



**USAID**  
FROM THE AMERICAN PEOPLE



FOUNDATION  
OPEN  
SOCIETY  
MACEDONIA  
ФОНДАЦИЈА  
ОТВОРЕНО  
ОПШТЕСТВО  
МАКЕДОНИЈА

**10** Center for Civil Communications  
ГОДИНИ Центар за граѓански комуникации

## Index of Rationality

14.

**Skopje, March 2016**

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 Metal Archive Cabinets.....	7
2.2.Index of Rationality for Coal.....	10
2.3.Index of Rationality for School Chairs.....	13
2.4.Index of Rationality for Occupational Rubber Boots.....	16
2.5.Index of Rationality for Cleaning of River Basins.....	19
<b>3. GENERAL CONCLUSION.....</b>	<b>24</b>

## **1. GOALS AND METHODOLOGY**

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 procurements in the country. In an attempt to make additional contribution to advancing 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 bottlenecks in the system and, ultimately, to contribute to institutions' cost-effective spending of budgets sustained by taxpayers.

Index of Rationality is developed by comparing prices under which different institutions have purchased same goods, services or works. In addition to enabling comparison of prices, analysis of same types of products, services or works allows identification of different patterns of behaviour on the part of state institutions when implementing same type of procurements.

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

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

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

Development of the Index of Rationality relies on primary and secondary data sources.

Primary data collection is pursued by means of:

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

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

Secondary data sources include:

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

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

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

## **2. INDEX OF RATIONALITY**

Index of Rationality no.14 is developed for a new group of goods and services, as follows:

- **metal archive cabinets;**
- **coal;**
- **school chairs;**
- **occupational rubber boots; and**
- **cleaning of river basins.**

Development of this Index of Rationality includes national and local institutions that have organized public procurements for these types of goods or services in the course of 2014 and 2015.

Initially, the Index of Rationality included 70 institutions that have organized a total of 74 tender procedures for procurement of these goods and services.

## 2.1 Index of Rationality for Metal Archive Cabinets

*Prices at which institutions purchased metal archive cabinets of almost identical dimensions range from 6,476 MKD to 14,293 MKD. The ratio between the lowest and the highest price is 1:2.21, which means that the price paid by the Ministry of Environment and Spatial Planning is by 121% higher than the price paid by the Basic Court Skopje 2.*

*All institutions have purchased these cabinets as part of transparent tender procedures with previously announced call for bids. The crucial difference noted as part of the analysis of relevant tender documents indicates that the Ministry of Environment and Spatial Planning was presented with only one bid for the procurement lot concerning archive cabinets and did not organize e-auction. This situation confirms the rule whereby, in anticipation of electronic auctions, bidding companies initially offer higher prices which later, due to the failure to secure conditions for downward bidding, remain in effect as final prices.*

*Major differences in price for procurement of archive cabinets cannot be put in direct correlation to the quantity purchased.*

### **Index of Rationality for metal archive cabinets** (price per cabinet)

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average price</b>
Basic Court Skopje 2	6,476	-34.76%
Rectorate of the University "Ss. Cyril and Methodius" – Skopje	6,773	-28.85%
Appeal Court – Stip	6,981	-25.01%
Administrative Court	7,750	-12.61%
University of Information Science and Technology – Ohrid	8,612	-1.34%
Average *	8,727	0.00%
Municipality of Aerodrom	8,732	+0.06%
City of Skopje	8,784	+0.06%
Municipality of Radovis	8,850	+1.39%
Administration for General Records	10,018	+12.89%
Ministry of Environment and Spatial Planning	14,293	+38.94%

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

Development of the Index of Rationality for metal archive cabinets targeted 10 contracting authorities that have announced their relevant procurement notices, with specific dimensions of cabinets, in the period January 2014 – November 2015. All institutions disclosed the information requested. Documents provided by the contracting authorities confirmed the previous conclusion based on analysis of tender documents that all cabinets have the following dimensions: height – 190 to 200 centimetres; width – 80 to 95 centimetres; and depth – 40 to 50 centimetres. Small differences in dimensions have not influenced the prices attained, because the two institutions that have paid the lowest and the highest price (Basic Court Skopje 2 and Ministry of Environment and Spatial Planning, respectively) purchased cabinets with identical dimensions: height - 200 centimetres, width – 80 centimetres, and depth – 40 centimetres. Therefore, development of the index for metal archive cabinets included all 10 institutions selected at the beginning of the monitoring process.

