Cross regional comparison of the efficiency of public procurement in Russia¹ Draft, 10.05.2013

Balsevich Anna² Pivovarova Svetlana³ Podkolzina Elena⁴

The availability of information is an important determinant of the prices in auctions. On the one hand, information affects prices through number of bidders: more bidders lead to lower prices. On the other hand, it could allow them to bid strategically and to increase prices. We show that higher level of information transparency in the region (the amount of information available through public procurement website) leads to lower relative prices on public gasoline market and to decrease in number of bidders at the same time. The main reason is a specific structure of gasoline markets where local monopolists have significantly lower production costs than other participants.

Keywords: public procurement; auctions; transparency; efficiency

Introduction

Significant variation in the prices of public contracts for standardized goods are found both in developed procurement systems and those suffering from corruption and\or constant change of rules (Bandiera et al, 2009). Russia is not an exception – we observe the huge variation in prices for the same goods across regions and inside the region. In case of Russia the isolation of regional markets and variations in regional institutional environment is combined with a single public procurement law. Hence the same formal rules are implemented differently in various regions. Do the prices of public procurement contracts reflect the (in)efficiency of the regional procurement systems? We argue that when the quality of the good in question is homogenous the price of the contract does not reflect the differences in the characteristics of the good and may be used to compare the efficiency of the public procurement system used to purchase them. In this paper we look at the price variation in public procurement Russian regions.

Given the type of the good, it is important to outline, what other factors might influence the prices of the public contracts for gasoline. Generally, for any market, we should consider the characteristics of the market (the level of competition and concentration, the extent of state regulation of the market), the characteristics of the procurement process (the type of the procedure), and institutional characteristics (for example, corruption). All three may influence prices directly or indirectly. The examples of direct influence are the fact that the more competitive is the market, the lower are the prices. The competition within the public

¹ The study was implemented in the framework of the Basic Research Program of the Higher School of Economics in 2011.

² Researcher, Lab for Institutional Analysis, Centre for Institutional Studies, Higher School of Economics, Moscow, Russia

³ Researcher, Lab for Institutional Analysis, Centre for Institutional Studies, Higher School of Economics, Moscow, Russia

⁴ Senior researcher, Lab for Institutional Analysis, Centre for Institutional Studies, Higher School of Economics, Moscow, Russia, <u>pea.work@gmail.com</u>

procurement procedure also affects the prices: increasing the number of bidders in both sealed bid and open bid procedures should lower the price of the contract (Bulow and Klemperer, 1996). Even a simple open bid auction with N+1 bidders is preferred to any other procedure (including negotiations) with N bidders. The example of indirect influence is that high corruption, low competition, open auctions facilitate collusion which, in its turn, leads to higher prices.

All the factors mentioned above are already well explored – both in theoretical and empirical research. In our study we focus on another factor that may influence the price of the government contract, namely the transparency of information of the public procurement. The availability of information is an important determinant of the prices in the private markets. In his pioneer work "The economics of information" Stigler (Stigler, 1961) argues that "knowledge is power" and it has a significant impact on price dispersion in the market. He explains this link through consumers' search costs. If the search costs for the consumers are low then firms establish uniform (and low) prices. Search for information in public procurement is different from the private markets due to specific matching structure. But that does not mean that the issues of information availability and search costs are less important here.

By transparency of information we will mean the availability and accessibility of information on the rules of the public procurement (timing, start price, etc. for a certain procurement procedure, and judicial issues, controlling bodies, etc. for the public procurement system as a whole), on the characteristics of the goods and services that are procured, and on the results of the procurements (bids, prices, contracts, etc). To put it simply, the more information is available, and the easier it is to search through it, the lower are the search costs, and the higher is the information transparency.

How the transparency of information may influence the prices? On the one hand, making the information more transparent may lead to lower prices. Firstly, the availability of information makes it easier for firms to participate in the procedure raising the competition and hence lowering the prices. Secondly, information transparency decreases monitoring costs (Boehm, Olaya, 2006, Kolstad and Wiig, 2009) and makes it easier for controlling parties to reveal the facts of opportunistic behavior of bidders and procurers. Consequently, information transparency will increase the participation of "honest" firms by signaling trust in the process (Boehm, Olaya, 2006, p. 438) and result in lower prices.

