

INDEX OF RATIONALITY

19



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Skopje, July 2022

Publisher:

Center for Civil Communications

Translation from Macedonian to English:

Katerina Dimishkovska

Graphic design:

Tamara Ravnjanska-Nasteva

Print:

DataPons Skopje

Circulation:

250 copies

Free/non-commercial circulation

CIP - Каталогизација во публикација Национална и универзитетска библиотека "Св. Климент Охридски", Скопје
35.073.53:005.584.1(497.7)"2020/2021"

ИНДЕКС на рационалност 19. - Скопје : Центар за граѓански комуникации, 2022. - 20, 20 стр. : табели ; 20 x 20 см

Насл. стр. на припечатениот текст: Index of rationality 19 / translation from macedonian to english Katerina Dimishkovska. - Обата текста меѓусебно печатени во спротивни насоки. - Текст на мак. и англ. јазик

ISBN 978-608-4974-13-0

1. Index of rationality 19 а) Јавни набавки -- Рационално трошење -- Мониторинг -- Македонија -- 2020-2021

COBISS.MK-ID 58105861

Center for Civil Communications'
annual program is supported
by Civica Mobilitas



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Civica Mobilitas is a project of the Swiss Agency for Development and Cooperation (SDC), implemented by NIPAS Denmark, the Macedonian Center for International Cooperation (MCIC) and FCG Swedish Development AB (FCG Sweden).

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GOALS AND METHODOLOGY

1

The Center for Civil Communications is the only non-governmental organizations in the Republic of North Macedonia that conducts direct and comprehensive monitoring of public procurements in the country. In an attempt to make additional contribution to advancing state-of-affairs in this field, the Center initiated development of the so-called index of rationality for public spending. The aim of this instrument is to measure cost-effectiveness of public spending, detect bottlenecks in the system of public procurements, and ultimately influence institutions to engage in more cost-effective spending of their budgets that are sustained by taxpayers.

The index of rationality is developed by comparing prices under which different institutions have purchased same goods, services or works. In addition to price comparisons, the fact that one index covers same type of goods, services or works allows identification of different behaviour on the part of state institutions when implementing same types of public procurements.

The index is envisaged to serve state institutions as benchmark on improving cost-effectiveness of their procurements, i.e. rational public spending. Having in mind that index-included prices include average prices attained by institutions and do not represent actual or market prices, state institutions should strive to achieve economical public spending, especially when other institutions have attained more favourable market prices for the same procurements.

Differences in price paid by institutions for same type of goods and services are indicative

of the need for more detailed market research prior to tender announcement and harmonized approach on the part of contracting authorities when procuring the same types of products.

The sample for development of this index covers all contracting authorities at national and local level, i.e. from ministries and municipalities, public enterprises and agencies, to schools and kindergartens.

Development of the index of rationality relies on primary and secondary data sources, as follows:

- Electronic Public Procurement System; and
- Freedom of Information (FOI) requests related to technical characteristics of procurement subjects, prices attained and quantities purchased.

It should be noted that the index of rationality will disclose the names of contracting authorities, but not the names of companies awarded procurement contracts (although these data are also available), because the responsibility for rational public spending lies with contracting authorities. Of course, this does not mean that bidding companies are exempted from acting in compliance with the law. Hence, company names are indicated only in the context of commenting findings from this research study.

INDEX OF RATIONALITY

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The Index of Rationality no.19 is developed for the following types of products:

- **air purifiers;**
- **laptops; and**
- **industrial salt.**

Development of individual indices for these products covered a total of 21 national and local institutions that have organized public procurements for these types of goods in the course of 2020 and 2021.

For the purpose of obtaining information related to prices of analysed goods and services, FOI requests were sent to all contracting authorities whose public procurements were recorded in the Electronic Public Procurement System. The idea behind the index of rationality for these three types of products is to detect possible differences in price and to help contracting authorities learn about price variations thereof that would allow them to work on improving rationality of their public spending in the future.

2.1. Index of Rationality for Air Purifiers

Air purifiers were procured at prices ranging from 8,024 MKD to 15,143 MKD. In that, the procurement subject concerns purifiers whose main characteristics are almost identical in respect to spatial capacity, but also in respect to volume of cleaned air.

The ratio between the lowest and the highest price of air purifiers covered by this index is 1:1.89, which means that the highest price paid by the Agency for Electronic Communications is by 89% higher than the price of 8,024 MKD paid by JSC Power Plants. Significant differences in price cannot be justified with small differences in technical specifications of air purifiers or with the quantity purchased, because the highest price was attained by the contracting authority that actually purchased the highest number of such devices, i.e. the Agency for Electronic Communications (AEC).

