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### **INTERNATIONAL RATING SYSTEM “BENCHMARKING PUBLIC PROCUREMENT”: POSSIBILITIES OF USING IN FORMATION OF DIGITAL INFRASTRUCTURE IN THE ACCOUNTING AND FINANCIAL SECTORS**

#### **Abstract**

Taking into account that an important role the digital environment plays in the sphere of spending public money and public procurement, the purpose of the article is to study the methodology of assessing the effectiveness of the public procurement system by World Bank in order to determinate possibilities of its using in formation of digital infrastructure in the accounting and financial sectors. The methodologies of the World Bank's Benchmarking Public Procurement system are investigated. A comparative analysis of the Ukraine's place among other countries of the world, in particular among the group of countries of Europe and Central Asia and among some OECD countries, which are considered as a group of high-income countries, has been conducted. It is substantiated that the results of such comparative analysis will allow identifying risk areas, and relevant information can be used in developing recommendations and proposals for improving the effectiveness of the public procurement system. As a prospects for further researches the study of second-tier indicators and the methodology of evaluating the public procurement systems by the World Bank, taking into account its relatively short setbacks compared to other ratings, have been identified.

**Keywords:** digital environment, public procurement, public procurement system, international ratings, Benchmarking Public Procurement, efficiency, assessment, evaluation.

## Introduction

In Ukraine, the need to formate the digital economy and society is recognized at the state level [1], and digital technologies are seen as one of the key drivers of sustainable development. The main goals of digital development are: accelerating economic growth and attracting investment; transformation of economic sectors into competitive and efficient ones; technological and digital modernization of industry and creation of high-tech industries; accessibility to citizens of the benefits and opportunities of the digital world; implementation of human resources, development of digital industries and digital entrepreneurship.

The main rating objectives of the Concept are the achievements in 2020:

- 30th place in the Networked Readiness Index (WEF) ranking (64th place in 2016);
- 40th place in the Global Innovation Index (INSEAD, WIPO) ranking (56th place in 2016);
- 50th place in the ICT Development Index (ITU) (79th place in 2016);
- 60th place in the Global Competitiveness Index (WEF) ranking (85th place in 2016).

An important role the digital environment plays in the sphere of spending public money and public procurement. Effective spending of public funds is an urgent task for all countries, so optimization of the process of public procurement is one of the priorities in the list of directions of its solution. Public procurement is not only a process of ordering products (goods, works, services), their production and supply (provision, performance), but also an instrument of performance by state government of functions in the field of national security and its components (economic, food, social, environmental, etc.), solving problems such as developing the market and maintaining a competitive environment, supporting certain regions and populations, developing specific industries and market actors, and more. But while public procurement can be an incentive for development, it can also be the basis for corruption and fraud. This is why public procurement requires constant monitoring, collection and analysis of a wide range of data, including international comparisons and evaluations.

Among foreign scholars, Daniel Kauffman pays considerable attention to the problems of public procurement [3; 2]. Control (audit, monitoring, auditing) of public (public) procurement is independent form of state financial control in accordance with the Law of Ukraine “On the basic principles of the implementation of state financial control in Ukraine” [5] and an important element in the implementation of public procurement policy in accordance with the Law of Ukraine “On Public Procurement” [4]. Researches on public procurement monitoring by representatives of civil society organizations at the local level in Ukraine [6; 8], public control of public procurement [6], corruption risks and the reliability of the public procurement logistics system [10] are presented in the scientific literature.

Important information on the effectiveness of the public procurement system is represented by an international rating prepared by the World Bank Working Group. But despite the fact that the methods of calculating international ratings and the directions of their use are quite widely represented in the economic literature, the rating of the efficiency of the public procurement system remains unaddressed. It is extremely important to study the place of each country in the international rankings with a focus on the effectiveness of the public procurement system as an important and integral element of government regulation and the business environment, identify the factors that influence changes in indicators. Firstly, it is necessary to understand the environment in which our country is perceived by international organizations, investors, lenders and other interested persons in order to determine the directions of improvement and their predictive influence on the position of our country in

order to increase its rating, including in the sphere of efficiency of public procurement systems. Secondly, the study and analysis of the components of the international rating allows improving the quality of preparatory work for public procurement in the field of innovation and the market for innovative products.

### **Purpose of the Study**

The purpose of the article is to study the methodology of assessing the effectiveness of the public procurement system by World Bank in order to determinate its possibilities of using in formation of digital infrastructure in the accounting and financial sectors.

