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RUSSIAN PUBLIC PROCUREMENT
SYSTEM:
A CASE STUDY OF VORONEZH
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**ESTIMATION OF COSTS IN THE RUSSIAN PUBLIC
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The growing attention of governments, international organizations and NGOs to public procurement issues over the last two decades has been accompanied by many studies of the efficiency of public procurement. However, few researchers have considered the costs of procurement regulation for public customers and private suppliers. This problem is especially acute for the public procurement system in Russia. In this paper, taking into account recent PricewaterhouseCoopers (PwC) report for European Commission, we propose an approach for measuring the procurement costs of public customers. We have tested this approach with data on a large Russian public customer — Voronezh State University (VSU). We show that the proposed approach is universal and can be applied at a micro—level by other public customers to measure the efficiency of their procurement and to optimize the costs. This approach can also be used as a basis for a larger inquiry into the costs and effectiveness of procurement at the level of regional authorities or ministries.

Keywords: public management, public procurement, transaction costs.

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Introduction

The efficiency of public procurement is a vital problem for public administration at the national and municipal levels. This subject has been addressed in many papers (see, for instance, Singer *et al.*, 2009; Ogbonna, and Kalu, 2012; Gardenal, 2013; Dimitri, 2013; Bovis, 2013; Guccio *et al.*, 2014). These studies, however, rarely address an important dimension of the efficiency — the costs of administering public procurement. While the benefits have been the focus of attention, the administrative costs borne by the main participants of the procurement process — customers, suppliers, and regulators — have been disregarded. Experts argue, however, that such costs can be high, making some procurement procedures inefficient (especially for small purchases). The problem of the administrative costs of public procurement is common for many countries, irrespective of the characteristics of their individual procurement systems.

In May 2011 PricewaterhouseCoopers (PwC) carried out a large study attempting to measure the efficiency of public procurement in EU countries (PwC, 2011). The researchers found that on the average, costs in EU procurement deals accounted for approximately 1.4% of the total contract value: 25% of these total costs related to customers, and approximately 75% related to suppliers (including unsuccessful bidders). The techniques used by PwC were developed primarily for the evaluation and analysis of macro—level procurement costs and effectiveness. However, measuring the costs for separate public entities participating in procurement is an equally important project to tackle, from both academic and practical points of view.

Yakovlev *et al.* (2010) highlight the importance of measuring procurement costs using a large public entity as an example. The costs of administering public procurement, according to their estimates, accounted for 0.6% of the total volume of the contracts. These costs were borne by the public entity in any case, even if competitive procedures did not produce any savings from price reduction. Although Costantino *et al.* (2006; 2009; 2012) address the problem of measuring additional costs of purchasing, they focus mostly on measuring the costs associated with a larger number of procurement bidders, comparing these costs with possible benefits.

This paper, taking into account Russian public procurement practice, adapts the approach elaborated in PwC (2011) for measuring public customer procurement costs in Russian conditions. We have tested this method calculating the public procurement costs of Voronezh State University (VSU). The proposed method is universal and requires only minor adaptation to suit the characteristics of an individual country. This method can be applied at the micro—level by any public customer to measure the efficiency of its purchases and optimize its costs. This method can be also used as the basis for a larger inquiry into the costs and effectiveness of procurement at a regional level, which will allow the development of recommendations for enhancing the efficiency of procurement at the macro—level.

1. Public procurement costs as transaction costs and approaches to measuring them

The concept of Transaction Cost Economics (TCE) (Commons, 1931; Commons, 1934; Coase, 1937; Coase, 1960) was developed in other works (see, for instance, Williamson, 1975; Alchian, 1969; Benham and Benham, 2000; Falconer and Saunders, 2002; Butter, 2012).

