

INDEX OF RATIONALITY  
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The background features a complex pattern of thin, overlapping wavy lines in shades of gray, creating a sense of depth and movement. A solid red horizontal bar runs across the top and bottom of the page. The text is centered and uses a clean, sans-serif font.

# INDEX OF RATIONALITY

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Skopje, September 2024

**Publisher:**

Center for Civil Communications

**Translation from Macedonian to English:**

Katerina Dimishkovska

**Graphic design:**

Enis Karahasan-Boskovski

**Print:**

DataPons Skopje

**Circulation:**

200 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)"2023/2024"

ИНДЕКС на рационалност 21. - Скопје : Центар за граѓански комуникации, 2024. - 30, 30 стр. : табели ; 20 x 20 см

Насл. стр. на припечатениот текст: Index of rationality 21 / translation from macedonian to english Katerina Dimishkovska. - Обата текста меѓусебно печатени во спротивни насоки. - Текст на мак. и англ. јазик

ISBN 978-608-4974-39-0

1. Index of rationality 21

а) Јавни набавки -- Рационално трошење -- Мониторинг -- Македонија -- 2023-2024

COBISS.MK-ID 64445701



The Index of Rationality was developed as part of the project "Monitoring of Public Procurements", implemented by the Center for Civil Communications and financially supported by the Foundation Open Society – Macedonia. The content of this publication is the sole responsibility of its publisher and authors and does not reflect the views of the Foundation Open Society – Macedonia.

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# GOALS AND METHODOLOGY

# 1

The Center for Civil Communications is the only non-governmental organization in the Republic of North Macedonia that conducts direct and comprehensive monitoring of public procurement in the country. In an attempt to make an 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 procurement, and, ultimately, influence the institutions to engage in more rational spending of their budgets sustained by taxpayers' money.

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

The index is envisioned to serve the state institutions as benchmark for improving cost-effectiveness of public procurements, i.e. rational public spending. Having in mind that index-referenced prices include calculation of average prices attained by individual institutions which do not represent actual or market values, the state institutions should strive to achieve economical public spending when other contracting authorities have attained more favourable prices on the market for the same type of public procurements.

Differences in price paid by institutions for same type of goods, services or works are indicative of the need for more detailed market research prior to announcement of procurement notices and harmonized approach on the part of contracting authorities when procuring same type of products. The sample used for development of these indices covers all contracting authorities at national and local level of government, from ministries and municipalities, through public enterprises and agencies, to schools and kindergartens. Development of the index of rationality relies on secondary data sources, as follows:

- Electronic Public Procurement System, and
- Freedom of Information (FOI) requests inquiring about technical specifications of procurement subjects, prices attained and quantity purchased.

It should be noted that the index discloses the names of contracting authorities, but not the names of companies that were awarded procurement contracts (although these data are also available), because the responsibility for rational spending of public funds lies with contracting authorities. Most certainly, this does not mean that bidders are exempted from acting in lawful manner when participating in public procurements. Hence, company names are referenced only in the context of commenting particular research findings.

# INDEX OF RATIONALITY

# 2

The 21<sup>st</sup> edition of the index of rationality is developed for five types of products/ services, those being:

- **Microsoft 365 Business Standard licenses;**
- **renting photocopiers;**
- **procurement of surgical sutures;**
- **services for collection, transport and disposal of medical waste, and**
- **procurement of sodium hypochlorite in gaseous aggregate state.**

Development of this index covered a total of 46 institutions at central and local level, all of which had organized these types of public procurements in the period from January 2023 to April 2024.

Prices and technical specifications of analysed goods/services necessary for development of individual indices were secured from the Electronic Public Procurement System.

The overall goal behind development of indices of rationality for these five types of procurements is to detect possible differences in price attained and help contracting authorities learn about price variations of said goods or services that would allow them, in the future, to improve cost-effectiveness of public spending.

## 2.1. Index of Rationality for Procurement of Microsoft 365 Business Standard Licenses

Prices paid by the institutions for procurement of Microsoft 365 Business Standard licenses for one-year period range from 6,185 MKD to 23,100 MKD per license. The ratio between the lowest and the highest price under which contracts for this procurement were signed is 1:3.73, which means that the highest price paid by the Agency for Supervision of Fully Funded Pension Insurance is by 273% higher than the price paid by the State Commission on Public Procurement Appeals.

The most expensive licences were procured under tender procedure presented with only one bid, while the cheapest licenses were procured under tender procedure marked by competition among 12 bidders.