As shown in the table, the average price for procurement of one cabinet amounts to 8,727 MKD. Five institutions purchased archive cabinets at prices lower than the average price by 1.34% to 32.76%, while five institutions paid above-average prices by 0.06% to 38.94%.

Such major differences in price attained for metal archive cabinets are not a result of the type of procurement procedures organized. With the exception of the Administration for General Records, which organized an open procurement procedure, all other institutions organized bid-collection procedures. This means they have organized transparent procedures that should have enabled equal conditions for all bidding companies. At the same time, all procedures used lowest price as the selection criterion. All tender procedures anticipated e-auctions for reduction of initially bided prices. Although anticipated, the electronic action did not take place as part of the tender procedure organized by the Ministry of Environment and Spatial Planning whose procurement lot on metal archive cabinets was presented with only one bid.

Major differences in price paid for metal archive cabinets cannot be directly correlated to the quantity purchased.



### Quantity of metal archive cabinets

Contracting authority	Quantity	Difference against the average price
Basic Court Skopje 2	25	-34.76%
Rectorate of the University "Ss. Cyril and Methodius" - Skopje	3	-28.85%
Appeal Court – Stip	14	-25.01%
Administrative Court	12	-12.61%
University of Information Science and Technology – Ohrid	4	-1.34%
Municipality of Aerodrom	40	+0.06%
City of Skopje	10	+0.06%
Municipality of Radovis	9	+1.39%
Administration for General Records	100	+12.89%
Ministry of Environment and Spatial Planning	3	+38.94%

As shown in the table, the biggest quantity of cabinets was purchased by the Administration for General Records, i.e. 100 cabinets, but the price attained by this contracting authority is among the highest. At the same time, Rectorate of the University "Ss. Cyril and Methodius" - Skopje and the Ministry of Environment and Spatial Planning purchased the same quantity of cabinets, i.e. three cabinets each, but attained prices that differ by as much as 111%.

## 2.2 Index of Rationality for Coal

*Prices at which institutions purchased coal range from 1,652 MKD to 4,814 MKD per ton. It is a matter of coal with calorific value of 2,000 to 2,500 kcal per kilogram and granulation of minimum 80 mm. Comparison between the lowest and the highest price provides a ratio of 1:2.86, which means that the primary school "Braka Miladinovci" from Probistip paid a price that is by 186% higher than the price attained by the Public Health Institution "Health Care Centre" – Probistip.*

*In terms of quantity purchased, the analysis shows that the primary school "Braka Miladinovci" – Probistip, which paid the highest price, purchased the lowest quantity of coal. On the other hand, the Penitentiary and Correctional Facility "Idrizovo" purchased the biggest quantity of coal, but did not attain the lowest price and falls within the group of contracting authorities that have attained above-average high prices. The highest price was paid by primary school "Braka Miladinovci" – Probistip which was presented with only one bid, thus preventing organization of the anticipated e-auction.*

**Index of Rationality for coal**  
(price per 1 ton)

Contracting authority	Price in MKD (VAT included)	Difference against the average price
PHI "Health Care Centre" – Probistip	1,652	-111.08%
Municipality of Veles	3,039	-14.74%
Average*	3,487	0.00%
PCF "Idrizovo"	3,856	+9.60%
PS "Nikola Karev" – Probistip	4,169	+16.36%
PS "Braka Miladinovci" – Probistip	4,720	+26.12%