There are several different interpretations of the term “transaction costs”. For instance, transaction costs are defined as “the costs of using the price mechanism” (Coase, 1937), “the costs of search” (Stigler, 1961) and “the costs of information” (Alchian, 1969), “the costs of running the economic system” (Arrow, 1969), “the costs that arise not from the production of goods, but from their transfer from one agent to another” (Dahlman, 1979), “the costs which are made in order to coordinate and connect all links in the production chain” (Butter, 2012). The main definitions include search costs, information costs, negotiation costs and monitoring and enforcement costs (Groth, 2008). Butter divides transaction costs into hard and soft costs. “Hard

transaction costs include observable costs such as transport costs, import duties and customs tariffs. Soft transaction costs comprise all costs of making and monitoring contracts, information costs, costs due to cultural differences and miscommunication, unwritten laws, trust building, networking, risk costs, costs due to safety regulations and provisions, etc.” (Butter, 2012, p.126).

Another —classification of transaction costs is the division into *ex ante* and *ex post* costs (Williamson, 1981; Buvik and Halskau, 2001; Buvik, 2002). *Ex ante* transaction costs in this model are direct opportunity costs, which imply productivity losses resulting from the lack of the appropriate employment of specific assets. *Ex post* costs include performance control, performance verification, adjustment and bargaining (Buvik and Halskau, 2001).

Costantino *et al.* (2006; 2009) view transaction costs connected to the purchase of a new product or service as additional costs of purchasing. The additional costs of purchasing together with the purchasing price make up the total cost of purchasing. They note that the additional costs of purchasing under review are only a part of all the transaction costs defined by Coase and Williamson; in particular, they do not include post—delivery costs. With relation to the classification above, “in a buyer/supplier relationship *ex ante* costs may be viewed as the costs of research of suppliers, the negotiation costs and the costs of approving and drafting the contract, ...*ex post* costs consider the quality control costs and the enforcement costs” (Costantino *et al.*, 2006, p. 70).

Although ‘transaction costs’ is a generally accepted and widely used term, most researchers believe such costs are hard to count. Most literature features descriptive and empirical predictions. Using the classification proposed by Butter, the area causing the most problems is quantifying soft transaction costs.

Some researchers, however, attempt to quantify the transactions costs for the administration in the provision of public goods (see, for instance, Falconer and Whitby, 1999; Benham and Benham, 2000; Falconer and Saunders, 2002; McCann *et al.*, 2005). Wallis and North (1986) estimate the transactions costs at the macro—level and the measurement of the transaction sector in the US economy. Singer *et al.*, (2009) review the effectiveness of a newly introduced electronic system of public purchasing in Chile. They also measure the administrative costs savings using macro—data on costs incurred by the e—procurement agency to provide the services to the State agencies and the number of times that such services are used by state agencies (Singer *et al.*, 2009, p. 60). However, only a few studies are focused on quantifying purchase costs at a micro—level.

Costantino *et al.* (2005; 2009; 2012) propose a method of quantifying additional purchase costs. This method estimates time costs at different stages of the procurement process and the relevant monetary costs committed to procurement. As mentioned above, additional costs of purchasing include *ex ante* costs and *ex post* costs. The *ex ante* costs of purchasing, according to Costantino *et al.*, consist of the following components: the costs of research and contact of suppliers, the negotiation costs and the costs of the drafting and approval of the contract with the supplier who has proposed the best price. *Ex post* costs are a function of quality control costs and enforcement costs (Costantino *et al.*, 2005, 2009).

It is also presumed that all the *ex ante* costs take into account the time and the hourly cost of the buyer. Such costs are probabilistic in nature and depend on the experience of the buyer. All these *ex ante* cost components can be obtained via a Gaussian distribution. The quality control time of each bidding supplier exhibits a Beta probabilistic distribution, while its enforcement time is expressed by an exponential distribution (Costantino *et al.*, 2009). To calculate additional costs of purchasing these researchers use the Decision support systems (DSS). The DSS performs the simulation of the generic exchange of a new product or service between a buyer and a set of potential sellers and evaluates the total cost of the purchase using a Monte Carlo approach.

Costantino *et al.* (2012) developed and elaborated the above model to consider the additional costs associated with a larger number of participants in the procurement process and

compare these costs against possible benefits. They tested the proposed model of measuring additional costs of purchasing using data from a large construction firm in Italy.

