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C Center for Civil Communications
Центар за граѓански комуникации

Index of Rationality

9.

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1. GOALS AND METHODOLOGY

The Centre for Civil Communications from Skopje is the only non-governmental organization in the Republic of Macedonia that implements direct and comprehensive monitoring of public procurement procedures in the country. In an attempt to make additional contribution to advancing the state-of-affairs in this field, the Centre 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 the bottlenecks in the system and, ultimately, to contribute to institutions' cost-effective spending of budgets sustained by taxpayers.

The Index of Rationality is developed by means of comparison of prices under which different institutions have procured same products, services or works. In addition to enabling comparison of prices, the analysis of same type of products, services or works provides different patterns of behaviour on the part of state institutions when implementing same type of public procurements.

The Index is envisaged to serve the 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 the institutions and do not imply actual or market prices, the 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 for same type of procurements.

Differences in price paid by the institutions for same type of products and services indicate the need for a 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 the Index includes all national and local level contracting authorities, 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.

Data collection from primary sources 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 the 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 sources of data include:

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

It should be noted that the Index of Rationality will disclose the contracting authorities monitored, but not the companies with whom contracts have been signed, (although data thereof is available), given that the responsibility for rational spending primarily lies with the contracting authorities.

2. INDEX OF RATIONALITY

The Index of Rationality no.9 is developed for the following five types of products, i.e. services:

- **maintenance of elevators;**
- **printing of bill forms;**
- **RTG X-ray films;**
- **cow's milk cheese; and**
- **GPS devices.**

The Index of Rationality for these types of products and services was developed by targeting national and local institutions that have procured these products or services in the first half of 2013.

Initially, a total of 53 national and local contracting authorities were addressed with FOI applications inquiring about prices attained for procurement of given products or services. However, due to objective or subjective reasons, as indicated throughout the analysis, in the end the Index was developed on the basis of price information provided by 39 institutions.

2.1 Index of Rationality for Maintenance of Elevators

Prices paid by the institutions for annual on-going maintenance of passenger elevators range from 9,256 to 29,783 MKD per elevator. The ratio between the lowest and the highest price is as high as 1:3.22, which means that the highest price paid by PHI Health Care Centre - Skopje for on-going maintenance of elevators is by 222% higher than the price paid for the same service by the Department for General and Common Matters at the Government of the Republic of Macedonia.

Such great difference in price can only be partially explained by the number of elevators for which the maintenance contract has been signed. The Department for General and Common Matters has signed a contract for maintenance of 30 elevators, while PHI Health Care Centre - Skopje signed a contract for maintenance of only 3 elevators.

Differences are also noted in regard to organization of e-auction as the final stage in the procurement process, where the Department for General and Common Matters at the Government of the Republic of Macedonia received two bids and organized a downward bidding, while PHI Health Care Centre - Skopje was presented with only one bid and did not organize an e-auction due to lack of competition. In terms of the type of procurement procedure organized, both institutions organized a bid-collection procedure and applied "lowest price" as the selection criterion.

Index of Rationality for Maintenance of Elevators

(price for annual on-going maintenance per elevator)

Contracting authority	Price in MKD (VAT included)	Difference against the average
Department for General and Common Matters at the Government of the Republic of Macedonia	9,256	-50.43%
PI Institute for Protection and Rehabilitation "Banja BANSKO" – Strumica	12,823	-31.33%
PHI Institute of Nephrology – Struga	17,700	-5.22%
Average*	18,674	0.00%
JSC Thermal Power Plant Negotino	19,824	+6.16%
Institute for Hydro-Meteorology Services	22,656	+21.32%
PHI Health Care Centre - Skopje	29,783 ¹	+59.49%

¹ PHI Health Care Centre - Skopje has 3 elevators located in the Polyclinic "Bit Pazar", Polyclinic "Idadija" and Institute for Mental Health of Children and Youth "Mladost", and indicated minor differences in the price paid

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

Index of Rationality for Maintenance of Elevators targeted all institutions that have organized a tender procedure for this type of procurement in the first six months of 2013.

