

# INDEX OF RATIONALITY

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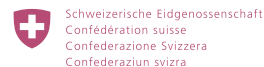
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# 1

# Goals and methodology

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Center for Civil Communications from Skopje is the only non-governmental organization in the Republic of 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 so-called index of rationality in public spending. It aims to introduce a new instrument that will be used to assess effectiveness of public spending, to identify bottlenecks in the system and, ultimately, to contribute to institutions' effective spending of budgets 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 enabling comparison of prices, analysis of same types of products, services or works allows identification of different patterns of behaviour on the part of state institutions when implementing same type of public procurements.

The index is envisaged to serve state institutions as an indicator against which they will improve rationality in public procurements, i.e. public spending. Given that the index-included prices are the average value of those paid by institutions and do not imply actual or market prices, state institutions should, whenever possible, pursue attainment of lowest prices and spend public funds in more rational manner, moreover knowing that other institutions have attained more favourable prices on the market of public procurements.

Differences in price paid by institutions for same type of products and services indicate the need for thorough market research prior to tender announcement and harmonized approach on the part of contracting authorities when procuring same type of products.

The sample used to develop this index includes all contracting authorities on national and local level, from line ministries and municipalities, public enterprises and agencies, to schools and kindergartens.

Development of the index of rationality relies on primary and secondary data sources.

Primary data collection is pursued by means of:

- attendance at public opening of bids submitted by economic operators in specific public procurement procedures, in order to obtain data on prices bided; and
- direct contacts with contracting authorities, in order to obtain data on the selection of the most favourable bid.

These activities enabled direct sources of data on prices under which given products, services or works have been procured.

Secondary data sources include:

- the Electronic Public Procurement System; and
- Freedom of Information (FOI) applications.

It should be noted that the index of rationality will disclose contracting authorities monitored, but not companies with which contracts have been signed (although data thereof is available), due to the fact that responsibility for rational public spending lies with contracting authorities.

Methodology applied to develop the index of rationality issues 1 to 11 implied calculating differences in price paid by individual institutions compared against the average price. Starting with the index of rationality no. 12, differences in price attained by individual institutions are expressed as percentage of deviation against the average price attained. It has been assessed that the new method of computing provides clearer and more precise representation of differences in price for goods and services included in the respective index.

# 2

## Index of rationality

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The Index of Rationality no. 17 is developed for the following five types of products and services:

- **summer work clothing;**
- **winter work clothing;**
- **work shoes - clogs;**
- **hygiene maintenance of indoor work premises; and**
- **infusion kits.**

Development of the present index of rationality includes national and local institutions that have organized public procurements for these types of goods and services in the course of 2016 and 2017.

Development of this index included data for all 48 institutions on national and local level that have organized total of 53 tender procedures for procurement of indicated goods and services.

## 2.1 Index of Rationality for Summer Work Clothing

Summer work clothing, as part of personal protective gear (occupational safety and health equipment), were purchased by utility enterprises at prices ranging from 424 MKD to 2,773 MKD. Work clothing sets include overalls and jacket, made of polyester and cotton in ratio of 65-67%:33-35%. Among utility enterprises included in this index, only PEU “Komunalec” in Strumica requested work clothing to be predominantly made of polyester.

The ratio between the lowest and the highest price for procurement of summer work clothing is as high as 1:6.54, which means that the highest price paid by Public Enterprise for Utilities “Mavrovo” in Mavrovi Anovi is by five times (554%) higher than the price paid by PEU “Komunalec” in Strumica for procurement of summer work clothing. Significant differences in price cannot be justified with established differences in terms of technical specifications for work clothing, nor with the type of procurement procedures organized. High differences in price, observed under this index, cannot be explained with quantities purchased.

