

INDEX OF RATIONALITY

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Goals and methodology

Center for Civil Communications from Skopje is the only non-governmental organization in the Republic of Macedonia that implements 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 co-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.

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 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 a 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 the companies with which contracts have been signed (although data thereof is available), due to the fact that responsibility for rational public spending primarily lies with contracting authorities.

Methodology applied to develop Index of Rationality issues 1 to 11 relied on 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 calculated. 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.

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Index of rationality

Index of Rationality no. 15 is developed for new group of goods and services, as follows:

- industrial salt (sold in bulk and bag-packed),
- air-conditioners;
- printer and copy paper;
- extra light fuel oil EL-1; and
- X-ray RTG films.

Development of this Index of Rationality includes national and local institutions that have organized public procurements for these types of products in the course of 2015 and 2016.

Initially, the Index of Rationality included 95 institutions that have organized a total of 101 tender procedures for procurement of above-enlisted products.

2.1 Index of Rationality for Industrial Salt

This index concerns procurement of industrial salt intended for winter maintenance of streets and roads. It is comprised of two sub-indices, one for procurement of salt in bulk and one for procurement of salt packed in bags of 20 and 30 kilograms. This distinction was imposed on the grounds of major differences in price observed in terms of the two methods of delivery of purchased salt (bulk and bag-packed). Of course, this is different from the situation observed in 2011 and 2012 when the relevant indices of rationality for industrial salt did not demonstrate significant differences in price depending on the fact whether salt was sold in bulk or bag-packed. Otherwise, it is a matter of industrial salt used for winter maintenance of streets and roads and, according to analysed technical specifications, the industrial salt is of almost standardized characteristics, i.e. allowed humidity from 2.5% to 3%, minimum clarity of NaCl 96%, granule-metric size of 0.1 mm to 5 mm, etc. Development of this index targeted public enterprises and municipalities that have organized tender procedures for procurement of industrial salt in the period November-December 2015, i.e. winter season 2015/2016. It is a matter of 10 municipalities and public enterprises. Both indices of rationality for procurement of salt show exceptionally high differences in price. Moreover, major differences in price also appeared in terms of method of delivery, bulk or bag-packed. It turns out that average price for bag-packed salt is twice as high than salt purchased in bulk, which is completely different from the situation observed in 2011 and 2012 when there were no significant differences in price of salt sold in bulk or bag-packed.

Detailed overview of all indices of rationality that have been developed to present is available on the website opendata.mk.

2.1.1. Index of Rationality for Industrial Salt (Bulk)

The ratio between the lowest and the highest price for industrial salt is 1:1.57, which means that the price paid by the Public Enterprise "Macedonia Road" – Skopje is by 57% higher than the price paid for the same product by the Municipality of Sopiste. In that, Macedonia Road, which paid the highest price for salt, purchased the biggest quantity, i.e. 7,000 tons, which is several times more than other institutions that purchased quantities in the range from 54 to 200 tons. Major differences cannot be economically justified even if due consideration is made of the fact that PE Macedonia Road requested the salt to be delivered to 30 stations in all six regional offices of this enterprise, because transport costs could not have driven the price so high. Differences in price cannot be justified with the type of procurement procedure organized, because all contracting authorities organized transparent procedures (open procedures or bid-collection procedures) where "lowest price" was defined as selection criterion for the most favourable bid. In addition, these price differences lose any economic logic in the light of information that one and the same company appeared as supplier to all municipalities and public enterprises included in this index.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
Municipality of Sopiste	4,720	-27.35%
PE “Stipion 2011” – Stip	5,664	-6.13%
PE “Ohridski Komunalec” – Ohrid	5,782	-3.96%
Average*	6,011	0.00%
PE “Komunalec” – Kriva Palanka	6,490	+7.38%
PE “Macedonia Road” – Skopje	7,399	+18.76%

Index of rationality for industrial salt
(price per 1 ton of salt sold in bulk)

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

Development of this index of rationality includes 5 contracting authorities that have organized their tender procedures for procurement of industrial salt in the period November-December 2015, i.e. winter season 2015/2016.

As shown in table above, average price calculated for procurement of 1 ton of industrial salt sold in bulk amounts to 6,011 MKD. Three contracting authorities purchased the salt at prices lower than the average, by 3.96% to 27.35%, while two contracting authorities purchased the salt at prices higher by 7.38% to 18.76%.

Differences in price cannot be explained with the type of public procurement organized. All contracting authorities organized procedures in compliance with the Law on Public Procurements, i.e. PE “Macedonia Road”, on the ground of the procurement’s higher value, organized an open procurement procedure, while all remaining contracting authorities organized bid-collection procedures. All tender procedures, without any exception, were not completed with organization of e-auction for price reduction, which means they were presented with only one bid each. On this account, public procurement contracts were signed with the single bidding company. To make matters worse, one and the same company appeared as single bidder in all tender procedures for procurement of industrial salt organized by five municipalities and public enterprises included in this index. Prices attained for procurement of industrial salt are contrary to economic logic whereby higher quantities should result in lower prices attained.