Through the Electronic Public Procurement System (EPPS), the monitoring team identified 14 contracting authorities that announced calls for this type of procurement. Although they were addressed with FOI application, JSC Power Plants of Macedonia – Skopje did not disclose the information requested. PE “Official Gazette of the Republic of Macedonia” informed us that the tender procedure announced for this type of services has been annulled. State Student Dormitory “Skopje” and PE “State Roads” informed that they do not have contracts for on-going maintenance, but that their contract concerns periodic inspection, on request. JSC City Trade Centre - Skopje disclosed that the tender procedure they had announced concerns reconstruction, installation and de-installation of parts and fittings for elevators and escalators, and not on-going maintenance. Moreover, calculations made under this index excluded the National Bank of the Republic of Macedonia as they informed us about the price paid for on-going maintenance of 6 passenger and 2 freight elevators, failing to distinguish between the two types and indicating that the contract’s total value is 1,500,000 MKD. Parliament of the Republic of Macedonia disclosed information on the total price paid for on-going maintenance of 1 passenger elevator, 2 kitchen lifts and 6 elevators for disabled people, indicating that the contract’s total value is 300,000 MKD. This index does not include price information provided by the Rector’s Office at the “Ss. Cyril and Methodius” University in Skopje, as they indicated that the contract’s total value is 1,200,000 MKD for 4 elevators and covers on-going maintenance, but also elevator servicing and possible installation of spare parts.

Therefore, the Index of Rationality for maintenance of elevators is based on information provided by six institutions. As shown in the table above, there are major differences in price paid for this type of procurement. In that, three contracting authorities attained prices lower than the average, and three contracting authorities

for maintenance of elevators in the three different facilities. Therefore, the Index includes the average price paid by this contracting authority.

signed contracts with prices higher than the average calculated for the index. The lowest price is by 50.43% lower than the average and the highest price is by 59.49% higher than the average.

Major differences in price cannot be justified by the type of procurement procedure organized. All tender procedures implied announcement of call for bids, which means that the contracting authorities implemented transparent procurement procedures. Moreover, all tender procedures indicated “lowest price” as the criterion for selection of the most favourable bid.

Differences in price can only be partially explained by the organization of e-auction as the final stage in the procedure, because the lowest price (Department for General and Common Matters at the Government of the Republic of Macedonia) was attained in a procedure that included organization of e-auction, whereas the tender procedure with the highest price attained (PHI Health Care Centre - Skopje) was not completed with an e-auction. However, e-auction was not organized in the tender procedure implemented by PI Institute for Protection and Rehabilitation “Banja BANSKO” - Strumica, whose price is below the average, while the Institute for Hydro-Meteorology Services is in the group of contracting authorities that attained higher prices, although it organized an e-auction.

In an attempt to examine the possible differences in price in terms of contract’s total value, the index also includes an overview of the number of elevators whose maintenance is the subject of procurement contracts signed.

Number of elevators for which on-going maintenance is contracted

Contracting authority	Number of elevators	Difference of individual price against the average
Department for General and Common Matters at the Government of the Republic of Macedonia	30	-50.43%
PI Institute for Protection and Rehabilitation “Banja BANSKO” - Strumica	3	-31.33%
PHI Institute of Nephrology - Struga	2	-5.22%
JSC Thermal Power Plant Negotino	2	+6.16%
Institute for Hydro-Meteorology Services	1	+21.32%
PHI Health Care Centre - Skopje	3	+59.49%

As shown in the table above, the Department for General and Common Matters at the Government of the Republic of Macedonia signed a maintenance contract for the highest number of elevators. However, the institution that attained the highest price under this index does not demonstrate major deviation in terms of the number of elevators that are subject of on-going maintenance compared to other contracting authorities included in the index.

2.2 Index of Rationality for Bill Forms

As regards services related to printing of bill forms, the local public enterprises pay from 0.65 to 3.54 MKD per form. The analysis provides the conclusion that with the money spent for printing of one bill form by PCE “Water Supply” in the settlement Ilinden, PE “Water Supply and Sewage” – Skopje purchases five bill forms. Hence, the ratio between the lowest and the highest price is as high as 1:5.45, which means that the highest price is by 445% higher than the lowest price.