The most comprehensive study of purchase costs was conducted by PwC (2011). The purpose was to explore how the EU's current directives (Public Sector Directive 2004/18/EC & Utilities Directive 2004/17/EC) affect the public procurement system. They measured both customer and supplier costs (including unsuccessful bidders) for each procurement procedure type. The researchers used empirical data on public procurement and contracts in the EU and EEA (European Economic Area), posted on the Tenders Electronic Daily online portal.⁴ The database included 540,000 contracts in 30 countries signed in 2006–2010, while 5,500 public buyers and 1,800 suppliers who signed public contracts were surveyed. Measuring the costs, the researchers applied labour costs (person—days) as a criterion at individual stages of the purchasing process:

1. Pre—award (Pre—proposal for firms)
2. Award (Proposal for firms)
3. Post award
4. Litigation and complaint (if applicable).

For each stage, the average labour costs of its implementation for all competing suppliers and public customers was measured. Then, applying data about employee remuneration for the specialists involved in the procurement process, the researchers quantified the labour costs and the total costs of the procurement as well as the costs of each type of purchasing procedure.

According to the PwC study, procurement costs account for approximately 1.4% of total procurement volume within the EU. Customers account for approximately 25% of total procurement costs, and suppliers (including losing bidders) for approximately 75%. Procurement costs did not correlate with the values of the contracts (with the exception of the largest purchases), therefore the share of costs in small purchases was much higher. In contracts with a value close 125,000 euro (the minimal value of contracts for which the EU demands competitive public purchasing) the overall customer and supplier costs accounted for 18–29% of the contract value, and in median—value contracts (approximately 390,000 euro) for 6–9% of the contract value.

The PwC study is of much interest for public procurement researchers and practitioners both in the EU and elsewhere. The approach used in that study appears to be applicable to different public procurement systems. That said, one would assume that when the minimal threshold value for public contracts in a certain country is smaller (and when the value of the average public contract is smaller) than in the EU countries reviewed in the PwC study, the costs of any single procurement procedure will probably be higher.

However, as our research shows, the approaches to measuring costs mentioned above are not always applicable at micro—level — the level of an individual public customer. In the next section we describe our approach, which can be used by public entities for procurement cost accounting. The approach proposed in this paper is universal and can be applied to any entity, with only small changes required, and to the public procurement system of an individual country.

2. Approach to measuring the procurement costs of a public customer

Initially, our approach to measuring public procurement cost was based on the logic of the PwC study: identifying costs typical for separate stages of the purchasing process and then summing them. We consider each procurement channel individually: purchasing from a single—source contracting (as the baseline for comparison); request for quotations (RFQ); electronic auction; tender.

⁴ <http://ted.europa.eu/TED/main/HomePage.do>

Using the framework suggested by PwC and taking into account Russian procurement practices, we consider the following more disaggregated stages in procurement process of public customers:

- identifying the need for a purchase (planning);
- reviewing requests and making a plan for purchases;
- preparing terms of reference;
- preparing documentation for the procurement procedure;
- carrying out the procedure;
- selecting a winner and signing the contract;
- settling conflicts with bidding suppliers (if such conflicts arise);
- monitoring the performance of the contract;
- settling conflicts related to the contract implementation (if such conflicts arise).

To assess the viability of our approach to measuring public customer procurement costs, we conducted a series of in—depth interviews with Russian public procurement specialists from different levels. We decided to slightly change the approach to measuring these costs and not to assess costs of each individual stage of the process. This decision was made, first of all, because of the high level of heterogeneity of this process: the specialists had difficulty in evaluating labour costs at a particular stage of the process even for a one type of procurement procedure. They gave only interval assessments, and the intervals were quite broad. Using such imprecise interval assessments to measure procurement costs for an entire organization would have produced inadequate results. Besides, such approach implies a low degree of formalization and therefore calls for a series of in—depth interviews in every entity. Therefore data collecting would have become a very labourious process.

Considering all of the above, the initial approach to measuring public customer procurement costs was corrected. The main principles of the final approach:

1. An assessment of a public customer's procurement costs should be provided for a particular time period (for instance, one year). These overall costs include:

- Personnel costs

In this context personnel include all of the entity's employees with any degree of involvement in planning and implementation of purchases. Personnel costs calculated as the time the employees expend on these activities (as a percentage of their working time), and their average remuneration.