Development of the index of rationality for procurement of Microsoft 365 Business Standard licenses for one-year period took into consideration all contracts signed in the period 01.02.2023 to 30.04.2023 that allowed comparability of licenses procured. According to tender documents, the institutions required procurement holders to be authorized distributors of the manufacturer, licenses to allow upgrades of all new versions during contract validity, all voice and video communication tools to be integrated, and collaboration with other remote users to be enabled.

## Index of Rationality- Microsoft 365 Business Standard Licenses (price per 1 license for one-year period)

Contracting authority	Unit price in MKD (VAT included)	Difference of individual price against the average
State Commision on Public Procurement Appeals	6,185	-53.1%
Commission for Prevention and Protection Against Discrimination	6,403	-47.9%
JSC MEPSO	7,396	-28.0%
Agency for Spatial Planning	7,560	-25.3%
Regulatory Commission for Energy, Water Services and Communal Waste Management Services of RNM	7,762	-22.0%
Agency for Implementation of Languages of RNM	7,886	-20.1%
<b>AVERAGE</b>	<b>9,470</b>	<b>/</b>
Agency for Supervision of Fully Funded Pension Insurance	23,100	+59.0%

As shown in the table, the average price for procurement of Microsoft 365 Business Standard license for one-year period is calculated in the amount of 9,247 MKD. In that, seven tender procedures resulted in attainment of prices lower than the average, and one tender procedure resulted in attainment of above-average price.

It could be noted that the Agency for Supervision of Fully Funded Pension Insurance, which paid the highest price per license, had organized a simplified open procedure, while all other contracting authorities, except for JSC MEPSO, have organized low-value procurement procedures. Moreover, the public procurement procedure organized by the Agency for Supervision of Fully Funded Pension Insurance was marked by participation of one bidder, while other tender procedures implied competition between 4 to 12 bidders.



For the previous year (2023), the Agency for Supervision of Fully Funded Pension Insurance paid 8,856 MKD for the same type of licenses, which is almost three times cheaper than the price paid in 2024. The reason behind this discrepancy is the fact that the previous tender procedure was marked by participation of 5 bidders, but the question raised is how the three-times higher price offered and paid one year later (in 2024) was considered to be within the procurement's estimated value having in mind the price attained just one year earlier for procurement of same licenses.

### Number of licenses procured

Contracting authority	Number of licenses procured	Difference of individual price against the average
State Commission on Public Procurement Appeals	23	-53.1%
Commission for Prevention and Protection Against Discrimination	28	-47.9%
JSC MEPSO	200	-28.0%
Agency for Spatial Planning	30	-25.3%
Regulatory Commission for Energy, Water Services and Communal Waste Management Services of RNM	15	-22.0 %
Agency for Implementation of Languages of RNM	50	-20.1%
Agency for Supervision of Fully Funded Pension Insurance	36	+59.0%

Analysis of the quantity procured reveals there are no justifiable reasons for the above-average price paid by the Agency for Supervision of Fully Funded Pension Insurance because the number of licenses purchased is higher than the number of licenses procured by the two institutions that have attained the lowest prices.

## 2.2. Index of Rationality for Renting Photocopiers

The institutions rented photocopiers at prices ranging from 0.83 MKD to 1.42 MKD per A4 black-and-white page printed. The ratio between the lowest and the highest price paid for this service is 1:1.71, which means that the lowest price paid by the Municipality of Centar is by 71% higher than the price attained by the Faculty of Natural Sciences and Mathematics at the “Ss Cyril and Methodius” University in Skopje.

Significant differences in price cannot be justified by the service description included in tender documents, the type of public procurement procedure organized or the number of photocopiers rented.

### Index of Rationality – Renting Photocopiers (price per 1 black-and-white page printed)

Contracting authority	Unit price in MKD (VAT included)	Difference of individual price against the average
Faculty of Natural Sciences and Mathematics, “Ss Cyril and Methodius” University	0.83	-28.9%
Ministry of Defence	0.99	-8.1%
State Commission on Second-Instance Decision-Making in Administrative and Labour Relations Procedures	1.00	-7.0%
Agency of Real Estate Cadastre	1.00	-7.0%
Power Plants of RNM	1.06	-0.9%
Municipality of Aerodrom	1.06	-0.9%
<b>AVERAGE</b>	<b>1.07</b>	/
Agency for Food and Veterinary Medicine	1.18	+9.3%
Municipality of Centar	1.42	+24.6%

Development of the index of rationality for renting photocopiers took into consideration all contracts signed in the period from 01.01.2024 to 30.04.2024 that allowed comparison of services procured. As shown in the table above, the average price per A4 black-and-white page printed amounts to 1.21 MKD per page. Hence, six institutions paid below-average prices and two institutions paid above-average prices for this service.