### **Main Text**

#### **History of Using and Methodology of International Rating System “Benchmarking Public Procurement”**

Important information on the effectiveness of the public procurement system is represented by an international rating prepared by the World Bank Working Group. Benchmarking Public Procurement Performance Study launched by the World Bank in 2013. *Benchmarking Public Procurement* focuses on legal and regulatory environments that affect the ability of private sector companies to do business with governments. Three reports have been published:

(1) *Benchmarking Public Procurement 2015* [11], which covered 11 economies (Afghanistan, Chile, Ghana, Jordan, Mexico, Russian Federation, Sweden, Thailand, Turkey, Uganda, United States), and data was also collected later in the Russian Federation;

(2) *Benchmarking Public Procurement 2016* [12], which expanded geographical coverage to include 77 economies in seven regions (Ukraine has been included in the study since 2016);

(3) The *Benchmarking Public Procurement 2017* [13] report presents comparable data on public procurement laws and regulations across 180 economies.

The *Benchmarking Public Procurement 2017* report presents comparable data on public procurement laws and regulations across 180 economies to meet the various needs of different stakeholders for information, analysis, and policy action. It provides private sector firms with insights on issues involving their participation in the public procurement market, while offering policy makers information on their country's public procurement regulatory system and related business practices. The data also benefit the academic and research community by offering better tools and data on procurement systems and facilitating cross-country analysis.

In *Benchmarking Public Procurement 2016* indicators was aggregated by subtopic and designed to help policy makers evaluate their system's performance in a specific area of public procurement. Such indicators were evaluated:

(1) procurement life cycle: preparing bids, submitting and evaluating bids; awarding and executing contracts;

(2) complaint and reporting mechanism: availability of complaint and reporting mechanisms; first-tier review process; second-tier review process.

Scores was presented in five categories at the subindicator level: 0-20, 21-40, 41-60, 61-80 and 81-100. Economies with a score of 81 or more, which are considered close to good practice on a certain subindicator, was in the top quintile. Economies with a score of 20 or less was in the bottom quintile in the charts, which means that the economy has a lot to

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improve in the light of internationally, accepted good practices and principles on what *Benchmarking Public Procurement* measures.

Two thematic pillars are covered by the *Benchmarking Public Procurement 2017* report:

(1) the procurement process, from the needs assessment to the implementation of the procurement contract;

(2) the public procurement complaint review mechanisms (Table 1).

**Table 1.**

**Two thematic pillars covered by the  
Benchmarking Public Procurement 2017 [13]**

<b>Two Thematic Pillars</b>	
<b><i>I. The procurement process, from the needs assessment to the implementation of the procurement contract</i></b>	
<i>Needs assessment, call for tender, and bid preparation</i>	<i>Rationale:</i> The transparency of the bid preparation phase is critical because it is precisely at this moment that potential bidders can seek information and assess the opportunity to bid for the procurement contract.
<i>Bid submission</i>	<i>Rationale:</i> Once prospective bidders decide to bid for a public procurement contract, they need to comply with a variety of requirements in order to bid effectively and avoid having their bid rejected if it does not comply with the stated requirements. These requirements can create unnecessary hurdles. It is therefore important to make sure that the process is streamlined and easily accessible to all bidders.
<i>Bid opening, evaluation, and award</i>	<i>Rationale:</i> This phase is critical for purposes of transparency and integrity. It is important to make sure that enough guarantees are in place to protect the fairness and efficiency of the process
<i>Content and management of the procurement contract</i>	<i>Rationale:</i> The management of the contract is as important as the bidding process. Procurement contracts must be managed in a prompt and transparent way, and with sufficient safeguards, to protect suppliers from unilateral decisions and actions by the procuring entity.
<i>Performance guarantee</i>	<i>Rationale:</i> The performance guarantee protects parties in case of delays in the execution of the contract; however, to protect suppliers, the amount of the guarantee should be regulated.
<i>Payment of suppliers</i>	<i>Rationale:</i> Suppliers need to be paid on time. Delayed payments could hurt their cash flows, impair their ability to supply, and even put them at risk.
<b><i>II. The public procurement complaint review mechanisms</i></b>	
<i>Complaints submitted to the First-tier review body</i>	<i>Rationale:</i> When bidders or potential bidders notice flaws in the procurement process, they should be able to file a complaint and receive a decision in a timely manner.
<i>Complaints submitted to the Second-tier reviewer body</i>	<i>Rationale:</i> If a first decision has been rendered concerning the procurement process before the contract has been awarded, the complainant should be able to appeal the decision to a second-tier jurisdiction

The two thematic pillars and eight key areas of the public procurement process covered by *Benchmarking Public Procurement 2017* are summarized in table 2. In *Benchmarking Public Procurement 2017* the methodology for evaluating the public procurement system includes the following groups of indicators that are:

(1) quantified in points (the maximum score for each indicator, which is quantified, is 100 points);

(2) not quantified and presented only in descriptive form.

