doi: <https://doi.org/10.1787/5kmfp51f5f9t-en>

18. Keliuotytytė-Staniulėnienė, G., Daunaravičiūtė, K. (2021). The Global Green Bond Market in the Face of the COVID-19 Pandemic. *Financial Markets, Institutions and Risks*, 5(1), 50-60. [https://doi.org/10.21272/fmir.5\(1\).50-60.2021](https://doi.org/10.21272/fmir.5(1).50-60.2021)
19. Kolosok, S., Kovalenko, Ye.V. (2022). Factor Analysis Of Energy Security: Net Import Dependency. *SocioEconomic Challenges*, 6(2), 138-146. [https://doi.org/10.21272/sec.6\(2\).138-146.2022](https://doi.org/10.21272/sec.6(2).138-146.2022)
20. Kyrychenko, K.I., Samusevych, Y.V., Liulova, L.Y., & Bagmet, K. (2018). Innovations in country's social development level estimation. *Marketing and Management of Innovations*, 2, 113-128. <http://doi.org/10.21272/mmi.2018.2-10>
21. Letunovska, N., Kwilinski, A., & Kaminska, B. (2020). Scientific Research in the Health Tourism Market: A Systematic Literature Review. *Health Economics and Management Review*, 1, 8-19. <http://doi.org/10.21272/hem.2020.1-01>
22. Makarenko, I., Sirkovska, N. (2017). Transition to sustainability reporting: evidence from EU and Ukraine. *Business Ethics and Leadership*, 1(1), 16-24. DOI: 10.21272/bel.2017.1-02
23. Mohsen, Yo., Hussein, H.M., Mahrous, A.A. (2018). Perceived service value, customer engagement and brand loyalty in health care centres in Egypt. *Marketing and Management of Innovations*, 3, 85-108. <http://doi.org/10.21272/mmi.2018.3-08>
24. Njegovanović, A. (2020). Financial Decision Making in The Framework of Neuroscience / Anthropology with Review to The Pandemic and Climate Change. *Financial Markets, Institutions and Risks*, 4(4), 55-65. [https://doi.org/10.21272/fmir.4\(4\).55-65.2020](https://doi.org/10.21272/fmir.4(4).55-65.2020)
25. Oteh, O.U., Oloveze, A.O., Obasi, R.O., & Opara, J.O. (2021). Consumer Health Knowledge: Cultural Norms and Marketing of Healthcare Products. *Health Economics and Management Review*, 1, 8-22. <http://doi.org/10.21272/hem.2021.1-01>
26. Serpeninova, Yu., Makarenko, I., Plastun, A., Babko, A., & Gasimova, G. (2020). Mapping of the Responsible Investments Instruments in SDG 3 «Good Health and Well-Being» Financing: EU and US experience. *Health Economics and Management Review*, 1, 106-115. <http://doi.org/10.21272/hem.2020.1-10>
27. Tenytska, T., Myroshnychenko, Iu., & Lomia, K. (2020). Conflict Management System in Health Care. *Health Economics and Management Review*, 2, 61-69. <http://doi.org/10.21272/hem.2020.2-07>
28. Tovmasyan, G., Minasyan, D. (2020). The Impact of Motivation on Work Efficiency for Both Employers and Employees also During COVID-19 Pandemic: Case Study from Armenia. *Business Ethics and Leadership*, 4(3), 25-35. [https://doi.org/10.21272/bel.4\(3\).25-35.2020](https://doi.org/10.21272/bel.4(3).25-35.2020)
29. Vasylieva, T., Kuzmenko, O., Rashid, M. N., Vojtovic, S., Kascha, M., & Lieonov, H. (2020). Innovations in government management of the healthcare system: forecasting of covid-19 consequences in social, investment and business

development. *Marketing and Management of Innovations*, 4, 11-25. <http://doi.org/10.21272/mmi.2020.4-01>

30. Verhoeven M., Gunnarsson V., Carcillo S. (2007). Education and Health in G7 Countries: Achieving Better Outcomes with Less Spending. *IMF Working Papers*, No. 07/263, International Monetary Fund. DOI: 10.5089/9781451868265.001

31. Yelnikova, J., Kwilinski, A. (2020). Impact-Investing in The Healthcare in Terms of the New Socially Responsible State Investment Policy. *Business Ethics and Leadership*, 4(3), 57-64. [https://doi.org/10.21272/be1.4\(3\).57-64.2020](https://doi.org/10.21272/be1.4(3).57-64.2020)

32. Zhuravka, O., Daher, K., & Bosak, I. (2021). Development of the Voluntary Health Insurance Market in Ukraine. *Health Economics and Management Review*, 2, 83-91. <http://doi.org/10.21272/hem.2021.2-08>