Nevertheless, the lowest price attained by PE “Water Supply and Sewage” – Skopje for this type of procurement can be justified with the procurement’s quantity and also with the fact that contrary to the other contracting authorities this utility company, in addition to bill forms, relies on the supplier for printing of bills and lists of interest rate, as well as for enveloping them. Certain is that the practice of procuring a service package increased the interest among vendor companies in the procurement procedure organized by PE “Water Supply and Sewage” – Skopje, contrary to the tender procedures organized by other public enterprises that only concern development of bill forms.

Index of Rationality for Bill Forms (price per 1 bill form)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PE “Water Supply and Sewage” – Skopje	0.65	-61.08%
PCE “Water Supply” – Bitola	0.83	-50.30%
PE “Isar” – Stip	0.84 ²	-49.70%
PE “Niskogradba” – Ohrid	0.89	-46.71%
PCE “Ilinden” – settlement Ilinden	1.05	-37.13%
PE “Communal Hygiene” – Skopje	1.48	-11.38%
Average*	1.67	0.00%
PCE “Komunalec” – Gevgelija	1.77	+5.99%
PCE “Komunalec” – Strumica	2.78	+66.47%
PE “Kamena Reka” – Makedonska Kamenica	2.89	+73.05%
PCE “Water Supply” – settlement Ilinden	3.54	+111.98%

*Average is calculated from the individual prices paid by the institutions included in the Index.

² The price indicated is weighted average of prices paid for bill forms intended for natural persons and legal entities.

FOI applications that inquired about the individual price per bill form and total number of forms purchased were addressed to 11 contracting authorities that have implemented this type of procurements in the course of 2012/2013. However, the Index of Rationality for printing bill forms is developed only for 10 institutions, as PE “Solidarity” – Vinica did not disclose the information requested.

As shown in the table above, six public enterprises paid prices lower by 11.38% to 61.08% than the average calculated and four institutions attained prices that are higher than the average by 5.99% to 111.98%.

Such great differences in price cannot be explained by the type of procurement procedure organized, or by the criterion applied for selection of the most favourable bid.

All institutions organized transparent procurements by means of bid-collection or open procedures. As expected, entities that procured the highest quantity, i.e. signed the biggest contracts, include the utility enterprises based in Skopje: PE “Water Supply and Sewage” – Skopje and PE “Communal Hygiene” – Skopje. All institutions used “lowest price” as the selection criterion. Great differences in price cannot be explained by organization of e-auctions, because both, the lowest and the highest price for printing of bills, were attained in public procurement procedures that were competed with e-auctions. Moreover, the only two institutions whose tender procedures were not completed with e-auctions are PCE “Komunalec” – Strumica and PE “Kamena Reka” – Makedonska Kamenica, which attained prices that are categorized as outstandingly high.

Partial justification for the low price attained is the fact that contrary to other public enterprises, PE “Water Supply and Sewage” – Skopje, in addition to bill forms, purchased services for printing of bills, printing of lists of interest rates, enveloping of bills and lists. Although the tender documents for this public procurement were not made publicly available at the time the call for bids was announced, obvious is that the procurement was not divided into lots, which increases the possibility for companies to bid more favourable prices for all services defined as indivisible lot. Other public enterprises included in the index predominantly purchased bill forms.

Such great differences in price can only be partially justified by the quantity purchased, where PE “Water Supply and Sewage” – Skopje purchased by around 200 times more bill forms compared to PCE “Water Supply” – settlement Ilinden, which attained the highest price. It should be noted that the contract signed by PE

“Water Supply and Sewage” – Skopje amounts to around 50,000 EUR, while the contract signed by PCE “Water Supply” – settlement Ilinden amounts to around 2,000 EUR.