Contracting authority	Price in MKD (VAT included)	Difference against the average
PEU “Komunalec” - Strumica	424	-249.06%
UPE “Low Construction” - Bitola	803	-84.31%
PE “Komunalec” - Negotino	1,062	-39.31%
PE “Komunalec” - Bitola	1,158	-27.81%
PUE “Sopiste” - Sopiste	1,369	-8.11%
Average*	1,480	
PE “Komunalec” - Pehcevo	1,487	+0.47%
PUE “Nikola Karev” - Probistip	1,760	+15.91%
PE “Komunalec” - Gostivar	1,912	+22.59%
PE “Plavaja”- Radovis	2,051	+27.84%
PEU “Mavrovo” - Mavrovi Anovi	2,773	+46.63%

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

**Index of Rationality  
for summer work  
clothing**  
(price per 1 set of  
work clothing–  
overalls and jacket)

Development of this index targeted 15 utility enterprises that have announced procurement notices for occupational safety and health equipment, including work clothing, in the period January 2016 – May 2017. In that, Public Enterprise “Komunalec” in Kavadarci did not disclose the requested data in spite of the decision taken by the Commission for Protection of the Right to Free Access to Public Information. Data requested for development of this index were not disclosed by PE “Komunalec” in Prilep, with the rationale that although it has signed procurement contract for summer work clothing, by the time when the information request was submitted, work clothing in question has not been ordered yet.

Another two utility enterprises organized procurements of “combined working clothing”, i.e. work clothing sets which will be used in both, summer and winter season. It is a matter of Public Enterprise for Utilities “Bregalnica” in Delcevo and Public Enterprise “Komunalno” in Struga. **The price paid by the utility enterprise in Delcevo amounts to 2,254 MKD per clothing set and the contract anticipated procurement of 150 sets. PE “Komunalno” in Struga has signed procurement contract for 40 clothing sets at record high price in the amount of 5,062 MKD.**

Having in mind all above presented data, the index of rationality for summer work clothing is developed for 10 public enterprises.

As shown in the table, there are extremely high differences among public enterprises in procurement of this type of products. In that, five contracting authorities have paid prices that are lower than the average price in the amount of 1,480 MKD, while five contracting authorities have signed procurement contracts at above-average prices. The lowest price is by 249.06% lower than the average price attained, while the highest price is by 46.63% higher than the average.

Major differences in price cannot be justified with the type of procurement procedure organized. Procurement notices were announced for all tender procedures, meaning that contracting authorities organized transparent procedures. In that, all tender procedures used “lowest price” as the selection criterion for the most favourable bid.

The single significant difference between the two institutions that paid the lowest and the highest price for work clothing concerns (non)organization of electronic auction (e-auction) for reduction of prices. In that, the tender procedure organized by PEU “Komunalec” in Strumica, divided into two lots (work clothing and work shoes), was characterized by participation of 3 companies under the procurement lot for work clothing and was completed with e-auction. On the other hand, the tender procedure organized by PEU “Mavrovo” was presented with one bid and submission of the final price was completed without new, reduced price.

Contracting authority	Number of clothing sets	Difference of unit price against the average
PEU “Komunalec” – Strumica	230	-249.06%
UPE “Low Construction” – Bitola	100	-84.31%
PE “Komunalec” – Negotino	85	-39.31%
PE “Komunalec” – Bitola	250	-27.81%
PUE “Sopiste” – Sopiste	12	-8.11%
PE “Komunalec” – Pehcevo	20	+0.47%
PUE “Nikola Karev” – Probistip	65	+15.91%
PE “Komunalec” – Gostivar	100	+22.59%
PE “Plavaja” – Radovis	110	+27.84%
PEU “Mavrovo” – Mavrovi Anovi	70	+46.63%

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

Purchased quantities of summer work clothing

As shown in the table above, the lowest price for procurement of clothing sets was attained by the utility enterprise (PEU “Komunalec” from Strumica) that has purchased the highest quantity. However, direct relation of prices attained and quantities purchased is refuted by other contracting authorities. In particular, the lowest quantity was purchased by the utility enterprise in Sopiste, which attained prices ranked as below-average.