Contracting authority	Tons	Difference against the average price
Municipality of Sopiste	100	-27.35%
PE “Stipion 2011” – Stip	70	-6.13%
PE “Ohridski Komunalec” – Ohrid	200	-3.96%
PE “Komunalec” – Kriva Palanka	54	+7.38%
PE “Macedonia Road” – Skopje	7,000	+18.76%

Quantity of procured industrial salt according to relevant tender documents

As shown in the table, the contracting authority purchasing the biggest quantity has actually paid the highest price. PE “Macedonia Road” purchased 70 times higher quantity of industrial salt, but paid a price that is by 57% higher than the price attained by the Municipality of Sopiste for the same procurement subject. Price for procurement of industrial salt paid by PE “Macedonia Road” is also higher than the price paid by PE “Komunalec” from Kriva Palanka, which purchased only 54 tons of salt, i.e. almost 130 times less than the state public enterprise.

2.1.2. Index of Rationality for Industrial Salt (Bag-Packed)

The ratio between the lowest and the highest price attained for procurement of industrial salt packed in bags of 20 to 30 kilograms is 1:1.70, which means that the highest price paid by PUE “Komunalec” – Prilep is by 70% higher than the price paid for the same product by PUE “Water Supply” – Kocani. All public procurements for industrial salt were organized as bid-collection procedures and implied publication of calls for bids in the Electronic Public Procurement System. Nevertheless, transparency of procurement processes has not resulted in tender competition. Only one bidding company participated in four of five procurement procedures, and only the tender procedure organized by the Municipality of Veles was presented with two bids. On that account, there were no conditions for organization of planned e-auctions for downward bidding in procurement procedures marked by submission of one bid each. Therefore, differences in price could be attributed to absence of competition.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PUE “Water Supply” – Kocani	8,998	-32.94%
PUE “Ilinden” – settlement Ilinden	9,381	-27.51%
Municipality of Veles	11,942	-0.17%
Average*	11,962	0.00%
JSC Power Plants of Macedonia – Skopje	14,148	+15.45%
PUE “Komunalec” – Prilep	15,340	+22.02%

Index of rationality for industrial salt
(price per 1 ton of salt packed in bags)

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

Development of this index for industrial salt packed in bags of 20 to 30 kilograms is based on 5 contracting authorities that have organized tender procedures for procurement of industrial salt in the period November-December 2015, i.e. winter season 2015/2016.

As shown in the table above, average price for procurement of 1 ton of industrial salt packed in bags accounts for 11,962 MKD. Three contracting authorities purchased salt at prices lower than the average, by 0.17% to 32.94%, while two contracting authorities purchased industrial salt at higher prices, by 15.45% to 22.02%. Differences in price cannot be explained with the type of procurement procedure organized, because in compliance with the law all contracting authorities organized bid-collection

procedures for which they published relevant calls for bids. All these procedures, in compliance with the Law on Public Procurements, used “lowest price” as selection criterion for the most favourable bid. Moreover, contracting authorities did not define specific eligibility criteria for tender participation, which means that there were no limiting factors that would defer competition. In spite of these circumstances, four of five tender procedures were presented with one bid each. The only tender procedure marked by competition of two bidding companies was completed with organization of planned e-auction, but downward bidding did not result in significant reduction of prices. This situation, accompanied by absence of competition in the remaining four tender procedures, is most certainly indicative of major distortions on the market of public procurements for industrial salt.

This statement is further confirmed with data presented in the table below, whereby although index-targeted institutions show major differences in terms of prices attained, they do not differ in terms of quantities purchased.

Contracting authority	Tons	Difference against the average price	Quantity of purchased industrial salt packed in bags
PUE “Water Supply” – Kocani	20	-32.94%	
PUE “Ilinden” – settlement Ilinden	25	-27.51%	
Municipality of Veles	25	-0.17%	
JSC Power Plants of Macedonia – Skopje	25	+15.45%	
PUE “Komunalec” – Prilep	10	+22.02%	

The fact that quantities purchased did not affect prices attained is best represented in public procurements organized by PUE “Ilinden” from settlement Ilinden, Municipality of Veles, and JSC Power Plants of Macedonia – Skopje, all of which purchased identical quantities of salt at prices ranging from 9,381 to 14,148 MKD.

2.2 Index of Rationality for Air-Conditioners

Index of rationality developed for air-conditioners concerned procurement of split system with heating/cooling capacity of 3.5-3.6 KW, operating temperature from -7 to 43 Celsius degrees, eco-Freon R410, LED display and warranty period of 2 years. Price of air-conditioners includes installation costs.

The ratio between the lowest and the highest price for procurement of this type of air-conditioners is 1:1.68, which means that the highest price paid by the Ministry of Economy is by 68% higher than the price paid for the same product by local PE “Hygiene and Green Areas” from Kumanovo.

When findings from this index are compared to those presented in the index for air-conditioners of 3.5 KW developed in 2011 and 2012, it turns out that the average price paid by state institutions for procurement of this product has increased, so as price differences, when compared to the situation observed in 2012.

Notably, in 2011 average price attained for purchase of this type of air-conditioners amounted to 16,636 MKD, and in 2012 it amounted to 19,739 MKD. Hence, average price paid by state institutions in 2015/2016 for procurement of air-conditioners is higher by 27.14% than 2011 average and by 7.15% than 2012 average.

