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Caught before they Act: Increasing Efficiency Through Reducing Risks of Corruption in the Latvian Public Procurement Market

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Abstract

Governments use the system of public procurement to acquire high quality up-to-date production for the lowest prices. The importance of the system can be expressed both in numbers (10.7% of Latvian GDP) and economic terms (providing significant profit opportunities for the most competitive suppliers). Although public procurement is created for efficiency and perfect competition, corruption easily spoils them by inducing higher prices and lower quality of products, which are acquired from less competitive suppliers.
This research combines the opinions of involved parties, international policy recommendations, and cost-benefit analysis to evaluate the efficiency of the public procurement market in Latvia and to determine the mechanisms for limiting the motivation and opportunities for corruption. To start with, price thresholds, procurement methods and regulations should be established following a thorough analysis of the existing system gaps. Secondly, system transparency should be increased by establishing centralized announcement publication for small procurement, mandatory tender documentation publication and an e-procurement system. Thirdly, the public sector should share its human and information resources. And finally, the authority and obligations for the Procurement Monitoring Bureau should be increased to include ex-ante monitoring of large procurement, the authority to fine offenders of the law, and responsibility to control small tenders.
Although changing government practices requires financial and human resource investments, the aggregate benefits of a well functioning public procurement market considerably exceed the costs.

Table of Contents

1. Introduction

The role of the state administration is to serve the public interest – to provide economically unprofitable, but socially important goods and services, to keep the state apparatus effective and motivated, and to boost state competitiveness in the international market (Bank of Latvia, 2000). The necessary condition to achieve the policy goals mentioned above is a maximally effective allocation of public resources (subsidizing socially important spheres) in the most efficient way (obtaining the highest quality for the lowest costs).

Theoretically, efficiency in public spending is ensured through the public procurement process, the major goal of which is to create a perfect competition market for public purchases. However, as the procurement system in Latvia is decentralized, weakly limited discretion and the lack of accountability mechanisms of public officials responsible for procurement put them in a personal conflict-of-interest situation (Khramkin, 2005), which in the absence of professional ethics and effective prosecution creates favorable conditions for corruption. Apart from distorting competition, corruption in public procurement increases the costs to society as either the price of the good / service is too high, or its execution is of very low quality.

Corruption in the public sector is not a new phenomenon. Because of its pervasive nature, negative externalities and long-lasting negative impact on the economy (Mauro, 2005), a great deal of international effort has been devoted to transforming the corrupt institutions and government practices of development and transition countries to transparent and honest ones. International recommendations (The World Bank, 2000; Support for Improvement in Governance and Management, 2003) set several preconditions for a well functioning public procurement market. Firstly, it should be controlled by an independent agency; secondly, it should work in accordance with specifically issued regulations; thirdly, it should represent clearly formulated selection criteria (for potential suppliers); and, finally, it should be capable of providing tools for reducing the potential or existing incentives of bribery and other forms of corruption. Although corruption has economic grounds (the principal-agent problem), it should be viewed in the context of a country's culture, politics and institutional framework (Svensson, 2005), and model anti-corruption strategies should be adjusted to fit local conditions.

Latvia, like several other transition economies has changed its public procurement system and regulations to meet international standards and recommendations. The author aims to assess the success of harmonization in terms of transparency, efficiency, and fair

competition in the public procurement sector in Latvia and identify **what additional elements of public procurement control policies are necessary to further reduce the risks of corruption and increase the efficiency of the public procurement market in Latvia.**

2. Literature Review

2.1. Corruption Definition

Although the majority of society intuitively understands the meaning of corruption, there is no common definition of it in the academic research or policy literature. This work follows the most widely cited definition and denotes corruption as "The abuse of public office for private gain" (Poverty Reduction and Economic Management, World Bank, 1997)[1], where by public office is understood "a department, office, commission, board, corporation, agency, service or instrumentality exercising any function of any branch of the Government of the State" (State Records Act 1998 (NSW)).

For the purposes of this thesis the author widens the term "private gain" to include not only bribery[2], but all the situations in which a contracting authority realizes preferential treatment against a particular bidder - acquaintanceship (friendship, work relations and very often – positive previous collaboration experience) and barter (providing additional products for procurement commission members' personal usage in exchange of success in the tender) (Private sector interviews Nr.2 and Nr.5, February, 2008).

When analyzing public procurement, it is necessary to further distinguish between administrative / bureaucratic and high level / political corruption. According to Tanzi (1998, 119), political corruption occurs at the budget preparation phase, while administrative – during the budget execution phase. This thesis is limited to administrative or small-scale corruption. Thus, tenders with the contract price above 3 million LVL are excluded from the analysis (assuming that those are subject to grand or political corruption).

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[1] Public office is abused for private gain when an official accepts, solicits, or exhorts a bribe. It is also abused when private agents actively offer bribes to circumvent public policies and processes for competitive advantage and profit. Public office can also be abused for personal benefit even if no bribery occurs, through patronage and nepotism, the theft of state assets, or the diversion of state revenues.

[2] "The crime of giving or taking money or some other valuable item in order to influence a public official (any governmental employee) in the performance of his/her duties" (Hill & Gerald, 1997)

2.2. Risks of Corruption

Although the pervasiveness of corruption is claimed to be dependent on country's culture and institutional framework (exogenous factors) (Svensson, 2005), the author assumes that individuals are rational actors and choose whether to engage in corrupt activities or not (given the characteristics of particular circumstances)[3]. This assumption goes in line with Kpundeh's (1997; p.4) opinion, who argues that corruption takes place primarily within an institutional context; however, "people, not institutions engage in corruption"

This thesis follows the theoretical distinction between exogenous and endogenous factors of corruption proposed by Martinez-Vasquez et al. (2004). The authors describe exogenous factors as windows of opportunity, while endogenous factors are put in the framework of individuals' incentives or motivation to engage in corruption. As for further classification, they provide pre-conditions at which either opportunities or motivation for corruption exists:

Apart from being theoretically elegant, the distinction between exogenous and endogenous factors is crucial for policy suggestions, as opportunities for corruption should be limited by using enforcement mechanisms, while motivation or incentives to engage in corruption should be fought by establishing effective prevention mechanisms (ex-ante control) (Martinez-Vazquez et.al., 2004)

2.3. Anti-corruption Policy

What is so bad about corruption?

Although the proponents of effective corruption claim that bribery speeds up transactions with government officials (Caiden, 1988), the majority of policy researchers admit that existence of corruption inhibits foreign investments and slows economic growth (Mauro, 2005; Svensson, 2005).