Table 2.

**Thematic areas measured in  
Benchmarking Public Procurement 2017 [13]**

<b>Indicator</b>	<b>Description</b>
<i>are presented in descriptive form and are quantified (resulting in a final score ranging from 0 to 100)</i>	
<i>Needs assessment, call for tender, and bid preparation</i>	This indicator aims at assessing the transparency and information flow at the preparation stage from the procuring entity's end. It looks at: (1) the consultation with the private sector; (2) the tendering method; (3) potential bidders' accessibility to bidding information.
<i>Bid submission</i>	This indicator looks at the requirements for suppliers to place bids, including: (1) registration with a government registry; (2) eligibility of foreign firms; (3) possibility of submitting bids online; minimum time frame for bid submission; (4) bid security requirements.
<i>Bid opening, evaluation, and award</i>	This indicator aims at assessing transparency at the bid opening and evaluation stages. It considers: (1) the method for opening the bids, including accessibility for bidders to the bid opening session; (2) the fairness of the bid evaluation; (3) notification and feedback to unsuccessful bidders; (4) standardized contract form used when awarding a contract.
<i>Content and management of the procurement contract</i>	This indicator looks at: (1) the relevant procedural requirements; (2) the possibilities of modifying or terminating the procurement contract when the contract is awarded and signed; (3) the acceptance of the completion of works by the purchasing entity and related procedures.
<i>Performance guarantee</i>	This indicator looks at the performance guarantee, including: (1) the purchasing entity's monitoring of the requisite performance guarantee and its amount; (2) return of such guarantee; (3) the existence of a separate entity to oversee the procuring entity's decision to withhold it.
<i>Payment of suppliers</i>	This indicator examines: (1) the procedure regarding suppliers' request for payment; (2) the time frame for the purchasing entity to process payment; (3) the time frame for suppliers to actually receive payment; (4) the interests or penalties available to suppliers in case of payment delays.
<i>are not scored and merely presented for contextual purposes</i>	
<i>Structure of the complaints mechanism</i>	This indicator looks at: (1) legal framework on complaints mechanism; (2) description of complaints mechanism; (3) choice of the authority before which filing a complaint.
<i>Complaints submitted to the First-tier review body</i>	This indicator examines issues regarding: (1) filing a complaint to challenge the tender and bidding process before the award is granted, including the complainant's standing; (2) cost of filing, duty to notify the procuring entity; (3) suspension of the procurement process; (4) independence and training of the complaint reviewers; (5) time frame for decisions; (6) legally provided remedies; (7) publication of the decisions.
<i>Complaints submitted to the Second-tier review body</i>	This indicator measures the process of appealing the first-tier review body decisions regarding: (1) the time granted to appeal the decision; (2) costs associated with the appeal. It also assesses the review process that takes place before the second-tier review body, including: (1) the actions required to trigger a suspension of the procurement process; (2) the time frame for a decision on the appeal; (3) remedies legally available at the second-tier review; (4) the publication of the decisions.
<i>Post-award complaints</i>	This indicator looks at: (1) process to complain same than for pre-award complaints; (2) standstill period after contract award to allow filing of complaints; (3) standstill time period (calendar days); (4) standstill period mandated in the legal framework; (5) standstill period set out in the notice of intention to award.

For each indicator developed, the scores of individual questions are averaged and multiplied by 100, resulting in a final score ranging from 0 to 100. The economies at the top of the range (with scores approaching 100) are considered to have a regulatory framework that closely aligns with internationally recognized good practices, whereas the economies at the bottom of the range (with scores closer to 0) have significant room for improvement in the particular area measured.

The description of each indicator allows a detailed assessment of the performance of each country's public procurement system, but comparisons between countries can only be made using quantifiable metrics.

### **Comparative Analysis of the Scores of Ukraine and Other Countries**

In *Benchmarking Public Procurement 2016 and Benchmarking Public Procurement 2017* The World Bank has rated Ukraine's public procurement system at a rather high level. In 2016, three out of five indicators received a sufficient score within 61-80 points, two indicators ("submitting and evaluating bids", "availability of complaint and reporting mechanisms") were highly rated (81-100 points).