Number of bill forms purchased

Contracting authority	Number of forms	Difference of individual price against the average
PE “Water Supply and Sewage” – Skopje	6,644,000	-61.08%
PCE “Water Supply” – Bitola	11,2500	-50.30%
PE “Isar” – Stip	130,000	-49.70%
PE “Niskogradba” – Ohrid	68,500	-46.71%
PCE “Ilinden” – settlement Ilinden	120,000	-37.13%
PE “Communal Hygiene” – Skopje	60,000	-11.38%
PE “Komunalec” – Gevgelija	8,000	+5.99%
PCE “Komunalec” – Strumica	220,000	+66.47%
PE “Kamena reka” – Makedonska Kamenica	10,000	+73.05%
PCE “Water Supply” – settlement Ilinden	35,000	+111.98%

2.3 Index of Rationality for RTG X-Ray Films

Health care institutions purchased RTG films from several different suppliers, in different quantities, but under identical prices. The Index of Rationality for this type of products shows that there are no differences in price, although the competent institutions did not set the upper threshold for RTG films in their relevant tender documents. As shown in the three tables below, the above presented conclusion is inferred on the basis of comparing prices attained for RTG films of three different sets of dimensions (18x24; 24x30 and 35x35 cm) that are most frequently used in medicine. Thus, all health care institutions purchased a packaging of 100 RTG films with dimensions 18x24 cm at the price of 2,336 MKD (VAT included). All institutions purchased a packaging of 100 RTG films with dimensions 24x30 cm at the price of 3,894 MKD. As shown in the third table below, packaging of 100 RTG films with dimensions 35x35 cm was purchased at a price of 6,832 MKD. When purchasing these medical supplies, all health care institutions organized transparent procurements by means of bid-collection or open procedures. Differences in price are not recorded, although some health care institutions completed their public procurement procedures with e-auctions, while others did not organize e-auctions due to lack of competition.

Index of Rationality for RTG Films

(price per 100 RTG films with dimensions 18x24)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PHI General Hospital - Kumanovo	2,336	0.00%
PHI General Hospital - Struga	2,336	0.00%
PHI Health Care Centre "MD Ruse Boskovski" - Mavrovo-Rostuse	2,336	0.00%
PHI Health Care Centre - Vinica	2,336	0.00%
Average*	2,336	0.00%
PHI Health Care Centre - Radovis	2,336	0.00%
PHI University Surgical Clinic "St. Naum of Ohrid", Skopje	2,336	0.00%
PHI University Clinic of Pulmonology and Allergy Diseases - Skopje	2,336	0.00%
PHI Clinic of Radiology - Skopje	2,336	0.00%

Index of Rationality for RTG Films

(price per 100 RTG films with dimensions 24x30)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PHI General Hospital - Kumanovo	3,894	0.00%
PHI General Hospital - Struga	3,894	0.00%
PHI Health Care Centre "MD Ruse Boskovski" - Mavrovo-Rostuse	3,894	0.00%
Average*	3,894	0.00%
PHI Health Care Centre - Vinica	3,894	0.00%
PHI Health Care Centre - Radovis	3,894	0.00%
PHI University Surgical Clinic "St. Naum of Ohrid" - Skopje	3,894	0.00%

Index of Rationality for RTG Films

(price per 100 RTG films with dimensions 35x35)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PHI General Hospital – Kumanovo	6,832	0.00%
PHI General Hospital - Struga	6,832	0.00%
PHI Health Care Centre "MD Ruse Boskovski" - Mavrovo-Rostuse	6,832	0.00%
PHI Health Care Centre - Vinica	6,832	0.00%
Average*	6,832	0.00%
PHI Health Care Centre - Radovis	6,832	0.00%
PHI University Surgical Clinic "St. Naum of Ohrid" - Skopje	6,832	0.00%
PHI University Clinic of Pulmonology and Allergy Diseases - Skopje	6,832	0.00%

Development of this index included 11 contracting authorities that have organized public procurements for these medical supplies in the first 7 months of 2013. Only PHI Special Orthopaedics and Traumatology Hospital "St. Erasmus" - Ohrid did not disclose the information requested. General Hospital "8th September" - Skopje provided information on RTG films purchased, but with dimensions 8x10; 10x12 and 14x17 cm, which are incompatible with the dimensions of RTG films purchased by other health care institutions and prevented comparison of price information. PHI University Clinic of Radiology and Oncology informed us that the indicated tender procedure for RTG supplies had been annulled on the grounds of not receiving any bids. Therefore, the Index of Rationality for RTG films was developed with

information provided by 8, i.e. 7 institutions, depending on the different set of dimensions of the procurement subject.

