



**USAID**  
FROM THE AMERICAN PEOPLE



**C** Center for Civil Communications  
Центар за граѓански комуникации

## Index of Rationality

10.

Skopje, May 2014

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) within the USAID Civil Society Project. The contents of this publication are the responsibility of the Foundation Open Society – Macedonia and the Centre for Civil Communications and do not reflect the views of USAID or the United States Government.

# TABLE OF CONTENTS

<b>1. GOALS AND METHODOLOGY.....</b>	<b>4</b>
<b>2. INDEX OF RATIONALITY.....</b>	<b>6</b>
2.1. Index of Rationality for School Desks.....	7
2.2. Index of Rationality for Automobile Tires.....	11
2.2.1. Index of Rationality for Automobile Tires with Dimensions 175/70 r13 .....	12
2.2.2. Index of Rationality for Automobile Tires with Dimensions 205/55r16.....	16
2.3. Index of Rationality for Crushed Stone for Road Maintenance.....	19
2.4. Index of Rationality for Expert Supervision of Construction Works.....	25
2.5. Index of Rationality for Nitrous Oxide N <sub>2</sub> O for Medical Use.....	29
<b>3. GENERAL CONCLUSION.....</b>	<b>32</b>

## 1. GOALS AND METHODOLOGY

The Centre for Civic 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 the 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 the 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 comparing the prices under which different institutions have purchased same goods, services or works. In addition to enabling comparison of prices, the analysis of same types of products, services or works provides different patterns of behaviours on the part of state institutions when implementing same type of 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 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 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 data sources 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), in particular due to the fact that responsibility for rational public spending primarily lies with the contracting authorities.

## **2. INDEX OF RATIONALITY**

Index of Rationality no.10 is developed for the following types of goods and services:

- **school desks;**
- **automobile tires;**
- **crushed stone for road maintenance;**
- **expert supervision of construction works; and**
- **nitrous oxide N<sub>2</sub>O for medical use.**

Development of the Index of Rationality for these types of goods and services includes national and local institutions that have organized public procurements for these types of goods or services in the course of 2013.

Initially, the Index of Rationality targeted 72 institutions on national and local level, but due to objective and subjective reasons, it relies only on data related to prices of goods and services paid by a total of 43 institutions.

## 2.1 Index of Rationality for School Desks

*Prices paid by individual institutions for procurement of school desks range from 1,729 to 6,103 MKD per desk. This Index shows the absence of clear standards on school desks in the Macedonian education system. Unlike the small differences observed in terms of desk dimensions, major differences were noted in terms of materials used to manufacture the desks.*

*Contracting authorities included in this Index predominantly purchased school desks of standard dimensions (130x50x75 cm), with the exception of the Ministry of Education, which purchased school desks with dimensions 136x65x76 cm, and the University "St. Clement of Ohrid" - Bitola, which purchased school desks with dimensions 130x55x75 cm.*

*Greater differences were noted in terms of materials used to manufacture the desks. In that, school desks purchased by the Faculty of Information Sciences and Computer Engineering (FINKI), which attained the lowest price, are made of metal construction and fine-finish plywood, while the University "St. Clement of Ohrid" - Bitola, which attained the highest price, purchased school desks completely manufactured from fine-finish plywood. The public procurement procedure organized by the Ministry of Education and Science concerned school desks made of steel construction with pressed laminate and fine-finish medium-density fibreboard panel. Tender documents developed by the secondary school "ATA" in Centar Zupa and by the Bureau for Rehabilitation of Children with Impaired Hearing "Koco Racin" - Bitola do not include detailed description of the school desks.*

*The ratio between the lowest and the highest price attained for procurement of school desks is as high as 1:3.53, which means that the highest price paid by the University "St. Clement of Ohrid" - Bitola is by 253% higher than the price attained by the Faculty of Information Sciences and Computer Engineering (FINKI).*

*Otherwise, all procurement procedures were organized as procedures with publicly announced call for bids and used "lowest price" as the selection criterion. Quantity of desks purchased did not affect the price per desk, as the institution that purchased the highest quantity (Ministry of Education and Science) is in the group of contracting authorities which attained prices higher than the average price calculated for this Index.*

*This provides the conclusion that the differences in price attained are based on the materials used for manufacturing and not on the type of procurement procedure organized or the quantity purchased.*

*It should be stressed that as many as four from the total of five contracting authorities included in this Index procured the school desks from the same supplier. The Electronic Public Procurement System (EPPS) was not presented with information on the contract signed by the Bureau for Rehabilitation of Children with Impaired Hearing “Koco Racin” - Bitola.*

### **Index of Rationality for standard school desks**

*(price per desk)*

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average</b>
Faculty of Information Sciences and Computer Engineering (FINKI)	1,729	-49.07%
Secondary school “ATA” - Centar Zupa	1,841	-45.77%
Bureau for Rehabilitation of Children with Impaired Hearing “Koco Racin” - Bitola	1,994	-41.27%
Average*	3,395	0.00%
Ministry of Education and Science	5,310	+56.41%
University “St. Clement of Ohrid” - Bitola	6,103	+79.76%

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

Development of the Index of Rationality for school desks is based on information from all contracting authorities that organized tender procedures for this type of procurements in the course of 2012 and 2013. Browsing EPPS’ database resulted in identification of seven contracting authorities that have published a call for bids for this type of procurements. Although it was addressed with FOI application, the Municipality of Cair did not disclose the information requested. In that, this contracting authority did not disclose the requested information even after an appeal was lodged in front of the Commission on Protection of the Right to Free Access to Public Information. Municipality of Cair denied that it has been presented with an official request for information/FOI application. Secondary school “Negotino” in Municipality of Vrapciste informed us that the tender procedure for school furniture did not include procurement of school desks.



Therefore, the Index of Rationality for school desks includes only five institutions and the prices they have attained. As shown in the table above, individual institutions included in the Index attained different prices for this type of procurements. In that, three contracting authorities paid prices lower than the average price calculated for the Index, and two contracting authorities signed the procurement contracts at prices higher than the average. The lowest price is by 49.07% lower than the average price calculated, and the highest price is by 79.76% higher than the average.