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

Development of the index for coal targeted 10 contracting authorities whose procurement notices were published in the Electronic Public Procurement System in the period January-November 2015. The institutions were requested to provide information on the price paid per 1 ton of coal according to the public procurement contracts they have signed, as well as to provide a description of its calorific values

and granulation. After having compared the calorific value and granulation, it turned out that 6 institutions have purchased coal that is comparable, i.e. with calorific value of 2,000 to 2,500 kcal per kilogram and granulation of minimum 80 mm. Therefore, 4 institutions were excluded from this index:

- primary school "Cyril and Methodius" – Stajkovci (7,611 MKD per 1 ton of coal) and the Agency for Real Estate Cadastre (6,785 MKD per 1 ton of coal), as they required higher calorific value of above 3,500 kcal per kilogram;
- Ministry of Defence – Sector on Logistics (4,764 MKD for 1 ton of coal) and Public Utility Enterprise "Low Constructions" – Bitola (4,673 MKD per 1 ton of coal), as they have required a low calorific value of 200 KJ, i.e. 1800 kcal per kilogram;
- Municipality of Dolneni did not enlist these important parameters in its relevant tender documents and representatives from this municipality claimed they do not dispose with such information even after having signed the procurement contract.

As shown in the table for this index of rationality, the average price for procurement of 1 ton of coal amounts to 3,487 MKD. Two institutions purchased 1 ton of coal at prices that are lower than the average price by 14.74% to 111.08%, while three institutions paid above-average high prices by 9.60% to 26.12%.

With the exception of the Penitentiary and Correctional Facility "Idrizovo" which organized an open procurement procedure, all other contracting authorities organized bid-collection procedures considering the low value of their procurement contracts. Despite the legally secured transparency of procedures, these tender procedures were characterized by low competition. In that, the highest number of bidding companies was observed in the procurement procedure organized by PCF "Idrizovo" with participation of three companies, while PHI "Health Care Centre" – Probistip and primary school "Nikola Karev" – Probistip were presented with two bids each, and only one company participated in the procurement procedure organized by primary school "Braka Miladinovci" – Probistip. This provides the conclusion that lack of competition has been reflected on the price paid by primary school "Braka Miladinovci" – Probistip for procurement of coal.

In terms of quantities purchased, it was noted that primary school "Braka Miladinovci" – Probistip paid the highest price, but also purchased the lowest quantity of coal. On the other hand, PCF "Idrizovo" has purchased the highest quantity, but did not attain the lowest price and falls within the group of contracting authorities that have attained above-average high prices.

### **Quantity of coal purchased**

<b>Contracting authority</b>	<b>Kilograms</b>	<b>Difference against the average price</b>
PHI "Health Care Centre" – Probistip	80	-111.08%
Municipality of Veles	151	-14.74%
PCF "Idrizovo"	800	+9.60%
PS "Nikola Karev" – Probistip	60	+16.36%
PS "Braka Miladinovci" – Probistip	25	+26.12%

Given the quantity of coal purchased, as well the solid level of competition, especially for the conditions in Macedonia, comprised of 3 bidding companies, it remains unclear why PCF "Idrizovo" attained a price that is by 9.60% higher than the average price calculated for this index of rationality.

## 2.3 Index of Rationality for School Chairs

*This index was developed for school chairs with anatomic metal construction, seat and back, manufactured from beech wood veneer, with standard dimensions.*

*Prices at which schools purchased the chairs range from 505 MKD to 1,062 MKD. The ratio between the lowest and the highest price is 1:2.10, which means that the price attained by secondary school "Cvetan Dimov" – Skopje is by 110% higher than the price paid for the chairs by primary school "Koco Racin" in Petrovec, as part of the tender procedure organized by the municipality.*

*Tender procedures organized by the three school that have attained the highest prices for procurement of chairs (primary school "Cyril and Methodius" – Tetovo, secondary school "Gorce Petrov" – Kriva Palanka and secondary school "Cvetan Dimov" – Skopje) were not characterized by competition, i.e. each contracting authority was presented with only one acceptable bid.*