As regards difference between the lowest and the highest price, the ratio under this index is 1:1.68 and is higher than 2012 ratio of 1:1.55, but is lower than 2011 ratio of 1:1.90.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PE "Hygiene and Green Areas" – Kumanovo	16,296	-29.79%
University of Ss. Cyril and Methodius – Rectorate Office Skopje	17,380	-21.70%
State Commission on Decision-Taking in Administrative Procedure and Second-Instance Procedure on Labour Relations	18,696	-13.13%
Kindergarten "Little Stars" – Cusinovo	21,043	-0.51%
PE "Macedonian Broadcasting"	21,120	-0.15%
Average*	21,151	0.00%
Secondary School "Kole Nedelkovski" – Veles	21,240	+0.42%
Administration Agency	23,576	+10.29%
University of Ss. Cyril and Methodius – Faculty of Economy in Skopje	23,600	+10.38%
Ministry of Economy	27,404	+22.82%

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

Index of rationality for air-conditioners
(price per 1 air-conditioner with capacity of 3.5 KW, installation costs included)

Development of this index for air-conditioners targeted all contracting authorities that have organized procurements for this product and whose procurement notices were published in EPPS in the period August 2015 – March 2016. In that, total of 15 contracting authorities were identified and addressed with information requests on submission of individual prices at which they procured air-conditioners in compliance with tender procedures organized. After relevant documents were processed and for the purpose of ensuring comparability of data, this index of rationality included 9 institutions, because 5 contracting authorities procured air-conditioners which, in terms of their capacity or other parameters from their respective technical specifications, do not fall within the group of air-conditioners defined as split systems with heating/cooling capacity of 3.5-3.6 KW, operational temperature from -7 to 43 Celsius degrees, eco-Freon R410 and LED display. The City of Skopje refused to disclose requested information with the explanation that at the time they were presented with the information request they have not adopted decision on selection of the most favourable bid.

As shown in the table for the index developed for air-conditioners, five contracting authorities paid prices that are lower than the average, by 0.15% to 29.79%, while four contracting authorities procured air-conditioners at prices higher than the average, by 0.42% to 22.82%.

Such great differences in price cannot be explained by the type of procurement procedure organized. Notably, all contracting authorities organized law-stipulated procedures depending on the procurement's value and published their procurement notices in the Electronic Public Procurement System. According to the law, all tender procedures used "lowest price" as selection criterion for the most favourable bid. In that, seven of nine tender procedures were presented with several bids and were completed with organization of e-auctions. Exceptions therefrom were identified in tender procedures organized by the Administration Agency and the Faculty of Economy at the University of Ss. Cyril and Methodius in Skopje, which had only one acceptable bid, thereby failing to ensure conditions for organization of planned e-auctions for reduction of initial prices. Differences in price for procurement of air-conditioners cannot be justified with the quantity purchased.

Contracting authority	Количини	Difference against the average price	Quantity of purchased air-conditioners
PE "Hygiene and Green Areas" – Kumanovo	4	-29.79%	
University of Ss. Cyril and Methodius – Rectorate Office Skopje	4	-21.70%	
State Commission on Decision-Taking in Administrative Procedure and Second-Instance Procedure on Labour Relations	5	-13.13%	
Kindergarten "Little Stars" – Cusinovo	3	-0.51%	
PE Macedonian Broadcasting	13	-0.15%	
Secondary School "Kole Nedelkovski" – Veles	2	+0.42%	
Administration Agency	5	+10.29%	
University of Ss. Cyril and Methodius – Faculty of Economy in Skopje	5	+10.38%	
Ministry of Economy	4	+22.82%	

As shown in the table above, institutions that purchased air-conditioners at the most different prices from the average, actually procured identical quantities, i.e. 4 or 5 air-conditioners.

2.3 Index of Rationality for Printer and Copy Paper

Prices attained for procurement of printer and copy paper (white colour, A4 format, 80 grams) range from 122 to 346 MKD. The ratio between the lowest and the highest price is 1:2.84, which means that the price paid by PHI Public Health Centre – Veles is by 184% higher than the price attained by primary school “Rade Kratovce” from Kocani. Average price calculated for procurement of paper amounts to 181 MKD per roll.

Having in mind that indices of rationality for printer and copy paper were developed back in 2011 and 2012, it can be concluded that, in 2016, contracting authorities purchased this paper at lower prices compared to those attained 4 or 5 years ago. In 2011, average price for this product was 211 MKD per roll, while in 2012 it amounted to 196 MKD. However, in spite of above indicated price reduction, this index has established the biggest differences in price for procurement of paper. More specifically, 2011 Index of Rationality showed that the ratio between the lowest and the highest price was 1:1.97, while in 2012 this ratio accounted for 1:1.88, which means that the highest price was by 88% higher than the lowest price of 156 MKD per roll of paper.

Differences in price from the index developed on the basis of prices attained in public procurements organized in 2016 are much higher.

All institutions procured paper by means of transparent procurement procedures with announcement of call for bids. Therefore, differences in price could not be explained by the type of procurement procedure organized. Economic justification for differences cannot be sought also in terms of quantities purchased.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
Primary School “Rade Kratovce” – Kocani	122	-48.36%
PHI University Clinic of Endocrinology	141	-28.37%
PE “Komunalec” – Kicevo	142	-27.46%
PHI University Clinic for Digestive Surgery	143	-26.57%
PHI University Clinic of Nephrology	143	-26.57%
NI Macedonian National Theatre – Skopje	147	-23.13%
PHI Institute for Prevention, Treatment and Rehabilitation of Cardio-Vascular Diseases – Ohrid	149	-21.48%
PHI Institute of Gerontology “13 November” – Skopje	153	-18.30%

Index of rationality for printer and copy paper
(price per 1 roll of white paper, A4 format, 80 grams)