As our interviews show, in Russian public entities this group of employees, in addition to procurement department officers and in—house lawyers who handle the legal aspects of purchasing, includes members of the procurement commission, a senior manager controlling purchasing, in—house accountants, and employees of customer departments who participate in planning purchases and in drawing up terms of reference.

- Costs related to the use of other resources — in particular, office spaces, equipment, and software.

When measuring general costs of procurement for public customers, one should take into account not only direct labour costs of employees involved in the purchasing process but also the organization's other expenses associated with these activities.

It is assumed that every employee involved in purchasing process has a workplace, including furniture, a computer and office equipment. Employees also use expendable items (paper, ink cartridges, and other office supplies). These employees are assigned certain spaces for work, so one has to account for the relevant utility bills. These employees rely on other staff—hiring them, managing the payroll, etc.; these additional staff are employed in such departments as HR, legal, financial, and accounting departments.

2. One chooses the least labour intensive of all procurement procedures (labour intensity here means the total amount of time spent on the procedure by all of the staff involved). Next,

one assesses by how much the average labour intensity of each of the other procedures is higher than this one. Thus we come up with a normalized labour coefficient for each procedure used by the organization.

Our interviews also evidence that the labour intensity of a procedure to a large degree depends on the complexity of the purchase. Considering this, we have proposed to divide purchases of the organization into simple and complex. We consider the simple purchase typical, standard purchases, and as the complex purchase those specific for the organization, rare purchases, and purchases requiring complex terms of reference (sophisticated equipment, tools, devices, and servicing thereof, construction works, technical design, professional services, etc.).

3. Data on the number and value of purchases implemented by a public customer during a period under review is gathered. The data referenced above in clauses 1 and 2 is used to calculate total labour intensity and a public customer's procurement costs for the applicable period, labour intensity of each type of procedure, average costs for one procedure of every type, and other indicators necessary for the analysis.

4. The results obtained are analysed and relevant recommendations are made.

Customizing this approach, we have elaborated a method for calculating the average costs of different procurement procedures for a public customer's simple and complex purchases for a particular time period. This method was tested on data of VSU, one of Russian large public purchasers.

3. Public procurement system in the Russian Federation

After the breakup of the USSR and the demise of the old Gossnab system the Russian system of public procurement was reformed (see Yakovlev, Demidova, 2012). Before January 1, 2014, most public procurement in the Russia was governed by Federal Law 94—FL “On the Placement of Orders to Supply Goods, Carry Out Works, and Render Services for Meeting State and Municipal Needs” (hereafter 94—FL), which came into force on January 1, 2006. This law was aimed primarily at combating corruption, and ensuring transparency in public procurement and competitiveness in public tenders and auctions.

To ward off corruption and establish conditions for competitiveness, the law prescribed maximally simple and uniform purchasing procedures that strictly limited customers' ability to influence the selection of suppliers. The law ensured free access to participate in public procurements for all economic agents, primarily (SME). In order to ensure transparency in public purchasing, Russian government created an official national site where procurement notices are posted⁵. Public entities had to select the suppliers using the lowest price criteria. At the same time, with rare exceptions they could not use requirements for suppliers' qualifications and reputations. To foster SME entrance to the public procurement market, 94—FL set very low thresholds for making competitive purchase procedures for public customers obligatory (100,000 rubles or approximately 2,400 euro using the Central Bank's exchange rate as of January 1, 2012).

The following procedures were used in the Russian public procurement system: purchasing from a single supplier (single—source contracting), requests for quotations (RFQ), auctions (in electronic form since 2010), and tenders. At the same time stricter controls over public procurement were put in place. Harsher sanctions began to be applied to purchasing institutions for violating the requirements of 94—FL.

Table 1 highlights the main differences between procurement systems in the EU and Russia during that period.