The negative consequences of corruption have been studied from different perspectives, the main conclusion being that it:

- Creates business environment which supports inefficient market players and allocation of talented human capital, resources, and technology away from the most productive fields to obtaining rents (Murphy et. al., 1991, 1993);

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[3] Individual's incentives to engage in corrupt activities are defined as endogenous factors

- Decreases incentive to enter the market for start-ups and slows the expansion of the existing businesses (Fishman & Svensson, 2007), which become increasingly short-run oriented (Søreide, 2002).

Apart from the traditional consequences, corruption in public procurement is detrimental to the public interest as it violates principles of competition for the purpose of gaining personal benefit (Pashev et.al., 2007), and increases public sector expenditures, which translate into increased cost of public services (Martinez-Vazquez et.al., 2004), as well as inferior public service quality and volume (Pashev et.al., 2007).

Therefore, fighting corruption is crucial for business and government integrity, transparency, and accountability (Organisation for Economic Co-operation and Development, 2005).

What can we do about it?

As described before, the risks of corruption arise if both opportunities and motivation for corruption are present. Comprehensive anti-corruption policy requires addressing not only incentives to engage in corruption, but also windows of opportunities for corruption (institutional framework).

Limiting the opportunities for corruption

Svensson (2005) argues that the level of corruption is conditional upon the institutional quality, which is shaped by economic factors (income level and differential needs (Demsetz, 1967) and the growth in human capital (Glaeser et. al., 2004)) and the persistence and inheritance of institutions themselves. Economic and political institutions influence the extent of corruption by restricting market competition (imports, entry barriers for start ups, press freedom) (Svensson, 2005).

Witting (2000) provides an extensive policy analysis specifically in the field of public procurement. The author stresses the role of independence of procurement commission members, clear regulations about responsibilities, collusion prevention mechanisms (e.g. – staff rotation within specific areas of expertise (Søreide, 2002)), merit based recruitment and training programs for procurement professionals, complaint system, procurement office, publically available procurement information (bidding prices, product characteristics), financial disclosure reports of procurement commission members, and, finally, protection and promotion of whistleblowers.

In their work Ades and Di Tella (1999) provide an interesting perspective on increased competitive pressure on the side of private firms as one of the corruption prevention mechanisms. The authors conclude that competition drives down profits, which could otherwise be used as bribes. Theoretically corruption is reduced also by increasing competition among public officials (Rose-Ackerman, 1978).

<u>Limiting the motivations for corruption</u>

Corruption on the expenditure side of the budget can only be reduced if there is a strong political will and commitment from the top of the government to enforce and promote anti-corruption measures. Very important policy solutions for limiting the incentives for corruption are monitoring and control (top-down or bottom-up) of the work of public officials; and effective penalties and prosecution (Martinez-Vasquez et. al., 2004).

Another widely proposed corruption fighting mechanism is higher wages to bureaucrats (with positive historical example of Sweden (Lindbeck, 1975)). However, as showed by Di Tella and Schargrodsky (2003) and proposed by several other field researchers, higher wages work only under the conditions of well functioning third party enforcement, external auditing and the size of a bribe being a function of public official's salary.

Finally, very important anti-corruption measure is easy public access to the information on budget plans and procurement procedures (Martinez-Vazquez et. al., 2004). This option provides citizens with the necessary information to demand higher quality standards, to monitor spending, and to challenge illegal activities by public officials.

How is the motivation for corruption formed?

The author uses the principal-agent theory to frame a decision of a public official to engage in corrupt activities. An agent (public official) is assumed to be a rational actor, who always strives to maximize his utility function, which depends on his money and psychic incomes (Akkihal & Adkins, 2002). The simplified version of principal agent equation is derived by Martinez-Vazquez et.al. (2004). The authors distinguish between economic models explaining the motivation for corruption (dependent on public and private sector wage differential, probability of being detected, and penalty) and opportunities for corruption (dependent on financial discretion yielded to a government official, the monopoly power of a public official, as well as the level of accountability). The factors that affect availability of opportunities for personal gain are first presented by Klitgaard (1991; 2000).

Furthermore, Martinez-Vazquez et. al. (2004, p. 27) provide the theoretical framework proving that there exists a socially optimal level of corruption at which "costs of preventing the last unit of corruption equal the costs that this unit of corruption imposes on society".

2.4. Policy Literature in Latvia

Although Latvian researchers as well as international organizations have studied the overall risks of corruption in Latvia quite thoroughly, relatively little has been done with regard to public procurement.

According to SIGMA (2003) published public procurement review, corruption in public procurement in Latvia remains serious and widespread problem, the main reasons of it being the lack of provisions in the procurement regulations directly addressing the problem of corruption, weak prosecution of corruption-related offences, and the overall quality of civil servants.

Based on the Klitgaard model measuring the opportunities for corruption as well as World Banks' assessment report, Kalniņš (2001) has explicitly analyzed the gaps and the necessary improvements in the public procurement legislation and the entire system. The author concludes that the possible ways to increase efficiency and decrease the risks of corruption in public procurement in Latvia is to establish model documentation for standard public procurement processes, to limit the discretion of public officials, to increase the authority and duties of Procurement Monitoring Bureau (PMB), and to ensure criminal prosecution of persons involved in corruption.

The European Bank for Reconstruction and Development (EBRD) (2002) and the Corruption Prevention and Combating Bureau (KNAB) (2007) have studied the corruption phenomena from the quantitative perspective. They provide hard-data (direct questions) on the pervasiveness of corruption, but do not elaborate on the causes or consequences.

Since the year 2001 no thorough public procurement policy assessment has been conducted. The policy conclusions of Kalniņš's (2001) research are outdated as the regulatory framework[4], procurement practices and corruption methods have considerably changed. At the same time the importance of a well functioning public procurement market has even increased – in the year 2006 government purchases added up to 1.2 billion LVL

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[4] The "Law on Procurement for State or Local Government Needs" (2001) has been changed to the "Public Procurement Law" (2006)

(10.7% of the state GDP), which is by 148% or 716 million LVL more than in the year 2002 (Procurement Monitoring Bureau, 2002, 2006).

Thus, this work contributes to the existing literature by providing an analysis of the current public procurement system, identification of the existing policy gaps, and recommendations for the necessary policy improvements. The conclusions drawn are based on legislation analysis; qualitative interviews with policy makers, researchers, and private sector representatives; foreign policy recommendations; and policy efficiency evaluation.