All institutions included in this Index announced call for bids and indicated that in addition to school desks, they also purchased chairs and/or work desks. In that, the Faculty of Information Sciences and Computer Engineering (FINKI), secondary school "ATA" in Centar Zupa, Bureau for Rehabilitation of Children with Impaired Hearing "Koco Racin" - Bitola and the University "St. Clement of Ohrid" - Bitola organized bid-collection procedures for small-scale procurements in the value of up to 5,000 EUR, while the Ministry of Education and Science organized an open procedure for procurement of school desks and chairs for primary schools. All procurement procedures used "lowest price" as the selection criterion.

Among the five tender procedures included in this Index, e-auction (downward bidding) was organized only in the tender procedures that attained the lowest and the highest price, i.e. tender procedures implemented by FINKI and the University "St. Clement of Ohrid" - Bitola. This shows that e-auctions did not affect the final price at which relevant procurement contracts were signed. Although planned, tender procedures implemented by the secondary school "ATA" in Centar Zupa, Bureau for Rehabilitation of Children with Impaired Hearing "Koco Racin" - Bitola and the Ministry of Education and Science were not completed with e-auctions, due to lack of competition. This has prevented contracting authorities to attain prices lower than those initially offered by the bidding companies.

In an attempt to examine possible connections between the differences in price attained and the quantity of school desks purchased and led by the economic logic whereby the highest quantity of school desks should result in attainment of the lowest price, the table below provides an overview of the quantity purchased under individual procurement procedures included in the Index.

### **Quantity of school desks**

<b>Contracting authority</b>	<b>Number of desks</b>	<b>Difference of individual price against the average</b>
Faculty of Information Science and Computer Engineering (FINKI)	20	-49.07%
Secondary school "ATA" - Centar Zupa	60	-45.77%
Bureau for Rehabilitation of Children with Impaired Hearing "Koco Racin" - Bitola	10	-41.27%
Ministry of Education and Science	420	+56.41%
University "St. Clement of Ohrid" - Bitola	48	+79.76%

As shown in the table above, the University "St. Clement of Ohrid" - Bitola paid the highest price and purchased a bigger quantity compared to FINKI, which attained the lowest price for school desks. At the same time, the Bureau for Rehabilitation of Children with Impaired Hearing "Koco Racin" - Bitola purchased the smallest quantity (only 10 school desks), but attained a lower price compared to the Ministry of Education, which purchased 42 times more school desks, i.e. 420 school desks in total. This provides the conclusion that differences in price cannot be justified with the quantity purchased.

In general, valid is the conclusion that differences in price are not a result of the type of procedure organized or the quantity purchased, but a result of materials used for manufacturing the desks. This situation imposes the need for introduction of standards governing desk dimensions, but also the manufacturing materials used.

## **2.2 Index of Rationality for Automobile Tires**

*The Index of Rationality for automobile tires is developed for two types of tires (winter tires, with dimensions 175/70 r13 and 205/55 r16). This Index is developed on the basis of information secured for as many as 58 types of tires purchased by a total of 16 central and local institutions. Nevertheless, in the sea of data, only two types of tires allowed comparison of prices attained by at least five contracting authorities, in compliance with the methodology for the Index of Rationality.*

*Initially, development of this Index targeted 25 institutions, i.e. contracting authorities which, according to data available in EPPS, implemented this type of procurements in the period September 2013 – December 2014. Only 16 contracting authorities disclosed the information requested, those being: Municipality of Kisela Voda, PHI “Makedonski Brod”, PHI Health Centre “Goce Delcev” - Delcevo, Municipality of Veles, PHI Health Centre - Kumanovo, PUE “Nikola Karev” - Probistip, PE “Water Supply and Sewage” - Skopje, Faculty of Security - Skopje, Agency for Execution of Sanctions at the Ministry of Justice, State University “Goce Delcev” - Stip, PE “Streets and Roads” - Skopje, Sector for Logistics at the Ministry of Defence, JSC “MEPSO”, PE “Official Gazette of the Republic of Macedonia”, PE “Macedonian Broadcasting” and Municipality of Kicevo.*

*Although they are obliged by law, the requested information concerning the type and the price of automobile tires was not disclosed by PUE “Tetovo” - Tetovo, Municipality of Radovis, Municipality of Cair (as was the case under the previous index), JSC “Macedonian Postal Services”, PHI General Hospital - Kicevo, JSC Macedonian Railways “Transport” - Skopje, Municipality of Vrapciste, JSC “Electricity Power Plants of Macedonia” and PHI Health Centre - Skopje.*

### 2.2.1. Index of Rationality for Automobile Tires with Dimensions 175/70 r13

Prices at which individual institutions purchased automobile tires with dimensions 175/70 r13 range from 2,309 to 5,546 MKD per winter tyre. The ratio between the lowest and the highest price included in this Index is 1:2.40, which means that the University "Goce Delcev" - Stip paid a price that is by 140% more expensive compared to the price attained by the Health Centre - Kumanovo.

Analysis shows that e-auctions, as mechanism for reducing initially bided prices, were not organized in the tender procedures that attained the highest prices, such as procurement procedures implemented by PHI Health Centre "Goce Delcev" - Delcevo and the University "Goce Delcev" - Stip. This provides the conclusion that organization of e-auctions in the said procedures could have reduced the prices at which they purchased automobile tires. Analysis of tender documents provides the conclusion that the tender procedure that attained the lowest price did not include a reference to the brand of tires, while the tender procedure that attained the highest price referred to the preferred brand of tires or its equivalent.

