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Article

Avoidance of risk from the contracting authorities

Avoidance of Risk from the Contracting Authorities: Public Procurement Case Study[1]

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Abstract

The article deals with an empiric analysis of behaviour of contracting authorities when tendering public contracts. In the context of theories dealing with rational, imperfectly rational and rationally inattentive behaviour of agents, it tries to describe the problem of avoiding risk by the contracting authorities in further detail. Theories observing behaviour of bureaucracy – no matter how well they are reasoned – mostly meet the problem of empiric verifiability. In this case, the authors try to fill the gap using an empiric analysis where it is worked with real data of public contracts from 2010 – 2014. We can consider the main findings to be the fact that public contracting authorities prefer strategies that are based on a reduction of risk of conflicts with the regulator. These strategies are chosen mainly based on signals of behaviour of central authorities, rather than based on the effort of gaining the most informative strategy. However, the final result is the same. In the authors' opinion, the aversion to risk by the contracting authorities, which is enforced by the public policy in this field, plays the major role.

Keywords: *public procurement, risk, bureaucracy safety*

JEL Classification: H57, H11, K11

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Introduction

By means of the institute of public contracts there is a significant reallocation of resources. In EU countries this volume is on average approx. 13% of GDP (EC, 2016). In the Czech Republic in 2015, the volume of public contract market amounted to 556 billion CZK, which accounts for 12.46% of GDP (MMR, 2016). Most public contracts are contracted in the direct command of the act on public contracts, only approx. 46% of the volume of finances spent on public contracts is allocated by means of the institute of public contracts of small extent (or based on exceptions from the act on public contracts) (MMR, 2016). Current public contracting deals with several problems, causing ineffectiveness of the process of public contracting.

The authors' approach deals with public contracts from the point of view of chosen aspects of behaviour of contracting authorities. While creating the conceptual framework, the authors used ideas about a rational behaviour of economic participants. Based on an empiric analysis of data, the authors try to analyse the process of setting of evaluation criteria of public contracts and the role of approach to risk by the contracting authorities.

1. Starting Point of the Research

The theory of rational decision-making has a quite strong microeconomic fundament. Critics, however, often point out the gap between the theory and empiric verification. Critics also point out various approaches of rationality, e.g. the conflict between an assumption of stable and rational preferences versus the influence of environment or also the inconsistency of the individual parts of Weber's theories of organization behaviour (Rockman, 2001). Another criticism can be found e.g. in Shepsle (1996) and Green and Shapiro (1994). The theory of rational decision-making within organization focuses almost exclusively on principal-agent problem. It describes how an organization tries to increase its autonomy against principals, who use information asymmetry in their actions. Critics of this approach point out certain one-sidedness of this approach oriented only to the relationship principal – agent, and to problems connected to empiric verification of theoretical statements.

From the point of empiric verification, the theory of bounded rationality, which was first presented in a dissertation work by Herbert Simon called Administrative Behaviour, does better. Simon's theory claims, that people are simplifiers, not complexifiers. Because of this, there are limits of our attention, which are given by opportunity costs and transaction costs. Although we are rational actors,

this rationality is limited (Rockman, 2001). It can have several interesting consequences for the behaviour of an organization as a whole. Organizations are then controlled rationally, but rationality of control is limited by transaction costs and opportunity costs. Organizations may somehow try to reach a utility however they do not look for an optimum. Behaviour of organizations is also strongly influenced by incentives from superior authorities. That is why a part of organizational decision-making takes place based on signals. The more advanced the organization, the more predictive its behaviour and decision-making is. The sense is to reach a balance between programmable activities and non-programmable activities (March and Simon, 1958).