Index of Rationality for Air Purifiers
(price per 1 air purifier)

Contracting authority	Spatial capacity	Volume of cleaned air	Price in MKD (VAT included)	Difference against the average
JSC Power Plants of North Macedonia	35-40 m2	350 m3/h	8,024	-37.4%
Energy and Water Services Regulatory Commission of RNM	35 m2	/	8,184	-34.7%
Municipality of Veles	35 m2	390 m3/h	10,540	-4.6%
Average			11,026	0%
PEI kindergarten "BAMBI", Makedonska Kamenica	30-50 m2	390 m3/h	11,210	+1.6%
Agency for Postal Services	30-35 m2	320 m3/h	11,841	+6.9%
PE Official Gazette of RNM	26-45 m2	380 m3/h	12,238	+9.9%
Agency for Electronic Communications	36 m2	300 m3/h	15,143	+27.2%

*Average is calculated from prices paid by institutions included in the index for this procurement

Initially, development of this index targeted 20 institutions that have announced procurement notices for air purifiers in the period July 2020 – December 2021. However, analysis of technical specifications resulted in establishment that, according to spatial capacity of air purifiers, only 9 institutions have organized procurements that are comparable in terms of this parameter. Further analysis established that, in addition to air purifier with spatial capacity of 35m2 and volume of cleaned air of 390 m3/h, the secondary school "Georgi Dimitrov" from Skopje also required a set of filters, while the high school "Orce Nikolov" from Skopje requested air purifiers with spatial capacity of 38 m2 and volume of cleaned air of 475 m3/h. On the ground of these differences, these tender procedures were not included in the index of rationality, but prices

attained for these air purifiers are significantly higher and raise the question whether technical specifications were developed in the spirit of rational public spending. In particular, secondary school "Georgi Dimitrov" – Skopje purchased 21 air purifiers at the price of 31,742 MKD, while high school "Orce Nikolov" purchased 8 air purifiers at the price of 36,214 MKD.

As shown in the index of rationality, three institutions bought air purifiers at prices lower than the average by up to 37%, while four institutions paid above-average prices in the range up to 27%.

Significant differences in price cannot be justified with the type of procurement procedures organized. In particular, pursuant to law-stipulated obligations, the Agency for Postal Services, kindergarten "Bambi" from Makedonska Kamenica, PE Official Gazette of RNM and the Energy and Water Services Regulatory Commission of RNM organized small-value procurements and used "lowest price" as criterion for selection of the most favourable bid, including plans for organization of electronic auction. On the account of the scope and value of their procurements, the Agency for Electronic Communication, JSC Power Plants of North Macedonia and the Municipality of Veles organized so-called simplified open procedures and used "lowest price" as criterion for selection of the most favourable bid. In that, among this group of contracting authorities, only the Municipality of Veles has also planned organization of e-auction. The number of bids presented to these tender procedures ranged from 2 to 6 each. Also, the public procurements that attained the lowest and the highest prices were marked by same number of bids (2 each) and concerned organization of the same type of procedures.

The highest price attained for air purifiers cannot be justified by the quantity purchased. Actually, the institution that purchased the highest number of air purifiers (Agency for Electronic Communications - 60 air purifiers) paid the highest unit price of 15,143 MKD. These findings are indicative of the fact that other factors had influenced differences in price attained under this index.

Purchased quantity of air purifiers

Contracting authority	Number of air purifiers	Difference of individual price against the average
JSC Power Plants of North Macedonia	25	-37.4%
Energy and Water Services Regulatory Commission of RNM	7	-34.7%
Municipality of Veles	15	-4.6%
PEI kindergarten "BAMBI", Makedonska Kamenica	9	+1.6%
Agency for Postal Services	2	+6.9%
PE Official Gazette of RNM	8	+9.9%
Agency for Electronic Communications	60	+27.2%

*Quantities are established on the basis of relevant tender documents

2.2. Index of Rationality for Laptops

Prices at which institutions procured 15.6-inch laptops, with hard disk of 256 GB, RAM memory of 8 GB, processor speed from 3.4 to 4.10 GHz and pre-installed Windows 10 Pro operating system, range from 33,600 MKD to 55,028 MKD.

The ratio between the lowest and the highest price is 1:1.64, which means that the highest price per laptop paid by the Fund for Pension and Disability Insurance of North Macedonia is by 64% higher than the price paid by PHI University Clinic for Radiotherapy and Oncology. In that, laptops of above-average prices actually have lowest-performance processors, i.e. Intel core i-3.