## 2.2 Index of Rationality for Winter Work Clothing

Prices at which utility enterprises purchased winter work clothing, as part of personal protective gear (occupational safety and health equipment), range from 1,124 MKD to 4,602 MKD. Work clothing sets procured by public enterprises are comprised of overalls and jacket, made of polyester and cotton in ratio of 60-80%:40-20%. Exception thereof is observed with PE “Komunalec” in Bitola, which has requested clothing sets to be made of 100% polyester. The ratio between the lowest and the highest price for procurement of work clothing sets is as high as 1:4.09, which means that the highest price paid by the Public Enterprise for Utilities “Mavrovo” is by three times higher (309%) than the price paid by “Low Construction” in Bitola. Such great differences in price are illogical, given that the outlay of clothing sets and fabric composition (ratio of cotton and synthetics) are almost identical. The only difference concerns the fact that procurement requirements developed by PEU “Mavrovo” included stipulation whereby work clothing sets should be made of waterproof fabrics. On the other hand, UPE “Low Construction” in Bitola requested winter work clothing to be fleece-lined according to following standards: MKS EN 342:2007, MKS EN 342:2007/AC:2012, MKS EN ISO 13 688:2014 or equivalent. It is important to emphasize that Public Enterprise “Hygiene and Greenery” in Kumanovo has purchased work clothing sets together with protective headgear. Nevertheless, these differences established in terms of technical specifications cannot provide basis for such major differences in price attained. At the same time, all enterprises organized and implemented adequate tender procedures and used “lowest price” as the selection criterion. Lack of competition was observed in the tender procedure that attained the highest price, i.e. it was presented with only one bid, unlike other tender procedures wherein the number of bidding companies ranged from two to four. This index refutes even the basic economic logic whereby prices are decreasing in proportion to increasing quantities. Analysis of prices versus quantity of winter work clothing shows that the utility enterprise that has purchased the smallest quantity of clothing sets (UPE “Low Construction” in Bitola) also attained the lowest price for winter work clothing.

Contracting authority	Price in MKD (VAT included)	Difference against the average
UPE “Low Construction” – Bitola	1,124	-111.12%
PE “Komunalec” – Bitola	1,287	-84.38%
PE “Komunalec” – Negotino	1,652	-43.64%
PE “Komunalec” – Pehcevo	2,082	-13.98%
<b>Average*</b>	<b>2,373</b>	<b>0.00%</b>
PE “Plavaja” – Radovis	2,621	+9.46%
PE “Hygiene and Greenery” – Kumanovo	2,686	+11.65%
PE “Komunalec” – Gostivar	2,926	+18.90%
PEU “Mavrovo” – Mavrovi Anovi	4,602	+48.44%

**Index of Rationality for winter work clothing**  
(price per 1 clothing set – overalls and jacket)

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

As was the case with the index for summer work clothing, initially this index included 15 utility enterprises that have announced procurement notices for occupational safety and health equipment, including work clothing, in the period January 2016 – May 2017. After analysis of tender documents and data disclosed by public enterprises, the index of rationality for winter work clothing was developed for 8 utility enterprises. As shown in the table, there are major differences in price attained by public enterprises for procurement of this type of products. Average price for procurement of winter work clothing amounts to 2,373 MKD. In that, four contracting authorities purchased clothing sets at prices lower than the average, while four contracting authorities attained above-average prices. The lowest price is by 111.12% lower than the average, while the highest price is by 48.44% higher than the average price attained.

Major differences in price cannot be explained with the type of procurement procedures organized. Procurement notices were announced for all tender procedures, meaning that contracting authorities organized transparent procedures. In that, all tender procedures used “lowest price” as the selection criterion, and finally, with the exemption of the procurement organized by PEU “Mavrovo”, all tender procedures were completed with electronic auction for downward bidding. One bid was presented only in the tender procedure organized by the Mavrovo-based utility enterprise, while all other tender procedures were characterized by participation of two to four companies, followed by organization of e-auction. Tender procedure organized by the utility enterprise in Mavrovo is different also in the fact that entire occupational safety and health equipment was purchased as one procurement lot, while other enterprises organized procurements divided into several lots, whereby work clothing was separated from procurement of shoes and other items pertaining to personal protective gear for workers.