For an organization, signals are an impulse ("information lighthouse") how to behave rationally. For a researcher (figuratively speaking), knowledge of these signals has approximately such information value as light signals on a crossroads where cars are standing behind a corner in a way that an observer of traffic standing on a pavement cannot see them. But he/she knows that a "green" signal means that cars will come from a certain direction. He/she does not know, however, how many cars will come and what makes and types of cars they will be. This immediately missing information may be "compensated" from previous observations. From the previous data he/she may guess (or predict) the traffic density, the number of kinds of passing cars, etc. Similarly, it works in case of predicting behaviour of contracting authorities in public contracting. We need to find certain signals, based on which we may predict (or guess) the future behaviour of participants of public contracting.[2] Findings of the current discussion about a paradigm of bounded rationality and the idea of "safety bureaucracy" can be used for that (Nemec et al., 2014).

Currently, the theory of bounded rationality is developed in a way of so-called rational inattention, e.g. Matějka and McKay (2015) and Matějka (2015). Within this theory, subjects choose how much time they will sacrifice to an observation of the individual possibilities and to which actions they will allocate their attention. It is a fact, that agents make decisions according to supposed payments, but when making a decision they take into account the costs of gathering the information. More informative strategies are more costly. That is the reason why also signals a priori beliefs play their role (Matějka and McKay, 2015). In case of a possibility of choice from a discrete number of potential strategies and assuming that the agent decides to rationally ignore some information his optimal decision-making process has the form as presented by probabilistic multi-nominal logit model. However, this theory has not been empirically

[2] In the study, the authors will further identify the role of these signals, for which the term "catalyst of risk of appeal" is used in the next part of the work.

tested yet. It was presented as a base for multi-nominal logit model (Matějka and McKay, 2015) and for a choice of a suitable price strategy of a monopoly (rigid pricing) in the context of a rationally inattentive customer (Matějka, 2015). For the creation of conceptual framework, also the theory of public choice is used, especially that part of theory which describes a bureaucrat who tries to minimize the risk. According to this theory, the bureaucrat chooses such strategies which lead to the lowest possible risk of conflict with an authority of resource provider. In this behaviour it is assumed that a bureaucrat applies the same patterns of behaviour as in the above-mentioned theory – he/she tries to minimize the potential loss stemming from the conflict with an authority while their behaviour is limited by opportunity costs and transaction costs.

The subject of the research of this article is an empiric analysis of behaviour of contracting authorities during public tendering. The aim of the article is to define a utility function of a contracting authority during public tendering. This function shall be interconnected with the results of econometric analysis of real data about decision-making of the Office for the Protection of Competition and thus creating a base for theoretical explanation of motives for setting criteria for evaluation of a public contract in the conditions of the Czech Republic.

2. Decision-making of Authorities of Public Tendering in Conditions of "Avoidance of Risk" (Conceptual Framework)

For research of impact of "avoidance of risk" it is necessary to find which algorithm to use to discover and quantify these impacts. The theory offers several concepts. The first of them is a game theory and expected utilities (Neumann and von Morgenstern, 2007). This theory is based on assumptions that actors making decisions rationally orient themselves according to two principles: according to the level of utility which results from the decision and according to probability of occurrence of the considered option. The resulting effect may be expressed as an expected value (EV). It is a fact that:

$$EV = p \,.\, v \tag{1}$$

where

EV – expected value,
p – probability of result,
v – value.

Expected value enables to compare results of various decisions and look for an optimal result. For the research Neumann-Morgenstern approach is inspirational because rational participants try to maximize their utilities while utilities

increase together with value. This conclusion of the economic theory will be used while examining the influence of *expected value of a public tender* on economic behaviour of authorities of public tendering. The expected utility does not have to equal the expected value. For the expected utility (EU), there is a relation (corresponding Neumann-Morgenstern utility of lottery):

$$EU = \sum_{i=1}^{k} p_i u(v_i) \tag{2}$$

where

EU – expected utility,
$u(v_i)$ – utility of i-variant,
p_i – probability of i-variant.

Difficulties in examining, however, occur because each function of an expected utility describes a result of behaviour of a certain individual. If we know this function, we may find out how the utility of the given individual changes. But it is not possible to find out from this function how the other actor's utility has changed. And with regards to the mentioned restriction, how to define the social utility function for the case of a bureaucrat (as a "social" agent) participating in the public tendering?