Index of Rationality for 15.6-Inch Portable Computers (Laptops)
 (price per 1 laptop with pre-installed Windows 10 Pro operating system)

Contracting authority	Processor	RAM memory	Hard disk memory	Processor speed	Price in MKD (VAT included)	Difference against the average
PHI University Clinic for Radiotherapy and Oncology	Intel core i-3	8 GB	256 GB	4.10 GHz	33,600	-31.9%
National Security Agency of RNM	Intel core i-7	8 GB	256 GB	3.5 GHz	36,666	-20.9%
Municipality of Bitola	Intel core i-3	8 GB	256 GB	3.4 GHz	43,050	-3.0%
Average					44,335	0%
JSC Developmental Bank	Intel core i-3	8 GB	256 GB	4.1 GHz	53,330	+16.9%
Fund for Pension and Disability Insurance	Intel core i-3	8 GB	256 GB	4.1 GHz	55,028	+19.4 %

*Average is calculated from prices paid by institutions included in the index for this procurement

Initially, development of this index covered 43 tender procedures implemented in the period December 2020–December 2021, but analysis thereof established comparability of 9 tender procedures for portable computers with following specifications: 8 GB RAM memory, 256 GB hard disk and 15.6-inch screen. However, further analysis of data resulted in the establishment that adequate comparison can be pursued for public procurements of five institutions because the remaining four institutions (primary school “Strasho Pindzur” from Karbinci, primary school “Nikola Karev” from Kochani, high school “MD Ibrahim Temo” from Struga and secondary vocational school “Dimitrija Chupovski” from Veles) did not include a requirement for pre-installed Windows 10 Pro operating system or equivalent.

As shown in the table above, the average price calculated for procurement of one laptop is 44,335 MKD. Three institutions paid prices above the average, by 3% to 31%, while two institutions attained below-average prices, by 17% and 19%.

Differences in price cannot be justified by the type of procurement procedures organized because all 5 contracting authorities, in compliance with the procurement's value, implemented simplified open procedures or open procedures, and all of them used "lowest price" as the selection criterion. Except for the Municipality of Bitola, all other institutions anticipated electronic auctions for downward bidding. The number of bids per tender procedure ranges from 3 to 8 each, which shows a satisfactory level of competition and further confuses any effort to identify reasons behind such differences in price.

Also, differences in price cannot be justified with the quantity purchased, which is best represented by the fact that the highest price was attained for procurement of 12 laptops, while the lowest price was attained for procurement of 10 laptops.

Purchased quantity of laptops

Contracting authority	Number of laptops	Difference of individual price against the average
PHI University Clinic of Radiotherapy and Oncology	10	-31.9%
National Security Agency of RNM	15	-20.9%
Municipality of Bitola	31	- 3.0%
JSC Developmental Bank of North Macedonia	7	+16.9%
Fund for Pension and Disability Insurance of RNM	12	+19.4%

*Quantities are established on the basis of relevant tender documents

2.3. Index of Rationality for Industrial Salt

Industrial salt for road maintenance in winter was purchased at prices from 3,052 MKD to 7,132 MKD per ton. It is a matter of industrial salt with NaCL purity of minimum 96% and moisture content of 2% to 3.6%.

The ratio between the lowest and the highest price for procurement of industrial salt is 1:2.33. This means that industrial salt purchased by PE for Maintenance and Protection of Highway and Regional Roads – Skopje is by 133% higher than the price paid by the Municipality of Bitola. Such enormous differences in price cannot be explained with the type of procurement procedures organized, especially having in mind that PE for Maintenance and Protection of Highway and Regional Roads – Skopje purchased the highest quantity of salt, i.e. 59,555 tons. A possible reason behind the high price paid for industrial salt by this public enterprise could be the absence of competition in the tender procedure, which was presented with only one bid.

Index of Rationality for industrial salt
(price per 1 ton of salt)

Contracting authority	Purity – min. content of NaCl	Moisture content – max.	Price in MKD (VAT included)	Difference against the average
Municipality of Bitola	96%	3%	3,052	-59.4%
PE Stipion 2011 – Shtip	96.6%	3%	3,540	-37.4%
Municipality of Gevgelija	96%	3%	3,600	-35.1 %
Municipality of Gostivar	96%	3%	4,314	-12.7%
Average			4,864	0%
PE Ohridski Komunalec – Ohrid	96%	2.5%	5,103	+4.7%
City of Skopje	96.6%	3.6%	5,280	+7.9%
PUE Ilinden, set. Ilinden	96.6%	3.5%	5,564	+12.6%
PE Komunalec – Kriva Palanka	96%	2%	6,195	+21.5%
PE for Maintenance and Protection of Highway and Regional Roads – Skopje	96%	3%	7,132	+31.8%

*Average is calculated from prices paid by institutions included in the index for this procurement

This index of rationality was developed on the basis of analysis of tender procedures for this type of procurement implemented in 2020 and 2021. From the initially targeted 24 tender procedures, the index includes only 9 contracting authorities due to comparability of their procurements for industrial salt, i.e. bulk purchase, with NaCl clarity of minimum 96% and moisture content of 2% to 3.6%.