⁵<http://zakupki.gov.ru/>

Table 1

Characteristics of public procurement in the EU nations and Russia

Characteristics	EU⁶	RUSSIA⁷
Volume of public procurements	3.5% of GDP	8.4% of GDP
Threshold values of a purchase	Contracts valued over 125,000 euro are regulated by the EU Public Sector Directive and EU Utilities Directive; contracts valued less than 125,000 euro can be regulated with provisions of national laws	For contracts valued over 100,000 rubles (or approximately 2,400 euro ⁸) competitive tender bids are mandatory.
Average number of bids filed for competition/lot	5.4 bids	2.7 bids
Procedures of public procurement (in % of number of contracts /% of total value)	<ul style="list-style-type: none"> • open procedure – 73% / 52% • restricted procedure – 9% / 23% • competitive dialogue – <1% / 4% • negotiated procedure — 9% / 14% 	<ul style="list-style-type: none"> • Single—source contracting — 51% / 39%; • Requests for quotations — 28%, 3%; • Auctions — 17% / 38%; • Tenders — 4% / 20%.
The average contract value	3,000,000 euro	2.8 million rubles (or approximately 67,200 euro ⁹)

However, the practical application of 94—FL showed some of its weaknesses. With price being the main selection criterion, public contracts were often awarded to suppliers offering the worst quality at a minimum price. The types of purchase such as “experience goods” and “credence goods”—goods whose quality cannot be checked at delivery (Nelson, 1970; Darby, Karni, 1973) — were especially strongly affected by the lack of attention to suppliers’ qualifications and reputations. The mechanism of justifying the initial price of a contract, which public customers had to announce when posting a procurement notice, was also a subject to much debate. Another shortcoming of the legislation was the fact that only purchasing itself was strictly regulated and controlled while other stages of the procurement process were not. Critics also pointed to other deficiencies of 94—FL.

The efforts to further improve the Russian procurement system brought about a new law on public procurement, which came into force on January 1, 2014: federal law No. 44—FL “On the contract system in the procurement of goods, works and services for state and municipal needs” (44—FL). This new system radically differs from 94—FL in that it governs the entire procurement cycle: planning, purchasing, implementation, control. It makes the public procurement system more flexible compared to 94—FL.

- Planning: 44—FL introduces a clear and well—structured system of purchase planning. Purchase planners must justify their orders, and the method of selecting suppliers and the amount of funds necessary for the purchase.
- Purchasing: 44—FL provides for new additional methods of posting procurement notices: requests for proposals, closed tender, two—stage tender. This allows customers to handle the selection of suppliers of specific goods, works and services. It allows customers to take into consideration potential supplier qualifications and

⁶ According to PwC (PwC, 2011)

⁷ According to Russia’s Federal Statistics Service (Rosstat) for 2008-2010 (GKS, 2008-2010)

⁸ The Russian Central Bank’s exchange rate as of January 1, 2012.

⁹ The Russian Central Bank’s exchange rate as of January 1, 2012.

reputations. Simplifying purchase of goods and services for schools, hospitals or kindergartens at a regional and municipal level, 44—FL allows the centralization of the procurement system—in particular, the establishment of a public agency in charge of selecting suppliers. This delegation of powers will allow the avoidance of duplicative procedures.

- Execution of the contract: 44—FL allows a public customer to cancel its contract with a supplier unilaterally when the supplier provides goods of a substandard quality or an incomplete sets of goods, does not comply with deadlines for supplying goods, performing works and providing services, or materially breaches the terms of a contract. The supplier enjoys a similar right.
- Control: 44—FL provides for control over public purchasing at all stages from planning to implementation. Both federal authorities and the public will control procurement through monitoring, auditing and other methods. If the contract value is more than one billion rubles (approximately 25 million euro), a public debate on the contract should be held, with opportunities to change terms of reference or even cancel the purchase.

One of the main principles of 44—FL is the openness and transparency of public procurement. According to the new law a unified information system containing all data about any federal or municipal purchase must be created.

However, despite the numerous positive changes, in the new legal environment evaluating the efficiency of public procurement continues to be a very important issue. One of the reasons for this is the growth in public procurement costs caused by 44—FL.