Contracting authority	Price in MKD (VAT included)	Difference against the average price
Health Centre – Probistip	155	-16.77%
Municipality of Makedonski Brod	156	-16.03%
Faculty of Biotechnical Sciences	159	-13.84%
PHI General Hospital – Veles	165	-9.70%
PHI Special Hospital for Gynaecology and Obstetrics “Mother Theresa” – Skopje	166	-9.04%
Average*	181	0.00%
PHI Health Centre – Kumanovo	182	+0.55%
PHI Clinical Hospital – Tetovo	183	+1.09%
JSC Power Plants of Macedonia – Skopje (HPP Mavrovo)	198	+8.59%
Municipality of Cusinovo-Oblesevo	202	+10.40%
Municipal High-School “Mirce Acev” – Prilep	223	+18.83%
Auditing Office for the Instrument on Pre-Accession Assistance	248	+27.02%
University of Ss. Cyril and Methodius Faculty of Economy – Skopje	272	+33.46%
PHI Public Health Centre – Veles	346	+47.69%

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

Development of the index of rationality for paper includes all contracting authorities that have announced procurement notices for this type of products in the first two months of 2016. All contracting authorities disclosed the information requested. As shown in the table above, average price for procurement of 1 roll of paper is 181 MKD. In that, 13 institutions purchased paper at prices lower than the average, by 9.04% to 48.36%, while 8 institutions paid above-average prices, by 0.55% to 47.69%.

Major differences in price cannot be interpreted as consequence of the type of procurement procedure organized, having in mind that all institutions organized adequate procurement procedures in compliance with the Law on Public Procurements (bid-collection or open procedures, depending on the procurement's value) and used “lowest price” as selection criterion for the most favourable bid.

As regards e-auctions, analysis of data provides the conclusion that e-auction did not take place only in the procurement procedure organized by PHI Clinical Hospital – Tetovo which was presented with only one acceptable bid, while all remaining tender procedures organized electronic auctions for downward bidding. In that, according to data presented in this index, PHI Clinical Hospital – Tetovo did not attain the highest price.

Purchased quantities did not affect prices attained as well. As shown in the next table, primary school “Rade Kratovce” – Kocani, which purchased paper at the lowest price, has procured one of the lowest quantities of printer and copy paper, contrary to PHI Public Health Centre – Veles, which purchased as many as 1,700 rolls of paper, i.e. 17 times more.

Contracting authority	Number of rolls of paper	Difference against the average price
Primary School “Rade Kratovce” – Kocani	100	-48.36%
PHI University Clinic of Endocrinology	700	-28.37%
PE Komunalec – Kicevo	300	-27.46%
PHI University Clinic for Digestive Surgery	40	-26.57%
PHI University Clinic of Nephrology	1,200	-26.57%
NI Macedonian National Theatre – Skopje	150	-23.13%
PHI Institute for Prevention, Treatment and Rehabilitation of Cardio-Vascular Diseases – Ohrid	950	-21.48%
PHI Institute of Gerontology “13 November” – Skopje	700	-18.30%
Health Centre – Probistip	200	-16.77%
Municipality of Makedonski Brod	200	-16.03%
Faculty of Biotechnical Sciences	150	-13.84%
PHI General Hospital – Veles	1,862	-9.70%
PHI Special Hospital for Gynaecology and Obstetrics “Mother Theresa” – Skopje	500	-9.04%
PHI Health Centre – Kumanovo	500	+0.55%
PHI Clinical Hospital – Tetovo	2,600	+1.09%
JSC Power Plants of Macedonia – Skopje (HPP Mavrovo)	300	+8.59%
Municipality of Cesinovo-Oblesevo	150	+10.40%
Municipal High-School “Mirce Acev” – Prilep	/	+18.83%

Quantity of purchased printer and copy paper

Contracting authority	Number of rolls of paper	Difference against the average price
Auditing Office for the Instrument on Pre-Accession Assistance	200	+27.02%
University of Ss. Cyril and Methodius Faculty of Economy – Skopje	500	+33.46%
PHI Public Health Centre – Veles	1,700	+47.69%

This situation defies any kind of economic justification for differences in price for procurement of paper and raises doubts that other criteria and factors might have played more significant role than market mechanisms.

2.4 Index of Rationality for Extra Light Fuel Oil EL-1

One third of institutions included in this index for extra light fuel oil EL-1 paid the capped retail prices established by the Energy Regulatory Commission, and have not received any kind of discount, although they purchased high quantities in the range from 2,000 to 90,000 litres.

According to findings presented in this index, institutions received discounts in the range from 0.05 MKD to 2.30 MKD per one litre of extra light fuel oil. The average discount granted to institutions amounted to only 0.54 MKD per litre. Such small discount and complete absence of price reduction in significant portion of tender procedures are extremely unfavourable, having in mind that contracting authorities incurred costs for organization of public procurement procedures such as mandatory publication of procurement notice in EPPS, and in case of large-scale procurements, publication in the Official Gazette, costs for experts' service related to obtaining approval from the Council of Public Procurements and costs arising from use of human and material resources for tender implementation.

This knowledge is indicative of deteriorated state-of-affairs, when compared against findings from indices of rationality developed for the same product in 2011 and 2012. More specifically, the index of rationality for extra light fuel oil EL-1 developed in 2012 showed that the average discount given to institutions amounted to 3.16 MKD, which is significantly higher than the current discount of only 0.54 MKD. In 2011, the index was developed on the basis of the discount share received for the highest retail prices capped by the Energy Regulatory Commission. In order to ensure comparability, calculation of the amount of discount as share from the capped retail price provides the conclusion that discounts have been significantly reduced from 11% of retail prices in 2011, through 5% in 2012, to only 2.8% in 2016.