On the other hand, making information more transparent may lead to higher prices. The information transparency makes it easier for firms to collude and to sustain collusion, because the deviating behavior becomes visible, which makes it easier to punish deviators. It is especially crucial in case of the oligopolistic structure of the gasoline market which is prone to collusion that, in turn, is supposed to increase the price of goods procured by the government (Stenbacka, 1990). When the number of potential bidders is limited the choice of procedure should account for the market structure. For example, in the presence of collusive bidding sealed bid procedures should generate lower prices than the open bid procedures (Robinson, 1985).

Consequently, while increased competition is likely to lead to lower prices, collusion, on the contrary might result in higher prices. Thus, transparency of information influences prices for public contracts in two ways: both through the number of potential bidders in the public market and strategic behavior of the regulator and the bidders within the auction. In this paper, we consider the influence of information transparency variation in different regions on the prices of procurement contracts, while controlling for regional variations in the market structure, and other procurement and institutional factors such as corruption or the choice of procurement procedure.

Public procurement and gasoline market in Russian regions

Public procurement accounts for 5 to 15% of the gross regional product for various Russian regions. As government spending is a substantial part of the regional economic activity it is very important to assess the efficiency of the regional public procurement systems. In our case both the rules within the public procurement system and the structure of gasoline market in the region may affect the efficiency in question. In this section we will briefly describe the common rules for the procedures used by the government to procure gasoline and the details of retail market structure and government regulation of this market in Russia.

Since Jan 1, 2006, Russian public procurement is regulated by the Federal Law #94. Procurement procedures on all the administrative levels (federal, regional and municipal) are regulated by the same rules and meet the same price thresholds. Small infrequent purchases that do not exceed 100000 rubles (~\$3000) threshold and happening no more than once in a quarter, are not regulated by the law. The rest of the purchases should be made using competitive procedures which follow the strict procedural routine and are supported by publicly available documentation. In the attempt to promote uniformity and transparency and to hinder corruption, Federal Law #94 provides full disclosure of information, including calls for bids, chosen procedure, auction protocols and supporting technical documentation, through specialized websites⁵. Yet the structure of representation and the amount of information available differs between the regions significantly, providing us with the variation in information transparency.

The type of competitive procedure chosen in each case depends on the price of the contract and on the type of the procured goods. The possible procedures to procure gasoline are the following. Purchases under 500000 rubles (~\$17000) can be performed through first price sealed-bid auctions. Purchases over 500000 rubles along with the purchases of goods on the official "open-auction list" should be performed through first price open-bid auction. A highly restricted number of goods irrespective of contract price can be procured through "contests" or "open tenders", scoring auctions combining price and quality characteristics.⁶

In sealed-bid auctions, the procurer publishes the call for bid, stating basic characteristics of the contract, reserve price and deadline for submitting the bids. The bidders send their price quotations together with the specification of the goods they are going to supply and a number of

⁵ Prior to Jan 1, 2011, the information was provided through federal, regional or municipal web-site according to the administrative level of procurer and/or the source of budget funds. Starting Jan 1, 2011, all the information on federal and regional procurement procedures is published through a centralized web-site; the allocation of the information on municipal procurement is erratic and is performed through federal, old regional or remaining municipal web-sites.

⁶ Our analysis does not include open tenders, hence we omit them from further descriptions.

supporting documents. The bids are opened together at the designated deadline, and the lowest bid (or the earliest bid in case there are two or more equal prices announced) wins. Open-bid auctions are conducted in two stages. At the first stage, the procurer announces the specification of the good required, characteristics of the contract, reserve price, and two consecutive deadlines. By the first deadline all perspective bidders should provide a statement of interest, including a number of supporting documents and in some cases monetary deposits. Procurer may assess the statements of interest and exclude the firms that do not meet the basic legal requirements from the bidding stage. At the second deadline the surviving bidders show up at the auction and make descending open bids. The last remaining bidder wins the contract.