Index of Rationality for these medical supplies shows that there are no differences in price irrespective of the type of public procurement organized as bid-collection or open procedure. All procurement procedures defined “lowest price” as the selection criterion.

In that, the prices bided by the suppliers did not change, even in cases when e-auctions were organized as the final stage in the procedure. As shown in the tables below, the price for these medical supplies did not change as a result of the quantity purchased. Both PHI Health Care Centre “MD Ruse Boskovski” - Mavrovo-Rostuse and PHI Clinic of Radiology - Skopje paid the same price for RTG films with dimensions 18x24 cm, although they purchased 300 films (3 packaging x 100 films) and 14,500 films, respectively.

Quantity of purchased RTG films with dimensions 18x24

Contracting authority	Number of packaging with 100 films each	Difference of individual price against the average
PHI General Hospital - Kumanovo	110	0.00%
PHI General Hospital - Struga	/	0.00%
PHI Health Care Centre “MD Ruse Boskovski” - Mavrovo-Rostuse	3	0.00%
PHI Health Care Centre - Vinica	20	0.00%
PHI Health Care Centre - Radovis	20	0.00%
PHI University Surgical Clinic “St. Naum of Ohrid” - Skopje	80	0.00%
PHI University Clinic of Pulmonology and Allergy Diseases - Skopje	15	0.00%
PHI Clinic of Radiology - Skopje	145	0.00%

Differences in price were not observed in terms of RTG films with dimensions 24x30 cm, although the General Hospital in Kumanovo purchased the highest quantity and the Health Care Centre in Rostuse the lowest quantity of these medical supplies.

Quantities of purchased RTG films with dimensions 24x30

Contracting authority	Number of packaging	Difference of individual price
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	with 100 films each	against the average
PHI General Hospital - Kumanovo	150	0.00%
PHI General Hospital - Struga	/	0.00%
PHI Health Care Centre "MD Ruse Boskovski" - Mavrovo-Rostuse	3	0.00%
PHI Health Care Centre - Vinica	12	0.00%
PHI Health Care Centre - Radovis	23	0.00%
PHI University Surgical Clinic "St. Naum of Ohrid" - Skopje	80	0.00%

No differences were observed in prices attained for RTG films with dimensions 35x35 cm, although different contracting authorities purchased different quantities of films.

Quantity of purchased RTG films with dimensions 35x35

Contracting authority	Number of packaging with 100 films each	Difference of individual price against the average
PHI General Hospital - Kumanovo	215	0.00%
PHI General Hospital - Struga	/	0.00%
PHI Health Care Centre "MD Ruse Boskovski" - Mavrovo-Rostuse	2	0.00%
PHI Health Care Centre - Vinica	12	0.00%
PHI Health Care Centre - Radovis	14	0.00%
PHI University Surgical Clinic "St. Naum of Ohrid" - Skopje	10	0.00%
PHI University Clinic of Pulmonology and Allergy Diseases - Skopje	60	0.00%

2.4 Index of Rationality for Cow's Milk Cheese

The ratio between the lowest and the highest price recorded under the index for cow's milk cheese is 1:1.46, which means that the highest price is by 46% higher than the lowest price. The highest price for this product was paid by the State Student Dormitory "Pelagonija" in Skopje, which purchased a quantity of 1,000 kg. This price is higher than the price attained by PHI Clinic of Maxillofacial Surgery which, after the failed tender procedure, purchased 72 kg of cheese from the market located within the clinical centre.

Index of Rationality for Cow's Milk Cheese

(price per 1 kg of cheese)

Contracting authority	Price in MKD (VAT included)	Difference against the average
Penitentiary and Correction Facility "Prison" - Prilep	160	-20.40%
PHI Institute of Gerontology - Skopje	187	-6.97%
PHI Clinical Hospital - Bitola	190	-5.47%
State Student Dormitory "Tome Stefanovski Senik" - Skopje	195	-2.99%
Average*	201	0.00%
Prison - Bitola	214	+6.47%
PHI Clinic of Maxillofacial Surgery	229	+13.93%
State Student Dormitory "Pelagonija" - Skopje	234	+16.42%

* Average is calculated from the individual prices paid by the institutions included in the Index.