3. Methodology

The primary aim of this thesis is to examine and evaluate the measures that should be implemented in Latvian public procurement system in order to decrease the risks and the extent of corruption and increase the efficiency of the system. The research was organized in five steps: legislation analysis, qualitative interviews with private sector representatives, policy analysis, empirical testing of the benefits of an inspecting institution, and expert interviews.

Step 1: Legislation analysis

The author analyzes the current procurement legislation to test how successfully transparency, efficiency, and fair competition objectives have been implemented in large procurement, and whether the same objectives are achieved in small procurement.

The author analyzes the regulations of *small procurement* (tenders with the estimated contract price of 1 000 – 10 000 LVL). The 8.9 paragraph of the Law provides that the procedure and documentation of *small procurement* are regulated by the Cabinet of Ministers (Public Procurement Law, 2006). The author aims to compare the potential of the regulations of the Cabinet of Ministers to reach the objectives established in the Law.

Then, the author interviews a representative from the Methodological Department of the Procurement Monitoring Bureau (hereafter, PMB) to ensure the correct interpretation of the legal aspects of the Law and discuss the possible gaps in the public procurement regulations.

Step 2: Private sector opinion

The regulations of small procurement are weak, thus relying on market's ability to regulate the process itself. The author interviews private sector suppliers to acquire the inside opinions and arguments about the current system efficiency.

9

Semi-structured interviews with six private sector companies that participate in public tenders were made. The objectives of the qualitative survey were to identify:

- The potential public procurement process inefficiencies (competition, transparency);
- The scale / importance of inefficiencies;
- The pervasiveness and means of corruption;
- Recommended solution mechanisms.

The sample of interviewed companies was selected following respondent's activity in the field (with an assumption that the most active companies have clearly augmented and comprehensive opinion) Official opinion publication in press or media (2 interviews);

- Complaint making (2 interviews);
- Participation (in public tenders) activity (2 interviews).

Step 3: Policy research

The author analyzes policy research literature to assess the ability of the public procurement system in Latvia to improve in terms of efficiency and conflict-of-interest management.

1. Content analysis of Latvian public procurement system assessment reports by international organizations (SIGMA, EBRD, World Bank);
2. Content analysis of the local assessment reports. Identification of the necessary and already introduced policies;
3. Qualitative interviews with representatives of the PMB and Internal audit Department of the Ministry of Finance. Identification of already adopted procurement monitoring methods and their efficiency;
4. How corruption and inefficiency is fought in OECD countries: possibility to adopt the best practices to be implemented in Latvia;
   - Content analysis with an aim to determine the most widely used anti-corruption policies (general and case specific)
   - Applying analytic induction to ascertain the common principles and priorities of international regulation, which are further used to typify the policies exercised abroad;
   - Comparative analysis of the conclusions (above) in the context of the public procurement market in Latvia in order to establish policy gaps.

Step 4: Empirical model

The author develops a framework to test the hypothesis: it is economically effective to develop an ex-ante controlling institution aimed at fighting agents' motivation to engage in corrupt activities.

The aim of the model is to assess whether a system in which public procurement procedures[5] with an expected contract price above 10 000 LVL would be randomly inspected by a controlling institution (department of the PMB) would decrease overall bribery costs[6] to society and increase market efficiency by reducing the extent and risks of corruption.

The model used here is derived on the basis of the Principal-Agent model of corruption presented by Martinez-Vazquez et. al. (2004, 21-25). The basic idea of the Principal-Agent theory is that an agent (government official) acts in a way that maximizes his/her income[7], thus agent's decisions are based on the expected value of personal income (violating the principle of public interest) (Valsts Pārvaldes Iekārtas Likums, 2003).

When deciding whether or not to engage a corrupt deal, the agent weights possible gains against possible losses, taking into account also opportunity costs and the likelihood of being caught and penalized. Economic theory states that one makes a positive decision when the net expected gain is positive, i.e., when the bribe is larger than the expected penalty.

Spread of bribery

If d is the probability of being detected, P is the imposed penalty[8], and B is the amount of bribe, then bribery will happen when:

$$B * (1 - d) \geq d * P \qquad \text{(Equation 1)}$$

where $(1 - d)$ denotes the probability of a corrupt deal not being revealed, and the government official getting the bribe; whereas d is the probability of being caught and ending up with a negative gain $(-P)$.

The size of the bribe B (see Equation 1) is assumed to be proportional to the contract price[9]:

$$B = E * x\% \qquad \text{(Equation 2)}$$

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[5] Including documentation (during the proposal submission period) and the winner selection procedure (after the announcement of the winner)

[6] Due to the limited availability of estimates of the monetary value of favouritism (acquaintanceship, previous collaboration), this model calculates only the costs of direct bribery. However, the benefits of an inspecting institution would be the decrease of the spread of overall corruption (not only bribery); therefore, theoretically the benefits should be higher.

[7] It should be clarified that in reality individuals will try to maximize their utility (satisfaction), not income. An example of more complete model is presented in the work of Alm (1999)

[8] The variable includes not only direct penalty, i.e. fine, but also the loss of reputation, work position etc.

[9] Contractors (private sector representatives) are ready to give a bribe that constitutes a concrete % of the overall contract value (i.e. – the maximum amount of the bribe as a percentage of the total contract price).

where E is the contract price, but x% is the percentage size of the bribe.

In this model the probability of being caught *(d)* is assumed to be directly proportional to the fraction of inspected procurement procedures (in real life detection risk comes also from other factors, which here are hold equal). However, such inspections do not guarantee that all corruption cases will be revealed, i.e. they are not 100% efficient; thus, the probability of being caught is $d_i = z_i * e$, where *e* measures the efficiency of inspections, and z_i is the proportion of inspected procedures (i∈[0;100])

The necessary condition for bribery to happen is:

$$E * x\% * (1 - z * e) \geq z * e * P \quad \text{(Equation 3)}$$

$$E_{crit} = \frac{z_i * e * P}{x\% * (1 - z_i * e)}$$

where E_{crit} is the *critical point* (minimum contract price) at which bribery will occur at every particular z_i[10].

The further step is to determine the number of public procedures that should be included in the "corruption risk group" - the contractors which would be able to give enough large bribes if they were motivated for it. This was done by counting the number of public procurement procedures (A_k), in which the contract price exceeds the *critical point* for bribery to happen at every particular z_i.

$$N_i = COUNT_{k=j}^{ss}(A_k) \text{ at every particular } E_{crit} = \frac{z_i * e * P}{x\% * (1 - z_i * e)}; k \in [1; ss]$$

(Equation 5)[11]

where N_i is the number of public procurement contracts included in the "corruption risk group".