#### **Index of Rationality for automobile tires**

(price per 1 automobile winter tyre with dimensions 175/70 r13)

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average</b>
PHI Health Centre – Kumanovo	2,309	-27.18%
Municipality of Kicevo	2,343	-26.11%
JSC "MEPSO"	2,507	-20.94%
Sector for Logistics at the Ministry of Defence	2,584	-18.51%
Average *	3,171	0.00%
PHI Health Centre "Goce Delcev" – Delcevo	3,740	+17.94%
State University "Goce Delcev" - Stip	5,546	+74.90%

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

Initially, this Index targeted 25 contracting authorities that implemented this type of procurements in the period September - December 2013, but only 16 of them disclosed the information requested. Comparison of data provides the conclusion that six contracting authorities purchased same type of tires, i.e. winter tires with

dimensions 175/70 r13 and the Index was developed on the basis of prices attained in these procurement procedures.

As shown in the table above, four contracting authorities purchased this product at prices lower than the average and two contracting authorities purchased them at prices higher than the average calculated for the Index. In that, the lowest price per automobile tyre (2,309 MKD) is by 27.18% lower than the average, while the highest price (5,546 MKD) is by 74.90% higher than the average.

Differences in price noted under this Index can be partially explained by the type of procurement procedure organized and the contract value. All institutions organized procurement procedures with publicly announced call for bids. In that, PHI Health Centre - Kumanovo, Municipality of Kicevo and Sector for Logistics at the Ministry of Defence organized bid-collection procedures for procurements in the value from 5,000 to 20,000 EUR. JSC "MEPSO" organized an open procedure, i.e. large-scale public procurement. Health Centre "Goce Delcev" - Delcevo and the University "Goce Delcev" - Stip organized the so-called small-scale bid-collection procedure for procurements whose value does not exceed 5,000 EUR.

All contracting authorities included in the Index used "lowest price" as the selection criterion. Differences were noted in terms of tender competition, which resulted in the inability to organize e-auction for reduction of prices. Analysis shows that e-auctions, as mechanism for reduction of initially bided prices, were not organized in the tender procedures that attained the highest prices, as was the case in tender procedures organized by PHI Health Centre "Goce Delcev" - Delcevo and the University "Goce Delcev" - Stip. E-auctions with participation of several bidding companies were organized in the tender procedures implemented by four institutions that attained prices lower than the average, those being: PHI Health Centre - Kumanovo, Municipality of Kicevo, JSC "MEPSO" and Sector for Logistics at the Ministry of Defence.

Although common logic would require any public procurement contract to indicate the quantity of goods being procured, in the case of automobile tires it has been shown that most of the institutions organizing this type of procurements have not anticipated the quantity thereof. Therefore, the monitoring team was unable to infer

conclusions whether the differences in procurement prices attained for same type of tires are partially a result of the quantity being purchased.

**Quantity of tires with dimensions 175/70 r13**

<b>Contracting authority</b>	<b>Number of tires</b>	<b>Difference of individual price against the average</b>
PHI Health Centre - Kumanovo	on request	-27.18%
Municipality of Kicevo	16	-26.11%
JSC "MEPSO"	16	-20.94%
Sector for Logistics at the Ministry of Defence	8	-18.51%
PHI Health Centre "Goce Delcev" – Delcevo	2	+17.94%
State University "Goce Delcev" - Stip	n/a	+74.90%

Analysis in terms of contract value shows that the biggest procurement of tires was made by JSC "MEPSO", while the smallest procurement was made by PHI Health Centre "Goce Delcev" - Delcevo. Nevertheless, this comparison does not provide an actual assessment of the situation, knowing that PHI Health Centre - Kumanovo and PHI Health Centre "Goce Delcev" - Delcevo purchased the tires as part of bigger tender procedures, which also included procurement of spare parts, motor oil, etc. Data available do not indicate the share of funds from the contract signed by PHI Health Centre - Kumanovo (851,232 MKD) spent on procurement of tires, which is also the case with the contract signed by PHI Health Centre "Goce Delcev" - Delcevo in total value of 300,000 MKD. Other contracting authorities included in the Index organized tender procedures only for procurement of automobile tires, but of different types. In that, the contract signed by JSC "MEPSO" for procurement of tires for passenger and terrain vehicles amounted to 1,804,810 MKD. Municipality of Kicevo signed a contract in total value of 590,000 MKD. Tender procedure for procurement of tires organized by the University "Goce Delcev" - Stip amounted to 354,000 MKD. EPPS does not include information on the procurement contract for tires signed by the Sector for Logistics at the Ministry of Defence. Despite the differences observed, a conclusion is inferred that the contract value did not affect individual prices attained for procurement of automobile tires.

On the basis of specifications defined by contracting authorities, differences in price should be attributed to the brand of automobile tires indicated as preference or reference in the relevant tender documents. In that, the tender procedure that attained the lowest price did not refer to the brand of tires, while the tender documents of the University “Goce Delcev” in Stip referred to the fact that the tires should be MICHELIN or an equivalent brand and therefore attained the highest price.

## **2.2.2. Index of Rationality for Automobile Tires with Dimensions 205/55 r16**

Prices attained by individual institutions for procurement of automobile tires with dimensions 205/55 r16 range from 4,228 to 9,558 MKD per winter tyre. The ratio between the lowest and the highest price for procurement of winter automobile tyre with dimensions 205/55 r16 is 1:2.26, which means that the price attained by the State University "Goce Delcev" - Stip is by 126% higher than the price paid for the same type of tires by the Municipality of Kisela Voda.

Differences in price cannot be justified with the type of procurement procedure organized nor by the criteria used for the selection of the most favourable bid. Key factors affecting differences in price attained is non-organization of e-auctions and the fact that technical specifications developed by the contracting authority that attained the highest price included a reference to the brand of tires.