Development of this index included information from all eight institutions that organized foodstuff tender procedures in the first half of the year, where the relevant technical specifications available in EPPS indicated procurement needs for cow's milk cheese. Only PHI Institute for Physical Medicine and Rehabilitation – Skopje did not disclose the requested information about the price paid per 1 kg of cheese.

As shown in the table above, four institutions purchased the cheese at prices lower than the average calculated for the index, and three institutions attained higher prices.

Institutions included in this index purchased the cheese as part of procurements for dairy products organized as open procedure or bid-collection procedure.

Analysis of conditions under which these tender procedures were implemented shows that differences in price were affected by the selection criterion applied and

whether the procedure was completed with an e-auction. The contracting authority that attained the highest price for cow's milk cheese is the only institution that applied "economically most favourable bid" as the selection criterion, where price was assigned a maximum of 50 points, quality was assigned 30 points and technical features were given 20 points. All other institutions based their selection decision on "lowest price".

Differences in price were also noted in correlation to e-auctions. Namely, the two contracting authorities that attained the lowest prices (PCF "Prison" in Bitola and PHI Institute of Gerontology "13th November" in Skopje) were presented with several bids and organized downward bidding by means of e-auctions. On the contrary, the highest price attained for this product is noted with the institution that was presented with only one bid in the tender procedure and as result did not organize an e-auction. It should be noted that PHI Clinic of Maxillofacial Surgery informed that due to small quantity of cow's milk cheese indicated in the tender documents, it did not receive any bids for this lot and therefore the tender procedure for this product failed. Due to this outcome, the institution decided to purchase the cheese from the closest market located within the clinical centre.

Quantity of cow's milk cheese purchased

Contracting authority	Quantity (in kg)	Difference of individual price against the average
PCF "Prison" - Prilep	237	-20.40%
PHI Institute of Gerontology - Skopje	215	-6.97%
PHI Clinical Hospital - Bitola	2,600	-5,47%
State Student dormitory "Tome Stefanovski Senik" - Skopje	/	-2.99%
Prison - Bitola	/	+6.47%
PHI Clinic for Maxillofacial Surgery	72	+13.93%
State Student Dormitory "Pelagonija" - Skopje	1,000	+16.42%

When this information is combined with the quantity purchased (shown in the table above), obvious is that the highest price attained in the tender procedure for procurement of 1,000 kg of cheese is much higher than the market retail price and

provides the conclusion that contrary to any economic logic the quantity purchased did not affect the prices bided.

2.5 Index of Rationality for GPS Devices

The Index of Rationality for GPS devices shows significant differences in price. The ratio between the lowest and the highest price is 1:3.02, which means that Macedonian Railways "Transport" paid by 202% higher price for GPS devices purchased compared to Public Transportation Enterprise - Skopje. Suppliers of satellite tracking devices for vehicles that were consulted by the monitoring team stated that there are no differences between devices purchased for cars (Municipality of Aerodrom, PE "Ohridski Komunalec", PE "Macedonian Radio and Television"), for buses (PTE Skopje) or for locomotives (MR "Transport"), which makes the comparison of prices attained for procurement of GPS devices relevant. Differences in price cannot be explained by the type of procurement procedure organized or the quantity of GPS devices purchased. Partial justification for differences in price can be identified in the selection criteria applied. MR "Transport" is the only institution that allocated points to the quality of devices being purchased, but their tender documents were not published in the Electronic Public Procurement System, and prevented assessment of the manner in which quality of GPS devices was evaluated.

Index of Rationality for GPS Devices

(price per GPS device and installation)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PTE Skopje	6,406	-48.89%
Municipality of Aerodrom	12,200	-2.66%
PE "Ohridski Komunalec"	12,337	-1.57%
PE "Macedonian Radio and Television"	12,390	-1.15%
Average*	12,534	0.00%
MR "Transport" JSC - Skopje	19,337	+54.28%

* Average is calculated from the individual prices paid by the institutions included in the Index

Having in mind that GPS devices are a frequent subject of public procurements, this Index of Rationality again includes an analysis of procurement procedures organized for this product in order to assess the trend of prices two years after these products were first included in the Index of Rationality no. 3. Comparison shows that 2012/2013 prices of GPS devices are significantly lower compared to prices

recorded two and half years ago, which targeted procurement procedures implemented in the period 2008-2011. Average price for procurement of devices for satellite tracking of vehicles in the new index amounts to 12,534 MKD and is by 42.71% lower than the average price calculated under the 2011 Index, which amounted to 21,878 MKD.