Only a part – y% - of all "risky" procedures (N_i) is corrupted[12]. Thus, at every z_i the estimated spread of bribery is:

$$S_i = N_i * y\% \quad \text{(Equation 6)}$$

Size of bribery

Intuition and previous conclusions already point to the finding that the average size of the bribe increases as the proportion of inspected contracts *(z_i)* increases. This can be derived also theoretically.

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[10] The interpretation being that procedures below this contract price will not be corrupted as probability of being caught is too big for public sector representatives to accept the provided bribe (as we assume that contractors will be ready to give a bribe that will not exceed x% of the particular contract price)

[11] ss = sample size; j=the first procedure with the contract price equal or higher than the critical one (E_{crit})

[12] It is assumed that irrespective of the contract price, there will always be approximately equal percentage of all respective contractors involved in the bribery (y%)

1. In a theoretical case when z_i is so small that bribery is present in all contract price groups (e.g. $z_i = z_0$; no procedures are inspected) the average bribe is calculated as:

$$\bar{B}_i(E_{crit} = 0; z_i = 0) = \frac{\sum_{k=1}^{ss} E_k}{N_k} * x\%$$

(Equation 8)

2. Taking into account the previous theory about the critical contract price value starting from which the bribery will happen (Equation 3), the average bribe at any particular $d_i = z_i * e$ is determined as:

$$\bar{B}_{ss}\left(E_{crit} = \frac{z_i * e * P}{x\% * (1 - z_i * e)}\right) = \frac{\sum_{k=j}^{ss} E_k}{N_i} * x\%$$

(Equation 9)

As z_i and E_{crit} increases, the product of the average E and the constant x% will also increase.

Costs of bribery

The next theoretical step involves determination of the total bribery costs to society at any fraction of public procurement contracts being inspected:

$$C_i(z_i) = (N_i * y\%) * \mu * \bar{B}_i(z_i) \qquad \text{(Equation 10)}$$

where μ is a constant factor denoting the total costs to society from each bribery case[13].

Without any intervention (no control of public procurement contracts → $z_i=z_0$), costs to society can be approximated as:

$$C_0(z_0) = (N_{ss} * y\%) * \mu * \bar{B}_{ss}(z_0) \qquad \text{(Equation 11)}$$

As soon as $d_i = z_i * e$ increases, N should decrease, but B increase (see previous analysis). The overall impact of intervention on social costs (at any d_i) can be showed as:

$$C_i(z_i) = \mu \frac{\sum_{k=j}^{ss} E_k}{N_i} * x\% * N_i * y\%$$

(Equation 12)

Assuming that μ, x% and y% are constant, the total corruption costs should definitely decrease as proportion of inspected institutions increase.

Economic effectiveness of inspections

While increased proportion of inspected contracts decrease corruption costs to society, it should be weighed against increased monitoring costs (as taxpayers pay for such services).

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[13] μ will always be larger than 1 as bribery benefits not only an agent, but also contractor. In fact, the gain for the private sector representative should be even higher

The monitoring costs can be determined using the general form of the standard cost model (Charité, 2005):

$$MC_m = N_m * Q; \quad m \in [1; 55] \qquad \textit{(Equation 13)}$$

where Q is the average costs to inspect one public procurement procedure.

Step 5: Evaluation of the proposed anti-corruption policies

The validity and applicability of the identified anti-corruption methods are assessed by independent public procurement experts. The author has held four in depth interviews with field experts from such organizations as:

1. Procurement Monitoring Bureau (An expert from the Methodology Department);
2. Corruption Prevention and Combating Bureau (KNAB) (The head of the Public Relations Division);
3. Centre for Public Policy PROVIDUS (Deputy director, researcher);
4. Delna (Transparency International Latvia) (The legal analyst).

Interview results are included in the Thesis as structured suggestions or evaluations

4. Opportunities for Corruption

4.1. Large Procurement

Public tenders with an estimated contract price above 10 000 LVL are currently regulated by the "Public Procurement Law" (hereafter, the Law) (2006). The primary aim of the procurement legislation is to ensure a well functioning public procurement (PP) system[14] by managing conflict of interest situations and <u>curbing opportunities for corruption</u> (Szymanski, 2007).

4.1.1. Objectives of the Law

- Transparency of the procurement process;
- Free competition for sellers of goods, providers of services and performers of works, as well as equal and fair treatment of such; and
- Effective utilisation of State or local government resources by maximally reducing the risk of contracting authorities.

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[14] In economic terms an ideal public procurement system is characterized by perfect competition, which allows public administration to acquire the highest quality goods for the lowest prices.

4.1.2. Transparency

OECD (2005) has proposed transparency as the key factor for effective and successfully operating public procurement market. Transparency in the public procurement system in Latvia is characterized as well developed, providing potential tenderers with "fast, easy and inexpensive access to the necessary information" (SIGMA, 2003).

Several sections in the Law are devoted to transparency questions, defining the level and content of the information which have to be published (along with the regulations of the Cabinet of Ministers (2006, Nr. 363)); the level of publicity of procurement commission sessions (record of proceedings); society access to the procurement documentation, complaint consideration proceedings, and information about procurement commission members.

However, there exist some shortcomings in procurement information publicity, which can be used to undermine fair competition. Examples of those include the selection of procurement method (according to the estimated contract price, which is determined by contracting authorities themselves and is not required to be made public until the announcement about procurement results (V.Dzene, interview, 19 February, 2008); and manipulation with the provision of specifications (not publically available, not provided through mail (Private sector interview Nr.3, February, 2008)).

PS 1[15]*: Mandatory publication of tender documentation (including technical specifications)*

Further transparency and efficiency in the procurement process would be ensured by establishing the mandatory tender documentation publication. The positive side-effects of such a system are limited official's discretion in information disclosure and a better designed output (Bertók, 2005).

System description: In case of large procurements tender regulations and technical specifications should be published or link to the publication place provided along with an announcement form in the PMB web page. The only exception would be hand-made drafts (for construction procurement) which are too expensive to transform electronically.