The solution of this problem is the following simplification. Let us assume that the given bureaucrat – representing public interests – represents a general (social) interest. A bureaucrat is the agent of the general public. We then may say that he/she represents the interests of general public so that the public interest promoted by him approximatively expresses interests of the individual citizens (individuals). On these presumptions, it is possible to consider the utility function of a bureaucrat to be approximative social utility function. This simplification also applies on the assumption that a bureaucrat represents a public interest.

Another inspiration for the creation of theoretical-conceptual framework is Neumann and Morgenstern's idea of the role of aversion of the given actor to risk. For examination of behaviour of contracting authorities, it is valuable (methodological) information. We may find out to what extent the individual parameters of a public contract together with the relationship of contracting authorities to risk influence their behaviour. These parameters may be marked as so-called "catalysts of risk of appeal and breach of law". These are parameters of a public tender that with a certain level of probability may lead to a complication in public tendering which in this case may be represented by an appeal of an applicant as well as a breach of law stated by the Office for the Protection of Competition.

In process public procurement, a great role is also played by the unclear legislative environment and supervising and audit authorities primarily focusing on the process of public contracting rather than on the results, as shown by (Nemec et al., 2014). The cited authors call the given situation of over-regulated environment and stress on formal rightness "passive corruption" and it is described by so-called "bureaucratic safety" principle.

We may also think that with high values of public contracts contracting authorities (on the contractor's side) will try to avoid risk of failure of a public contract. On the contrary, applicants for a public contract will have a lower aversion to risk to appeal when values of public contracts are high. Thus, it is possible to expect that with higher values of public contracts the same participants will show a lower tendency to aversion to risk than with small values of public contracts. The indicator of this change is a change of number of appeals of public contracts depending on the changes of expected values of public contracts. It means that the value of a public contract together with aversion to risk have a significant influence on whether the contracting authorities will be willing to make risky decisions. Then it should be true that applicants for a public contract in case of a higher value of a public contract would be willing to risk more (risk of forfeiture of bail) when appealing to the Office for the Protection of Competition rather than when the value of a public contract is lower (assuming the same parameter of aversion to risk). This behaviour was empirically verified in a study by (Plaček et al., 2017). Investigation of public contracts themselves done by the Office for the Protection of Competition may be carried out in two forms. It is a less formal inspection of contracts based on a received initiative (in the sense of §42 of administrative law), when in case that the Office doubts that the objected contracting authority's procedure is not in accordance with the law, it initiates an administrative procedure by virtue of office. Whether the Office initiates this procedure or not depends only on the consideration of the Office.

The initiated administrative procedure is more formalized and it follows appropriate provisions of administrative law, while procedures initiated by virtue of office typically result in inflicting a fine.

Another group is made by administrative procedures initiated on the basis of a motion of one of the suppliers (according to §114 of the act on public contracts), when a formal procedure is initiated automatically by delivering the motion. At the same time a preliminary measure forbidding the contracting authority to conclude a contract is often issued. The supplier, on the other hand, is obliged to provide a deposit. This deposit may be forfeited for the benefit of the state if the motion is not allowed. With suggested procedures, the supplier

strives to get a corrective measure – abolishing some of the contracting authority's acts, or of the whole contract.

These hypothetical judgements are derived from the idea of rational behaviour of participants in public tendering. In case of high values of a public tender, the potential loss of not winning the public tender is quite high. That is the reason why the participants are willing to take the risk of appealing to the Office for the Protection of Competition. On the side of contractors, administrators of the tendering process (bureaucracy) strive to avoid the risk of appeal as well as the risk of a possible statement of breach of law by the Office for the Protection of Competition. It actually stands for a potential danger (express by probability), when in case of occurrence of a risky event the process of public tendering is stopped. This stopping of a process of public tendering represents a damage for the public sector. The damage is bigger, the higher the expected value (in this case unrealized) of a public contract is. The authority of public administration (represented by a bureaucrat) is the bearer of public interest. Simply, it is possible to imagine this authority as an individual where the utility function approximatively approaches a social function of utility (satisfaction) from a public contract. In order the authority of public administration (contractor's side) avoided the risk of failure in a public competition, or reduced it, in the pre-bidding phase it identifies factors – signals ("catalysts of risk of appeal") that represent danger that smooth course of the public competition will be endangered. That is why authorities on the side of public sector (contractor) "select" all serious potential "catalysts of risk of appeal and breach of law" which in public tendering represent a failure of a public tender. They prefer one-criterion evaluation of public contracts rather than multi-criterial evaluation.