All above indicated differences among public procurement procedures are not sufficient to explain differences in price attained. Moreover, they cannot be justified with comparison of quantities purchased.



Contracting authority	Number of clothing sets	Difference of unit price against the average
UPE “Low Construction” – Bitola	20	-111.12%
PE “Komunalec” – Bitola	250	-84.38%
PE “Komunalec” – Negotino	25	-43.64%
PE “Komunalec” – Pehcevo	20	-13.98%
PE “Plavaja” – Radovis	110	+9.46%
PE “Hygiene and Greenery” – Kumanovo	170	+11.65%
PE “Komunalec” – Gostivar	100	+18.90%
PEU “Mavrovo” – Mavrovi Anovi	70	+48.44%

**Purchased quantities of winter work clothing\***

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

As shown in the table above, the utility enterprise that has purchased the lowest quantity of clothing sets (UPE “Low Construction” in Bitola) also attained the lowest price for procurement of winter work clothing. Having this in mind, it becomes more than obvious that quantities purchased have not affected prices attained.

## 2.3 Index of Rationality for Work Shoes – Clogs

All kindergartens included in development of this index of rationality have purchased anatomic leather clogs. Procurement procedures were organized for clogs made of natural beef leather, with the exception of kindergarten “Aco Karamanov” in Radovis, which purchased clogs that are made of calf leather. Analysis of relevant technical specifications showed that kindergartens have requested clogs to be made of leather in thickness of 1.0-2.2 mm, and small differences were observed in terms of thickness of outsoles. However, these differences proved to be irrelevant in terms of the price of shoes. The ratio between the lowest and the highest price is as high as 1:3.04, which means that kindergarten “Ladybug” in the Municipality of Aerodrom has purchased clogs at price that is by 204% higher than the price attained by kindergarten “25th May” in the Municipality of Gazi Baba. Differences in price cannot be attributed to different type of procurement procedures organized, because all kindergartens have purchased clogs under transparently announced public procurement procedures.

Contracting authority	Price in MKD (VAT included)	Difference against the average
Kindergarten “25 <sup>th</sup> May” – Gazi Baba, Skopje	718	-101.95%
Kindergarten “11 <sup>th</sup> October” – Butel, Skopje	743	-95.15%
Kindergarten “Our Future” – Prilep	785	-84.71%
Kindergarten “Aco Karamanov” – Radovis	874	-65.90%
Average*	1,450	0.00%
Kindergarten “Rade Jovcevski Korcagin” – Centar, Skopje	1,713	+15.35%
Kindergarten “13 <sup>th</sup> November” – Centar, Skopje	1,770	+18.08%
Kindergarten “Koco Racin” – Centar, Skopje	1,888	+23.20%
Kindergarten “Happy Flowers” – Kisela Voda, Skopje	1,888	+23.20%
Kindergarten “8 <sup>th</sup> March” – Kisela Voda, Skopje	1,940	+25.26%
Kindergarten “Ladybug” – Aerodrom, Skopje	2,183	+33.58%

**Index of Rationality for work shoes – clogs**  
(price per 1 pair of women leather anatomic clogs)

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

The index of rationality for work shoes – clogs includes 10 kindergartens which have announced procurement notices for this type of products in the period January 2016 – June 2017. All kindergartens have disclosed data requested, although in some cases the monitoring team had to lodge appeals to the Commission for Protection of the Right to Free Access to Public Information.

As shown in the overview of the index of rationality for work shoes – clogs, four kindergartens purchased clogs at prices lower than the average price of 1,450 MKD, while six of them attained above-average prices. The lowest price is by 101.95% lower than the average price attained by institutions, while the highest price is by 33.58% higher than the average.