Contracting authority	Discount in MKD (VAT included)	Difference against the average discount in MKD
Institute of Hydrometeorology	2,30	+1.76
Primary School “Rajko Zinzifov” – Skopje	2,27	+1.73
Kindergarten “Brescia” – Debar	2,25	+1.71
Kindergarten “Mountain Flower” – Vevcani	1,74	+1.20
Primary School “Straso Pindjur” – Vevcani	0,63	+0.09
Kindergarten “Femo Kulakov” – Negotino	0,60	+0.06
Average*	0,54	0.00%
State Secondary School “Mitko Pendjukliski” – Kratovo	0,37	-0.17
Primary School “Koco Racin” – Kratovo	0,28	-0.26
JSC Macedonian Postal Office	0,28	-0.26
Municipality of Rosoman	0,28	-0.26
PHI Health Centre – Kavadarci	0,22	-0.32
Faculty of Natural and Mathematic Sciences at the University of Ss. Cyril and Methodius	0,06	-0.48
Municipality of Bogovinje	0,05	-0.49
Primary School “Jonce Smugreski” – Krivogastani	0	-0.54
Secondary School “Saip Jusuf” – Skopje	0	-0.54
PE “Biljana Springs” – Ohrid	0	-0.54
Municipality of Studenicani	0	-0.54
PE HS “Zletovica” – Probistip	0	-0.54
Secondary School “Gostivar” – Gostivar	0	-0.54
Secondary School “Negotino” – Negotino	0	-0.54
Primary School “Goce Delcev” – Ilinden	0	-0.54

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

Index of rationality for extra light fuel oil EL-1 (discount granted)

Development of this index included all contracting authorities that have announced procurement notices for extra light fuel oil EL-1 in January 2016. Initially, it targeted 24 contracting authorities, but upon processing of relevant tender documents, the index was developed for 21 institutions, because the tender procedure for this product organized by the Penitentiary and Correction Facility “Stip” had been annulled, while the State Archive of Republic of Macedonia and Sports Centre “Boris Trajkovski” – Skopje were excluded due to incompatibility of data disclosed by these institutions in response to information requests they were addressed with and those they have submitted in the Electronic Public Procurement System.

As shown in the table for this index, only 6 contracting authorities were granted discount in relation to capped retail prices that is higher than the average calculated for all institutions (0.54 MKD), while 7 contracting authorities were granted discount lower than the average and 8 contracting authorities were not given any discount at all.

Analysis of documents for implemented tender procedures shows that all institutions organized public procurement procedures with publication of calls for bids, as stipulated in the Law on Public Procurements (bid-collection procedure in cases of procurements whose value does not exceed 20,000 EUR and open procedure for procurements whose value exceeds that threshold). All procurement procedures used “lowest price” as selection criterion and anticipated organization of e-auctions. Nevertheless, due to absence of competition, e-auctions were organized only in 13 procedures, while 8 tender procedures that have received only one bid each did not enable conditions for electronic downward bidding. In that, an absurdity was noted in the fact that e-auctions, i.e. possibility for reduction of initial prices were organized even in tender procedures that have not been presented with any discount from capped retail prices established by the Energy Regulatory Commission, i.e. Municipality of Studenicki and secondary school “Negotino” – Negotino. Moreover, all tender procedures that have not been granted discount were not marked by competition, and they include procurements organized by primary school “Jonce Smugreski” – Krivogastani, secondary school “Saip Jusuf” – Skopje, PE “Biljana Springs” – Ohrid, PE HS “Zletovica” – Probistip, secondary school “Gostivar” – Gostivar, and primary school “Goce Delcev” – Ilinden.

Contracting authority	Quantity (in liters)	Difference against the average price
Institute of Hydrometeorology	35, 000	+1.76
Primary School “Rajko Zinzifov” – Skopje	66,000	+1.73
Kindergarten “Brescia” – Debar	25,000	+1.71
Kindergarten “Mountain Flower” – Vevcani	6,000	+1.20
Primary School “Straso Pindjur” - Vevcani	12,000	+0.09
Kindergarten “Femo Kulakov” – Negotino	48,000	+0.06
State Secondary School “Mitko Pendjuckliski” – Kratovo	35,000	-0.17

Quantity of
purchased
extra light
fuel oil EL-1

Contracting authority	Quantity (in liters)	Difference against the average price
Primary School “Koco Racin” – Kratovo	52,000	-0.26
JSC Macedonian Postal Office	75,000	-0.26
Municipality of Rosoman	20,000	-0.26
PHI Health Centre – Kavadarci	11,000	-0.32
Faculty of Natural and Mathematic Sciences at the University of Ss. Cyril and Methodius	6,000	-0.48
Municipality of Bogovinje	10,000	-0.49
Primary School “Jonce Smugreski” – Krivogastani	23,000	-0.54
Secondary School “Saip Jusuf” – Skopje	10,000	-0.54
PE “Biljana Springs” – Ohrid	2,000	-0.54
Municipality of Studenici	85,000	-0.54
PE HS “Zletovica” – Probistip	4,000	-0.54
Secondary School “Gostivar” – Gostivar	90,000	-0.54
Secondary School “Negotino” – Negotino	26,483	-0.54
Primary School “Goce Delcev” – Ilinden	25,000	-0.54

The fact that purchased quantities did not affect prices attained is more than evident in this index of rationality. Notably, contracting authorities that have purchased the highest quantities (secondary school “Gostivar” – 90,000 litres and Municipality of Studenici – 85,000 litres) are actually in the group of procurement-making entities that paid fuel oil at the highest retail prices.