Nemec et al. (2014) examine this problem in a case study of two public contracts and also present results of OTIDEA research, realized in 2013 among 152 suppliers and 450 representatives of contracting authorities, when 87% of respondents from contracting authorities use the criterion of lowest price because of being afraid of a complaint to the Office for the Protection of Competition. This assertion was confirmed by the empirical study conducted by (Jurčík, 2015), which states that in the Czech Republic, the lowest price criterion was used in about 80% of cases, in case of electronic tendering it is close to 90%, which is also true for small contracts. From the international comparison it is interesting that this practice is characteristic more for new EU members, while countries such as Germany prefer the criterion of economic profitability. Jurčík (2015) considers the same factors as Nemec et al. (2014) as the cause of this state, i.e. effort to eliminate transaction costs and avoid a conflict with an authority.

3. Methods

The basic used method is a deduction which is formalized using mathematical algebra. Primary and secondary results of econometric models are used as background data. A model published in a study by Schmidt (2014) is used as secondary results. It deals with modelling of the above-mentioned fines imposed by the Office for the Protection of Competition. According to the given results, 1% increase of maximally possible fines manifests in an increase of the imposed fine by 0.32% and an increase of the expected value of the public contract by 1% results in an increase of the fine by 0.15%. These findings are used for the algebraic record of a fine imposed by the Office for the Protection of Competition.

For a part of analysis working with probability of fine imposition by the Office for the Protection of Competition, the authors worked with their own econometric model. The aim is to set the probability of fine imposition depending on the chosen characteristics of a public contract. Within an empiric analysis the authors used data about public contracts, whose announcement or contracting was published in the Journal of Public Contracts in 2007 and 2014 (i.e. including all cancelled public contracts). Altogether there were 99,204 public contracts. These data were combined with data about administrative decisions of the Office made from January 2011 to March 2015. Data about decisions are published in the Collection of Reports of the Office, and in the examined period there were 1,965 first instance decisions. As these data contained more decisions about the same contract and some decisions concerned contracts, which are not published in the Journal (e.g. public contracts of small extent, or cases when the contracting authority omitted to publish data about the public contract in the Journal), the authors found in total 917 contracts given in the Journal of Public Contracts, about which the Office ran an administrative procedure. Out of this number 772 were proceedings initiated based on a motion, and in 295 cases the Office stated violation of law by the contracting authority. With regards to the nature of dependent variables, a method of logistic regression (logit model) which exploits so-called logistic function when estimating parameters was used.

3.1. Variables Used in the Model

Dependent variable serves the fact that in a given public contract the Office stated violation of the act on public contracts from the side of the contracting authority and because of this, correction measures were taken or a fine was inflicted. If that is the case, the variable gets value 1, otherwise 0.

Independent Variable:

Assessment criteria – The act on public contracts that allows to assess offers based on two possible assessment criteria. One option is to use assessment of offers only according to the offered price, which was used with 68.3% of the analysed contracts. The other possible assessment criterion is an assessment of so-called economically advantageous offer, which is a more complex assessment based on more criteria (quantitative or qualitative).

Expected value of a public contract – As an independent variable describing the size of a public contract serves its expected value which is denominated in CZK, VAT excluded. The contracting authority is obliged to set this value before the public contract is initiated. This value also determines whether the contracting authority is obliged to proceed according to the law or not.