4. Calculating the costs of implementing different purchasing procedures by VSU

Description of the University and the data collection process

VSU is one of the oldest classical universities in Russia, with 100 years of achievement in Russia and the world. Every year, VSU is listed among the top universities in national and international rankings, which encourages its stakeholders—government and business organizations—to invest in both current university projects and innovation initiatives. In the national ranking of universities (Interfax): classical universities and research institutions for 2014 it was ranked as 19–20, in the QS University Rankings: BRICS 90 (World), 17 (Russia). VSU has over 21 000 students, 18 faculties and 6 research institutes. VSU is the only University in Europe with its own unique Nature Reserve. There are 1580 lecturers working at VSU including 316 professors. VSU's graduates include Nobel Prize Winner in physics (1958) Prof. Pavel Cherenkov.¹⁰

As far as institutions of higher learning are concerned, VSU is a typical public customer. To test our approach in a stable regulatory environment we selected for our case study the data of “pre—reform” year 2012 when 94—FL was still in force. Data about contracts concluded by VSU in 2012, grouped in electronic tables, was provided by officers of VSU's Procurement Department.¹¹

VSU's procurement operations are quite extensive. In 2012 VSU concluded 400 contracts valued at 193 million rubles (more than 4.6 million euro). VSU is a public entity, and in 2012 its purchasing was governed by 94—FL. During that period VSU used three types of procurement procedures: single—source contracting, RFQ, and electronic auctions. Tenders, which were also allowed under 94—FL, were not held.

We divided the goods, works and services purchased by the University into simple and complex ones. VSU's complex purchases include sophisticated equipment and their servicing

¹⁰ <http://www.vsu.ru/english/index.html>

¹¹ These data sets are also available at www.zakupki.gov.ru

(for instance, an X—ray diffraction meter, X—ray fluorescence spectrometer, repair of centrifuges); technical design and construction (for instance, construction of buildings and facilities, designing the reconstruction of a power supply system, the expert evaluation of a dormitory construction project), professional services (for instance, software consultations, academic services in natural sciences).

In 2012 65% of VSU’s purchases were from a single supplier, 23% by RFQ, and 12% from electronic auctions (Table 2). However, when weighted by the contract value, electronic auctions accounted for the bulk of purchases (61%), single—source contracting deals (30%), and purchases via RFQ (9%). The price of VSU’s average purchase was relatively low 483,100 rubles¹² (by way of comparison, according to Rosstat¹³ (GKS, 2012), the average public contract price in Russia in 2012 was 604,800 rubles, and excluding small—volume single—source contracting 2,572,900 rubles). One of the main reasons for this is VSU’s large number of small purchases, including contracts valued below 100,000 rubles, most of which were concluded via single—source contracting.

Table 2

Breakdown of VSU’s purchases in 2012 by the type of procedure

Indicator	Procedure type			
	Single—source contracting	RFQ	Electronic auction	Total
Number of purchases				
Simple purchase	188	74	19	281
Complex purchase	72	20	27	119
Total	260	94	46	400
Purchase value, 1,000,000 rubles				
Simple purchase	31.8	10.8	63.2	105.8
Complex purchase	26.1	5.7	55.7	87.5
Total	57.9	16.5	118.9	193.3
Average purchase value, 1000 rubles				
Simple purchase	169	146	3325.1	376.3
Complex purchase	362.7	284.4	2063.5	735.4
Total	222.6	175.4	2584.6	483.1

Using the expert evaluations of VSU procurement officers, we obtained the labour intensity coefficient of the procurement procedures used by this organization. Labour intensity of all types of complex purchases grows along with increases in the time spent on the preparation of the terms of reference in the customer department. Therefore, the values of the labour intensity coefficients for complex purchases were increased. These corrections were introduced on account of what we learned from interviews with the customer department representatives.

The least labour intensive procedure is single—source contracting, and the most labour intensive one is tender because of the large volume of tendering documentation, the length of preparation and the processing of this documentation, the length of the procedure, and the number of Tender Committee meetings. The final labour intensity coefficients are presented in Table 3.