In summary, according to contracts signed, institutions involved in development of this index for the year 2016 will purchase a total of 666,483 litres of fuel oil. In that, 401,000 litres of this oil derivative will be purchased under small discounts against the highest retail price, by 0.05 to 2.30 MKD per litre, while quantity of 265,483 litres will be purchased at the highest retail prices.

2.5 Index of Rationality for X-ray RTG Films

The index of rationality for X-ray RTG films is developed for three dimensions of these medical supply that are most frequently used by health care institutions (18x24;24x30 and 35x35 cm). The index is developed on the basis of prices per package of 100 RTG films with identical characteristics according to the relevant technical specifications. Differences in price observed in terms of all three dimensions of RTG films are almost identical. Hence, in case of RTG films with dimensions 18x24, the ratio between the lowest and the highest price is 1:1.21; while in cases of RTG films with dimensions 24x30 and with dimensions 35x35 cm, the ratio between the lowest and the highest price is 1:1.22. This situation demonstrated certain changes when compared to 2013, when this medical supply was purchased by health care institutions from different suppliers and in different quantities, but at prices identical to the second decimal figure, which raised concerns about previous agreements among bidding companies. The index of rationality for RTG films developed in 2016 shows mild increase of prices by 5.4% to 6.5% compared to those observed in 2013. For procurement of this medical supply, all health care institutions organized transparent procurement procedures, i.e. bid-collection or open procedures, depending on the procurement's value. Hence, there is no possibility to identify reasons that have led to such differences in price.

Development of this index included contracting authorities whose procurement procedures were identified by means of procurement notices published in the Electronic Public Procurement System in the period July 2015 – March 2016. Information requests for organized tender procedures were addressed to 18 health care institutions, but the index includes data for tender procedures organized by 15 institutions, because in the case of three health care institutions (PHI Health Station Zelezara – Skopje, PHI Health Centre – Resen and PHI Clinic for Maxillofacial Surgery – Skopje) it was established that they have not procured X-ray films of dimensions analysed in this index.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PHI General Hospital – Kocani	2,335	-6.60%
PHI Health Centre – Probistip	2,336	-6.55%
PHI Clinical Hospital – Tetovo	2,336	-6.55%
PHI Health Centre – Sveti Nikole	2,336	-6.55%
PHI Health Centre – Pehcevo	2,336	-6.55%
PHI Health Centre “Zeleznicar” – Skopje	2,360	-5.47%
PHI Health Centre – Negotino	2,360	-5.47%
PHI General Hospital – Veles	2,418	-2.94%
PHI Health Centre – Radovis	2,418	-2.94%
Average*	2,489	0,00%
PHI Health Centre – Vevcani	2,513	+0.96%
PHI Health Centre “Goce Delcev” – Delcevo	2,570	+3.15%
PHI Clinical Hospital – Bitola	2,687	+7.37%
PHI General Hospital – Prilep	2,687	+7.37%
PHI General Hospital – Kicevo	2,804	+11.23%
PHI General Hospital “MD Ferid Murad” – Gostivar	2,832	+12.11%

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

Index of rationality for RTG films with dimensions 18x24 cm (price per 100 RTG films with dimensions 18x24 cm)

As shown in the table above, average price for procurement of one package of RTG films with dimensions 18x24 cm accounts for 2,489 MKD. In that, 9 health care institutions procured X-ray films at prices that are lower than the average, by 2.94% to 6.60%, while 6 health care institutions procured them at higher prices by 0.96% to 12.11%.

Differences in price cannot be explained with the type of procurement procedure organized (almost all institutions organized transparent procedures in compliance with the Law on Public Procurements and used “lowest price” as selection criterion), nor by competition in tender procedures, because in most cases same suppliers participated in tender procedures.

Expected effect of quantity purchased on prices is absent and contrary to any economic logic it seems that health care institutions purchasing the highest quantities have actually signed contracts at prices higher than the average price calculated for this index. They include procurement procedures organized by PHI Clinical Hospital – Bitola, PHI General Hospital – Prilep and PHI General Hospital “MD Ferid Murad” – Gostivar.

Contracting authority	Quantity	Difference against the average price
PHI General Hospital – Kocani	2,800	-6.60%
PHI Health Centre – Probistip	700	-6.55%
PHI Clinical Hospital – Tetovo	7,000	-6.55%
PHI Health Centre – Sveti Nikole	800	-6.55%
PHI Health Centre – Pehcevo	400	-6.55%
PHI Health Centre “Zeleznicar” – Skopje	2,500	-5.47%
PHI Health Centre – Negotino	1,500	-5.47%
PHI General Hospital – Veles	4,500	-2.94%
PHI Health Centre – Radovis	2,400	-2.94%
PHI Health Centre – Vevcani	2,400	+0.96%
PHI Health Centre “Goce Delcev” – Delcevo	1,800	+3.15%
PHI Clinical Hospital – Bitola	8,000	+7.37%
PHI General Hospital – Prilep	10,000	+7.37%
PHI General Hospital – Kicevo	2,800	+11.23%
PHI General Hospital “MD Ferid Murad” – Gostivar	8,000	+12.11%