As shown in the table above, the average price calculated for industrial salt used for road maintenance in winter is 4,864 MKD. In that, four institutions purchased such salt at prices lower than the average, while five institutions attained above-average prices. Such differences in price cannot be justified with the type of procurement procedures organized. Notably, in accordance with estimated value of their tender procedures, all institutions organized small-value procurements, simplified open procedures or open procedures. At the same time, all institutions used "lowest price" as criterion for selection of the most favourable bid, followed by planned electronic auction. However, the tender procedure for procurement of industrial salt that resulted in the highest price was presented with only one bid, just as the tender procedure implemented by PUE Ilinden. All other tender procedure were marked by competition in the range of 2 to 4 bids each.

It is unclear what has led to the tender procedure for procurement of industrial salt in the quantity of 59,555 tons for a period of two years (2020 – 2022) implemented by PE for Maintenance and Protection of Highway and Regional Roads – Skopje to be presented with only one bid. Actually, it is a matter of financially big contract, which reached the amount of 424,731,495 MKD, i.e. 6.9 million EUR. Major differences in price under this index are best represented by the fact that if industrial salt was purchased at the lowest price, it would have cost a total of 181,761,860 MKD, i.e. 2.9 million EUR, accounting for financial savings in the amount of 4 million EUR. However, based on information provided in the notification on contract performance submitted to the Electronic Public Procurement System, the public enterprise has realized only 38.60% of the contract, i.e. it did not commission the planned quantity of salt.

Planned quantity for procurement of industrial salt

Contracting authority	Quantity (in tons)	Difference of individual price against the average
Municipality of Bitola	448	-59.4%
PE Stipion 2011 – Shtip	200	-37.4%
Municipality of Gevgelija	50	-35.1%
Municipality of Gostivar	1	-12.7%
PE Ohridski Komunalec – Ohrid	82.4	+4.7%
City of Skopje	4,000	+7.9%
PUE Ilinden, settlement Ilinden	106	+1.6%
PE Komunalec – Kriva Palanka	56	+21.5%
PE for Maintenance and Protection of Highway and Regional Roads – Skopje	59,555	+31.8%

*Quantities are established on the basis of relevant tender documents.

Given the quantity procured, it could be concluded that the Public Enterprise for Maintenance and Protection of Highway and Regional Roads – Skopje planned to purchase industrial salt in quantity that is 12 times higher than the cumulative quantity of all other institutions together, but attained a price higher than the average by high 31.8%. Evident is that other factors had deferring impact on competition in this tender procedure for industrial salt.

GENERAL CONCLUSION

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This issue of the Index of Rationality was developed for **air purifiers** (average spatial capacity of 30 m² and volume of cleaned air from 300 to 390 m³/h), **laptops** (15.6-inch screen, hard disk of 256 GB, RAM memory of 8 GB, processor speed of 3.4 to 4.10 GHz and pre-installed Windows 10 Pro operating system) and **industrial salt** for road maintenance in winter (NaCl purity of minimum 96% and moisture content of 2% to 3.6%).

The biggest difference in prices is observed in respect to procurement of industrial salt and the smallest difference is observed in the case of laptops.

In summary, this index of rationality provides the following conclusions:

- **air purifiers** were procured at prices in the range from 8,024 MKD to 15,143 MKD, whereby the highest price is by 89% higher than the lowest;
- **laptops were purchased at prices** in the range from 33,600 MKD to 55,028 MKD, whereby the highest price is by 64% higher than the lowest; and
- **industrial salt** was procured at prices in the range from 3,052 MKD to 7,132 MKD per 1 ton, whereby the highest price is higher than the lowest by high 133 %.

Reasons behind differences in price for all procurement subjects are not related to the type of procurement procedures organized. Namely, depending on the estimated value of their tender procedures, institutions organized adequate procurement procedures, i.e. small-value procurements, simplified open procedures and open procedures. All tender procedures used "lowest price" as selection criteria and dominant share of the

anticipated organization of electronic auction for downward bidding.

In most cases, differences in price are not a result of quantities purchased. However, what affected prices is competition in tender procedures which was evidently missing in public procurements that have attained higher prices. At the same time, absence of clear reasons for established differences in price raises concern about subjective influences on the market of public procurements.