The assessment of the effectiveness of the public procurement system of Ukraine in 2017 by indicators covering the so-called procurement life cycle is as follows. The highest score (86 points) was obtained from the "bid opening, evaluation, and award". High marks (70 points) were obtained on the indicators "content and management of the procurement contract", "needs assessment, call for tender, and bid preparation". The average scores (59 and 50 points, respectively) were obtained for "bid submission and performance guarantee". For "payment of suppliers" Ukraine received only 37 points out of 100.

Analysis of the data from the countries covered by the study shows that the maximum score (100) was obtained by such countries as: Russia - on the indicator "needs assessment, call for tender, and bid preparation"; Ecuador, Peru, Philippines, Singapore, Suriname - on the indicator "performance guarantee"; Australia, Denmark, Finland, Italy, Republic of Korea, Spain, USA - on the indicator "payment of suppliers indicator".

The minimum score (0) was earned by: Antigua and Barbuda, Australia, Czech Republic, Finland, Hong Kong, Iceland, Ireland, Lesotho, Luxembourg, New Zealand, Norway Singapore, Slovakia, Sweden, Vanuatu - on the indicator "Performance Guarantee"; Dominican Republic, Trinidad and Tobago, Vanuatu - on the indicator "Payment of suppliers".

By the indicator "Bid opening, evaluation, and award", Ukraine, along with Kazakhstan, Albania and Cyprus, has the highest scores among the countries in the group – 86 (table 3 and 4). The highest (maximum) number of points (100) by the indicator "Needs assessment, call for tender, and bid preparation" were awarded to the public procurement system in Russia. Romania received the highest rating (94 points) for "Bid submission", Kazakhstan (91 points) for "Content and management of the procurement contract", Bulgaria (94 points) for "Performance guarantee", Bulgaria, Kosovo, Lithuania (75 points) - for "Payment of suppliers".

**Table 3.**  
**Rating of the 11 countries among 25 countries of Europe and Central Asia group according to the Benchmarking Public Procurement 2017 [13]**

Indicator	Kazakhstan	Russian Federation	Georgia	Moldova	Ukraine	Kyrgyz Republic	Tajikistan	Belarus	Azerbaijan	Armenia	Uzbekistan
Needs assessment, call for tender, and bid preparation	70	100	70	70	70	70	69	70	64	60	42
Bid submission	90	78	59	69	59	84	48	67	65	39	65
Bid opening, evaluation, and award	86	64	71	71	86	71	71	64	43	64	14
Content and management of the procurement contract	91	82	77	68	70	55	68	40	64	59	59
Performance guarantee	90	50	54	70	50	58	69	34	42	50	30
Payment of suppliers	50	33	67	37	37	33	33	50	30	33	37
<i>Average scores</i>	79,5	67,8	66,3	64,2	62,0	61,8	59,7	54,2	51,3	50,8	41,2