Quantity of purchased RTG films with dimensions 18x24 cm

Average price for procurement of one package of 100 RTG films with dimensions 24x30 cm amounts to 4,101 MKD. In that, 10 health care institutions purchased these X-ray films at prices lower than the average, by 4.06% to 5.34%, while 4 health care institutions procured them at higher prices, by 8.42% to 13.97%.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PHI Health Centre – Radovis	3,893	-5.34%
PHI Health Centre – Probistip	3,894	-5.32%
PHI Clinical Hospital – Tetovo	3,894	-5.32%
PHI General Hospital – Veles	3,894	-5.32%
PHI General Hospital – Kocani	3,894	-5.32%
PHI Health Centre – Pehcevo	3,894	-5.32%
PHI Health Centre – Sveti Nikole	3,894	-5.32%
PHI Health Centre – Vevcani	3,902	-5.10%

Index of rationality for RTG films with dimensions 24x30 cm (price per 100 RTG films with dimensions 24x30 cm)

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PHI Health Centre – Negotino	3,918	-4.67%
PHI Health Centre “Zeleznicar” – Skopje	3,941	-4.06%
Average*	4,101	0.00%
PHI Clinical Hospital – Bitola	4,478	+8.42%
PHI General Hospital – Prilep	4,478	+8.42%
PHI General Hospital – Kicevo	4,673	+12.24%
PHI General Hospital “MD Ferid Murad” – Gostivar	4,767	+13.97%

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

This index as well confirmed the problem identified under the index for RTG films with smaller dimensions, whereby some institutions that purchased the highest quantity of this medical supply have actually paid prices higher than the average price calculated.

Contracting authority	Quantity	Difference against the average price
PHI Health Centre – Radovis	2,200	-5.34%
PHI Health Centre – Probistip	1,400	-5.32%
PHI Clinical Hospital – Tetovo	8,000	-5.32%
PHI General Hospital – Veles	5,000	-5.32%
PHI General Hospital – Kocani	4,600	-5.32%
PHI Health Centre – Pehcevo	600	-5.32%
PHI Health Centre – Sveti Nikole	800	-5.32%
PHI Health Centre – Vevcani	1,400	-5.10%
PHI Health Centre – Negotino	2,500	-4.67%
PHI Health Centre “Zeleznicar” – Skopje	1,700	-4.06%
PHI Clinical Hospital – Bitola	6,000	+8.42%
PHI General Hospital – Prilep	10,000	+8.42%
PHI General Hospital – Kicevo	4,000	+12.24%
PHI General Hospital “MD Ferid Murad” – Gostivar	10,000	+13.97%

Quantity of
purchased RTG
films with
dimensions
24x30 cm

The Index of Rationality for RTG films with dimensions 35x35 cm included 12 health care institutions. Average price for packaging of 100 films with these dimensions amounts to 7,205 MKD. In that, 8 of them paid prices lower than the average, by 0.73% to 5.46%, while 4 health care institutions paid above-average prices, by 0.15% to 13.52%.

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PHI Health Centre – Probistip	6,832	-5.46%
PHI General Hospital – Kocani	6,832	-5.46%
PHI Health Centre – Sveti Nikole	6,832	-5.46%
PHI Clinical Hospital – Tetovo	6,833	-5.44%
PHI Health Centre – Negotino	6,844	-5.27%
PHI Health Centre “Zeleznicar” – Skopje	6,909	-4.28%
PHI General Hospital – Veles	6,956	-3.58%
PHI Health Centre – Vevcani	7,153	-0.73%
Average*	7,205	0.00%
PHI Health Centre “Goce Delcev” – Delcevo	7,216	+0.15%
PHI Clinical Hospital – Bitola	7,858	+8.31%
PHI General Hospital – Prilep	7,858	+8.31%
PHI General Hospital “MD Ferid Murad” – Gostivar	8,331	+13.52%

*Average is calculated from prices paid by individual institutions included in this Index of Rationality.

**Index of
rationality for
RTG films with
dimensions
35x35 cm**
(price per 100
RTG films with
dimensions
35x35 cm)

As was the situation observed under indices for these films with different dimensions, this index as well does not allow the conclusion on factors that have led to such differences in price.

Contracting authority	Quantity	Difference against the average price
PHI Health Centre – Probistip	700	-5.46%
PHI General Hospital – Kocani	3,600	-5.46%
PHI Health Centre – Sveti Nikole	900	-5.46%
PHI Clinical Hospital – Tetovo	8,000	-5.44%
PHI Health Centre – Negotino	3,000	-5.27%
PHI Health Centre “Zeleznicar” – Skopje	1,100	-4.28%
PHI General Hospital – Veles	4,500	-3.58%
PHI Health Centre – Vevcani	2,400	-0.73%
PHI Health Centre “Goce Delcev” – Delcevo	1,000	+0.15%
PHI Clinical Hospital – Bitola	12,000	+8.31%
PH General Hospital – Prilep	6,000	+8.31%
PHI General Hospital “MD Ferid Murad” – Gostivar	6,000	+13.52%

Quantity of purchased RTG films with dimensions 35x35 cm

In conclusion, it should be said that three health care institutions have paid higher prices than the average for RTG films of all three dimensions, as follows: PHI Clinical Hospital – Bitola, PHI General Hospital – Prilep and PHI General Hospital “MD Ferid Murad” – Gostivar.