The gasoline prices in the retail market in Russian Federation are normally not regulated by the government (while the mining, on the contrary, is regulated). However, as the gasoline is considered to be the socially important product, the Federal Antimonopoly Service (FAS) monitors the regional prices. The justification for such monitoring may be found in the structure and specific features of the Russian oil and gasoline production:

- The industry is vertically integrated: a substantial proportion of the gas stations, which in many countries are independently owned, in Russia are operated by the large vertically integrated companies. As a result these companies often are the only ones who have enough of the stations in different parts of the region to implement a large and geographically diversified government contract.
- The process of distribution of gasoline from the producer to the stations is not transparent and the delivery chains may be very long and complicated⁷.
- According to the report⁸ of the Federal Antimonopoly Service of the Russian Federation in more than 50 of the Russian regions the market share of the largest company in the region is more than 35%, and it is up to 50-60% in 30% of the regions⁹.

To sum up, the main goal of the government regulation in gasoline sector is to promote competition at least at the retail level. When the level of competition is considered too low (and the resulting gasoline prices too high), the government is engaged in tacit price control of the market by issuing warnings to the companies. Recently, however, as these measures of promoting competition did not prove to be very effective, a move towards more regulation in the industry was planned. The proposed measures include the calculation of the standard price for the gasoline, which will be used for the public procurement contracts as well, as the basis for the estimation of the start price, and the limits on the share of regional retail market for a single firm.

Vertical integration and high concentration, as is shown above, affect retail prices for gasoline and stimulate government regulation of the market. But it may also influence both the prices of public procurement contracts and the participation in sealed-bid as well as open-bid public procurement procedures. Hence, these features of the gasoline market and the public procurement system will be taken into account in the further analysis.

⁷ <u>http://www.fas.gov.ru/analytical-materials/analytical-materials_22601.html</u>

⁸ <u>http://www.kommersant.ru/Doc/1607390?ThemeID=1273, http://www.fas.gov.ru/analytical-materials/analytical-mate</u>

⁹ For more details see table 2

Hypotheses and methods

We argue that higher level of information transparency in the region leads to lower relative prices on public gasoline market. Information transparency in Russia is low¹⁰. In this case relatively high information transparency should decrease prices. Transparency of information influences prices in two ways: both through the number of potential bidders in the public market and strategic behavior of the procurer and the bidders within the auction.

As the number of bidders is endogenous and may depend both on the characteristics of the procedure (auction type, contract details etc., Klemperer (2002), French and McCormick (1984), Samuelson (1985), McAfee and McMillan 1987)) and on the level of information transparency (through setting the entry costs, Kjerstad E, Vagstad S. (2000)) we use 2SLS with both procedure-specific and region-specific instrumental variables. Our model can be written as follows:

$$Y = \alpha_1 + \alpha_2 T + \alpha_3 N + \alpha_4 PC + \alpha_5 RC + \varepsilon_Y$$
$$N = \beta_1 + \beta_2 T + \beta_3 IV + \beta_4 PC + \beta_5 RC + \varepsilon_N$$

Where Y stands for the contract price of the procured gasoline, T is a an indicator of information transparency, N is a number of bidders, PC is a vector of procedure characteristics, RC is a vector of region-specific controls, and IV is a vector of instrumental variables. To implement this model besides the data on public procurement contracts we need to establish relevant indicators of information transparency, and other regional characteristics. It will be described in the next section.

Data

The database consists of 900 observations on all public procurements of gasoline, to be supplied through the gasoline stations, which took place in 10 Russian regions in 2009 and 2010. The data were collected from the documentation published at the regional public procurement websites. We also used data provided by Russian Federation Federal State Statistics Service (FSSS), and the corruption perception index based on the results of the Ministry for Economic Development of Russian Federation survey¹¹ (for more details refer to table 4).

Instead of the direct measure of the contract price we use the *relative price* of the contract as our main dependent variable. It is calculated as the ratio of contract price, which is available at the procurement websites, to the average retail price for the same amount of gasoline registered in the region at the time the government contract was administered. The retail price was calculated on the basis of the information on the average retail prices of the gasoline provided by FSSS and depends on the date of the corresponding auction and the volume of the public contract, i.e. we estimated how much the same quantity of gasoline would cost in retail prices at the same period of time. Using the relative price of the contract allows us to account for several possible problems. First, it allows comparing contracts of different sizes when no information on unit prices of different types of gasoline is available. Second, it helps to account for regional effects

¹⁰ See below how transparency was measured. In Appendix 1 we show that in Russian region average level of information transparency is really low.