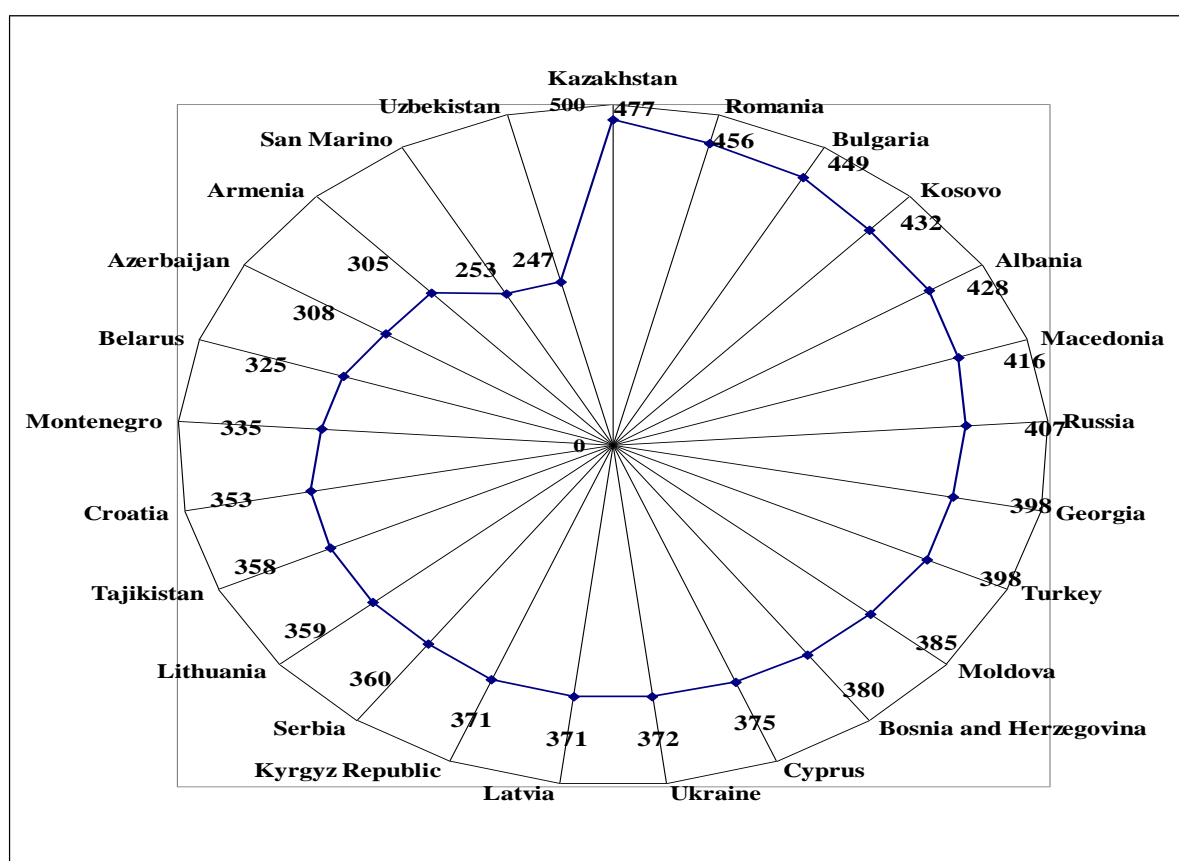
**Table 4.**  
**Rating of the 14 countries among 25 countries of Europe and Central Asia group according to the Benchmarking Public Procurement 2017 [13]**

	Romania	Bulgaria	Kosovo	Albania	Macedonia, FYR	Turkey	Bosnia and Herzegovina	Cyprus	Latvia	Serbia	Lithuania	Croatia	Montenegro	San Marino
Needs assessment, call for tender, and bid preparation	67	88	76	70	78	68	58	70	68	70	70	70	70	32
Bid submission	94	67	81	78	84	67	77	57	71	52	39	67	50	80
Bid opening, evaluation, and award	64	43	71	86	64	79	57	86	57	71	79	79	64	14
Content and management of the procurement contract	82	82	59	68	73	73	73	73	50	68	82	40	68	32
Performance guarantee	82	94	70	78	50	74	82	30	50	42	14	30	50	58
Payment of suppliers	67	75	75	48	67	37	33	59	75	57	75	67	33	37
<i>Average scores</i>	76,0	74,8	72,0	71,3	69,3	66,3	63,3	62,5	61,8	60,0	59,8	58,8	55,8	42,2

It is informative to compare the estimates obtained by the Ukraine with the countries of Europe and Central Asia (a group covering 25 countries and Ukraine included), as well as with some OECD countries that are classified as high-income countries (figure 1 and 2). Given that the Report lacks a final score and a final rating, we consider it appropriate to make a comparison by the amount of points.

According to the data presented, European countries (mainly Eastern Europe) and Central Asia received at least 250 points (only Uzbekistan has 247 points and San Marino - 253 points).

**Figure 1.**  
**Rating of the countries of Europe and Central Asia group by the total number of points of assessment of efficiency of the public procurement system according to the Benchmarking Public Procurement 2017 [13]**