### **Index of Rationality for automobile tires**

(price per 1 automobile winter tyre with dimensions 205/55 r16)

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average</b>
Municipality of Kisela Voda	4,228	-25.58%
Municipality of Kicevo	4,304	-24.24%
PE "Streets and Roads" - Skopje	4,745	-16.48%
JSC "MEPSO"	5,074	-10.68%
Sector for Logistics at the Ministry of Defence	5,534	-2.59%
Average *	5,681	0.00%
Agency for Execution of Sanctions at the Ministry of Justice	6,324	+11.32%
State University "Goce Delcev" – Stip	9,558	+68.24%

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

Comparison of data obtained for procurement of tires made by 16 contacting authorities included in the Index shows that seven of them procured the same type of tires, i.e. automobile tires with dimensions 175/70 r13. As shown in the table above, five institutions purchased the tires at prices lower than the average price calculated for the Index, while two institutions attained prices higher than the average. The lowest price is by 25.58% lower than the average and the highest price is by 68.24% higher than the average.



All contracting authorities included in this Index organized tender procedures with publicly announced call for bids. In that, bid-collection procedure for small procurements in the value of up to 5,000 EUR were organized by the Municipality of Kisela Voda, Agency for Execution of Sanctions at the Ministry of Justice and the State University “Goce Delcev” – Stip. Municipality of Kicevo, PE “Streets and Roads” – Skopje and Sector for Logistics at the Ministry of Justice organized a bid-collection procedure for procurements in the value from 5,000 to 20,000 EUR. Only JSC “MEPSO” organized a large-scale open procurement procedure. All tender procedures used “lowest price” as the criterion for selection of the most favourable bid.

Analysis of prices attained under this Index also provides the conclusion that e-auctions, as mechanism for reduction of initially bided prices, were not organized in the tender procedures that attained the highest prices, i.e. tender procedures organized by the Agency for Execution of Sanctions at the Ministry of Justice and the University “Goce Delcev” – Stip. These two tender procedures received only one bid each, which rendered the organization of electronic downward bidding process impossible. Other contracting authorities included in this Index organized e-auctions as the final stage of their respective procurement procedures.

Therefore, in the case of procurement procedures for automobile tires with dimensions 205/55 r16 e-auctions cannot be considered a factor that has contributed to reduction of prices.

As was the case with other indices, complete assessment of the possible effect created by the quantity of tires being purchased on the price attained is not possible under this Index. In this case as well, all institutions did not disclose information on planned procurement quantity and provided an explanation that tires will be procured according to their needs.

**Quantity of automobile tires with dimensions 205/55 r16**

<b>Contracting authority</b>	<b>Number of tires</b>	<b>Difference of individual price against the average</b>
Municipality of Kisela Voda	n/a	-25.58%
Municipality of Kicevo	16	-24.24%
PE "Streets and Roads" – Skopje	n/a	-16.48%
JSC "MEPSO"	4	-10.68%
Sector for Logistics at the Ministry of Defence	20	-2.59%
Agency for Execution of Sanctions at the Ministry of Justice	4	+11.32%
University "Goce Delcev" – Stip	n/a	+68.24%

In the absence of complete data concerning the planned procurement quantity, comparison of contract values provides the conclusion that both the highest and lowest price from the Index were attained in tender procedures organized only for procurement of automobile tires with similar total value. Namely, the Municipality of Kisela Voda signed a procurement contracts for automobile and truck tires in total value of 300,000 MKD, while the contract signed by the University "Goce Delcev" – Stip amounted to 354.000 MKD. Contract signed by the Agency for Execution of Sanctions at the Ministry of Justice has the lowest value - 25,464 MKD. This provides the conclusion that under this Index, contract value has a minor and insignificant influence on individual prices attained by different contracting authorities.

Comparison of technical specifications defined by different contracting authorities shows that the lowest price was attained in the tender procedure which did not include a reference to specific brand of tires, contrary to the tender documents developed by the University "Goce Delcev" – Stip.

## 2.3 Index of Rationality for Crushed Stone for Road Maintenance

*Prices paid by individual institutions for procurement of crushed stone for maintenance of streets and roads in winter conditions range from 649 to 1,121 MKD per 1 tonne<sup>1</sup>. The ratio between the lowest and the highest price is 1:1.73, which means that the highest price paid by PUE "Ilinden" is by 73% higher than the price paid for the identical product by PE "Macedonia Road" – Skopje.*

*In most cases, crushed stone was purchased under tender procedures which received only one bid, thereby rendering the organization of e-auction for price reduction impossible. In that, only the tender procedure organized by PE "Ohridski Komunalec" – Ohrid received two bids and was finalized with the organization of an e-auction.*

*This Index analyses as many as four tender procedures for procurement of crushed stone for the winter season 2013-2014 organized by PE "Macedonia Road" – Skopje, all of which were presented with only one bid. Low competition observed even in the case of large-scale tender procedures implemented by PE "Macedonia Road" – Skopje can be explained with the unattainable eligibility criteria stipulated for tender participation and the criterion used for selection of the most favourable bid.*

*The lowest price for procurement of crushed stone was attained in the tender procedures implemented by PE "Macedonia Road" – Skopje (individual quantity of crushed stone purchased under different tender procedures range from 1,708 to 13,510 tonnes) and is by several times higher compared to the quantity purchased by PUE "Ilinden" (300 tonnes), which paid the highest price in this Index.*

---

<sup>1</sup> Having in mind that some institutions purchased crushed stone in tonnes and other purchased crushed stone in m<sup>3</sup>, in order to secure comparability of data all quantities are calculated in tonnes with the application of the ratio that 1 m<sup>3</sup> equals to 1,400 kg.

**Index of Rationality for crushed stone for road maintenance**  
(price per 1 tonne of crushed stone in 2-5 mm and 4-8 mm fractions<sup>2</sup>)

Contracting authority	Price in MKD (VAT included)	Difference against the average
PE "Macedonia Road" – Skopje <sup>3</sup>	649	-17.22%
Municipality of Bitola	716	-8.67%
PE "Ohridski Komunalec" – Ohrid	716	-8.67%
PUE "Komunalec" – Sveti Nikole	716	-8.67%
Average *	784	0.00%
PUE "Ilinden" – Municipality of ilinden	1,121	+42.98%

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

Initially, development of the Index of Rationality for crushed stone for road and street maintenance in winter conditions targeted nine institutions which, according to data available in EPPS, implemented this type of procurements in the course of 2013. However, information requested was disclosed only by six contracting authorities, as the crushed stone purchased by PE "Streets and Roads" – Skopje was not intended for winter road maintenance, but for use in asphalt mixture, while as part of their FOI responses three contracting authorities (Municipality of Sopiste, PE "Water Supply and Sewage" – Skopje and PE "Komunalec" – Kriva Palanka) indicated that they have annulled the tender procedures for procurement of crushed stone. Therefore, the Index was developed on the basis of information about prices attained by five contracting authorities.

