Socio-economic viability of public management: essence, measurements and validity

Viabilidad socioeconómica de la gestión pública: esencia, medidas y validez

DUKA, Anastasiia P.[1]
KOSACH, Iryna A.[2]
MYHAYLOVSKA, Olena V.[3]
STARCHENKO, Grygoriy V.[4]
KYCHAN, Olga M.[5]

Abstract
The article provides theoretical underpinning for the need to assess socio-economic viability of the public management. Basing on the critical analysis of the existing approaches to index construction, traditionally used to study economic development, quality of public management and quality of life, it is proposed to form the index of socio-economic viability, and also the principles of its calculation are justified. According to our evaluation findings, the quality of public administration will be primarily determined by their ability to provide the social support and security. The results of the study confirmed the hypothesis about the significant influence of public management on the level of socio-economic development of countries.
key words: public management; socio-economic viability; economic development, country rankings of socio-economic viability.

Resumen
El artículo proporciona una base teórica para la necesidad de evaluar la viabilidad socioeconómica de la gestión pública. Basándose en el análisis crítico de los enfoques existentes para la construcción de índices, tradicionalmente utilizados para estudiar el desarrollo económico, la calidad de la gestión pública y la calidad de vida, se propone formar el índice de viabilidad socioeconómica, y también los principios de su cálculo justificado. Según nuestros hallazgos de la evaluación, la calidad de la administración pública estará determinada principalmente por su capacidad para proporcionar el apoyo social y la seguridad. Los resultados del estudio confirmaron la hipótesis sobre la influencia significativa de la gestión pública en el nivel de desarrollo socioeconómico de los países.
Palabras clave: gestión pública; viabilidad socioeconómica; desarrollo económico, clasificación de países de viabilidad socioeconómica

[1] Doc.Sc. in Economics, Prof. Department of Public Administration and Organizations' Management. Chernihiv National University of Technology. Ukraine. E-mail: apd@online.ua
[2] Doc.Sc. in Economics, Prof. Department of Public Administration and Organizations' Management. Chernihiv National University of Technology. Ukraine. E-mail: irish_kos@ukr.net
[3] PhD. in Economics, Assoc. Prof. Department of Public Administration and Organizations' Management. Chernihiv National University of Technology. Ukraine. E-mail: m-olena@ukr.net
[4] PhD. in Technical Sciences, doctoral student Department of Public Administration and Organizations' Management. Chernihiv National University of Technology. Ukraine. E-mail: g.v.starchenko@ukr.net
[5] PhD. in Economics, Assoc. Prof. Department of Management Technologies, National Aviation University, Ukraine. E-mail: mimi_2008@ukr.net

1. Introduction

There are several demands and changed circumstances facing public: social problems, demographic changes, migration processes, low level of trust in politicians and government institutions. Such changes that occur in most countries, including Ukraine, increase the requirements for the effectiveness of public authorities and the formation of a new socio-economic model of development of countries. Its implementation affects the level of trust in the institutions of public authority and demands improvement of the quality and effectiveness of public administration. Just 9% Ukrainians have confidence in the national government, the lowest confidence level in the world for the second straight year. This is far below the regional median for former Soviet states (48%) as well as the global average (56%) in 2018 (Bikus Zach 2019).

Social dimensions of social development become more important elements; determine the pace and depth of progress, as well as the measure of political transformation. In this case, the social trends of development receive a significant dominance over purely economic ones. As the influence of decisions of public administration institutes on economic and social dynamics is obvious, this causes the importance of considering the socio-economic capacity of public management. The scientific interest in evaluating public administration is increasing year by year Bovaird T., Löffler E., 2003, Kaufmann et al., (2011, Vasilyeva et al., 2018), and this confirms the urgency of the verification of socio-economic consequences of the decisions of institutes of public authority.

Criticism of various approaches applied to measure the quality of public management was not the aim of our research. All of these approaches were developed in main contexts and were successfully applied. However, explaining the need for a completely new approach to assessing the quality of public administration was not our goal either. The aim of our study is to assess socio-economic viability of public management basing on economic and social indicators of the countries with different levels of socio-economic development.

The formation of approaches to public management assessment began with the use of the term "public management" by D. Keeling, who understood "the search for the best way of spending resources for the achievement of the state policy priorities" (D. Keeling, 1972, p.15). The modern transformation of public administration has led to the emergence of the concept of "Good Governance". Good governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society (Y.K.Sheng, 2009). More attention in the study of public administration is given to such concepts as "quality of life", "level of well-being", "well-being" (J. Micklethwait and A. Wooldridge, 2014), public value (F.Thompson and P. Rizova, 2015, M. Moore, 2013). Such tendencies draw attention to the actions of public administration bodies on the influence of their decisions on the socio-economic parameters of the development of countries.