Differences in price cannot be justified by the type of public procurement procedure organized. Namely, all institutions included in this index have organized public procurement procedures in compliance with the Law on Public Procurement, i.e. low-value procurements whose amount does not exceed 10,000 EUR and so-called simplified open procedures for procurements whose value exceeds 10,000 EUR. The service description is identical in all public procurement procedures. In that, among eight tender procedures analysed, one procedure was presented with only one bid (organized by the State Commission on Second-Instance Decision-Making in Administrative and Labour Relations Procedures), while another procedure was presented with three bids (organized by Power Plants of RNM). All other tender procedures were marked by competition among two bidders.

As regards the impact of the quantity of rented photocopiers on prices attained, it cannot be inferred that this parameter was of decisive importance because another institution also rented 3 photocopiers, just as the Municipality of Centar, but has attained a significantly lower price.



## Number of photocopiers rented

Contracting authority	Number of photocopiers rented	Difference of individual price against the average
Faculty of Natural Sciences and Mathematics, "Ss Cyril and Methodius" University	13	-28.9%
Ministry of Defence	194	-8.1%
State Commission on Second-Instance Decision-Making in Administrative and Labour Relations Procedures	3	-7.0%
Agency of Real Estate Cadastre	108	-7.0%
Power Plants of RNM	12	-0.9%
Municipality of Aerodrom	15	-0.9%
Agency for Food Veterinary Medicine	22	+9.3%
Municipality of Centar	3	+24.6%

## 2.3. Index of Rationality for Procurement of Surgical Sutures

As regards procurement of surgical sutures, the institutions paid prices in the range from 159 MKD to 333 MKD. The ratio between the lowest and the highest price under which such contracts were signed is 1:2.09, which means that the highest price for this procurement paid by PHI University Clinic of Neurosurgery is by 109 % higher than the price paid by PHI Clinical Hospital – Bitola.

This index of rationality includes all contracts awarded in the period from 01.01.2023 to 30.04.2024 that allowed comparability of the procurement subject, i.e. resorptive polyfilament sutures polyglycolic acid with thickness of 2/0, needle length of 26 to 33 mm, suture length of 70 to 90 cm, and needle angle of 1/2. It should be noted that differences in length of surgical sutures is not relevant for differences in price attained because the length of surgical sutures procured by PHI Clinical Hospital – Bitola was 75 cm, but the length of surgical sutures procured by the two institutions that paid the highest price was 70 cm.

## Index of Rationality - Surgical Sutures (price per surgical suture)

Contracting authority	Unit price in MKD (VAT included)	Difference of individual price against the average
PHI Clinical Hospital – Bitola	159	-40.3%
PHI General Hospital with Expanded Activity – Kavadarci	171	-30.4%
PHI University Clinic of Urology	195	-14.4%
PHI University Clinic of Digestive Surgery	207	-7.7%
PHI Clinic of Thoracal and Vascular Surgery	216	-3.2%
<b>AVERAGE</b>	<b>223</b>	
PHI Clinical Hospital – Tetovo	277	+19.5%
PHI University Clinic of Neurosurgery	333	+33.0%

As shown in the table, the average price for procurement of surgical sutures according to given specifications is calculated at 223 MKD. In that, five institutions paid prices below the average, while two institutions paid above-average prices.

Moreover, among the seven public procurement procedures, three were presented with only one bid each, one procedure was presented with two bids, two procedures received three bids each, and one procedure was marked by competition among five bids.

### Quantity of surgical sutures procured

Contracting authority	Quantity	Difference of individual price against the average
PHI Clinical Hospital – Bitola	360	-40.3%
pHI General Hospital with Extended Activity – Kavadarci	300	-30.4%
PHI University Clinic of Urology	108	-14.4%
PHI University Clinic of Digestive Surgery	504	-7.7%
PHI Clinic of Thoracal and Vascular Surgery	36	-3.2%
PHI Clinical Hospital – Tetovo	180	+19.5%
PHI University Clinic of Neurosurgery	288	+33.0%

As shown in the table, PHI University Clinic of Neurosurgery, which paid the highest price, did not procure a significantly lower quantity compared to PHI Clinical Hospital – Bitola, which attained the lowest unit price for procurement of surgical sutures.