Type of contracting authority – For specification of type of contracting authority, the division is taken from the Journal of Public Contracts as shown: Regional of local body, National or federal authority/agency, Public institutions, Regional or local authority/agency, Ministry or other national or federal body including its structural units, others.

Type of contract and type of tender procedure – Open procedure, Restricted procedure, Procedure without publishing, Procedure with publishing, Simplified sublimit procedure, others.

Complete results of the model including diagnostic tests are given in the appendix to this article. The authors are aware of the difficult possibility of modelling the decision-making of such complicated institution as the Office for the Protection of Competition, when the final decision depends on a whole range of factors that are difficult to quantify. It is also suggested by seemingly quite low McFadden's coefficient of determination, even though a higher number of variables were included, it shows relatively low values. In the authors' opinion, however, the resulting logit model corresponds to the complex of restricted rational decision-making of agents.

4. Results and Discussion

In the first step, general utility function of a bureaucrat is defined, it describes the problem of tendering of a public contract. It is assumed that the complete utility consists of a utility resulting from the realization of the public contract, i.e. fulfilment of public interest. Furthermore, within the complete utility it is necessary to include a possible loss of utility caused by a fine imposed for an incorrect procedure when realizing the public contract, or a possible time delay caused by the inquiry by the Office for the Protection of Competition

(e.g. in consequence of a ban to conclude a contract). Values of the complete utility are then different for various variants of procedures in a public contract.

The proposed utility function has the following form:

$$U = U_B - w \,.\, p \,.\, Z \tag{3}$$

where

- U – a total expected utility from the realization of a public contract,
- U_B – a partial utility of a bureaucrat relating to the realization of a public contract,
- w – weight expressing a subjective bureaucrat's attitude to risk (gaining value 0 in case of a risk-ignoring bureaucrat and values higher than 1 in case of a bureaucrat with aversion to risk),
- p – probability of occurrence of a conflict with an authority for the individual variants of a public offer and
- Z – a loss of utility caused by an imposed fine or time delay caused by inquiry of a public contract.

The given function is further modified so that it expresses a bureaucrat's utility depending on the choice of evaluation criterion, i.e. lowest bid price vs. economical profitability. It is technical elaboration of behaviour of public contracting authorities, as described by Nemec et al. (2014) or Jurčík (2015).

Let us divide the loss of utility Z to a potential loss from the imposed fine $Z_F = a \,.\, E$, where E is expected reached price for performance of the public contract and a is a parameter that can be derived from empirically found dependence (Schmidt, 2014), and loss from a time delay Z_D which is set when the public contract does not fulfill public interest, i.e. each day of delay linearly decreases the expected utility. This relationship may be expressed in the following way: $Z_D = b \,.\, U_B$. We also presume the same probability for imposition of fine or for holdups in the tender procedure from the point of view of the contracting authority who determines the parameters of the tender procedure prior its initiation.

Furthermore, it is assumed that bureaucrat's utility from the realization of a public contract linearly depends on the tendered price for the public contract $U_B = c\,E + U_0$. After substitution the relation is:

$$U = c\,E + U_0 - w\,p \,.\, \left[a\,E + b\left(c\,E + U_0\right)\right] = cE + U_0 - wpaE - wpbcE - wpbU_0 \tag{3a}$$

The following Table 1 shows the resulting expression of utility of the contracting authority of a public contract when making a decision whether to choose the lowest bid price as the evaluation criterion rather than economical profitability, while different attitudes to risk are taken into account. Then it is obvious that a significant role in clerk's decision-making is played by his/her subjective attitude to risk which is expressed by parameter w, which gets value 0 in case of a risking clerk, in case of risk-neutral clerk it gets value 1.

T a b l e 1

Expression of Utility of a Contracting Authority of a Public Contract Depending on the Evaluation Criteria of the Public Contract

	Evaluation of price	Evaluation of economical profitability
risk-ignoring w = 0	$cE_1 + U_0$	$cE_2 + U_0$
neutral w = 1	$cE_1 + U_0 - p_1aE_1 - p_1bcE_1 - p_1bU_0$	$cE_2 + U_0 - p_2aE_2 - p_2bcE_2 - p_2bU_0$

Source: Authors.