### ***Index of Rationality for school chairs*** *(price per chair)*

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average price</b>
Municipality of Petrovec on behalf of PS "Koco Racin" in the settlement Petrovec	505	-58.22%
SS "Niko Nestor" – Struga	649	-23.11%
PS "Joakim Krcovski" – Kriva Palanka	679	-17.67%
High School "Rade Jovcevski – Korcagin" – Skopje	703	-13.66%
High School "Josip Broz Tito" – Skopje	726	-10.06%
Average*	799	0,00%
SS "Arseni Jovkov" – Skopje 2	802	+0.37%
PS "Cyril and Methodius" – Tetovo	1,012	+21.05%
PS "Gorce Petrov" – Kriva Palanka	1,050	+23.90%
SS "Cvetan Dimov" – Skopje	1,062	+24.76%

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

Development of this index targeted 10 institutions, mainly schools whose procurement of school chairs was identified through procurement notices published on the Electronic Public Procurement System in the period November 2014 – November 2015. All contracting authorities disclosed the information requested, with

the exception of primary school "Dimitar Vlahov" – Strumica, which provided a copy of the contract signed with the supplying company that enlisted the total amount of 269,689 MKD for procurement of 55 school desks and 140 school chairs. However, they failed to indicate the individual price of chairs. Therefore, the index of rationality for school chairs was developed for 9 institutions.

As shown in the table above, the average price for procurement of school chairs amounts to 799 MKD. Five school purchased chairs at prices lower than the average price by 10.06% to 58.22%, while four schools attained prices that are higher than the average price by 0.37% to 24.76%.

All schools, as well as the Municipality of Petrovec, organized bid-collection procedures for procurement of chairs which necessitated prior announcement of call for bids. The selection criterion in all procedures was lowest price.

This index clearly demonstrates the effect of competition among bidding companies on prices attained. Hence, all prices that are lower than the average have been attained in tender procedures characterized by 4 bids and finalized with organization of planned e-auction for the purpose of reducing the initially bided prices. On the other hand, tender procedures organized by the three schools that have paid the highest prices for procurement of chairs (primary school "Cyril and Methodius" – Tetovo, primary school "Gorce Petrov" – Kriva Palanka, and secondary school "Cvetan Dimov" – Skopje) did not imply any competition, i.e. they were presented with only one acceptable bid each.

Differences in price for procurement of school chairs cannot be justified with the quantity purchased. Contrary to straightforward economic logic, monitoring activities showed that one of the highest prices was paid by the school that purchased the biggest quantity, i.e. primary school "Gorce Petrov" – Kriva Palanka, whose price is double the lowest price paid for this type of procurement.

#### **Quantity of chairs purchased**

<b>Contracting authority</b>	<b>Quantity</b>	<b>Difference against the average price</b>
Municipality of Petrovec on behalf of PS "Koco Racin" in the settlement Petrovec	144	-58.22%
SS "Niko Nestor" – Struga	200	-23.11%

PS "Joakim Krcovski" – Kriva Palanka	250	-17.67%
High School "Rade Jovcevski Korcagin"	40	-13.66%
High School "Josip Broz Tito" – Skopje	120	-10.06%
SS "Arseni Jovkov" - Skopje	40	+0.37%
primary school "Cyril and Methodius" – Tetovo	180	+21.05%
PS "Gorce Petrov" – Kriva Palanka	250	+23.90%
SS "Cvetan Dimov" – Skopje	50	+24.76%

The Skopje-based secondary school "Cvetan Dimov", which paid the highest price for procurement of school chairs, did not purchase the lowest quantity. Notably, this school purchased 50 chairs, which is by 10 chairs more than the high school "Rade Jovcevski Korcagin" and secondary school "Arseni Jovkov", both of which purchased 40 chairs each, at lower prices.