## 2.4. Index of Rationality for Collection, Transport and Disposal of Medical Waste

Prices paid by the institutions for collection, transport and disposal of medical waste range from 58.8 MKD to 199.5 MKD per kilogram. The ratio between the lowest and the highest price under which contracts for these services were awarded is 1:3.39, which means that the highest price paid by PHI Healthcare Centre – Ohrid is by 239% higher than the price paid by the Faculty of Medicine at the “Ss Cyril and Methodius” University. These two institutions procured the service from different companies, and it could be noted that all 14 tender procedures included in this index were presented with only one bid each.

## Index of Rationality – Collection, Transport and Disposal of Medical Waste (price per 1 kilogram of waste)

Contracting authority	Unit price in MKD (VAT included)	Difference of individual price against the average
Faculty of Medicine, "Ss Cyril and Methodius" University in Skopje	58.8	-123.3%
Public Institution in the Field of Health for Needs of PHI University Clinics, Bureau and Emergency Centre – Skopje	58.8	-123.3%
PHI General Hospital with Extended Activity - Prilep	104.0	-26.3%
PHI Clinical Hospital – Tetovo	110.3	-19.0%
PHI Healthcare Centre "Academic Prof. MD Dimitar Arsov" – Kriva Palanka	120.8	-8.7%
PHI Specialized Hospital for Lung Diseases and TBC – Leshok	126.0	-4.2%
PHI General Hospital – Strumica	126.0	-4.2%
<b>AVERAGE</b>	<b>131.3</b>	
PHI General Hospital "MD Ferid Murad" – Gostivar	135.5	+3.1%
PHI Specialized Hospital for Orthopaedics and Traumatology "St. Erasmus" – Ohrid	157.5	+16.6%
PHI Healthcare Centre – Valandovo	189.0	+30.5%
PHI Healthcare Centre – Vevchani	189.0	+30.5%
PHI Healthcare Centre – Ohrid	199.5	+34.2%

Development of the index of rationality for collection, transport and disposal of medical waste included all tender procedures for this type of services organized in the period from 01.01.2023 to 31.12.2023 that allowed comparability of the procurement subject. As shown in the table, the average price calculated for collection, transport and disposal of medical waste amounts to 131.3 MKD per kilogram. In that, seven institutions have paid such services at prices lower than the average, while five institutions have paid above-average prices.

Differences in price cannot be justified with the type of public procurement procedure organized. Actually, all institutions covered by this index organized transparent procedures in compliance with the Law on Public Procurement, i.e. low-volume procurements, simplified open procedures or open procedures. The description of services being procured was identical across all tender procedures.

### Quantity of services for collection, transport and disposal of medical waste

Contracting authority	Quantity (in kilograms)	Difference of individual price against the average
Faculty of Medicine, "Ss Cyril and Methodius" University in Skopje	40,000	-123.3%
Public Institution in the Filed of Health for the Needs of PHI Univeral Clinics, Bureau and Emergency Centre – Skope	330,000	-123.3%
PHI General Hospital with Extended Activity – Prilep	30,000	-26.3%
PHI Clinical Hospital – Tetovo	data was not disclosed	-19%
PHI Healthcare Centre "Academic Prof. MD Dimitar Arsov" – Kriva Palanka	3,000	-8.7%
PHI Specialized Hospital for Lung Diseases and TBC – Leshok	1,500	-4.2%
PHI General Hospital – Strumica	11,000	-4.2%
PHI General Hospital "MD Ferid Murad" – Gostivar	no quantity determined	+3.1%
PHI Specialized Hospital for Orthopaedics and Traumatology "St. Erasmus" – Ohrid	no quantity determined	+16.6%
PHI Healthcare Centre – Valandovo	1,000	+30.5%
PHI Healthcare Centre – Vevchani	800	+30.5%
PHI Healthcare Centre – Ohrid	No quantity determined	+34.2%



Three institutions have not defined precise quantity of medical waste, including PHI Healthcare Centre – Ohrid which paid the highest price per kilogram. However, it could be noted that this institution's contract value amounted to 105,000 MKD and is the lowest among all institutions.



## 2.5. Index of Rationality for Procurement of Sodium Hypochlorite in Gaseous Aggregate State

Prices paid for procurement of sodium hypochlorite in gaseous aggregate state range from 27 MKD to 71 MKD per kilogram. The ratio between the lowest and the highest price for this procurement is 1:2.63, which means that the highest price paid by PE Communal Service – Valandovo is by 163% higher than the price paid by PE Solidarity – Vinica. Significant differences in price attained for this product cannot be justified by the type of public procurement procedures organized or the value of contracts signed.