Evaluation: Although representatives from the PMB claimed that such a system would be expensive and impossible from the technical point of view (server capacity), private sector companies point to time and expenses saved for both parties. Current system functioning is showed in the diagram below:

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[15] Policy suggestion

Diagram 1

Potential bidder 1		Contracting authority		Regulations for bidder 1
Potential bidder 2	Claiming	A person in charge of tender documentation	Receiving	Regulations for bidder 2
Potential bidder 3				Regulations for bidder 3
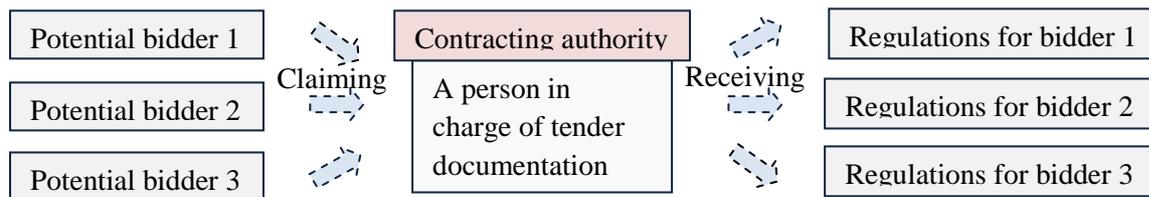
Source: Self-composed

The proposed efficiency and transparency solution can be designed as:

Diagram 2

Contracting authority			Potential bidder 1
A person in charge of tender documentation	Electronic tender documentation *Virtual portal, where all the information is freely accessible*		Potential bidder 1
			Potential bidder 1
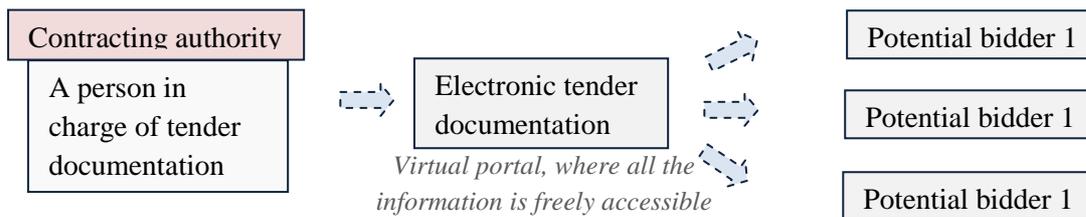
Source: Self-composed

Electronic publication of tender documentation would decrease the work-load contracting authorities, communication between involved parties (potential source of corruption risks), and save time and expenses for suppliers (direct access to all the necessary information).

Application: both small and large procurement

PS 2: Development of e-procurement system

Due to their benefits in terms of transparency, competition, accountability, and efficiency, e-procurement systems have been proposed as the most effective international procurement method to be developed in the future (Beth, 2005). The most prominent example of an already well-established electronic procurement market is Korea's GePS, which has managed to connect to many external systems (banks, associations), unite the entire public administration, and attract at least twice as much bidders as before the establishment of the system (Kim, 2003).

Also Latvian government has proposed the introduction of e-procurement and the PMB has developed the concept of the e-procurement system "EPS[16]" (governed by the Electronic Procurement State Agency (EPSA[17]), founded on 02.01.2006.). However, the effectiveness of the system is questionable as it currently unifies only several potential suppliers, while for others registration is still "under construction" (with a stated promise to

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[16] https://www.eiepirkumi.gov.lv/PMB/Default.aspx
[17] http://www.eiva.gov.lv/index.php?

open it as soon as the EPSA is established). Thus, competition is limited to several participating companies, while restricting the access for others (Private sector interview Nr.2, February, 2008).

When asked to assess the future development possibilities of the "EPS", private sector respondents claim that this system can be used for supplies procurement, but they do not see, how it could be developed to include also services and construction tenders; there the technical requirements are much more case specific. A respondent who already participates in the "EPS" claimed that this system is absolutely corruption free as there is no transaction and communication between contracting authorities and suppliers; everything is decided by the system (following price bids, product technical specifications, and suppliers' ratings).

Although not very much informed about its possibilities, the interviewed experts agree that from the perspective of curbing corruption e-procurement should be an effective and efficient system to be developed for the future. According to a representative of the PMB Methodological department, currently "EPS" is inefficient due to the lack of strong institution taking on responsibility of the management and development of the system.

The overall conclusion is that E-procurement system in Latvia is only at its infancy, but it should be developed for future. As opposed to the international experience (e.g., Korea's GePS, which manages the entire PP system in the country) existing view among the interviewed policy makers and suppliers is that services and construction contracts cannot be done electronically. Thus, comprehensive analysis of the most successful foreign practices is necessary to produce a comprehensive and successful plan for further development of the "EPS". Finally, the awareness about the services provided by "EPS" is still very low.

Application: both small and large procurement

4.1.3. Equal opportunities for all participants

The second major objective of the Law is to ensure perfect competition between bidders - full information (transparency), objective procurement documentation and technical specifications, and fair winner selection methods (Jenny, 2005).

Fair competition is established in paragraphs of the Law prohibiting contracting authorities to indicate specific products or brands (without including phrase "or equivalent") and to change specifications during the procurement procedure or to contact any of the bidders individually.

Even more, it is prohibited for a supplier who has participated in the previous parts of the same procurement project or has assisted the contracting authority in drafting the tender

17

documentation to participate in the public tender if the above mentioned conditions give it advantages in this particular tender procedure. Although this paragraph states a very important precondition of fair competition, several risks prevail: firstly, procurement commission may not protocol its collaboration (in the documentation preparation phase) with any of the bidders; secondly, the privileged bidder may submit confirmation stating that no advantages exist (which is assumed to be true and legally enforceable).

PS 3: Procurement documentation drafting

The information-asymmetry is created when a private company is asked to advise a public institution on the technical aspects of the tender documentation at the same time participating in the same tender as a bidder (Beth, 2005).

Although with certainty denied by an expert from the PMB Methodological Department, the high extent of such practices in Latvian PP system is indicated by all interviewed suppliers (Private sector interviews, February, 2008), who admit that they themselves have participated in tender documentation drafting and agree that it gave them implicit advantages over the competitors. Although the majority of respondents already perceive such system as a norm, the interviewed IT specialist proposed that separate procurement procedures should be made for technical specification drafting and the contract subject itself. The problem of such a solution is an increased administrative burden and costs to contracting authorities.

The interviewed legal expert from "Delna" proposed that the preparation of the tender specifications would not create many problems to public institutions if their capital, information and resources were centralized. Being aware that re-structuring the procurement system (especially commissions) requires significant time and knowledge investments, the author agrees that centralized human capital as well as information sharing among different public institutions is the most realistic solution to the given problem (with several positive external effects as conflict of interest management, field expertise increase, etc.).

Application: both small and large procurement

4.1.4. Managing conflict of interest

Conflict of interest situations in PP are managed through the comprehensive set of regulations that prohibit any kind of personal acquaintanceship between commission members and private sector suppliers. To ensure the regulations are complied with, the members of a procurement commission should sign a specially prepared confirmation form.