¹¹ Report of the Ministry for Economic Development of Russian Federation "Situation with everyday corruption in the Russian Federation" (2010)

in prices due to different market structures, specific logistics, etc. Finally, it accounts for the intertemporal and seasonal trends present in the market.

The set of the explanatory variables of our primary concern consists of several measures of *information transparency* of regional public procurement systems. We have collected the data on the structure of each of 83 regional public procurement websites, as well as the amount of information available before and after the implementation of the procurement procedure, and various functions available for web site users. For every web site we tried to find information on several randomly chosen procedures that were announced, several that were already completed, and tried to find links between the information available before and after they work or not. On the basis of this data we estimated the transparency of information on public procurement in the end of 2010¹².

We have summarized our observations in the following three indicators:

(1) ExAnte: information on current procurements (the availability of information on the type of procedure chosen by the procurer, organizational details (deadlines and requirements), the name and the contact information of the procurer, start price and specifications of the good, work, or service demanded etc.),

(2) ExPost: information on completed procurements (in addition to the parameters of the first group available after the procedure, we have looked for the information on the bidders (names, contact information etc.), bids and winning bids, and characteristics of the contract),

(3) Search: availability and operability of search engine (keyword search, good/work/service category search, search by the identification number of procedure, and search by the identification number of the government contract).

The resulting index of the information transparency is a sum of the first two indicators weighted by relative quality of search (current and completed) described above. The summary statistics for the information transparency indicators for the Russian regional public procurement web-sites and the values of the indicators for the ten selected regions are presented in Table 1.

Tuble I Transparency mach							
	Current	Completed	Search	Index			
		For 83 regions					
Minimum	18.5	19.5	0	0			
Maximum	40.5	42.5	8	81.5			
Mean	33	29.5	4.3	34.97			
Std. Deviation	3.95	5.08	2.04	18.96			
	Selected regions						
1	32	40	7.5	67.5			
2	31	37	8	68			
3	37	30.5	6.5	54.84			

¹² The estimation of the transparency of public procurement in Russian regions is described in more details in Podkolzina, E.A., Pivovarova, S. and Balsevich, A., Information Transparency in Public Procurement: How it Works in Russian Regions (October 12, 2011). Higher School of Economics Research Paper No. WP BRP 01/EC/2011. Available at SSRN: <u>http://ssrn.com/abstract=1998069</u> or

http://www.hse.ru/data/2011/10/15/1269288146/Balsevich_Information_transparency.pdf

4	35	34.5	4	34.75
5	30	29	4.5	33.19
6	31	27.5	4.5	32.91
7	31.5	32	3.5	27.28
8	32.5	26.5	4	29.5
9	32	26	3	21.75
10	26	21.5	0	0

We have three types of *control variables* – those related to the public procurement procedure, the institutional environment, and the regional market structure. We control for the type of the procedure because as we have said above it may influence both the number of bidders and the prices of government contracts. Characteristics of institutional environment, for example, the level of corruption may also influence the results of public procurement through setting the framework for both retail and government market for gasoline, so in our analysis we also control the effect of transparency on both the price of the contract and the level of participation in public procurement auctions for the possible influence of the differences in corruption perception in the regions.

Finally, as discussed above, we should also control for the regional market structure. In most of the ten regions in our dataset there is a firm that has a share of at least more than 30% of the retail gasoline market. In the public procurement market the level of concentration is also rather high -20-80% of the market in the total value of awarded contracts is typically won by one supplier. The number of the companies with a market share more than 35% in the selected regions reported by the Federal Antimonopoly Service, along with the total number of bidders in the gasoline procurement procedures and the largest public procurement market shares are presented in Table 2. It is possible to make a rough conclusion that when there is a company with a large market share in the retail market, and when the total number of suppliers in the procurement market is low, the share of the contracts that is awarded to the market leader is rather high.