The parameter p in the equations above can be substituted by values based on the model (see Table 2), which express the influence of chosen parameters of a public contract on the share of chances that the Office for the Protection of Competition will state a breach of law on the contractor's side.

T a b l e 2

Model Explaining the Influence of Factors of Public Contracts on Finding Violation of Law by the Office

Model: Logit, with the use of observation (n = 87147)
Missing or incomplete observations were omitted: 5 066
Dependent variable: found deviations
Standard deviations based on Hessian matrix

	Coefficient	Standard dev.	p-value	
Constant	–5.72562	0.142049	<0.00001	***
Assessment based on price	–0.595795	0.128552	<0.00001	***
Financed from subsidy	0.611181	0.128231	<0.00001	***
Type of contracting authority – public institution	–0.427654	0.220901	0.05287	*
Type of contracting authority –regional or local authority/agency	0.404166	0.178629	0.02366	**
Contract for services	0.637042	0.132252	<0.00001	***
Restricted procedure	0.84696	0.191208	<0.00001	***
Procedure without publishing	–1.42138	0.367568	0.00011	***
Procedure with publishing	–1.01643	0.362059	0.00500	***
Simplified sublimit procedure	–1.00757	0.22225	<0.00001	***

Mean value of dependent variable	0.002915	Standard deviation of dependent variable	0.053909
McFadden's coefficient of determination	0.052455	Adjusted coefficient of determination	0.046697
Logarithm of credibility	–1 645.398	Akaike criterion	3 310.796
Schwarz criterion	3 404.550	Hannan-Quinn criterion	3 339.425

Source: Authors.

The model gives an important explaining variable Assessment based on price which expresses the way of assessment. We get information that the factor of the lowest bid price decreases the chance to state a breach of law by the Office for the Protection of Competition 0.551 times (calculated as a value of an exponential function for the appropriate parameter generated by the model). I.e. in case of assessment of offers according to the lowest price, p is smaller than in case of economical profitability.

The model also gives an obvious and statistically significant influence of other explaining variables, such as financing using EU subventions that increase the probability of statement of breach of law, tendering of services that very often tend to be characteristic by problematic assessment of their offers. Higher share of chances for breach of law is also shown contracts that are tendered by regional and local authorities, this fact may be explained by a lower qualification of the staff. The type of the announced tender also has a statistically significant influence – restricted procedure, risk of stating the breach of law from the regulator increases; on the contrary, procedure without publishing, procedure with publishing, and simplified sublimit procedure decreases.

From the point of view of a contracting authority making decision on the way of evaluation of offers, higher probability is assumed that it will be stated that the law has been breached in case of using the criterion of economical profitability, as the analysed data suggest. At the same time, we expect a higher tendered price in case of contracts evaluated by economical profitability, as empiric research show, e.g. (Grega and Nemec, 2015), however, also higher reached quality of the acquired performance, which manifests in a higher level of gained utility U_B from the realization of a public contract.

With regards to the above-mentioned presumptions that $E_1 < E_2$, $p_1 < p_2$ respectively, Table 1 clearly shows that the contracting authority with a lower aversion to risk (risking) will make decisions purely according to the utility of the public contract and will not take into account any possible sanctions and complications resulting from the risk of conflict with an authority. According to the given model, such contracting authority should prefer multi-criterial evaluation based on economical profitability.

In case of contracting authority's attitude with more aversion to risk, resp. higher perceived probability of loss, the situation is more complicated, in this case parameter p is important. It expresses probability of stating a breach of law by the Office for the Protection of Competition and transaction costs and other complications for the contracting authority resulting from this. The decision about the choice of evaluation criterion is also set by values of the individual parameters (a, b, c, w), from which let us mention especially w giving subjective relation to risk. The final decision of the contracting authority thus depends on the fact, whether the increased probability of possible complications in the course of tender procedure "prevails" the increased utility following the expected more expensive (and also more quality) performance.