### Index of Rationality – Sodium Hypochlorite in Gaseous Aggregate State (price per 1 kilogram)

Contracting authority	Unit price in NKD (VAT included)	Difference of individual price against the average
PE Solidarity – Vinica	27	-92.6%
PUE Derven – Veles	28	-85.7%
<b>AVERAGE</b>	<b>52</b>	
PE Komuna - Krushevo	53	+1.9%
Public Utility Enterprise DEBRCA	54	+3.8%
PE Komunalec – Kavadarci	58	+11.5%
PUE Komunalec - Pehchevo	60	+13.3%
Public Enterprise EREMJA	65	+20.0%
PE Communal Service - Valandovo	71	+26.8%

The process for developing this index of rationality took into consideration all contracts signed in the period from 01.01.2023 to 31.12.2023 that allowed comparability of the procurement subject and focused only on procurement of sodium hypochlorite in gaseous, but not in liquid aggregate state.

As shown in the table, the average price per kilogram of sodium hypochlorite is calculated at 52 MKD. In that, two institutions paid prices lower than the average, while six institutions paid above-average prices.

Differences in price cannot be explained with the type of public procurement procedures organized. Namely, all institutions covered by this index have implemented procurement procedures in compliance with the Law on Public Procurement, i.e. low-value procurements whose amount does not exceed 10,000 EUR and the so-called simplified open procedure for procurements whose value exceeds 10,000 EUR. Description of the procurement subject is identical in all tender procedures – sodium hypochlorite with concentration of active chlorine higher or equal to 12%.

In that, eight public procurement procedures were presented with two bids each, two procedures received three bids and one procedure received four bids. Major differences in price cannot be justified by the value of contracts signed.

### Quantity of sodium hypochlorite purchased, in kilograms

Contracting authority	Quantity purchased (in kilograms)	Difference of individual price against the average
PE Solidarity – Vinica	10,000	-92.6%
PUE Derven – Veles	3,000	-85.7%
PE Komuna - Krushevo	2,000	+1.9%
Public Utility Enterprise DEBRCA	4,000	+3.8%
PE Komunalac – Kavadarci	1,200	+11.5%
PUE Komunalac - Pehchevo	5,500	+13.3%
Public Enterprise EREMJA	2,500	+20.0%
PE Communal Service – Valandovo	5,000	+26.8%

The highest price cannot be justified with the quantity purchased because PE Communal Service- Valandovo has procured bigger quantity of sodium hypochlorite than five other institutions covered in the index, but still paid the highest price.

# GENERAL CONCLUSION

# 3

This edition of the index of rationality was developed for procurement of Microsoft 365 Business Standard licenses, renting photocopiers, procurement of surgical sutures, services for collection, transport and disposal of medical waste, and procurement of sodium hypochlorite in gaseous aggregate state.

The biggest difference in prices was noted in relation to procurement of Microsoft 365 Business Standard licenses, and the smallest difference was noted in respect to procurement of surgical sutures.

Below is the summary of findings inferred from development of this index of rationality:

- Microsoft 365 Business Standard licenses for one-year period were procured at prices in the range from 6,185 MKD to 23,100 MKD, whereby the highest price is by 273% higher than the lowest price attained;
- services for renting photocopiers were paid at prices ranging from 0.83 MKD to 1.42 MKD per page, whereby the highest price is by 71% higher than the lowest price;
- surgical sutures were purchased at prices from 159 MKD to 333 MKD, whereby the highest price is by 109% higher than the lowest price;
- services for collection, transport and disposal of medical waste were procured at prices in the range from 58.8 MKD to 199.5 MKD per kilogram, whereby the highest price is by 239% higher than the lowest price;
- sodium hypochlorite was purchased at prices ranging from 27 MKD to 71 MKD, whereby the highest price is by 163% higher than the lowest price attained.

Reasons behind differences in price for all procurement subjects could not be explained by the type of public procurement procedures organized. In most cases, differences in price were not a result of the quantity purchased either. Hence, competition in tender procedures is a decisive factor behind such differences and it is evident that higher prices were attained in cases when there was no competition at all. At the same time, absence of clear reasons behind established differences in price raises concerns about subjective influences on the market of public procurement.

Furthermore, contracting authorities should view the index of rationality as useful instrument that could help them improve their performance as it undoubtedly indicates that the market of public procurement in the country still does not guarantee fully cost-effective and efficient spending of public funds and there is still a multitude of challenges that need to be addressed in that regard.