Region	Number of companies with 35-50% market share	Number of companies with >50% market share	Total number of suppliers in the public procurement market	Largest shares of public procurement market
1	0	0	34	53%
2	1	1	14	63%
3	0	0	7	87%
4	1	0	14	82%
5	0	1	27	35% and 44%
6	1	1	118	39%
7	0	1	19	91%
8	0	1	54	23%
9	1	4 (different	30	17% and 16%

Table 2 Regional gasoline companies

		geographical markets)		
10	2	0	32	34%

The availability of information on the public procurement procedures in this market can signal the existence and identity of the market leader and hinder additional entry where the leader is involved. In the table 3 we show that in 64% cases the single bidder is the market leader. That is why we also control for the participation of the market leader in public procurement.

Table 3 Participation of the market leader and number of bidders

	The winner is market leader				
Number of bidders	Yes	No			
=1	243 (64%)	135			
>1	218	422 (66%)			

Variable	Description	Source	Min	Max	Mean	St.Dev.			
	Dependent variable								
	The ratio of contract price	Regional							
	to the average retail price in	public							
RelPrice	the region of the same	procurement	.537	1.468	.987	.0876			
	amount of gasoline at the	web sites,							
	date of the auction.	FSSS							
	In	dependent varial	bles						
	The emount of information	Regional							
EvAnto	available on aurrent	public	26	27	21.027	2.287			
ExAme		procurement	20	57	51.027				
	procurements	web sites							
	The amount of information available on completed	Regional	21.5		28.056				
E-Dest		public		40		4.973			
ExPost		procurement		40 2	28.950				
	procurements	web sites							
	Estimated as (ExAnte +	Regional							
Inder	ExPost) weighted on the	public	0	68	32.6	17.97			
muex	quality of Search functions	procurement	0						
	available at web site	web sites							
		Regional							
N	Number of hidders	public	1	7	1 000	0078			
IN	Number of bluders	procurement	1	/	1.009	.9078			
		web sites							
		Controls		-	-				
	The type of procurement	Regional							
Onor	procedure: socied bid (0) or	public	0	1	107	2077			
Open	the open hid (1) susting	procurement		1	.197	.3711			
	the open bid (1) auctions.	web sites							

Table 4 Variables and descriptive statistics

MLeader	The participation of the market leader: equals 1 if the contract was awarded to the market leader, and 0 in all other cases.	Regional public procurement web sites	0	1	0.444	.4972
Corr_2010	The level of perceived corruption estimated for 70 Russian regions in 2010	Survey by Russian public fund "Public Opinion" and Regional public fund "Informatics for Democracy"	.22	.572	.428	.0839
	In	strumental varia	bles			
PopD	Population density in the region in 2008	FSSS	.7	49.8	23.865	16.084
RoadD	The density of automobile roads in the region in 2008	FSSS	3.6	198	90.406	72.204
Duration	The duration of the contract: the period (the number of days) during which a firm supplies the gasoline	Regional public procurement web sites	1	546	94.634	70.455

We use population density in the region, the density of automobile roads in the region, and the duration of the contract as instrumental variables. All selected variables have a significant impact on the number of bidders in public procurement and do not influence relative prices directly. The higher is the population density in the region the higher is the economic activity, so the former should correlate with the demand for gasoline on the retail market and the number of suppliers both at the retail and the public procurement markets, while it is evidently not correlated with the relative price. The density of automobile roads in the region should correlate with the supply of the gasoline on the retail market and hence it determines the number of suppliers and bidders though it is not correlated with relative prices. Finally, duration of the contract reflects the costs of implementing the contract. So the longer is the contract the more expensive it is for the supplier, and fewer suppliers can perform it. While duration influences the number of bidders it is not correlated with the relative price.

The descriptive statistics for all the variables are presented in the table 4 with the short definition of the variables, its source and name in the regression.