¹² The Russian Central Bank’s exchange rate as of January 1, 2012 was 1euro = 41.67 rubles

¹³ According to the Federal Statistics Service (Rosstat) for 2012 (GKS, 2013)

Table 3

Labour intensity coefficients for procedures used in procurement

Type of procedure	Simple purchase	Complex purchase
Single—source contracting	1	3
RFQ	1.2	3.6
Electronic auction	2	6

It should be noted that complex purchases are fairly labour intensive, even in the case of single—source contracting. Tenders are normally used in the case of complex purchases (construction and repair services, research and development solutions, etc.), whereas RFQ is usually applied to simple purchases.

The data for calculating the labour costs in 2012 was obtained from the expert evaluations of VSU’s specialists, and accounting sheets.

Results

In order to calculate an institution’s procurement labour costs, one has to calculate the number of university employees involved in procurement operations. VSU has a Procurement Department, where all employees (seven persons) are engaged in the university’s procurement operations. Moreover, one employee of VSU’s Legal Department provides legal counsel exclusively on procurement affairs. The university has eight full—time staff dedicated to procurement alone. According to the respondents, there were other VSU employees who committed part of their working hours to procurement. This group of employees included a specialist in the Accounting Department, the vice—rector in charge of economic affairs, who was in charge of the university’s procurement, specialists at different levels of customer departments, who were in charge of purchase planning in their departments and the preparation of terms of reference, and members of the Tender Committee. Their total procurement—related labour costs during a year were estimated as the equivalent to 7.4 full—time employees.

The overall procurement labour costs of VSU’s officers in 2012 totalled 306,000 person—hours or 76 person—hours (9.6 person—days) for one purchase (Table 4). This is a relatively small figure, which can be explained by the large share of single—source contracting purchases—the simplest type of a procedure—among VSU’s contracts. The electronic auction labour costs of 22 person—days were fairly comparable with PwC’s figure of 28 person—days.

Table 4

Average labour costs for a procurement procedure, person—hours

Type of procedure	Simple purchase	Complex purchase	Total
Single—source contracting	40	120	62
RFQ	48	144	68
Electronic auction	80	240	174
Total	45	151	76

We estimate that in 2012 total annual costs associated with the remuneration of officers involved in procurement activities at VSU amounted to 6,024,000 rubles (145,000 euro). Other annual costs associated with the activities of employees involved in procurement activities (excluding the expenditures on their wages) amounted to 215,000 rubles. We believe that when our cost measurement method is applied, this component of costs can be disregarded because it is only a very small fraction of the public customers’ procurement costs whereas accounting for these costs is quite labour intensive and complicates the application of the method.

We estimate that the combined total annual procurement costs at VSU in 2012 were 6,240,000 rubles (150,000 euro). Table 5 presents the calculated average costs for one procedure of every type.

Table 5

Average costs for one type of purchasing procedure, 1000s rubles

Procedure type	Simple purchase	Complex purchase	Total
Single—source contracting	8.2	24.5	12.7
RFQ	9.8	29.4	14
Electronic auction	16.3	49	35.5
Total	9.1	30.9	15.6

As the table shows, on average a single—source contract costs the university 12,700 rubles, an RFQ purchase costs—14,000 rubles, and a purchase through electronic auction costs—35,500 rubles. On average, the costs of every procurement procedure at VSU are estimated at 15,600 rubles in 2012. The average procurement costs in terms of person—hours at VSU, according to our estimates, amounted to 204 rubles per person—hour (approximately 5 euro).

On the average, we estimate that at VSU in 2012 the share of customer's procurement costs in the overall contract value was 3.2%. A comparison of the shares of procurement costs in the total contract value shows that VSU's most expensive procedure type was RFQ, where the customer's costs accounted for 8% of total contract value. The cheapest procedure was electronic auction, which was usually applied to high—value contracts and for which the customer's costs accounted for approximately 1.4% of the total contract value (Table 6). This index for complex goods, works and services was nearly 1.8 times greater than that for simple ones. The reason for this was additional costs associated with the preparation of the terms of reference, the need to secure various additional approvals, and other similar actions. The difference in the costs was not compensated by a higher price of complex purchases (in 2012, the average price of a complex purchase was 735,000 rubles and that of a simple purchase was 376,000 rubles).