Such great differences cannot be explained with organization of different type of procurement procedures, because all kindergartens purchased clogs under bid-collection procurement procedures with previously announced call for bids and used “lowest price” as the selection criterion. Differences in price can be explained only by competition level in relevant procurement procedures. Notably, the same company supplied clogs to two kindergartens that are marked by the highest price difference, which is as high as 204%. In that, the tender procedure organized by kindergarten “25<sup>th</sup> May” in Gazi Baba was presented with 3 bids and was finalized with electronic auction for reduction of prices, unlike the tender procedure organized by kindergarten “Ladybug” in Aerodrom, which was presented with only one bid. Hence, these two tender procedures confirm the unwritten rule whereby companies - in expectation of downward bidding - always submit higher prices and, in case of insufficient competition for organization of e-auction, there is increased risk for procurement contracts to be signed at prices higher than common prices.

Quantities purchased do not constitute reason for differences in price attained. Contrary to the economic logic whereby prices decrease in proportion to increasing quantity of goods/services, in this specific case it was observed that kindergartens that have purchased the highest quantities of women work shoes – clogs actually paid the highest prices as well. Notably, as shown in the table below, exactly these two kindergartens (“8<sup>th</sup> March” in Kisela Voda and “Ladybug” in Aerodrom) have purchased the highest quantities, as evidenced in their respective tender documents.

Contracting authority	Quantity purchased	Difference against the average
Kindergarten “25 <sup>th</sup> May” – Gazi Baba, Skopje	123	-101.95%
Kindergarten “11 <sup>th</sup> October” – Butel, Skopje	106	-95.15%
Kindergarten “Our Future” – Prilep	122	-84.71%
Kindergarten “Aco Karamanov” – Radovis	62	-65.90%
Kindergarten “Rade Jovcevski Korcagin” – Centar, Skopje	70	+15.35%
Kindergarten “13 <sup>th</sup> November” – Centar, Skopje	130	+18.08%
Kindergarten “Koco Racin” – Centar, Skopje	110	+23.20%
Kindergarten “Happy Flowers” – Kisela Voda, Skopje	125	+23.20%
Kindergarten “8 <sup>th</sup> March” – Kisela Voda, Skopje	160	+25.26%
Kindergarten “Ladybug” – Aerodrom, Skopje	148	+33.58%

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

### Purchased quantities of work shoes – clogs

The kindergarten that purchased the lowest quantity also paid a below-average price that is by 65.90% lower than the average price. In that, kindergarten “Aco Karamanov” in Radovis purchased clogs by means of tender procedure with two procurement lots, one intended for work shoes and the other for work clothing.

## 2.4 Index of Rationality for Hygiene Maintenance of Indoor Work Premises

Prices paid for hygiene maintenance of indoor work premises at state institutions range from 30 MKD to 103 MKD per square meter on monthly basis. The ratio between the lowest and the highest price is as high as 1:3.43, which means that the highest price for hygiene maintenance paid by the Directorate for Technology and Industry Development Zones is by 243% higher than the price paid for the same services by the State Examination Centre. In that, highest prices were attained by institutions that have signed the largest contracts. The procurement contract signed by the Public Enterprise for State Roads is valid for a period of 2 years and amounts to 5,777,280 MKD (94,000 EUR), while the Directorate for Technology and Industry Development Zones has signed contract in duration of 1 year and in the amount of 2,949,764 MKD (48,000 EUR). All procurements for this type of services were organized as publicly announced procedures and used “lowest price” as the selection criterion. It was observed that tender procedures which attained below-average prices were marked by higher level of competition, unlike tender procedures which attained higher prices for hygiene maintenance services.

Contracting authority	Price in MKD (VAT included)	Difference against the average
State Examination Centre	30	-213.33%
JSC for Organization of Games of Chance “State Lottery of Macedonia”	48	-33.33%
Agency for Supervision of Fully Funded Pension Insurance	51	-25.49%
Average*	64	0
State Commission for Prevention of Corruption	69	+7.25%
Public Enterprise for State Roads	81	+20.99%
Directorate for Technology and Industry Development Zones	103	+37.86%

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

**Index of Rationality for hygiene maintenance of indoor work premises**  
(price per cleaning of m<sup>2</sup> on monthly basis )