## 2.4 Index of Rationality for Occupational Rubber Boots

*Prices at which institutions purchased occupational rubber boots (knee-height) range from 400 MKD to 728 MKD per pair of boots. The ratio between the lowest and the highest price is 1:1.82, which means that the Water Economy Company "Skopsko pole" has paid a price that is by 82% higher than the price paid by Public Enterprise "Low Constructions" – Ohrid. It is a matter of knee-high rubber boots manufactured according to the standard MKS EN ISO 20347:2012 or equivalent.*

*Differences in price cannot be explained with the quantity purchased or the manner in which public procurement procedures were organized and implemented.*

### **Index of Rationality for occupational rubber boots**

*(price per 1 pair of occupational protective boots)*

<b>Contracting authority</b>	<b>Price in MKD (VAT included)</b>	<b>Difference against the average price</b>
PE "Low Constructions" – Ohrid	400	-31.00%
PE "Strezevo" – Bitola	438 <sup>1</sup>	-19.63%
PUE "Water Supply and Sewage" – Prilep	440	-19.09%
PUE "Komunalec" – Prilep	461	-13.67%
PE for Water Economy "Studencica" – Kicevo	475	-10.32%
PE "Komuna" – Krusevo	477	-9.85%
Average *	524	0.00%
Municipality of Makedonski Brod	531	+1.32%
Water Economy Company "Kumanovsko-Lipkovsko Pole" – Kumanovo	609	+13.96%
PE "Cleaning and Greenery" – Kumanovo	680	+22.94%
Water Economy Company "Skopsko pole" – Skopje	728	+28.02%

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

Analysis made for the purpose of this index included all utility enterprises and municipalities purchasing occupational rubber boots in the period January-November 2015. The list of contracting authorities, in addition to utility enterprises, also includes the Municipality of Makedonski Brod, which organized the procurement of occupational boots for the needs of the local public enterprise "Water Supply and Sewage". Development of this index initially included 26 institutions that have

<sup>1</sup> The service price paid by PE "Strezevo" – Bitola for procurement of occupational rubber boots is the weighted average of three prices offered for boots of different sizes.



purchase knee-high occupational rubber boots. After processing documents received from contracting authorities it was concluded that, as part of their procurement procedures, some utility enterprises referred to the standard MKS EN ISO 20347:2012, others referred to the standard MKS EN-ISO 20345:2012, while a third group of them did not refer to any standard. Therefore, in order to avoid any risk to the objectivity of comparisons made as part of this index, the monitoring team included only 10 contracting authorities that have requested occupational boots to be manufactured in compliance with the standard MKS EN ISO 20347:2012 or equivalent.

As shown in the table, the average price paid for procurement of knee-high occupational rubber boots amounts to 524 MKD. In that, six contracting authorities paid prices that are lower than the average price by 9.85% to 31.00%, while four institutions procured occupational boots at prices higher than the average by 1.32% to 28.02%.

In terms of types of procurement procedures organized, PE "Strezevo" – Bitola, PUE "Water Supply and Sewage" – Prilep and PE "Cleaning and Greenery" – Kumanovo organized open procedures, PE "Low Constructions" – Ohrid, PUE "Komunalec" – Prilep and Water Economy Company "Kumanovsko-Lipkovsko Pole" – Kumanovo organized bid-collection procedures whose value exceeds 20,000 EUR, while PE for Water Supply "Studencica" – Kicevo, PE "Komuna" – Krusevo, Municipality of Makedonski Brod and Water Economy Company "Skopsko pole" – Skopje organized bid-collection procedures whose value exceeds 5,000 EUR. Tender procedures monitored were marked by competition in the range from 2 to 6 bidding companies and they were all finalized with organization of e-auctions for downward bidding to have the prices reduced.

Differences in price cannot be fully justified with the quantity of boots purchased.