At various stages of society's life cycle, the different nature of public management has the opportunity to adopt into specific performance of its viability. In general, the assessment of public management is carried out from the following context:

1) as the best way of spending resources for the achievement of the state policy priorities (efficiency and quality of public management) D. Keeling, (1972); T. Plumptre, J. Graham, (1999); G. Bouckaert, (2002); T. Bovaird and E. Löffler, 2003; . Pollitt, C., & Bouckaert G. (2004).

2) as conformity of the achieved results with the set goal, reconciliation of used means and results with the goal (effectiveness of public management) (D. Mihaiu et al.,2010).

3) the questions of applying a complex (aggregated) indicator or a set of partial ones for the public management viability analysis do not have an unanimous answer. There are several integration methods for the public management evaluation, which based on various social and economic parameters. Let us dwell on individual indicators which are used to analyze socio-economic development and the public management viability:

3.1) public management quality issues are often investigated in the context of economic growth and economic performance. The competitiveness defined as the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the country can achieve. The methodology of the Global Competitiveness Index (K. Schwab, 2017) covers over 138 countries. This methodology has been in use since 2005, building on Klaus Schwab's original idea of 1979, the World Economic Forum has published the Global Competitiveness Index (GCI) developed by Xavier Sala-i-Martín in collaboration with the Forum (K. Schwab, 2017, p.10).

3.2) Governments set the institutional and policy framework in which individuals, businesses and governments themselves operate. Public management viability shows links between the government and happiness operate in both directions: what governments do affects happiness, and in turn the happiness of citizens in most countries determines what kind of governments they support The Ranking of Happiness 2016-2018 includes both social and economic components and covers over 156 countries. This methodology the frst was released in April 2012. World Happiness Report presented the available global data on national happiness and reviewed related evidence from the emerging science of happiness, showing that the quality of people's lives can be coherently, reliably, and validly assessed by a variety of subjective well-being measures, collectively referred to then and in subsequent reports as "happiness". (J. Helliwell. et al, 2019, p. 4).

3.3) Established by the World Bank, the Control of Corruption Indicator (CCI) captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. This is an agregate indicator combyning views of a large number of enterprise, citizen and expert survey respondents, and is part of the Worldwide Governance Indicators (WGI), which aggregate and individual governance indicators for 215 economies. This methodology has been in use since 1996.

2. Methodology

Multi-criteria methods have been used for quantitative evaluation of complex phenomena (V. Vitlinskyi, 2003, p.203-204; G. Tzeng & J. Huang, 2011). Multi-criteria methods integrate the values of the criteria describing a particular process and their weights into a single value. However, all of these methods are based on different logical principles, have different complexity levels and the inherent features. Therefore, the rating appraisal of the socio-economic viability (SEV) of public management (R_{sev}) were used a modified weighted average geometric (multiplicative approach):

$$R_{SEV_j} = \prod_{i=1}^{n}(1+\tilde{p}_{ij})^{w_i}, R_{SEV_j} \geq 0, j = 1,...,m$$

(1)

where w_i is the weight of the i-th criterion, $\widetilde{p}_{ij}$ is the normalized i-th criterion's value for j-th country.

Multi-criteria methods are based on the matrix $R = \|p_{ij}\|$ of the criteria, explaining the objects (countries) c_j (j = 1, ..., m) compared, statistical data and the criteria weights w_j (j = 1, ..., n), where is the number of criteria and is the number of objects (countries) compared.

The next important step in calculating the R_{sev} index is to determine the weight of each indicator. To solve this problem, either statistical analysis, mathematical modeling, or ranking can be used. Assigning components to the integral indicator of certain weights is a difficult task for experts and there is enough subjective approach in the evaluation. To eliminate a certain subjectivity when estimating, we assume that indicators are only indicators of certain existing properties and have the same significance in the system of evaluation of the investigated phenomenon. The latter, in our opinion, will allow us consider the complexity and multidimensionality of the public management more fully, determine the strength of factors influence on the socio-economic viability of public management.