Development of the index of rationality for hygiene maintenance includes all contracting authorities that have announced procurement notices for this type of services in the period January 2016 – June 2017. Through the Electronic Public Procurement System (EPPS) the monitoring team identified 10 contracting authorities that have announced notices for this type of procurement. However, in order to ensure comparability of data, the Social Work Centre in Radovis, the Hospice Centre “Sue Ryder” in Bitola, the University Clinic for State Cardio Surgery and the National Institution “Macedonian National Theatre” in Skopje were exempted from this analysis due to certain differences in regard to technical specifications, which would have put contracting authorities in unequitable position. For the purpose of ensuring comparability of data, the price for hygiene maintenance of indoor premises paid by the Directorate for Technology and Industry Development Zones was reduced by the cost related to engagement of kitchen cleaning crew. In the case of the Public Enterprise for State Roads, the calculation was made by exempting the outdoor area.

As shown in the table above, there are major differences among state institutions in regard to procurement of this type of services. The lowest price is by 213.33% lower than the average price attained, while the highest price is by 37.86% higher than the average. In that, three contracting authorities paid below-average prices for these services, while the other three contracting authorities signed contracts under prices that are higher than the average price attained by institutions included in this index.

Major differences in price cannot be explained with the type of procurement procedures organized. Notably, all contracting authorities organized procurement procedures that are adequate for their respective contract value. Hence, the State Examination Centre and the Agency for Supervision of Fully Funded Pension Insurance organized bid-collection procedures in the value not exceeding 5,000 EUR. Joint Stock Company for Organization of Games of Chance “State Lottery of Macedonia” and the State Commission for Prevention of Corruption organized bid-collection procedures in the value exceeding 5,000 EUR. On the other hand, the Public Enterprise for State Roads and the Directorate for Technology and Industry Development Zones organized open procedures. Differences were observed in terms of the number of bids received. In that, the procedure that attained the lowest price (State Examination Centre) was presented with 7 bids, contrary to the procedure that attained the highest price (Directorate for Technology and Industry Development Zones) and was presented with the smallest number of bids, i.e. only two bids. Therefore, it can be rightfully assessed that this index of rationality further confirms the importance of competition in public procurements.

Worrying is the fact that differences in price under this index of rationality fully annul the economic logic whereby the price should be counter-proportional to, in this case, the size of cleaning premises, i.e. the procurement's value.

Contracting authority	Cleaning areas in m <sup>2</sup>	Difference of unit price against the average	Size of work premises covered by the contracts
State Examination Centre	980	-213.33%	
JSC for Organization of Games of Chance "State Lottery of Macedonia"	650	-33.33%	
Agency for Supervision of Fully Funded Pension Insurance	400	-25.49%	
State Commission for Prevention of Corruption	684	+7.25%	
Public Enterprise for State Roads	3,344	+20.99%	
Directorate for Technology and Industry Development Zones	1,721	+37.86%	

\*Areas are established on the basis of relevant tender documents.

As shown in the table above, institutions with the largest maintenance premises (Public Enterprise for Road States and DTIDZ) attained prices that are higher than the average price. On the other hand, the institution with the smallest maintenance premises attained a below-average price (Agency for Supervision of Fully Funded Pension Insurance).

## 2.5 Index of Rationality for Infusion Kits

Prices at which health institutions in the country have purchased infusion kits, as part of medical supplies, range from 5.78 MKD to 9.98 MKD. The ratio between the lowest and the highest price is 1:1.73, which means that the highest price for infusion kits paid by the Psychiatric Hospital in Negorci is by 73% higher than the price paid for the same medical supply by the General Hospital in Struga. It is a matter of single use infusion kits, comprised of polyvinyl chloride tube in length of 150 cm  $\pm$  5%, bacteriology air filter, translucent PVC drop-chamber, flow rate regulator, adapter with grounding connector and needle thread. Established differences in price can be only partially justified with quantities purchased. Notably, the hospital that purchased infusion kits at the lowest price has actually procured the highest quantity, while health institutions that attained higher prices have procured the lowest quantities.