As shown in the table above, four contracting authorities purchased this product at prices lower than the average calculated for this Index and one institution paid a

<sup>2</sup> The Index includes only procurement of crushed stone in fractions of 2-5 mm and 4-8 mm because the difference of prices for crushed stone of different size accounted for a minor price variation by only 20 MKD per 1 tonne, which can be considered insignificant.

<sup>3</sup> The price paid by PE "Macedonia Road" – Skopje for procurement of crushed stone is the weighted average of five different prices attained in four different tender procedures. Under tender procedure no. 40/2013, this contracting authority purchased a total of 7,910 tonnes of crushed stone in 2-5 mm fractions at a price of 472 MKD and a total of 5,600 tonnes of crushed stone in 4-8 mm fractions at a price of 455 MKD per 1 tonne. Under tender procedure no. 41/2013, the same contracting authority purchased a total of 1,708 tonnes of crushed stone in 2-5 mm fractions at a price of 472 MKD per 1 tonne. Under tender procedure no. 42/2013, it purchased a total of 2,170 tonnes of crushed stone in 4-8 mm fractions at a price of 750 MKD per 1 tonne. Tender procedure no. 43/2013 resulted in procurement of 3,332 tonnes of crushed stone in 4-8 mm fractions at a price of 652.4 MKD per 1 tonne. Therefore, the Index includes the weighted average of prices and quantities of these four tended procedures and accounts for 649 MKD per 1 tonne of crushed stone.

price higher than the average. In that, the lowest price is by 17.22% lower than the average, while the highest price is by 42.98 % higher than the average.

All institutions organized procurement procedures with publicly announced call for bids. The contracting authority that procured the highest quantity of crushed stone, PE “Macedonia Road” – Skopje, implemented five different tender procedures for procurement of crushed stone, each organized for the needs of individual branch offices. However, the information disclosed did not include data related to one tender procedure (no. 44/2013) and therefore the Index includes only four tender procedures for procurement of crushed stone (individual branch offices and relevant type of procurement procedures are: “Motorway” - open public procurement procedure; “Skopje” - open public procurement procedure; “Stip” – open public procurement procedure; and “Veles” – bid-collection procedure).

In terms of the procurement procedures organized by other contracting authorities included in this Index, it should be noted that PE “Ohridski Komunalec” – Ohrid and Municipality of Bitola implemented bid-collection procedures for procurements in the value from 5,000 to 20,000 EUR, while PUE “Komunalec” – Sveti Nikole and PUE “Ilinden” implemented small-scale bid-collection procedures whose value does not exceed 5,000 EUR.

Among the five institutions included in this Index, PE “Ohridski Komunalec” – Ohrid, Municipality of Bitola and PUE “Ilinden” used “lowest price” as the criterion for selection of the most favourable bid. All tender procedures for procurement of crushed stone implemented by PE “Macedonia Road” – Skopje defined “economically most favourable bid” as the selection criterion with the following bid-evaluation elements: price was assigned 70 points, payment deadline - 20 points and distance of the economic operator/storage site from the contracting authority’s field site was assigned 10 points. Selection criterion “economically most favourable bid” was also used by PUE “Komunalec” – Sveti Nikole and included the following bid-evaluation elements: price was assigned 70 points and payment deadline was assigned 30 points.

Among the contracting authorities included in this Index, only the tender procedure organized by PE “Ohridski Komunalec” – Ohrid received two bids and was finalized with the organization of e-auction. Remaining tender procedures received only one

bid each, which rendered the organization of e-auction or downward bidding impossible.

All tender procedures organized by the contracting authority purchasing the biggest quantity of crushed stone, PE “Macedonia Road” – Skopje, received only one bid each. Lack of competition in these tender procedures can be explained with the high eligibility criteria defined for participation in tenders implemented as open procurement procedures. Namely, the minimum criterion for bidding companies’ economic and financial ability implied annual turnover of at least 60 million MKD in the last three years (2010, 2011, and 2012), realized from sales of goods similar to those being procured by the said procedure. In addition, the minimum criteria on technical and professional capacity included the following requirements:

- the quality of goods to be in compliance with the regulations applicable in the Republic of Macedonia, i.e. crushed stone to be of whitewash origin and excavated by boring and mining (to be demonstrated by providing a copy of the mining contract);
- economic operator to have signed a concession agreement with the Ministry of Economy;
- economic operator to have employed a mining engineer, a civil engineer and at least 15 employees;
- economic operator to have a laboratory for monitoring the physical, mechanical and granulometric composition of excavated materials (this requirement can be fulfilled by having a cooperation contract signed with another economic operator);
- economic operator to dispose with adequate equipment for contract performance;
- economic operator to dispose with one dredger, two loading shovels, three vehicles for in-country transport; and
- economic operator to provide an accreditation certificate for its laboratory (issued by another entity).

Call for procurement of crushed stone announced by PUE “Komunalec” – Sveti Nikole did not define the minimum eligibility criteria for economic operators. Possible demotivating factors for companies to participate in this tender procedure could be identified in the criterion used for selection of the most favourable bid which, in addition to the price element that was allocated 70 points, included payment deadline that was assigned 30 points.

Tender documents developed by PUE “Ilinden” did not include restricting eligibility criteria for tender participation that might justify the fact that the contracting authority was presented with only one bid and that the single bidding company was awarded the contract without previous organization of an e-auction.