If an agent makes a decision maximally informatively, the decision-making will lead to a multi-nominal logit model. In our case, the logit model is simplified to a binary one. For the construction of a model, relative maximum of available

information is taken into consideration (see part of the method and information about input volumes of data for the model). Our model thus corresponds to a complex version of available and rational decision-making of the contracting authority, i.e. the contracting authority takes into account all available information and accepts transaction costs. Comparing this approach and real data about behaviour of public contracting authorities we confirm, that in case of a higher aversion to risk, the choice of the lowest bid price as an evaluation criterion of a public contract is justifiable by the possible risk of penalty from the supervising body.

However, it is not supposed that contracting authorities when making a choice of their strategy would use all ascertainable information. The complete overview of information about the behaviour of the Office may be found on the website of the Office for the Protection of Competition (www.uohs.cz). On this website, the Office publishes not only annual reports, but also complete statistics of the number of proceedings and decisions. However, based on these data, the contracting authorities cannot find out which factors of the selection procedure influence the initiation of inquiry or breach of law. Contracting authorities then take into consideration individual decisions by the Office for the Protection of Competition which may be perceived as signals for making decisions. In the authors' opinion, contracting authorities make decisions according to signals that the regulator sends and also according to the shared experience of the individual contractors, and so-call word of mouth. Nevertheless, there occur paradoxical situations that this decision-making has the same consequences, as if public contracting authority used more informative strategies.

It may be stated that empirical behaviour of public contracting authorities that are described by Nemec et al. (2014) and Jurčík (2015) is influenced by a subjective attitude of the contracting authority to risk, elimination of which – in the authors' opinion – public contracting authorities focus on more than realization of a public interest, and also by the number and structure of information about decision-making of the Office for the Protection of Competition that is available to contracting authorities.

Conclusion

The article deals with a creation of theoretical fundament for analysis of chosen aspects of behaviour of public contracting authorities in choice of parameters of public procurement in relation to hypothesis of bureaucracy safety. This theoretical basis is then interconnected with real data about decision-making of the Office for the Protection of Competition.

As the main findings it may be considered the fact that public contractors have aversion to risk in their decision-making and prefer elimination of risk rather than realization of public interest. Contracting authorities also make decisions based on signals from individual cases of inquiry by the Office for the Protection of Competition, rather than based on thought-out informative strategy. This behaviour, however, paradoxically brings the same consequences as if they made decisions based on a maximally informative strategy. In this context they behave rationally. The decisive determinant of behaviour then remains a subjective attitude of public contracting authority to risk.

In the author's opinion, to improve this situation it may contribute to get further simplification of act on public contracts, so that the contracting authority gained a bigger space for the solution of ambiguity problem. Another problem according to the authors is that public contractors do not have sufficient information about the work and decision-making of the regulator, as suggested in the authors' study, there is a significant information asymmetry. That is why it would be good to increase the awareness of the contractors about the work of the Office for the Protection of Competition.

However, in the authors' opinion, the most important element for possible improvement lies in a very gradual change of mentality of control of the public sector, i.e. neoclassical microeconomic fundaments that are applied when solving corruption or in relations of principal agent that may be simply called as "more checks and more punishments" (Knauppi and van Raaij, 2015): "Agency problems may arise not only because the agent has information the principal is not aware of, but also because the principal may have information the agent is not aware of. Information asymmetry thus acts on both sides." The resulting problems may not be necessarily caused by corruption or risk avoidance, but by "honest incompetence" which (Knauppi and van Raaij, 2015) and (Lambright, 2009) compare to Stewardship theory, where actors are not seen as motivated by personal goals but by pro-organizational collectivist goals (Lambright, 2009). The goals of stewards and principals are aligned and stewards focus on intrinsic intangible rewards, such as opportunities for growth, affiliation, and self-actualization (Knauppi and van Raaij, 2015). Carson, Madhok and WU (2006) also argues that it is not socially optimal to try to achieve zero corruption, as the potential benefit of achieving this state will be outweighed by transaction costs.

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