Contracting authority	Price in MKD (VAT included)	Difference against the average
General Hospital – Struga	5.78	-30.28%
Health Care Centre – Skopje	6.38	-18.03%
University Clinic of Neurosurgery	6.45	-16.74%
Health Care Centre – Gostivar	6.67	-12.89%
Average*	7.53	
Special Institution “Demir Kapija”	9.89	+23.86%
Psychiatric Hospital – Negorci	9.98	+24.55%

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

**Index of Rationality  
for infusion kits**  
(price per infusion kit)



Development of this index of rationality included 12 contracting authorities which procured sanitary medical supplies over a period of 6 months (December 2016 – May 2017). Information requested was not disclosed only by the University Clinic for Radiotherapy and Oncology. After analysis of data obtained, it was established that the City General Hospital “8th September” in Skopje, the Special Hospital for Lung Diseases and Tuberculosis “Jasenovo” in Veles, the Health Care Centre in Prilep, the Psychiatric Hospital in Skopje, and the University Clinic for Digestive Surgery did not procure the above described type of infusion kits. Hence, the index was developed for 6 health institutions that have procured the same type of infusion kits.

As shown in the table, four institutions have purchased infusion kits at prices that are lower than the average price by 12.89% to 30.28%, while two institutions paid infusion kits at higher prices, by 23.86% and 24.55% respectively. Such established differences cannot be justified with the type of procurement procedures organized. Notably, all health institutions have organized transparent tender procedures and have announced relevant procurement notices. In the case of all institutions, tender procedures were comprised of several procurement lots, which is actually an obligation arising from the Law on Public Procurements for procurement of medicines and medical supplies. At the same time, all institutions used “lowest price” as the selection criterion for the most favourable bid. Differences were established only in terms of the scope of tender procedures organized. General Hospital in Struga purchased infusion kits as part of large-scale tender procedure in the value of more than 165,000 EUR, comprised of 380 lots and organized as open procedure. Open procedures were also organized by the Health Care Centre in Skopje, the Health Care Centre in Gostivar and the Special Institution “Demir Kapija”. On the other hand, the University Clinic for Neurosurgery – in compliance with the smaller procurement value (17,000 EUR) – organized a bid-collection procurement procedure. The smallest tender procedure according to procurement value was organized by the Psychiatric Hospital in Negorci, in the amount of 2,600 EUR.

Contracting authority	Quantity	Difference of unit price against the average
General Hospital – Struga	35,000	-30.28%
Health Care Centre – Skopje	16,000	-18.03%
University Clinic for Neurosurgery	6,000	-16.74%
Health Care Centre – Gostivar	15,000	-12.89%
Special Institution “Demir Kapija”	800	+23.86%
Psychiatric Hospital – Negorci	1,000	+24.55%

### Quantity of infusion kits

As shown in the table above, the quantity of infusion kits did not affect prices attained. General Hospital in Struga, which attained the lowest price for procurement of infusion, has purchased the highest quantity, contrary to the Psychiatric Hospital which - together with the Special Institution “Demir Kapija” - purchased the lowest quantities of above described medical supplies.

# 3

## General conclusion

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This issue of the Index of Rationality was developed for winter and summer work clothing sets that are part of personal protective gear (occupational safety and health equipment) procured by utility enterprises, clogs as work shoes which are most often procured by kindergartens, hygiene maintenance services for indoor work premises at various state institutions and infusion kits purchased by health institutions.

It is a matter of goods and services that were already analysed under indices of rationality developed in 2011, 2012 and 2013. Hence, the purpose for development of this index of rationality, inter alia, is to record possible changes that might have occurred in the last period, as well as the effects created by frequent changes to the legislation on the market of public procurements. In conclusion, we first provide summary findings established with development of indices of rationality for these goods and services, and later compare them against findings from the previous period. All indices of rationality developed by the Center for Civil Communications are available on the website [opendata.mk](http://opendata.mk).

The biggest difference in prices was noted in regard to procurement of summer work clothing, while the smallest difference was observed in regard to procurement of infusion kits.