#### ***Quantity of crushed stone***

<b>Contracting authority</b>	<b>In tonnes</b>	<b>Difference of the individual price against the average</b>
PE “Macedonia Road” – Skopje	20,720 <sup>4</sup>	-17.22%
Municipality of Bitola	200	-8.67%
PE “Ohridski Komunalec” – Ohrid	280 <sup>5</sup>	-8.67%
PUE “Komunalec” – Sveti Nikole	28	-8.67%
PUE “Ilinden” – Municipality of Ilinden	300	+42.98%

Data presented in the table above provide the conclusion that the quantity of crushed stone purchased had only small influence on the prices attained.

Namely, the institution that purchased the highest quantity attained the lowest price recorded. However, differences in price attained by the institution that purchased the highest quantity, i.e. PE “Macedonian Road” – Skopje, and PUE “Komunalec” – Sveti

---

<sup>4</sup> Under tender procedure no. 40/2013, PE “Macedonia Road” – Skopje purchased a total of 13,510 tonnes of crushed stone, under tender procedure no. 41/2013 - a total of 1,708 tonnes of crushed stone, under tender procedure no. 42/2013 – a total of 2,170 tonnes of crushed stone, and under tender procedure no. 43/2013 – a total of 3,332 tonnes of crushed stone.

<sup>5</sup> As part of its FOI response, PE “Ohridski Komunalec” – Ohrid provided information about the price attained, but not about the quantity of crushed stone purchased. Information on the quantity was identified in the relevant tender documents, where it has been indicated that the call for bids concerns procurement of 200 m<sup>3</sup> of crushed stone, which is equal to 280 tonnes.

Nikole, which purchased the lowest quantity, amounts to only 10.32%. This is indicative of the small influence the quantity has on the prices attained.



## 2.4 Index of Rationality for Expert Supervision of Construction Works

Prices paid by individual institutions for “expert supervision of construction works” range from 0.39% to 2.97% of the construction building’s value. Therefore, the ratio between the lowest and the highest price in this Index is 1:7.6, which means that the highest price paid for this service by PHI Health Centre – Radovis is 6 times higher than the lowest price paid by the Agency for Execution of Sanctions at the Ministry of Justice. In that, the lowest price paid for this service concerns expert supervision over the construction of buildings that are part of the correctional institution in Tetovo, village Volkovija, and included supervision of construction works on the administrative building, surveillance facilities, open ward, garages, boiler house, water-supply infrastructure, electricity infrastructure, etc. On the other hand, the highest price for expert supervision of construction works was paid by PHI Health Centre – Radovis and concerned installation of vertical blinds, PVC blinds, sealing stripes, medium-density fibreboard, sensor doors and behaton paving elements.

Differences in price cannot be explained with the type of procurement procedure organized, because all institutions publicly announced their procedures and thereby secured a healthy level of competition which, in most cases, resulted in organization of e-auctions. In that, only two from the total of 14 institutions included in this Index did not organize e-auctions, due to the low competition in their tender procedures, those being: Municipality of Vasilevo and Municipality of Konce. All other procurement procedures used “lowest price” as the criterion for selection of the most favourable bid.

### **Index of Rationality for expert supervision of construction works** (price is indicated as share of the construction building’s value)

<b>Contracting authority</b>	<b>Price expressed as share (VAT excluded)</b>	<b>Difference against the average</b>
Agency for Execution of Sanctions at the Ministry of Justice	0.39%	-74.84%
Municipality of Rankovce	0.58%	-62.58%
Municipality of Vasilevo	0.95%	-38.71%
Municipality of Cesinovo-Oblesevo	1.00%	-35.48%
Municipality of Vinica	1.10%	-29.03%
Municipality of Zelenikovo	1.10%	-29.03%
Municipality of Zelino	1.26%	-18.71%

Average*	1.55%	0.00%
Department on Common and Joins Matters at the Government of the Republic of Macedonia	1.61%	+3.87%
Ministry of Education and Science <sup>6</sup>	1.72%	+10.97%
Municipality of Konce	1.90%	+22.58%
Agency of Youth and Sports	1.95%	+25.81%
Municipality of Gazi Baba	2.36%	+52.26%
Municipality of Bogdanci	2.79%	+80.00%
PHI Health Centre – Radovis	2.97%	+91.61%

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

Initially, development of this Index targeted 20 institutions, i.e. all contracting authorities which, according to data available in EPPS, implemented this type of procurements in the period June – December 2013. Municipality of Butel and Municipality of Novo Selo did not disclose the information requested. On the basis of information disclosed by the remaining 18 institutions, the Index includes price data from 14 institutions because the information disclosed by four institutions (Centre for Development of South-East Region – Strumica, Municipality of Ilinden, Municipality of Kicevo and Municipality of Kisela Voda) were incomplete or incomparable.

As shown in the table above, seven contracting authorities paid service prices that are higher than the average calculated for the Index, and the same number of them paid service prices that are higher than the average. Service fees expressed as share of construction building's value are marked by major differences and range from 0.39% to 2.97%.

Such differences in price attained cannot be explained with the type of procurement procedure organized. Namely, Agency for Execution of Sanctions at the Ministry of Justice and the Department on General and Common Matters at the Government of the Republic of Macedonia implemented open procedures, Municipalities of Vasilevo, Vinica, Konce, Gazi Baba and Bogdanci, and the Agency of Youth and Sports organized bid-collection procedures for procurements whose value exceeds 5,000 EUR, while the Municipalities of Rankovce, Cesinovo-Oblesevo, Zelenikovo, Zelino, Ministry of Education and Science and PHI Health Centre – Radovis organized small-scale procurement procedures in the value of up to 5,000 EUR.

<sup>6</sup> The tender procedure no. 73/2013 organized by the Ministry of Education and Science is comprised of three lots related to expert supervision of different types of school buildings, whereby the service price for first type of buildings is 1.92%; price for the second type of buildings is 1.25% and price for the third type of buildings is 2.00%. On this account, the Index includes the average rate calculated for the three types of buildings (1.72%).