#### **Quantity of occupational boots purchased**

<b>Contracting authority</b>	<b>Quantity</b>	<b>Difference against the average price</b>
PE "Low Constructions" – Ohrid	40	-31.00%
PE "Strezevo" – Bitola	107	-19.63%
PUE "Water Supply and Sewage" – Prilep	400	-19.09%
PUE "Komunalec" – Prilep	400	-13.67%

PE for Water Supply "Studencica" – Kicevo	13	-10.32%
PE "Komuna" – Krusevo	35	-9.85%
Municipality of Makedonski Brod	16	+1.32%
Water Economy Company "Kumanovsko-Lipkovsko Pole" – Kumanovo	40	+13.96%
PE "Cleaning and Greenery" – Kumanovo	10	+22.94%
Water Economy Company "Skopsko pole" – Skopje	29	+28.02%

The lowest price was attained by PE "Low Constructions" – Ohrid, which purchased only 40 pairs of occupational rubber boots. Moreover, the same quantity was purchased by Water Economy Company "Kumanovsko-Lipkovsko Pole" – Kumanovo, but the prices attained by these two contracting authorities differ by 52%. Nevertheless, utility enterprises that purchased bigger quantities predominantly attained prices lower than the average price for this index and vice versa.

## 2.5 Index of Rationality for Cleaning of River Basins

For the purpose of developing the index of rationality for cleaning of river basins, in December 2015 the monitoring team submitted FOI applications to 14 municipalities which, according to data from the Electronic Public Procurement System, have organized this type of procurements in the period July-November 2015. By giving reference to specific tender procedures, the municipalities were asked to provide data about the price (with or without VAT) paid for contracting machinery and workers to clean river basins (excavation, loading and transport) per unit and information on the area covered by said services, as well as the contract's value. All municipalities disclosed the information requested.

Based on information submitted, it was concluded that the Municipality of Krivogastani and Municipality of Demir Kapija have annulled their tender procedures, whereas the remaining 12 municipalities provided information on contracts signed. The analysis of available information could not identify common, comparable unit that would serve as basis for comparing service prices related to cleaning of river basins as precondition for development of this index of rationality. Municipalities used completely different methods to calculate costs for this service. At the same time, it turned out that when paying for these services, instead of money, some municipalities used oil derivatives awarded to them by the Government from state stock, which additionally complicated any comparisons.

This situation imposed the need for this type of procurement to be analysed individually, at the level of individual municipalities.

**Municipality of Prilep**, for the purpose of purchasing these services, organized the bid-collection procedure no. 17/2015 and defined the procurement subject as cleaning of upper-flow location at river Dabnicka (in length of 1,500 meters and width of 3 to 5 meters). The contract was signed in the amount of 1,109,200 MKD.

**Municipality of Gostivar**, for the purpose of cleaning river Lakavicka, organized the bid-collection procedure no. 76/2015. The procurement contract covered activities such as vegetation cutting with chainsaws and their extraction on river banks, as well as improving the environment, in length of 3,400 meters, for which it anticipated costs in the amount of 530 MKD per day for a period of 15 days or total

amount of 7,950 MKD. Mechanical excavation of sedimentary material from the river basin, in length of 1,000 m<sup>3</sup>, implied costs in the amount of 2,880 MKD per day for a period of 60 days or total amount of 172,800 MKD. Transportation of materials, using tipper truck to the landfill at distance up to 7 km, in length of 62 m<sup>3</sup>, necessitated 321 MKD per day for a period of 60 days or total amount of 19,260 MKD. According to documents provided to the monitoring team, the contract's total value was 236,000 MKD.

**Municipality of Gradsko**, after having organized the bid-collection procedure no. 11/2015, has signed a contract for cleaning the river basin of Vardar. It concerned the section located 1-200 meters above the bridge Nogaevci and 100 meters below the bridge, as well as the section located 2-500 meters above the bridge Ulandi and 200 meters below the bridge, in total length of 1,000 meters, pursuant to the 2015 Action Plan on Cleaning River Basins in the Republic of Macedonia. The contract's value was 6,400 MKD without VAT or 7,552 MKD with VAT.

**Municipality of Valandovo**, for the purpose of cleaning the basin of river Anka, organized the bid-collection procedure no. 19/2015. It concerned cleaning of the river basin in length of 4,380 meters, for which the contract should not exceed the amount of 400,000 MKD, with VAT. The price of engaging a trencher was set at 1,904 MKD per hour, and the price of engaging a truck was set at 1,306 MKD per kilometre.