Empirical analysis, results and discussion

Following the general strategy described above we test our hypothesis using the following model:

 $\begin{aligned} \operatorname{Re} l \operatorname{Pr} ice &= \alpha_{1} + \alpha_{2}T + \alpha_{3}N + \alpha_{4}Open + \alpha_{5,1}MLeader + \alpha_{5,2}Corr2010 + \operatorname{T}_{Y} \\ N &= \beta_{1} + \beta_{2}T + \beta_{3,1}PopD + \beta_{3,2}RoadD + \beta_{3,3}Duration + \beta_{4}Open + \beta_{5,1}MLeader + \beta_{5,2}Corr2010 + \operatorname{T}_{N} \end{aligned}$

The 2SLS results are presented in table 5. In models (1) and (2) we separately consider the effects of information available on the current procurement (ExAnte) and on the past procurement procedures (ExPost) on the level of competition in the auction and the relative prices of contracts. In model (3) – the effect of the general availability and usability of information (Index) on the competition and prices.

The results show that the availability of different types of information has similar effects on both participation in the public procurement auctions and the resulting relative prices of public contracts for gasoline. Though more information transparency is associated with lower contract prices, it does not promote competition within the procedure. The same is true for the participation of the market leader. Though the relative prices of the contracts won by the market leader are on average significantly lower than those won by other suppliers, perhaps due to higher efficiency and economies of scale and vertical integration, the participation of the market leader also significantly reduces the average number of bidders for the contract. Hence the positive effect of higher information transparency on the efficiency of the public procurement might be outweighed by the negative effect that the availability of information on the current market structure can have on the level of competition within each auction.

The fact that higher average participation in open auctions in our database is not associated with significantly lower contract prices also supports this explanation. As potential bidders of the open auction can withdraw after finding out the identities of their rivals more firms are willing to apply to these auctions. Yet the positive effect of increased competition disappears if bidders find out about market leader participation and pull out of the actual bidding stage.

Table 5 2SLS: Relative prices and transparency						
IV-Regressions. Dependant variable RelPrice						
(1)	(2)	(3)				
-0.0109**						
(0.00550)						
	-0.00424***					
	(0.00130)					
		-0.00151**				
		(0.000610)				
0.0513***	0.0546***	0.0633***				
(0.0133)	(0.0125)	(0.0168)				
-0.125***	-0.114***	-0.156***				
(0.0298)	(0.0228)	(0.0421)				
-0.0317**	-0.0343***	-0.0490**				
(0.0129)	(0.0126)	(0.0197)				
-0.152	-0.0533	-0.0184				
(0.0939)	(0.0517)	(0.0614)				
1.631***	1.352***	1.348***				
(0.257)	(0.0846)	(0.104)				
	2SLS: Relative j egressions. Depen (1) -0.0109** (0.00550) 0.0513*** (0.0133) -0.125*** (0.0298) -0.0317** (0.0129) -0.152 (0.0939) 1.631*** (0.257)	2SLS: Relative prices and transperies (1) (2) -0.0109** (0.00550) -0.00424*** (0.00130) 0.0513*** 0.0546*** (0.0133) (0.0125) -0.125*** -0.114*** (0.0298) (0.0228) -0.0317** -0.0343*** (0.0129) (0.0126) -0.152 -0.0533 (0.0939) (0.0517) 1.631*** 1.352*** (0.257) (0.0846)				

First stag	ge 2SLS regression	on. Dependant va	riable N
ExAnte	-0.191***		
	(0.0279)		
ExPost		-0.0506***	
		(0.00758)	
Index		· · · ·	-0.0141***
			(0.00240)
Open	0.115	0.278***	0.241***
-	(0.0914)	(0.0796)	(0.0820)
MLeader	-0.314***	-0.395***	-0.393***
	(0.0595)	(0.0583)	(0.0592)
Corr_2010	-2.240***	-0.314	0.198
	(0.480)	(0.338)	(0.353)
PopD	-0.0310***	-0.0236***	-0.0205***
	(0.00770)	(0.00782)	(0.00776)
RoadD	0.00703***	0.00677***	0.00497***
	(0.00143)	(0.00153)	(0.00141)
Duration	-0.000715*	-0.000853**	-0.000818**
	(0.000365)	(0.000365)	(0.000369)
Constant	9.065***	3.639***	2.509***
	(1.074)	(0.321)	(0.191)
Observations	900	900	900
R-squared	0.179	0.189	0.178
.			