That is,

$$w_i = \frac{1}{n}; i = 1,...,n; \sum_{i=1}^{n} w_i = 1$$

(2)

The first stage of evaluation is the unification of indicators. The methodology for the indicators normalization, was created according principles as recommended in the scientific literature (V. Vitlinskyi, 2003, Zh. Derii & T. Zosymenko, 2016, R. Voloshchuk & V. Stepashko, 2014). Different measurement units and the scale of original source data may distort the results. So, to unify the indicators the normalization approach is required.

To convert the indicators, the following equations are used:

a) when the highest quality indicator corresponds to its maximum value:

$$\widetilde{p}_{ij} = \frac{p_i^{max} - p_{ij}}{p_i^{max} - p_i^{min}},$$

(3)

b) when the highest quality indicator corresponds to its minimum value:

$$\widetilde{p}_{ij} = \frac{p_{ij} - p_i^{min}}{p_i^{max} - p_i^{min}},$$

(4)

c) when the highest quality indicator corresponds to its defined value:

$$\widetilde{p}_{ij} = \begin{cases} \dfrac{p_i^{norm} - p_{ij}}{p_i^{max} - p_i^{min}}, p_{ij} \leq p_i^{norm}, \\ 1, p_{ij} > p_i^{norm} \end{cases}$$

(5)

d) when the lowest quality indicator corresponds to its defined value:

$$\widetilde{p}_{ij} = \begin{cases} \dfrac{p_{ij} - p_i^{norm}}{p_i^{max} - p_i^{min}}, p_{ij} \geq p_i^{norm} \\ 1, p_{ij} < p_i^{norm} \end{cases}$$

(6)

Where $\widetilde{P}_{ij}$ is the normalized i-th criterion's value for j-th country (unified data), p_{ij} – the i-th criterion's value for j-th country (primary data), P_i^{max} – the maximum value of primary data; P_i^{min} – the minimum value of primary data, P_i^{norm} – the optimal value of primary data.

Due to these changes we get normalized data, the values of which will be in the range from 0 to 1. At the same time, the best value of the indicator corresponds to one, while the worst one – to zero.

3. Results

The definition of socio-economic viability of public management is challenging because of a complex nature of institutions. In general, we should mention another compulsory characteristic of socio-economic viability of public management which is the ability of institutions to change. We will consider the socio-economic viability of public management as its ability to change in accordance with social guarantees (standards) and the needs of socioeconomic development. The following principles for calculating the socio-economic viability of public management were defined:

- objectivity means that a generalized estimator should not be based on expert values of institutions, but indicators should be provided by official statistics. Their use makes it possible to undertake an assessment as maximally objective and comparable for individual countries. The methodology for the evaluation of socio-economic viability of public management using economic and social indicators, was calculated by World Bank,

- complexity means that the socio-economic viability of public management should summarize all possible aspects of socio-economic development. 45 indicators for three groups (Economic transformation and capacity, Social support and security, Macroeconomic context and employment stability), which are represented by official statistics, are included in calculations. This approach allows us ranking countries according to the estimates. It has more operationality and makes it possible to reduce errors in measuring socio-economic viability of public management.

Therefore, to build the index, we selected the indicators corresponding to the above goals. They allow us assess the quality of public sector in the most stable and transparent way, forming the primary array of information

support for state regulation of institutional changes. These tasks have identified the key criteria for selecting the primary indicators.

First of all, indicators should be formed from open public sources. This will ensure the transparency of calculations, the possibility of their reproduction, considering the growth of time series and the prospects for further index improvement. Also, indicators should be strong enough.

To calculate the Index, we offer a list of indicators for calculation of the socio-economic viability of public management (Table 1).

Some of the related indicators are not included in the proposed list due to their inadequate representation by countries. These are the indicators of adequacy and efficiency of social protection programs, labor market, and healthcare, some economy and ecology indicators. We hope in the future that these indicators could be added to the proposed list once they become more complete in terms of data availability.

To calculate the Index of the socio-economic viability of public management, we formed a database covering 144 countries, the selection of which was determined by the need to consider the impact of the difference in economic development, the history of institutional changes, the socio-political model of public administration, the specifics of social protection programs and the development of social sphere overall.

Thus, Table 2 presents the analytical results for the calculation of SEV-index. To confirm the hypothesis and to better understand the impact of public administration performance on the level of socio-economic development of the country, we compared the country's ranking according to our calculated index and its ratings on the relevant indicators of competitiveness, happiness index and corruption promotion index.