The Law provides that a procurement commission (in each particular contracting authority) should be formed for each procurement tender, for a specified time period or as a body functioning on an ongoing basis. Foreign expertise, however, has proven that an important pre-condition for objective decision making and conflict-of-interest management is a rotational system, where different commission members are chosen for different tenders (Søreide, 2002).

PS 4: Rotating procurement commission

Although very popular among policy researchers, this suggestion met resistance from the interviewed experts. The main arguments against developing such system in Latvia are large investments it requires (structural changes, education, financing), and the lack of qualified specialists to be exchanged between different state institutions. An alternative solution would be shared usage of the most professional experts (see *PS3*).

PS 5: Independent experts

In case procurement commission members lack the necessary qualification to develop tender documentation in the field in which the procurement contract is announced, they are authorized to attract field experts (Section 3 of the Law). The author suggests that above a certain price level (e.g. – EU common regulations threshold for construction works) the PMB should assign such an expert to each procurement commission to ensure higher level of expertise and objectivity. Field experts should be assigned in a similar way as proposed in the *PS3*.

The interviewed private sector companies (February, 2008) claim that such an expert would be necessary in all contracts above 500 000 LVL. Also interviewed policy makers agree that involvement of independent experts in large procurement would be beneficial because of both decreased risks of corruption and increased expertise (PMD Methodological Department). The experts should be attracted from public sector organizations and independent associations.

4.1.5. Efficiency and quality

The Law prescribes several measures intended to protect contracting authorities from low quality production providers and artificial, insolvent or corrupt suppliers. Most often bidders are required to add references from the Register of Enterprises, State Revenue Service or Court (controlling for solvency and reliability); registration, certification and licensing approvals (controlling for conformity to professional activity); and different certificates

demonstrating supplier's commercial and financial situation, technical and professional abilities, quality provision standards and environmental control.

While obtaining the above mentioned references is vital for the contracting authority's ability to choose technically capable suppliers, the author questions the necessity to claim all the references from suppliers.

An alternative and more efficient system would be public sector information re-use – acquiring the necessary references directly from the responsible state institutions (ePSIPlus, 2006). Establishment of centralized public sector information system is very much insisted upon by both private sector companies and interviewed field experts, who possess even firmer opinion.

Application: both small and large procurement

Contracting authority's interests are protected by allowing it to terminate procurement procedure at any time, provide that there are objective reasons for such a decision. The statement of reasons should be submitted to the PMB and sent to all tenderers. Following the private sector respondents' opinion on procurement procedures being terminated in all cases when contracting authority's pre-specified supplier does not win, the author questions PMB activity in evaluating the justification and necessity of procedure termination.

4.2. Small Procurement

According to the section 8, paragraph 9 of the Law (The Public Procurement Law, 2006); a contracting authority shall not apply the Law if the estimated contract price of a tender is less than 10 000 LVL. Small tenders are regulated by the Cabinet of Ministers (Nr. 762, 2006).

Although the same underline objectives as specified in the Law shall hold also for small procurement, the regulations of the Cabinet of Ministers are vague:

- Contracting authorities should publish the announcement of the contract in their local web page or newspaper (no centralized publication system, weak transparency);
- The limit of handing in proposals are 5 calendar days;
- Procurement commission can be formed by one person (unlimited discretion, monopoly power, unrestricted conflict of interest opportunities);
- Undefined procurement / winner selection method (suitability);
- Unlimited opportunities to manipulate with winner selection process, technical specifications, procurement cancellation etc.;

– No complaint system.

The assumption underlying liberal small procurement regulations is the ability of the market to ensure the necessary level of effectiveness and efficiency by itself (market efficiency theory). However, as interview results with private sector representatives indicate, small procurement market in Latvia is extremely inefficient and corrupt.

4.2.1. System efficiency[18]

In opposite to the situation in large procurement, the level of competition, regulation and information in small tenders have recently decreased, creating havoc in the whole system. The interviewed private sector suppliers believe that without acquaintanceship in procurement commission or dumping prices it is impossible compete in the system - "*the market works to avoid the entrance of new suppliers*", "*local companies are preferred*", and "*positive previous collaboration*" advantages are huge. Moreover, the effectiveness of the current announcement system is weak as potential bidders have to invest huge resources to go over all public institutions' web pages (more than 600 (Procurement Information Bank, personal communication, 2008)), where announcements about the planned contracts are published, for relatively small probability to win the contract (due to the high spread of pity corruption).

4.2.2. Prevalence of malpractice and corruption

Information publication

In addition to high costs of information search, suppliers often come across artificially created competition constraints, for example, publishing an announcement with retrogressive date (Doroško, 2008) or informing bidders about the contract just before or during the holidays (5-days rule[19]). Only 17% of bidders really have 5 working days to prepare the proposal, the majority of them (64%) have only 3 ((Procurement Information Bank, 2008)). Along with suppliers, media and researchers (LETA, 2008) the author suggests changing the regulations of small procurement to establish the minimum limit of proposal submission as 5 working days (PS 7).

Tender documentation

In 10-15% cases contracting authorities specify neither winner selection method, nor technical requirements, thus informing bidders only about the subject of the tender. Such

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[18] The following two sections summarizes the results of the private sector interviews

[19] The regulations of the Cabinet of Ministers states that the time limit for proposal submission should not be less than 5 <u>calendar</u> days

situations provide unlimited discretionary power of a procurement commission to select the winner according to their private preferences (inevitable conflict-of-interest situation is created if the commission consists of one person).

Additional anti-competitive practices include:

- Deferring the provision of tender documentation to potential bidders ("the responsible persons are busy at the moment", "documentation is not yet finalized", "we already have a supplier"), thus limiting the ability to process the proposal on time.
- Adjusting technical specifications and selection criteria to the needs of one supplier.
- Cancelling the tender procedure if the pre-selected supplier cannot win the contract.

<u>The extent and means of corruption</u>

Although respondents' opinion on the extent of corruption in small tenders is diverse (the stated proportion of corruption procedures varies from 30 till 90%), they all admit that it is considerably higher than in contracts above 10 000 LVL.

Most often malpractice in small procurement is realized through barter, tiny presents, acquaintanceship, and consultations on tender documentation preparation (in return for guaranteed success in the tender). If a contracting authority has already selected a winner, it provides it with preferential information on the contract, requirements, and proposals received from other bidders. Pure bribery in small tenders is extremely rare.