Without any exceptions, all institutions used “lowest price” as the criterion for selection of the most favourable bid. Most tender procedures included in this Index are marked by high level of competition with as much as 6 bidding companies. E-auctions were not organized in two tender procedures, i.e. those organized by the Municipality of Vasilevo and the Municipality of Konce. This provides the conclusion that there is no logical explanation behind the significant differences in service prices paid for expert supervision of construction works.

These differences cannot be explained by the value of construction buildings subject to supervision. As shown in the table below, Agency for Execution of Sanctions at the Ministry of Justice and the Department on General and Common Matters at the Government of the Republic of Macedonia requested supervision of construction works on buildings with similar value, but they paid different service fees.

Agency for Execution of Sanctions at the Ministry of Justice will pay 988,970 MKD as service fee for supervision of construction works within the correctional facility in Tetovo, whose value amounts to 253,582,000 million MKD. On the other hand, the Department of General and Common Matters at the Government of the Republic of Macedonia will pay 3,738,240 MKD for expert supervision of construction works on the administrative building located on Macedonia Str. in Skopje, whose value is 232,729,351 MKD. Analysis shows that values of respective construction buildings differ by 8.96%, but the service fees paid by these two institutions differ by 278%.

***Value of contracts signed for construction buildings that are subject to expert supervision***

<b>Contracting authority</b>	<b>Construction building's value in MKD (VAT included)</b>	<b>Difference of individual price against the average</b>
Agency for Execution of Sanctions at the Ministry of Justice	253,582,000	-74.84%
Municipality of Rankovce	20,953,478	-62.58%
Municipality of Vasilevo	n/a	-38.71%
Municipality of Cesinovo Oblesevo	n/a	-35.48%
Municipality of Vinica	25,960,000	-29.03%
Municipality of Zelenikovo	11,820,575	-29.03%
Municipality of Zelino	4,666,093	-18.71%

Department on General and Common Matters at the Government of the Republic of Macedonia	232,729,351	+3.87%
Ministry of Education and Science	17,369,600	+10.97%
Municipality of Konce	n/a	+22.58%
Agency of Youth and Sports	20,177,632	+25.81%
Municipality of Gazi Baba	n/a	+52.26%
Municipality of Bogdanci	n/a	+80.00%
PHI Health Centre - Radovis	1,285,020	+91.61%

Comparison of construction buildings' value and the lack of significant differences in terms of the type of procurement procedures organized undoubtedly indicate the absence of general standards governing price-setting for supervision services and therefore great differences in price attained cannot be explained with economically justifiable arguments.

## 2.5 Index of Rationality for Nitrous Oxide N<sub>2</sub>O for Medical Use

*Index of Rationality for nitrous oxide N<sub>2</sub>O for medical use shows relatively small differences in price attained by individual contracting authorities. The ratio between the lowest and the highest price is 1:1.10, which means that the highest price is by 10% higher than the lowest price.*

*All procurements are implemented by means of publicly announced tender procedures and used “lowest price” as the selection criterion. The quantity purchased is not a factor that affects the price attained.*

### **Index of Rationality for nitrous oxide N<sub>2</sub>O for medical use**

*(price per 1 kg)*

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average</b>
PHI General Hospital – Kocani	578	-1.36%
PHI General Hospital – Veles	578	-1.36%
PHI General Hospital – Gevgelija	578	-1.36%
PHI General Hospital – Ohrid	578	-1.36%
PHI General Hospital – Struga	578	-1.36%
PHI Clinical Hospital – Tetovo	578	-1.36%
Average *	586	0.00%
PHI Clinical Hospital – Bitola	586	0.00%
Public Institution in the field of health care responsible for procurements on behalf of health facilities, clinics and emergency centre - Skopje	586	0.00%
PHI General Hospital – Kicevo	586	0.00%
PHI General Hospital “Ferid Murad, MD” – Gostivar	636	+8.53%

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

Initially, development of the Index of Rationality for nitrous oxide N<sub>2</sub>O for medical use included 11 institutions, i.e. all contracting authorities which, according to data available in EPPS, implemented this type of procurements in the course of 2013. However, the Index is developed on the basis of prices for procurement of this medical gas attained by 10 health institutions. Faculty of Veterinary Medicine – Skopje was excluded from the Index because it disclosed price data for liquid nitrous and not for nitrous oxide N<sub>2</sub>O.

As shown in the table above, six contracting authorities purchased nitrous oxide N<sub>2</sub>O for medical use at prices that are lower than the average calculated for this Index,

three contracting authorities attained prices identical with the average and one contracting authority purchased this product at a price higher than the average.

All institutions procured nitrous oxide N<sub>2</sub>O for medical use as part of tender procedures for technical and medical gases, and in addition to nitrous oxide, the most commonly purchased items included oxygen and liquid nitrous.

Nitrous oxide for medical use was purchased under an open procedure organized by PHI General Hospital – Gevgelija, PHI Clinical Hospital – Tetovo, PHI Clinical Hospital – Bitola and Public Institute in the field of health care responsible for procurements on behalf of health facilities, clinics and the emergency centre - Skopje. Bid-collection procedures for procurements in the value from 5,000 to 20,000 EUR were organized by PHI General Hospital – Veles, PHI General Hospital – Ohrid, PHI General Hospital – Struga, PHI General Hospital – Kicevo and PHI General Hospital “Ferid Murad, MD” – Gostivar. Small-scale procurement in the value up to 5,000 EUR with previously announced call for bid was organized by PHI General Hospital – Kocani.