Table 1
The list of indicators included in the calculation of
the socio-economic viability of public management

Group of indicators	Indicator (units)
Economic transformation and capacity	Access to electricity (% of population)
	Agriculture, forestry, and fishing, value added (% of GDP)
	Exports of goods and services (% of GDP)
	Food exports (% of merchandise exports)
	Food imports (% of merchandise imports)
	Foreign direct investment, net inflows (% of GDP)
	High-technology exports (% of manufactured exports)
	Imports of goods and services (% of GDP)
	Individuals using the Internet (% of population)
	Industry (including construction), value added (% of GDP)
	Manufactures exports (% of merchandise exports)
	Manufactures imports (% of merchandise imports)
	Manufacturing, value added (% of GDP)
	Medium and high-tech Industry (including construction) (% manufacturing value added)
	Services, value added (% of GDP)
Social support and security	Adolescent fertility rate (births per 1,000 women ages 15-19)
	Birth rate, crude (per 1,000 people)
	Current health expenditure (% of GDP)
	Death rate, crude (per 1,000 people)
	Domestic general government health expenditure (% of GDP)
	GDP per capita, PPP (constant 2011 international $)
	Government expenditure on education, total (% of GDP)
	Hospital beds (per 1,000 people)
	Incidence of tuberculosis (per 100,000 people)
	Intentional homicides (per 100,000 people)
	International migrant stock (% of population)
	Life expectancy at birth, total (years)
	Military expenditure (% of GDP)
	Mortality rate, infant (per 1,000 live births)
	Mortality rate, neonatal (per 1,000 live births)
	Population growth (annual %)
	Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)
Macroeconomic context and employment stability	Age dependency ratio (% of working-age population)
	Central government debt, total (% of GDP)
	Gross capital formation (% of GDP)
	Gross domestic savings (% of GDP)
	Gross fixed capital formation (% of GDP)
	Inflation, consumer prices (annual %)
	Mortality rate, adult, female (per 1,000 female adults)
	Mortality rate, adult, male (per 1,000 male adults)
	Self-employed, total (% of total employment) (modeled ILO estimate)
	Total tax rate (% of commercial profits)
	Unemployment, total (% of total labor force) (modeled ILO estimate)
	Unemployment, youth total (% of total labor force ages 15-24) (modeled ILO estimate)
	Urban population (% of total)

Table 2
Analytical results for the SEV-index, Ranking of Happiness,
The Global Competitiveness and Control of Corruption Index

State	The SEV	Ranking of SEV	Ranking of Happiness	The Global Competitiveness	Control of Corruption Index
Germany	0,59	4	17	5	94,23
Greece	0,474	4	82	86	52,4
Gambia	0,482	3	120	123	27,4
Guatemala	0,454	3	27	78	24,04
Honduras	0,523	2	59	88	25,48
Hungary	0,608	4	62	69	59,13
Iceland	0,605	4	4	27	93,27
India	0,479	2	140	39	48,56
Indonesia	0,458	2	92	41	48,08
Iran	0,476	3	117	76	20,19
Ireland	0,614	4	16	23	91,35
Israel	0,566	4	13	24	79,81
Italy	0,501	4	36	44	61,54
Jamaica	0,481	3	56	75	50,48
Japan	0,626	4	58	8	90,38
Jordan	0,558	3	101	63	63,94
Kazakhstan	0,551	3	60	53	19,71
Kenya	0,39	2	121	96	15,38
Korea	0,658	4	54	26	67,79
Kuwait	0,601	4	51	38	44,71
Kyrgyz Republic	0,487	2	86	111	12,98
Latvia	0,508	4	53	49	69,71
Lebanon	0,499	3	91	101	14,9
Lesotho	0,407	2	144	120	56,25
Lithuania	0,499	4	42	35	70,19

State	The SEV	Ranking of SEV	Ranking of Happiness 2016-2018	he Global Competitiveness 2016-2017	Control of Corruption Index Rank 2017
Albania	0,547	3	107	80	42,31
Algeria	0,533	3	87	88	30,29
Armenia	0,409	3	79	116	32,69
Australia	0,589	4	11	22	92,79
Austria	0,656	4	10	19	90,87
Azerbaijan	0,56	3	90	37	17,79
Bahrain	0,611	4	37	48	51,92
Bangladesh	0,462	1	125	106	19,23
Belgium	0,616	4	18	17	89,9
Benin	0,454	1	102	124	33,65
Bolivia	0,494	2	61	121	27,88
Bosnia and Herzegovina	0,445	3	78	107	37,02
Botswana	0,48	3	148	64	78,85
Brazil	0,499	3	32	81	36,06
Bulgaria	0,473	3	97	50	50,96
Burundi	0,433	1	145	135	9,13
Cambodia	0,56	2	109	89	8,65
Cameroon	0,432	2	96	119	11,06
Canada	0,556	4	9	15	95,67
Chile	0,53	4	26	33	82,21
China	0,574	3	93	28	46,63
Colombia	0,462	3	43	61	43,75
Costa Rica	0,493	3	12	54	66,83
Croatia	0,508	4	75	74	61,06
Cyprus	0,547	4	49	83	78,37