Namely, development of this Index of Rationality targeted nine institutions. Only five of them disclosed the information requested. In the period September-October 2013, PE "Communal Hygiene" – Skopje informed us, in written and by telephone, that they have still not been presented with the selection decision, although the tender procedure was initiated as early as July 2013. PE "Macedonian Forests" informed is that their GPS devices are not intended for vehicles, but to demark the boundaries of forests managed by the company. Relevant tender procedures for this type of procurements announced by PE "Komunalec" – Kicevo and JSC MEPSO have been annulled.

Therefore, the Index of Rationality was developed with price information provided by five local and national institutions instead of the nine institutions initially addressed with FOI applications.

No differences were noted in terms of the type of procurement procedure organized. Namely, all institutions organized transparent procurements, where PTE Skopje, Municipality of Aerodrom and PE "Macedonian Radio and Television" organized bid-collection procedures in the value of up to 5,000 EUR and the other two institutions (PE "Ohridski Komunalec" and MR "Transport") organized bid-collection procedures in the value of up to 20,000 EUR.

Partial justification of differences in price can be found in the selection criterion applied. In that, the two institutions (PTE Skopje and Municipality of Aerodrom), which procured GPS devices at the lowest price, used "lowest price" as the selection criterion in their procurement procedures. Price was the decisive element in the procurement implemented by PE "Macedonian Radio and Television", i.e. price for procurement and installation of GPS devices was assigned 40 points, but the price for monthly subscription was assigned 60 points. In the procurement procedure organized by PE "Ohridski Komunalec", in addition to the price, which was allocated 60 points, the warranty period was allocated 20 points and the payment deadline was allocated 10 points. On the other hand, MR "Transport" allocated 45 points to price, 40 points to quality, 5 points to post-warranty support, 5 points to

implementation deadline and 5 points to equipment's warranty period. Differences in prices cannot be explained by organization of e-auctions, because e-auctions were organized in the tender procedures that attained the lowest and the highest price of GPS devices. Only PE "Ohridski Komunalec" did not organize the planned e-auction. As shown in the table below, differences in price cannot be explained by the quantity purchased.

Number of GPS devices purchased

Contracting authority	Number of devices	Difference of individual price against the average
PTE Skopje	6	-48.89%
Municipality of Aerodrom	8	-2.66%
PE "Ohridski Komunalec"	12	-1.57%
PE "Macedonian Radio and Television"	10	-1.15%
MR "Transport" JSC - Skopje	30	+54.28%

It turns out that the institution which paid the lowest price for GPS devices procured the lowest quantity, whereas the institution that procured the highest quantity attained the highest price recorded in the index.

3. GENERAL CONCLUSION

Significant differences in price were noted under the Index of Rationality developed for a new group of products (medical supplies – RTG X-ray films, GPS satellite tracking devices for vehicles and cow's milk cheese) and services (on-going maintenance of elevators and printing of bill forms). In that, the greatest difference in prices was recorded in regard to procurement of bill forms, where the highest price is by four and a half times higher than the lowest price. For the first time from the beginning of this process, the Index of Rationality did not record differences in price for procurement of same type of products, i.e. different health care institutions purchased RTG X-ray films at the same price. It should be noted that these procurements did not concern products for which the competent institutions set an upper price threshold and that the product was not purchased from one and the same supplier.