Having in mind that differences in price are minimal, they cannot be explained by the organization or non-organization of e-auctions. Namely, some institutions whose tender procedures did not fulfil the conditions for organization of e-auction, i.e. were presented with only one bid, attained the lowest prices. Therefore, 6 contracting authorities did not organize e-auctions (PHI General Hospital – Veles, PHI General Hospital – Gevgelija, PHI General Hospital – Ohrid, PHI Clinical Hospital – Tetovo, PHI General Hospital – Kicevo and PHI General Hospital “Ferid Murad, MD” – Gostivar), while 4 contracting authorities organized e-auctions as the final stage of their tender procedures (PHI General Hospital – Kocani, PHI General Hospital – Struga, PHI Clinical Hospital – Bitola and Public Institute responsible for public procurements on behalf of health facilities, clinics and emergency centre - Skopje).

**Quantity of nitrous oxide N<sub>2</sub>O for medical use**

<b>Contracting authority</b>	<b>In kilograms</b>	<b>Difference against the average</b>
PHI General Hospital – Kocani	60	-1.36%
PHI General Hospital – Veles	67.5	-1.36%
PHI General Hospital – Gevgelija	262	-1.36%
PHI General Hospital – Ohrid	307.5	-1.36%
PHI General Hospital – Struga	540	-1.36%
PHI Clinical Hospital – Tetovo	975	-1.36%
PHI Clinical Hospital – Bitola	1,500	0.00%
Public Institution in the field of health care responsible for procurements on behalf of health facilities, clinics and the emergency centre - Skopje	8,500	0.00%
PHI General Hospital – Kicevo	90	0.00%
PHI General Hospital “Ferid Murad, MD” – Gostivar	372	+8.53%

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

As shown in the table above, small differences in price are not a result of the quantity being purchased. PHI General Hospital – Kocani procured the lowest quantity of nitrous oxide (60 kg), but attained the lowest price recorded under this Index.

### 3. GENERAL CONCLUSION

This Index of Rationality, developed for a new group of goods (school desks, automobile tires, crushed stone for road maintenance and nitrous oxide for medical use) and services (expert supervision for construction works), shows major differences in price attained by individual institutions for procurement of same type of goods/services.

The biggest difference in price was noted in terms of procurement of expert supervision for construction works, while the smallest difference was noted in terms of the procurement of nitrous oxide for medical use.

In summary, the Index of Rationality provides the following findings and conclusions:

- **school desks** were purchased at prices ranging from 1,729 to 6,103 MKD, where the highest price is by 253% higher than the lowest price;
- **automobile tires** were purchased by the institutions at prices ranging from 2,309 to 5,546 MKD per winter tyre with dimensions 175/70 r13, where the highest price is by 140% higher than the lowest prices, while winter tires with dimensions 205/55 r16 were purchased at prices ranging from 4,228 to 9,558 MKD, which means that the highest price is by 126% higher than the lowest price;
- prices of **crushed stone for road maintenance** range from 649 to 1,121 MKD per 1 tonne, which means that the highest price is by 73% higher than the lowest price;
- **expert supervision of construction works** was contracted according to fees that imply 0.39% to 2.97% of the construction building's total value, where the highest price/fee for this service is more than 6 times higher than the lowest price/fee;
- **nitrous oxide N<sub>2</sub>O for medical use** was purchased by health care facilities at prices ranging from 578 to 636 MKD per 1 kg, where the highest price is by 10% higher than the lowest price.

Great differences in price observed under the Index of Rationality developed for this group of products and services confirm the statement that the act of formal organization of tender procedures in compliance with the Law on Public Procurements does not guarantee cost-effective public spending. Namely, all



contracting authorities included in this Index organized their relevant procurements as tender procedures with publicly announced call for bids, thereby confirming that differences in price cannot be attributed to non-compliance with certain provisions contained in the Law on Public Procurements. Analysis of tender procedures and relevant prices attained for goods and services included in this Index of Rationality provides the following conclusions and recommendations:

- the education system in Macedonia does not have clear standards on school desks, in terms of dimensions, design and manufacturing materials. Lack of standards in this regard increases institutions' inability to control the prices (adjusting desks' design to their budget) and make due consideration of cost-effective/rational public spending;
- there are no economically sustained rules on price-setting for services defined as expert supervision of construction works. This confirms the fact that great differences in prices attained for this service cannot be justified with the type of procurement procedure organized or contract value. For most part, tender procedures organized for this type of services were characterized by high competition, sometimes with as many as 6 bidding companies and organized e-auctions. All tender procedures used "lowest price" as the selection criterion, but they failed to analyse the effect of construction building's value on service fees. This raises the question about factors that have led to such great differences in price and whether they are result of different service quality, which could be very risky, especially having in mind the importance of expert supervision;
- procurement of automobile tires shows that including references on preferred brands instead of defining the product in the technical specifications, leads to attainment of higher procurement prices;
- public announcements of call for bids cannot be considered as fulfilment of conditions needed to secure greater competition in public procurement procedures. Most obvious example in support of this statement is the Index of Rationality for procurement of crushed stone for road maintenance. Under this Index, as many as seven from the total of eight tender procedures monitored<sup>7</sup> received only one bid. Low competition, observed even in the case of bigger

---

<sup>7</sup> The price for crushed stone paid by PE "Macedonia Road" – Skopje and included in this Index is the weighted average of prices attained under 4 tender procedures.

tender procedures, can be explained with the high eligibility criteria defined for tender participation. Therefore, encouraging greater competition among bidding companies in tender procedures should be an imperative for all institutions, as it is the only way to guarantee that they will obtain the best value for the money spent;

- high number of tender procedures included in the development of the Index of Rationality reiterates the problem related to non-organization of e-auctions, i.e., although planned, e-auctions were not organized due to low competition in the tender procedure. All tender procedures that do not include downward bidding by means of e-auction imply a risk that the procurement contract will be signed at higher prices. Namely, in expectation of the downward bidding, the companies initially offer prices that are far from their minimum acceptable prices and therefore increase the risk that in cases where e-auctions do not take place, the contract could be signed at initially bided prices which are higher than the actual prices.

Contracting authorities should perceive the Index of Rationality as a useful instrument, especially because the market of public procurements in the country does not guarantee cost-effective and efficient public spending and there is a series of challenges that need to be addressed.