State	The SEV	Ranking of SEV	Ranking of Happiness	The Global Competitiveness	Control of Corruption Index
Czech Republic	0,646	4	20	31	70,67
Denmark	0,565	4	2	12	98,56
Dominican Republic	0,46	3	77	92	24,52
Ecuador	0,508	3	50	91	30,77
Egypt	0,441	2	137	115	34,13
El Salvador	0,437	2	35	105	37,98
Estonia	0,615	4	55	30	87,02
Ethiopia	0,439	1	134	109	33,17
Finland	0,608	4	1	10	99,04
France	0,579	4	24	21	87,5
Georgia	0,511	2	119	59	77,4
Mozambique	0,423	1	123	133	18,75
Namibia	0,385	3	113	84	64,9
Nepal	0,454	1	100	98	23,56
Netherlands	0,594	4	5	4	95,19
New Zealand	0,56	4	8	13	100
Nicaragua	0,511	2	45	103	18,27
Nigeria	0,385	2	85	127	12,5
North Macedonia	0,512	3	84	68	45,19
Norway	0,554	4	3	11	99,52
Pakistan	0,385	1	67	122	22,6
Panama	0,605	4	31	42	35,1

State	The SEV	Ranking of SEV	Ranking of Happiness	The Global Competitiveness	Control of Corruption Index
Luxembourg	0,555	4	14	20	96,15
Malawi	0,375	1	150	134	28,37
Malaysia	0,574	3	80	25	58,17
Mali	0,342	1	128	125	29,81
Malta	0,626	4	22	40	76,92
Mauritania	0,453	2	122	137	23,08
Mauritius	0,467	3	57	45	62,02
Mexico	0,579	3	23	51	16,35
Moldova	0,535	2	71	100	21,15
Mongolia	0,538	2	83	102	41,83
Morocco	0,479	2	89	70	52,88
Serbia	0,533	3	70	90	43,27
Sierra Leone	0,393	1	129	132	31,25
Singapore	0,651	4	34	2	97,6
Slovak Republic	0,64	4	38	65	62,5
Slovenia	0,553	4	44	56	79,33
South Africa	0,424	3	106	47	56,73
Spain	0,489	4	30	32	68,27
Sweden	0,639	4	7	6	98,08
Switzerland	0,682	4	6	1	96,63
Tanzania	0,444	1	153	116	39,42
Thailand	0,547	3	52	34	42,79

State	The SEV	Ranking of SEV	Ranking of Happiness	The Global Competitiveness	Control of Corruption Index
Paraguay	0,457	3	63	117	25
Peru	0,44	3	65	67	38,94
Philippines	0,51	2	69	57	39,9
Poland	0,511	4	40	36	75,96
Portugal	0,513	4	66	46	80,77
Qatar	0,59	4	29	18	76,44
Romania	0,529	3	48	62	55,29
Russia	0,503	3	68	43	17,31
Rwanda	0,453	1	152	52	71,63
Saudi Arabia	0,564	4	28	29	65,87
Senegal	0,45	1	111	112	54,81
Tunisia	0,498	2	124	95	53,85
Turkey	0,538	3	79	55	49,52
Uganda	0,424	1	136	113	13,94
Ukraine	0,445	2	133	85	22,12
United Kingdom	0,547	4	15	7	94,71
United States	0,521	4	19	3	88,94
Uruguay	0,483	4	33	73	88,46
Venezuela	0,492	3	108	130	7,21
Vietnam	0,56	2	94	60	31,73
Zambia	0,461	2	138	118	35,58
Zimbabwe	0,416	1	146	126	9,62

4. Conclusions

The result of this study was the calculation of the index of socio-economic viability of public administration. The presented methodology for calculating this index is built an adequate measure of the integrated rating indicator is a modified weighted average geometric (multiplicative approach). The calculation includes 45 indicators, which represent three basic groups (the social support and security, macroeconomic context and employment stability, economic transformation and capacity). They provide quantitative measurement of the country's capabilities and reflect the results of socio-economic development management, as well as the institutional capacity of public authorities in socio-economic policy.