**Municipality of Zrnovce** organized two public procurement procedures for cleaning the rivers Bregalnica and Zrnovka, and signed both contracts with the same company on the same day. The contract awarded under the bid-collection procedure no. 08/2015 covered services concerning clearing of river Bregalnica in length of 1,230 meters and width of 8 to 12 meters, and river Zrnovka in length of 250 meters and width of 6 to 10 meters. The price for engagement of machinery and workers to clean the river basin (excavation, loading and transport) per unit was set at 37 litres of diesel fuel per one hour of work or 1,605 MKD. Total value of this contract was defined as 4,000 litres of diesel fuel.

The bid-collection procedures registered under no. 10/2015 concerned cleaning of river Bregalnica, in length of 820 meters and width of 8 to 12 meters, and cleaning of river Zrnovka, in length of 580 meters and width of 6 to 10 meters. The price for

engagement of machinery and workers to clean the river basins (excavation, loading and transport) per unit was set at 60 litres of diesel fuel per hour of work or 2,800 MKD. This contract's total value was defined as 4,000 litres of diesel fuel.

**Municipality of Butel** signed a contract for cleaning the river basin by means of organizing the bid-collection procedure registered under no. 28/2015. The contract concerned mechanical cleaning (excavation) of sedimentary material in river Serava and loading and transportation of excess material to the landfill at distance up to 10 km, area of 4,000 m<sup>3</sup>, with a unit price of 75 MKD, without VAT. Total value of this contract amounted to 354,000 MKD.

**Municipality of Stip**, for the purpose of cleaning river basins, organized the bid-collection procedure no. 31-1/2015. The contract concerned services for cleaning rivers Bregalnica, Kriva Lakavica and Sudicka. In that, river Bregalnica should be cleaned in length of 5,600 meters, river Kriva Lakavica in length of 1,400 meters and river Sudicka in length of 500 meters. Total value of works amounted to 1,416,000 MKD. According to the contract signed, service will be invoiced in MKD, but will be paid in euro-diesel fuel, which has been awarded to the municipality by the Ministry of Transport and Communications.

**Municipality of Petrovec** organized the bid-collection procedure no. 26/2015 for procuring services related to cleaning the river Pcinja. In that, the contract covered cleaning of river Pcinja, in length of 400 meters from the bridge Katlanovska Banja towards village Katlanovo, in length of 400 meters from the bridge in village Badar towards village Katlanovo, and in length of 400 meters downward from the bridge Badar. The prices for engagement of machinery were broken down as follows: tipper truck (including loading, transport and unloading of material for distance of up to 10 km) was set at unit price of 99.41 MKD per cubic meter, without VAT; person to operate the tipper truck at the price of 119.29 MKD per hour, without VAT; skid steer trencher at the price of 1,590.59 MKD per hour, without VAT; person to operate the trencher at the price of 139.18 MKD per hour, without VAT; dredge with rubber tyres at the price of 2,982.35 MKD per hour, without VAT; and person to operate the dredge at the price of 139.18 MKD per hour, without VAT. The contract was signed in total value of 1,416,000 MKD (VAT included) or 12,000 litres of crude oil.

**Municipality of Karbinci** organized the bid-collection procedure no. 16-(1175)/2015 for services related to cleaning river Radanska. The contract subject concerned procurement of works related to cleaning of river basin in the village Golem Gaber (third cascade) to lower quarters of village Radenje, in length of around 6,000 meters. The prices for engagement of machinery for this type of works were broken down in the following manner: caterpillar dredge with capacity of 20-25 tons at the price of 3,500 MKD per hour, without VAT; earthmover TG 220 or equivalent at the price of 3,000 MKD per hour, without VAT; tipper truck with capacity of minimum 13 m<sup>3</sup> or equivalent for transporting excess material to distance up to 6 km at the price of 100 MKD per cubic meter and skid steer loader at the price of 1,800 MKD per hour, without VAT. This contract's value was 5,000 litres of euro-diesel BS fuel.