Table 6

The share of procurement costs in the contract value, %

Procedure type	Simple purchase	Complex purchase	Total
Single—source contracting	4.8	6.7	5.7
RFQ	6.7	10.3	8
Electronic auction	0.5	2.4	1.4
Total	2.4	4.2	3.2

VSU's database of purchases for 2012 comprised small purchases valued below 100,000 rubles, medium—sized (between 100,000 and 500,000 rubles) and large purchases valued over 500,000 rubles (see Table 7).

Table 7

Contract value of purchases

Contract value of purchase, 1000s rubles	Single—source contracting	RFQ	Electronic auction	Total	Average costs of purchases (% of contract value)
Up to 100	85	40	—	125	19.1
100—500	165	54	10	229	6.1
Above 500	10	—	36	46	1.1
Total	260	94	46	400	3.2

These figures show that small and medium—sized purchases had the highest relative procurement costs. Therefore, one can question the efficiency of the obligatory application of formal procurement procedures for such contracts.

As mentioned above, procurement costs need to be accounted for when we evaluate the effectiveness of procurement procedures, which is still largely measured in Russia using savings from price reductions at auctions. We compared VSU’s savings from competitive procedures and the costs carried by the University when they were implemented (Table 8).

Table 8

Procurement costs and total savings from price reduction at competitive procedures

Type of procedure	Savings from price reduction at auctions, 1000s rubles	Average procurement costs	
		1000s rubles	as percentage of savings from price reduction
Single—source contracting	—	3,296	—
RFQ	3,700	1,300	36
Electronic auction	27,400	1,600	6
Total	31,000	6,200	20

The data presented here show that customer savings from competitive procedures exceed the costs associated with them. Suppliers also bear procurement costs (in particular, in the EU, according to PwC, suppliers’ costs account for 75% of the general costs of administering procurement procedures (PwC, 2011)), and these costs are nevertheless ultimately factored into the price of contracts.

Conclusion

We believe that this method can be applied by public customers in different countries to optimize in-house procurement procedures. At the same time, we believe that the findings obtained using this method also warrant broader conclusions about the need for changes in procurement regulation.

Using VSU data, we have demonstrated that it is possible to measure an individual public customer’s procurement costs. We have shown differences between the costs of different procurement procedures: while a single—source contracting deal in 2012 cost VSU, on average, 12,700 rubles (305 euro), conducting an electronic auction cost 35,500 rubles (852 euro). At the same time, as a percentage of the total purchase volume, the share of costs in purchases via auctions turned out to be much lower than that in single—source contracting deals: 1.4% against 5.7%. These data are yet more evidence of the scaling effect—more complex procedures are economically practical for larger purchases, while simple procedures should be used for small purchases. While in the EU competitive procedures are mandatory for contracts valued above 125,000 euro (for construction works this threshold is even higher), in Russia similar requirements apply to contracts valued above 100,000 rubles (2,500 euro).

At a first glance, such excessive regulation reflects that the state distrusts its employees—both those working at governmental agencies and those employed in the public sector. However, recent international studies on contract theory show that when political opposition, to mass media or NGOs are likely to come up with accusations of corruption, the optimal strategy for a rational bureaucrat would be to adhere to excessively rigid rules that narrowly regulate procurement (Moszoro and Spiller, 2012; Spiller, 2013). Such excessive regulation is economically impractical, although it exists in many countries because it allows the typical bureaucrat to exempt themselves from responsibility for the final results of their actions. In essence, responsibility for the result is replaced with control over adherence to the procedures.

This approach can exist at different levels—by regulatory authorities and by purchasing public customers.¹⁴

Further regulatory activities within this vein would require even more expenditures by public institutions on organizing and administering procurement, instead of mobilizing their limited resources for their core activities, such as education or healthcare.

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¹⁴ This trend in Russia is arguably reflected in the fact that the average value of sugar contracts reached through electronic auctions in Russia in 2011 was 92,000 rubles – in other words, below the 100,000 ruble threshold required by the 94-FL for competitive procedures (Yakovlev *et al.*, 2013). However, public customers used this relatively labour—intensive procedure on a massive scale in order to hedge themselves against possible accusations on the part of supervisory agencies.

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