The results of the study confirmed the hypothesis about the significant influence of public management on the level of socio-economic development of countries. In addition, it is evident that the very countries with the highest social and economic values are characterized by the most important indicators of Ranking of Happiness and The Global Competitiveness index. Moreover, the following law was revealed by analysis: the indicator of SEV is highest for the group of countries, those are highly developed according to the methodology of the World Bank such as innovative-oriented according world competitiveness. The countries with a low and factor-based economy are characterized by low indicator of SEV.

So, the socio-economic viability of public management can provide the level of development and the place that the country occupies in ratings of the global competitiveness index, happiness index and corruption perception index.

Bibliographic references

Bikus Z.(2019). World-Low 9% of Ukrainians Confident in Government.. URL: https://news.gallup.com/poll/247976/world-low-ukrainians-confident-government.aspx

Bouckaert, G. (2002). Modernizing the Rechtsstaat: Paradoxes of the Management Agenda. Berlin : Duncker & Humblot P. 26.

Bovaird T., Löffler E. (2003). Evaluating the quality of public governance: indicators, models and methodologies. International Review of Administrative Sciences. Vol. 69. No. 3. Pp. 313-328.

Derii Zh., Zosymenko T. (2016). Method of assessment of economic reforms headway: regional dimension of European integration. Problems and prospects of economy and management No 2 (6), 2016. C.9-17

Helliwell, J., Layard, R., & Sachs, J. (2019). World Happiness Report 2019, New York: Sustainable Development Solutions Network.

Kaufmann D., Kraay A., Mastruzzi M. (2011). The worldwide governance indicators: methodology and analytical issues. Hague Journal on the Rule of Law. Vol. 3. No. 2. Pp. 220-246.

Keeling, D. (1972). Management in Government. London : Allen & Unwin.

Micklethwait, J., & Wooldridge, A. (2014). The State of the State. The Global Contest for the Future of Government. Foreign Affairs, July/August. Retrieved from https://www.foreignaffairs.com/articles/united-states/2014-05-29/state-state

Mihaiu, D. M., Opreana, A., & Cristescu, M. P. (2010). Efficiency, effectiveness and performance of the public sector. Romanian Journal of Economic Forecasting, 4(1), 132-147.

Moore, M. H. (2013). Recognizing Public Value. Cambridge, MA: Harvard University Press

Plumptre T., Graham J. (1999). Governance and Good Governance: International and Aboriginal Perspectives. Institute On Governance. 27 p. // http://www.iog.ca/publications/govgoodgov.pdf

Pollitt, C., & Bouckaert G. (2004). Public Management Reform: A Comparative Analysis. Oxford : University Press

Schwab K. (2017) The Global Competitiveness Report 2016-2017 http://www3.weforum.org/docs/GCR2016-2017/05FullReport/ TheGlobalCompetitivenessReport2016-2017_FINAL.pdf c.10

Sheng Y. K. (2009). What is Good Governance? United Nations Economic and Social Commission for Asia and the Pacific. Available at: https://www.unescap.org/resources/what-good-governance

Thompson, F., and Rizova P. (2015). Understanding and Creating Public Value: Business is the Engine, Government the Flywheel (and Also the Regulator). Public Management Review 17 (4): 565–586. doi:10.1080/14719037.2013.841982.

Tzeng Gwo-Hshiung, Huang Jih-Jeng. (2011). Multiple Attribute Decision Making Methodsandapplications. 2011 by Taylor & Francis Group, LLC

Vasilyeva T., Lyeonov S., Adamičková I., & Bagmet K. (2018). Institutional Quality Of Social Sector: The Essence And Measurements. Economics & Sociology, Vol. 11, No. 2. DOI: 10.14254/2071-789X.2018/11-2/17

Vitlinskyi V.V. (2003). Modeling Economics: Educ. manual. Kyiv: KNEU. 408 p.

Voloshchuk R.V, Stepashko V.S (2014). Nonlinear normalization of statistical indicators for the problem of building integral indices. Inductive Modeling of Complex Systems, Issue 6, 2014. P.47-54

Worldbank database. URL: https://datahelpdesk.worldbank.org/knowledgebase/ articles/906519-world-bank-country-and-lending-groups

Worldbank database. URL: https://data.worldbank.org/country

IndexMundi. Database. URL: https://www.indexmundi.com

International Monetary Fund. Datasets. URL: https://www.imf.org/external/datamapper/datasets/GDD/2