4.2.6. Proposed solution mechanisms

PS 8: Regulations and controlling institution

According to the indicative information from the PMB Methodological Department, they are currently preparing amendments of the Law to increase the threshold for procedure-free state purchases (currently it is 1 000 LVL). The aim is to raise the threshold sufficiently to avoid such a category as "small procurement" (currently 1 000 – 10 000 LVL) entirely.

Although agreeing that the threshold starting at which the procurement regulations must be complied with has to be increased, policy makers criticize the way such decisions are made. Currently thresholds are set without making any economic calculations or consulting with legal experts and policy researchers (not to speak of the suppliers or contracting authorities, who are the real stakeholders of the Law). Countrywide research should be conducted to determine the costs of products purchased through public procurement and compare them with market prices. These costs, transparency, system effectiveness, and stakeholders' opinions should be the main determinants of the level of thresholds.

Furthermore, procurement above the non-compliance threshold should be simple, but clearly regulated.

Public officials' motivation for efficient allocation of resources should be controlled by additional mechanisms. Institutional programs specifying the objectives of a government body should be established; and public officials (or the head of the body) should be held accountable for the results. An example of a well-functioning government accountability system can be found in Denmark (V. Kalniņš, interview, 13 February, 2008)

Responsibilities of the PMB should be increased to include also small procurement system management (a compliant system, a platform for procurement information (see *PS9*), and control). The interviewed companies admit that currently they do not have any option to complaint about malpractice in small tenders (supported also by an expert from the Methodology Department of the PMB). Lack of accountability of contracting authorities increases risks of corruption.

To sum up, the contract price thresholds for different procurement procedures should be determined following economic justification and public needs. Additionally, motivators should be established to ensure efficient state resources management. Finally, the PMB should take on responsibility for small procurement management.

PS 9: *Model regulations*

Currently PMB employees have established model regulations for large procurement; however, their applicability to small tenders is limited due to their complexity and low level of awareness among the stakeholders. Following suppliers' comments, the author suggests developing specially adjusted model regulations for small procurement and sending them to all contracting authorities, at the same time educating officials about legislation, procedure and right practices of procurement. All contracting authorities should be encouraged to use the developed regulations (by adding the necessary technical specifications) to increase transparency and ease accessibility (see *PS1*).

In order to limit contracting authorities' discretion to manipulate with the winner selection procedure, it is necessary to define a common procurement method also in small procurement. The author proposes using price quotes as the simplest and cheapest method. An adequate product quality should be ensured through suppliers' rating base (see *PS10*).

Although resisted from the side of PMB experts (with an opinion that "if companies want to participate in tenders, they have to invest their money in finding opportunities"), one of the main policy suggestions is the establishment of centralized announcement platform.

System description: an institution responsible for small procurement management (see *PS7*) should develop two model announcement forms - one for a contract announcement, another for the results announcement. Regulations of the Cabinet of Ministers are passed requiring mandatory tender information publishing in the platform. Thus, the platform contains information on each tender, its documentation and specifications (see *PS1*), and the final winner. Bidders are allowed to submit their proposals at least 5 working days after the announcement (and tender documentation) is published on the platform.

Evaluation: this policy solution received the highest approval from the side of policy researchers, while being relatively unpopular among PMB employees.

Economic justification: according to the data of the Business environment survey in Latvia (Ministry of Economics, 2007), 16.5% (or approximately 10 000) of all enterprises participate in small procurement. The author assumes that a half of all participating companies are active in terms of information search and regular bidding. Thus, overall monthly information search costs can be approximated as 5000*50LVL[20]=250 000 LVL, yearly – as 3 000 000 LVL. Looking at the costs from the perspective of contracting authorities, it is stated in the Law that once a year contracting authorities shall collect and send information on their managed tenders to the PMB; thus, sending this information to be published in the portal would not incur much additional costs to them.

According to the statements of the PMB director, managing small procurement portal would require hiring 2 additional system administrators (K. Markovskis, interview, 14 February, 2008), and in total would cost at maximum 2000 LVL per month (24 000 LVL per year). Thus, benefits of establishing a centralized announcement publishing page also for small procurement are obvious.

In opposite to the opinion of PMB experts, all costs (including information search) born by bidders are finally included in the proposed product price; thus, it is directly of public sector interests to decrease them.

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[20] The price of the information search services of the PIB (the market price). Hiring a person individually costs even more.

PS 11: Centralized suppliers' assessment data base

Application of "price quote" as the only winner selection method in small procurement (see *PS8*) puts risk to contracting authorities as the product they receive for the lowest price might be of the worst quality or limited usage possibilities. Defining all the risky points in technical specifications is long, difficult and expensive process (S. Paikova, interview, 14 November, 2007).

The proposed solution is a centralized suppliers' assessment base, where contracting authorities evaluate (with either positive or negative mark) all suppliers they work with after each tender procedure. The total supplier's mark is determined by counting the proportion of positive references (similarly as in the eBay) (interview with a researcher from PROVIDUS).

The drawback of such a system is subjectivity. According to a PMB employee, they have already tried to implement the idea of the "Blacklist", but it failed. It is very difficult to justify the inclusion of a bidder on objective grounds. Author's proposed suggestion would replace the "blacklist" with an evaluation system, where all (not only dissatisfied, corrupt etc.) contracting authorities would provide their marks; furthermore, a procurement commission could reject a bidder only if its grade were lower than the pre-defined threshold (e.g., the proportion of positive evaluations is less than 20% and more than 10 evaluations are given).

5. Motivations for Corruption

In theory motivations for corruption exist if there is the absence of professional ethics and political will to combat the phenomena, weak monitoring mechanisms, weak prosecution, and inadequate wages for public officials (Martinez-Vazquez et. al., 2004). The analysis of the motivations for corruption is limited to large procurement (with some of the conclusions applicable also for small procurement).

5.1. Culture, Ethics and Political will

One of the interviewed suppliers (Public sector interview Nr.1, February, 2008) claimed that the extent of corruption in public procurement is much dependent on the dominant political power. The respondent pointed to the strong link between political and administrative corruption. Although being important, political corruption is out of the scope of this thesis.

Another important indicator of the prevalence of corruption is professional ethics, the level of which greatly influences public official's willingness to participate in corrupt activities (along with its discretionary power, limited accountability, and monopoly status (Corruption Prevention and Combating Bureau, 2006)). Thus, promoting "culture of honesty" is an important anti-corruption task to be done in every public institution (establishing the Code of Conduct; organizational ethics). Collective ethics building activities include countrywide approval of people who stand against corruption (e.g. Transparency International Integrity Award to Alfredo Maria Pochat, who dedicated his carrier and life to fighting corruption (Transparency International, 2000)); educating public officials on personal ethics and fair public procurement practices (expert interviews, 2008); and corruption purge campaigns.