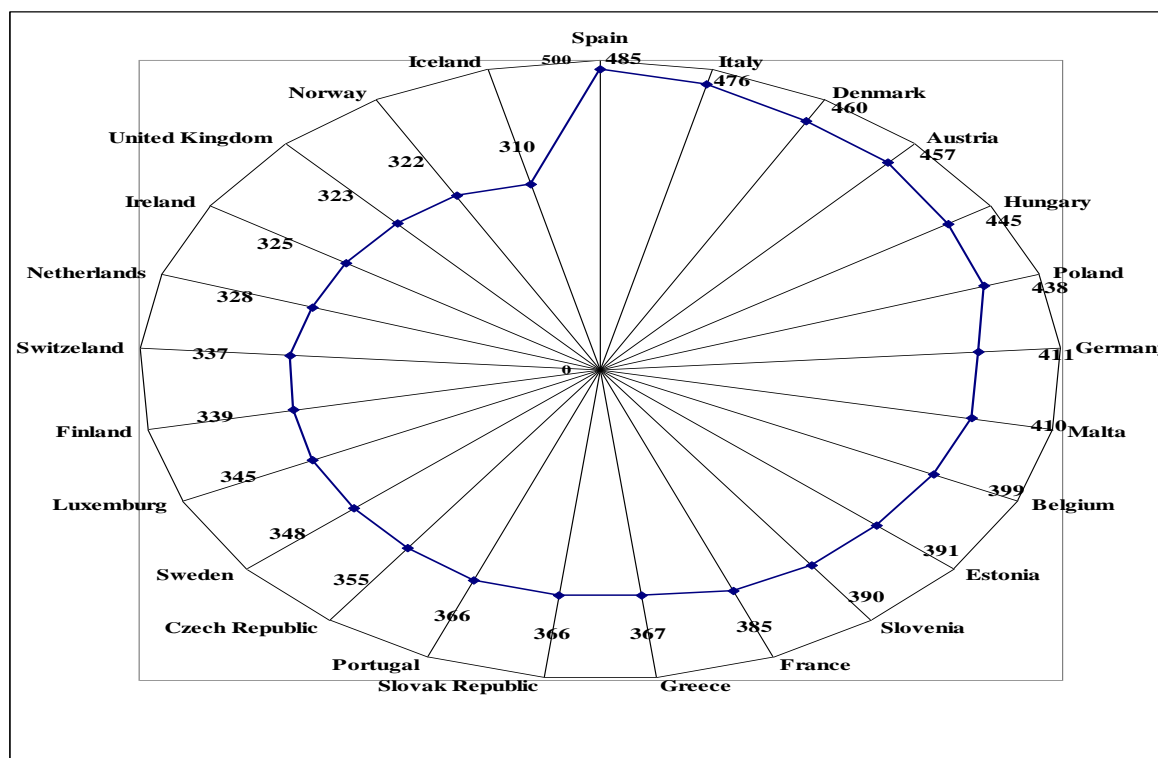
Points in the range from 301 to 400 were awarded to 16 countries (64% of all countries in the group), and 7 countries (28%) have points ranging from 401 to 500. Ukraine receiving 372 points (or an average of 62.0 points) is at 13th place, ahead of Latvia, Kyrgyzstan, Serbia, Lithuania, Tajikistan, Croatia, Montenegro, Belarus, Azerbaijan, Armenia, San Marino and Uzbekistan. The highest total score in the group was obtained by the public procurement system of Kazakhstan - 477 points (average score - 79.5)

According to the data presented, the total score of high-income OECD countries in Europe does not cross the lower limit of 300 points. Points from 301 to 400 were awarded to 17 countries, and 8 countries scored from 401 to 500.



Figure 2.

Rating of European countries included in the OECD high-income group by the total number of points of assessment of efficiency of the public procurement system according to the Benchmarking Public Procurement 2017 [13]



The highest score was received by the public procurement system in Spain - 485 points. According to the calculations, Ukraine's public procurement system outperformed high-income OECD countries such as Iceland, Norway, the United Kingdom, Ireland, the Netherlands, Switzerland, Finland, Luxembourg, Sweden, Czech Republic, Portugal, Slovakia, Greece.

Benchmarking Public Procurement also complements other initiatives that enhance the transparency of public financing in general, and assess the quality and effectiveness of procurement systems in particular. Such initiatives include the Public Expenditure and Financial Accountability (PEFA) framework and the Methodology for Assessing Procurement System (MAPS) of the Organization of Economic Co-operation and Development (OECD).

## Conclusion

The public procurement methodology involves the actions of their participants at certain stages, which cover the so-called "public procurement lifecycle", which is why a lot of control and analytical work is needed to improve the efficiency of public procurement. Given the globalization of the economy, a comparative analysis of the procedures of their implementation with the corresponding systems of other countries of the world should become an important component of the evaluation of public procurement effectiveness. The results of such comparative analysis will allow identifying risk areas, and relevant information

can be used in developing of recommendations and proposals for improving the effectiveness of the public procurement system, especially in the context of reforming the law on public procurement and the introduction of the new system "Prozorro". As a prospects for further researches the study of second-tier indicators and the methodology of evaluating the public procurement systems by the World Bank, taking into account its relatively short setbacks compared to other ratings, can be identified.

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