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

To conclude, in this paper we study the factors influencing the prices of government contracts for gasoline procurement. For our analysis we have used the data on relative prices of government contracts corrected for the average retail prices in several Russian regions. We argue that one of the main factors that determine this price ratio is the level of information transparency in regional public procurement (the amount of information available through public procurement website). We show that transparency of information may influence the prices in two ways: both through affecting the number of potential bidders attracted to each given public procurement auction and the strategic behavior of the regulator and the bidders within the auction. Higher level of information transparency is associated with lower contract prices in the auctions with the same number of bidders. Yet we show that higher level of information transparency in the region does not lead to higher competition for the contract but still results in lower relative prices on public gasoline market.

References

1. Balsevich, A. Pivovarova, S., Podkolzina, E. The Information Transparency of Public Procurement in Russian Regions: Estimation and Explanations // http://www.hse.ru/data/2010/12/10/1208430758/Informationnaya%20prozrachnost.pdf

- 2. Bandiera, Oriana & Andrea Prat & Tommaso Valletti, Active and Passive Waste in Government Spending: Evidence from a Policy Experiment, American Economic Review, American Economic Association, vol. 99, 2009;
- 3. Boehm, F. and Olaya, J. Corruption in public contracting auctions: the role of transparency in bidding processes // Annals of Public and Cooperative Economics, 2006, vol. 77, № 4, pp, 431–452.
- 4. French KR, McCormick R. Sealed bids, sunk costs, and the process of competition // The Journal of Business , Vol. 57, No. 4 (Oct., 1984), pp. 417-441.
- 5. Kjerstad E, Vagstad S. Procurement auctions with entry of bidders // International Journal of Industrial Organization, Vol. 18 (8), 2000; pp. 1243–1257.
- Klemperer, P. Auction Theory: A Guide to the Literature // Journal of Economic Surveys, 13, (1999), pp.227–286
- Kolstad, I., Wiig, A. Is Transparency the Key to Reducing Corruption in Resource-Rich Countries? // World Development Vol. 37, No. 3, 2009 pp. 521–532
- McAfee P, McMillan J. Auctions with Entry // Economic Letters Vol. 23, 1987, pp. 343– 347.
- 9. Robinson, M., Collusion and the Choice of Auction, RAND Journal of Economics. 1985, 16:141-145
- Samuelson WF. Competitive bidding with entry costs // Economic Letters Vol. 17, 1985; pp. 53–57.
- 11. Stenbacka, L.R., Collusion in Dynamic Oligopolies in the Presence of Entry Threats, Journal of Industrial Economics. 1990, 39, 2:147-154
- 12. Stigler, G.J The Economics of Information // Journal of Political Economy , Vol. 69, No. 3 (Jun., 1961), pp. 213-225

Appendix 1. The sufficient value of transparency index

The "sufficient" value of the transparency index indicates the following idea: some information (for example the relevant deadlines) should be visible to all users immediately; some of the information (for example the quantity of the good, work or service required) may be listed in the web summary of the call for bid; while other information (for example the bidders' contact information) may be represented in the documents only. Similarly, we have determined the "formal" value of the index, which indicates the level of transparency that meets the requirements of 94 FL.

We can see in the table 1 that the average values of all indicators are below sufficient level of information. In general, in most of the regions there is low information transparency.

In our sample we have ten regions, in some of them transparency index is very close to sufficient level, but in all regions indices are lower than sufficient level.

Tuble 1. Summary statistics							
	Ν	Minimum	Maximum	Mean	Std. Deviation	Sufficient	Formal
Current	83	18.5	40.5	33	3.95	37	17
Completed	83	19.5	42.5	29.5	5.08	41	18.5
Search	83	0	8	4.3	2.04	8	0
Index	83	0	81.5	35	18.95	78	0

Table 1. Summary statistics

This issue is described in more details in Podkolzina, E.A., Pivovarova, S. and Balsevich, A., Information Transparency in Public Procurement: How it Works in Russian Regions (October 12, 2011). Higher School of Economics Research Paper No. WP BRP 01/EC/2011. Available at SSRN: <u>http://ssrn.com/abstract=1998069</u>