**Municipality of Jegunovce** cleaned sections of rivers Vardar and Bistrica, for which it organized the public procurement procedure no. 22/2015. This contract covered engagement of machinery at the price of 3,500 MKD to 6,000 MKD per hour, without VAT. The company performing these services was paid with 12,000 litres of crude oil.

**Municipality of Plasnica** organized two public procurement procedures, one registered under no. 4/2015 for cleaning river Treska and another registered under no. 5/2015 for cleaning river basins of Suvodolnica, Zlobocica, Prska and Strmosnica. Both contracts were signed with the local public enterprise and implied vegetation cutting with chainsaws and their extraction to river banks, mechanical excavation and cleaning of embankment, low vegetation, communal waste and expansion of river basin, mechanical levelling of bank material and formation of embankment, as well as transport of excess material with trucks at distance up to 1 km. Both contracts were estimated in total value of 28,000 litres of diesel fuel BS.

**Municipality of Kumanovo**, for the purpose of cleaning portion of river basins of Konjarka, Lipkovka, Kumanovka and Kriva Reka, organized an open procedure registered under reference no. 06/2015. The contract anticipated use of different machinery for excavation, loading and transport, at prices set for 1 hour of work. The prices for engagement of machinery range from 1,800 MKD to 5,500 MKD per hour, without VAT. In total, all works performed were assessed in value of

3,463,300.31 MKD (VAT included). In that, the documents submitted enlist the fact portion of payment due will be made by providing the contractors ultra-diesel fuel in the quantity of 20,000 litres.

#### 4. GENERAL CONCLUSION

This issue of the Index of Rationality was developed for a new group of products (metal archive cabinets, coal, school chairs and occupational rubber boots). Attempts to develop the index of rationality for services related to cleaning of river basins could not be realized due to the inability to identify common unit that would serve as basis for comparing costs/prices for this type of services.

Index of Rationality developed for the new group of products reveals major differences in price at which institutions purchased same type of goods/services. The biggest difference in prices was observed in the case of coal, while the smallest difference in prices was noted for procurement of occupational rubber boots.

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

- **metal archive cabinets** were priced in the range from 6,476 MKD to 14,293 MKD per cabinet, where the highest price is by 121% higher than the lowest price;
- **coal** had been purchased at prices ranging from 1,652 MKD to 4,720 MKD per ton (calorific value of 2,000 to 2,500 kcal per kilogram and granulation of 80 mm), where the highest price is by 186% higher than the lowest price;
- **school chairs** with standard dimensions were purchased at prices ranging from 505 MKD to 1,062 MKD, which means that the highest price is by 110% higher than the lowest price; and
- **occupational rubber boots** (knee-high) were purchased by utility enterprises at prices from 400 MKD to 728 MKD per pair of boots, where the highest price for this type of goods is by 82% higher than the lowest price.

Analysis of data made for the purpose of developing the index of rationality for this group of products confirms the previously inferred conclusions about the negative effects of anticipating electronic auctions in the absence of competition.

The fact that lack of competition leads to high prices was confirmed by as many as three of the four indices developed for procurement of metal archive cabinets, coal and school chairs.



The situation observed has even resulted in same companies signing procurement contracts under different prices for one and the same product. Furthermore, in cases when e-auctions did take place the prices were reduced, while in cases when e-auctions did not take place, by rule, the prices remained high.

The situation observes inevitably imposes the need for the Bureau of Public Procurements to act upon its announcement to review the existing model and to propose new model of e-auctions, as enlisted in the draft Strategy for Development of the Electronic Public Procurement System 2016-2020. Inter alia, the Strategy identifies the main shortcomings of public procurements in unrealistically high prices prior to e-auctions and speculative actions related to prices. It also refers to the fact that e-auctions, in theory and in technical terms, can be organized for all procurements, but are failing short of yielding results and do not justify their existence, especially when used in 100% of public procurements. Therefore, plans and proposals made by the Bureau of Public Procurements are in the spirit of proposals already put forward by the Centre for Civil Communications, i.e. to revoke the mandatory character of electronic auctions in the medium term and to make them optional for certain procurements.