In summary, the Index of Rationality provided the following insights:

- **annual on-going maintenance of elevators** costs the institutions from 9,256 to 29,783 MKD per elevator, where the highest price paid for this service is by 222% higher than the lowest price recorded;
- public enterprises paid from 0.65 to 3.54 MKD per **bill form**, where the highest price is by 445% higher than the lowest price;
- **RTG films** are medical supplies which the health care institutions purchased at identical price, although the films were procured in different quantity and from different suppliers. In that, all health care institutions purchased a packaging of 100 RTG films with dimensions 18x24 cm at the price of 2,336 MKD, with dimensions 24x30 cm at the price of 3,894 MKD and with dimensions 35x35 cm at a price of 6,832 MKD;
- prisons, student dormitories and health care institutions paid prices that range from 160 to 234 MKD per kg of **cow's milk cheese**, where the highest price is by 46% higher than the lowest price;
- **GPS devices for satellite tracking of vehicles** (cars, buses and locomotives) were procured at a price from 6,406 to 19,337 MKD, where the highest price is by 202% higher than the lowest price.

Again, the Index of Rationality developed for a new group of products and services confirmed the statement that the act of formal implementation of tender procedures in compliance with the Law on Public Procurements does not guarantee rational public spending. Significant differences in price, which in some cases can be partially justified by the criterion for selection of the most favourable bid applied, organization of e-auction or the quantity purchased, are indicative of certain weaknesses in the implementation of public procurements. It seems that institutions pay more attention to comply with the form of implementing public procurement procedures rather than to use the law-stipulated procedures and to obtain the best value for the money spent.

Information gathered for the development of this Index of Rationality provides the following conclusions and recommendations:

- *Once they are planned as the final stage in public procurements, e-auctions must be organized because their non-implementation creates negative effects and procurement contracts are signed with higher prices.* Analyses of two indices, for maintenance of passenger elevators and for procurement of cow's milk cheese, show that the highest prices were actually attained in procurement procedures with only one bidder where e-auctions were not organized. Undoubtedly, this leads to the conclusion that the institutions are obliged, by means of terms and conditions defined in their tender documents, to encourage greater competition in public procurements. On the contrary, in expectation of the downward bidding, the companies offer initial prices that do not correspond with their minimum acceptable threshold, which in turn increases the risk whereby non-organization of e-auctions results in contracts signed at prices higher than the actual prices.
- *Institutions that purchase larger quantity of a given product or request services of larger scope must use this fact to their advantage, i.e. to lower the prices.* Indices of Rationality for RTG films, cow's milk cheese and GPS devices show that the quantity purchased did not affect the prices attained. Such observation is contrary to the principles of economics and refers to the need for institutions to indicate the quantity being procured as part of their tender documents. At the moment, dominant are practices whereby tender documents developed by the institutions indicate goods and services being

procured and request the companies to submit bids with individual prices without being aware of the quantity that would be purchased. Greater results would be achieved if both parties in the procurement procedure are aware of the contract's scope, which will ultimately result in potential suppliers bidding lower prices for greater quantity.

- *Cost-effectiveness in public spending must be the first and foremost concern of all contracting authorities.* Given the fact that both local and national budgets are sustained by taxes levied to all companies and citizens, unclear is the easiness with which certain institutions spend taxpayers' money. This statement can best be supported with the analysis of the Index of Rationality for GPS devices. Although these devices should not differ in terms of the transportation means being tracked by satellite, i.e. whether it is a matter of cars, buses or locomotives, it seems that Macedonian Railways "Transport" paid a price that is twice as higher as the price attained by PTE Skopje. Having in mind that tender documents developed by MR "Transport" were unavailable for insight that would have enabled details about the technical specifications for the GPS devices being procured, even if such insight resulted in establishment of the fact that these devices are of much better performance compared to those purchased by PTE Skopje, the dilemma is raised whether such high-end technology devices were absolutely necessary. This opens another important question: does the financial status of institutions that have been operating with negative balance should spend public funds to purchase goods and services without making due account of rationality and cost-effectiveness in public spending.
- *Only by encouraging greater competition in tender procedures the contracting authorities can avoid the risk of great differences in price.* Having in mind that the institutions dispose with public funds, they are responsible to encourage competition as the only guarantee that best value has been obtained for the money spent.

Contracting authorities should view the Index of Rationality as useful instrument, as it undoubtedly shows that the public procurements market in the country does not

guarantee completely rational and cost-effective public spending and has identified many challenges that are yet to be addressed.