3

General conclusion

This issue of the Index of Rationality targeted the following group of products: industrial salt for winter maintenance of streets and roads; air-conditioners as split system with heating/cooling capacity of 3.5 KW, printer and copy paper (A4 format, 80 grams), extra light fuel oil EL-1 and X-ray RTG films of three dimensions (18x24; 24x30 and 35x35 cm).

It is a matter of products that had been earlier covered by indices of rationality developed in 2011, 2012 and 2013. Hence, the purpose of this Index of Rationality was to assess possible changes that might have occurred in the last period and effects from frequent amendments to the law on the marker of public procurements. Therefore, this section presents summary findings on the basis of this index for these products, followed by their comparison against findings from previous indices developed in the past. All indices of rationality developed by the Center for Civil Communications are available on the website opendata.mk.

As regards the Index of Rationality no. 15, the biggest differences in price were recorded in terms of printer and copy paper, and the smallest differences in price was observed in terms of X-ray RTG films with dimensions 18x24 cm, 24x30 cm and 35x35 cm.

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

- **industrial salt sold in bulk** was procured by municipalities and communal enterprises at prices from 4,720 to 7,399 MKD per ton, where the highest price is by 57% higher than the lowest, whereas **industrial salt packed in bags** was sold at prices ranging from 8,998 to 15,340 MKD and the highest price is by as much as 70% higher than the lowest;
- **air-conditioners with capacity 3.5 KW** with identical characteristics were purchased at prices from 16,296 to 27,404 MKD, whereby the highest prices is by 68% higher than the lowest price;
- **printer and copy paper** was procured at prices from 122 to 346 MKD per roll of paper, whereby the highest price is by 184% higher than the lowest price;
- **extra light fuel oil EL-1** was purchased with discount from 0.05 MKD to 2.30 MKD per litre from the capped retail prices established by the Energy Regulatory Commission. One third of institutions included in this index have paid the highest retail prices without any discount;

- **X-ray RTG films with dimensions 18x24 cm** in packaging of 100 films were procured at prices from 2,335 to 2,832 MKD, whereby the highest price is by 21% higher than the lowest; **X-ray RTG films with dimensions 24x30 cm** in packaging of 100 pieces were procured at prices ranging from 3,893 to 4,767 MKD, whereby the highest price is by 22% higher than the lowest; and **X-ray RTG films with dimensions 35x35 cm** in packaging of 100 films were procured at prices from 6,832 to 8,331 MKD, and the highest price paid is also higher by 22% than the lowest price attained.

Comparison of indices of rationality for **industrial salt** developed now and back in 2011 and 2012 showed increase of price for this product, especially in regard to bag-packed salt. Namely, development of the index of rationality for industrial salt in 2011 and 2012 did not establish major differences in price depending on the fact whether salt was sold in bulk or packed in bags.

Unfavourable trends were observed also in regard to public procurements organized for **air-conditioners**. Namely, comparison of current findings against those enlisted in the index of rationality for air-conditioners with capacity of 3.5 KW developed in 2011 and 2012 provides the conclusion that prices of air-conditioners are marked by continuous upward trend. If the average price calculated for this type of air-conditioners in 2011 amounted to 16,636 MKD and was 19,739 MKD in 2012, in the period 2015/2016 average price calculated for this index was 21,151 MKD. Compared to the previous period, it can be concluded that differences in price for procurement of this type of products are also growing.

Favourable changes were noted in regard to **printer and copy paper**. Average price for procurement of this product in 2016 amounted to 181 MKD per roll of paper, contrary to 211 MKD per roll of paper paid in 2011 and 196 MKD per roll of paper paid in 2012. Nevertheless, in spite of this price reduction, the current index recorded the highest differences in price for procurement of paper. More specifically, in 2011 the highest price was by 97% higher by the lowest, in 2012 this share accounted for 88% and in 2016 it has risen to high 184%.

Index of Rationality developed for **extra light fuel oil EL-1** was indicative of decrease in discount offered to institutions by supplies against the capped retail prices established by the Energy Regulatory Commission. Calculations made are indicative of continuous decrease of discounts for procurement of this type of fuel against the capped retail price, from 11% in 2011, through 5% in 2012 to current 2.8% in 2016.

Index of Rationality for **RTG films** developed in 2016 revealed differences between the lowest and the highest price in the range from 21% to 22% depending on dimensions of said films and mild increase in prices by 5.4% to 6.5% compared to 2013. Index of Rationality for this medical supply indicated certain changes compared to the situation observed in 2013 when health care institutions had purchased RTG films from different suppliers and in different quantities, but at prices identical to the second decimal, which was indicative of obvious arrangement among bidding companies.

Major differences in prices established under the index of rationality for this group of products confirm the conclusion that the act of formal organization of tender procedures in compliance with the Law on Public Procurements does not guarantee cost-effective public spending. Notably, all institutions have organized their respective procurements included in this index

by means of announcing calls for bids for their tender procedures, including use of “lowest price” as selection criterion and anticipated organization of e-auctions. One must have in mind that stimulating as bigger competition as possible among participants in tender procedures should be an imperative for contracting authorities, because only in that manner they could expect to obtain the best value for the money spent.

Contracting authorities should perceive the Index of Rationality as useful tool by means of which it has been undoubtedly established that the market of public procurements in the country still falls short of guaranteeing fully rational and efficient spending of public funds and that a series of challenges remain and need to be addressed.