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

- **summer work clothing sets** were procured by utility enterprises at prices ranging from 424 MKD to 2,773 MKD, whereby the highest price is by 554% higher than the lowest;
- **winter work clothing sets** were procured by utility enterprises at prices ranging from 1,124 MKD to 4,602 MKD, whereby the highest price is by 309% higher than the lowest;
- **work shoes – clogs** were purchased at prices from 718 MKD to 2,183 MKD, whereby the highest price is by 204% higher than the lowest;
- **hygiene maintenance of indoor work premises** has costed state institutions 30 MKD to 103 MKD per square meter on monthly basis, whereby the highest price is by 243% higher than the lowest;
- **infusion kits** were procured by health institutions at prices ranging from 5.78 MKD to 9.98 MKD per kit, whereby the highest price is by 73% higher than the lowest.

The index of rationality for **summer and winter work clothing** developed now cannot be directly compared to the index developed in 2013, because the previous index did not distinguish between summer and winter work clothing. In that, what can be compared are differences in price and the monitoring team observed negative changes in that regard. Notably, the index of rationality for work clothing developed 4 years ago established the ratio of 1:2.92 between the lowest and the highest price, i.e. the highest price in the amount of 4,956 MKD was by 292% higher than the lowest. On the contrary, under the current index differences in price are higher, accounting for 554% in the case of summer work clothing and 304% in the case of winter work clothing.

Growing differences in price were also observed under **the index of rationality for work shoes – clogs**. In particular, the index developed for this type of shoes in 2012 had established that the highest price was by 158% higher than the lowest, unlike the situation presented under this index where this difference accounts for 204%. Average price at which kindergartens procured work clogs remains almost unchanged, accounting for 1,429 MKD in 2012 and 1,450 MKD in 2017.

Growing differences in price were also observed under **the index of rationality for hygiene maintenance of indoor work premises**. In that, current issue of the index for this type of service shows difference between the lowest and the highest price by 243%, while under the index developed in 2012 the maximum difference accounted for 175%. In comparison, prices for hygiene maintenance of indoor work premises 5 years ago ranged from 24 MKD to 66 MKD, and under the current index they range from 30 MKD to 103 MKD.

Same situation was noted under **the index of rationality for infusion kits**. In that, if maximum difference in prices under the 2017 index accounts for 73%, back in 2011 this difference was slightly lower and accounted for 60%. Six years ago, infusion kits were procured at prices ranging from 5.9 MKD to 9.44 MKD, while under the current index they range from 5.78 MKD to 9.98 MKD, which is indicative of minimal price changes.

Having in mind that all indices developed under this issue have established growing differences in price, it can be assessed that they confirm the conclusion that implementation of public procurement procedures in compliance with the Law on Public Procurements does not necessarily guarantee attainment of best conditions on the procurement market for particular goods and services. This statement is confirmed by knowledge that established differences cannot be explained with the type of procurement procedures organized, the selection criterion used or the quantities purchased. First, all procurements included in this index of rationality were organized under procedures stipulated by the Law on Public Procurements and implied announcement of procurement notices. Second, all public procurement procedures (five indices of rationality in this issue were developed on the basis of prices attained in 48 public procurement procedures) used “lowest price” as the selection criterion. Third, all indices confirmed that quantities purchased have not affected individual prices attained for goods and services.

The single important difference between institutions that have paid the lowest and the highest price for procurement of analysed products or services concerns (non)organization of electronic auction for downward bidding. Notably, in compliance with the law, all procedures anticipated organization of e-auction, but the same took place only in the cases with at least two bidding companies. Therefore, all tender procedures with only one bid did not imply conditions for organization of electronic downward bidding and contracts were signed under prices bided by the single bidding company. Most often, these are the highest prices presented in the indices of rationality. Such state-of-affairs reiterates the need for stimulating competition in public procurements, because only in that way it could be expected that the best value is obtained for the money spent.

Contracting authorities should perceive the index of rationality as useful instrument which undoubtedly shows that the market of public procurement in the country does not guarantee fully rational and efficient public spending and that there are still series of challenges in this regard, which should be addressed.