The lack of well developed principles of professional ethics and culture among public procurement specialists is partly the result of low personnel qualification and understanding of procurement principles. Thus, the author suggests developing an educational program / courses specifically for procurement specialists. Moreover, the shared public procurement experts (see *PS3*) should participate in different procurement commissions to educate the local people on fair and correct procurement practices. This all should be combined with strong monitoring mechanisms.

Application: both small and large procurement

5.2. Compensation of Public Servants

Theoretically the size of the bribe required by a public official in exchange of the success in the contract is dependent on his / her salary (Abbink, 2002). Thus, salary increase to procurement commission members should decrease the extent of the corruption (higher wage → higher required bribe → lower extent of corruption → lower social costs of corruption).

Along with policy researchers internationally (Søreide, 2002; Martinez-Vazquez, 2004), this suggestion was supported also by an expert from the KNAB, who mentioned salary as one of the greatest indicators of corruption pervasiveness. Although agreeing that public sector wages should be raised (otherwise they are much lower than private sector wages, which theoretically (according to the Principal-agent model) means that engaging in corrupt activities is beneficial for public servants), the author follows the view of a PROVIDUS researcher (and Ades and Di Tella (1999)), who claims that increasing the salary of commission members alone is not the most effective corruption prevention mechanism to be implemented as it causes a side effect of increased size of the bribe (see further analysis) .

Culture, ethics and education level are the factors that should be changed. The wage public officials receive already is their market price (V. Kalniņš, interview, 13 February, 2008). Moreover, significant wage increase requires considerable government funds.

5.3. Monitoring and Prosecution Mechanisms

Currently public procurement legislation, monitoring and prosecution system do not provide effective means for cutting the motivations for corruption:

- There is no ex-ante procurement control mechanism - inspections (the probability of being caught is low and dependent only on the effectiveness of the complaint system). Moreover, there is no possibility to complaint or break a contract after it is signed (even in case an offence is identified).
- Neither the Procurement Monitoring Bureau, nor any other controlling institution has the authority to fine the offenders of the Law (P is close to 0). According to the interviewed experts, it is extremely difficult to prove the criminal offence (bribery); therefore, only very small part of all corrupt contracting authorities is really punished (competence of the KNAB).

In the first meeting with a representative from the Internal Audit Department of the Ministry of Finance, she mentioned that PMB employees already planned to develop pre-control activities for procurement above 10 000 LVL. Upon gathering the further information, those turned to be pre-inspections that are applied only to the EU financed procurement. In the interview with a representative from the PMB Control Department[21], the author found out that such ex-ante inspections are undertaken not to lose EU financing. "If EU auditors find that a procurement procedure has not been fair, they take away the financing. We do not want to lose the money from the Europe. That's why we inspect procedures and provide our resolution about their fairness and efficiency. We cannot inspect all local procurement procedures. Moreover, it is the financing of public institutions; if they lose it, it's their own fault". Knowing the benefits of such ex-ante control mechanism, that author opposes the opinion of the PMB expert by claiming that it is necessary to ensure effective functioning also of the local, not only EU financed procurement.

An expert from the KNAB mentioned that it would be especially valuable to have such ex-ante inspections for small tenders as those are the most corrupt ones. The author, however, claims that monitoring of small procurement would be costly and difficult process as there is no mandatory silence period during which the rejected bidders can bring in a

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[21] An institution responsible for EU procurement monitoring

complaint. The efficiency of the system can be ensured by other proposed means - centralized publication page, model regulations and announcement forms, suppliers' rating base, and strongly set procurement regulations (see section 4.2.6 "Proposed Solution Mechanisms").

The following sections are devoted to an empirical evaluation of the benefits of a new ex-ante controlling system for large procurement and to determine conditions at which this system would be effective.

5.3.1. Overall monitoring system description

The basic concept of the system would be an institution (PMB Department) vested with the enforcement power that would randomly inspect public procurement procedures[22] with an expected contract price above 10 000 LVL. This institution would have the authority (and obligation) to fine all incorrect (not only corrupt, which are extremely difficult to prove) procedures. Currently decisions in a procurement commission are made by simple majority voting. This creates the lack of accountability as no one is held responsible for mistakes or intentional malpractice. In case a violation of the Law is detected, the penalty should be borne by each of the commission members, who have voted for.

Theoretical benefits of such an institution would be decreased motivation of government officials to engage in corrupt activities; costs - maintenance of the department.

The current framework and data allow the author to calculate only the costs of bribery (not acquaintanceship or barter). However, the benefits of the inspecting institution are the reduction of corruption (not only bribery). According to the interviewed IT Company, bribery in public procurement is rare; much more often corruption is realized through acquaintanceship or barter (in supplies procurement). Hence, this framework presents the minimum possible gain (reduction of bribery costs) from such an institution.

5.3.2. Data analysis

In order to empirically determine the pre-conditions (values of the penalty *(P)* and proportion of inspected procedures *(z)*) for the inspecting institution to be beneficial, the author collected data on all the procurement procedures with the contract price above 10 000 LVL[23]. The sample size reaches 9247 entries.

Values for the constant variables are derived as follows:

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[22] Including documentation (during the proposal submission period) and the winner selection procedure (after the announcement of the winner)

[23] The data set includes all public procurement procedures (carried out in the year 2007) with a contract price from 10 000LVL up to 3 000 000 (contracts with higher price are assumed to be subject to political corruption).

- According to the most recent KNAB corruption study, the proportion of corrupt procurement procedures is y%=29.7% (KNAB, 2007, 38);
- According to the European Bank for Reconstruction and Development managed BEEPS study, the proportion of the contract value paid as a bribe in Latvia is x%=1.309% (EBRD, 2002);
- The constant μ=2 (Pashev et al., 2007);
- Effectiveness ratio e=0.6 is derived from the report of activities of the Public Internal Financial Control Agency[24] (PIFCA, 2005);
- The average monitoring costs per inspection is calculated by multiplying the estimated number of labor hours necessary to inspect one procedure (100 labor hours) (T. Petkova, personal communication, 19 February, 2008) with the average hourly wage of the Public Procurement Monitoring Bureau referents (4.65 LVL including social insurance payments) (A. Briška, personal communication, 20 February, 2008). The number is adjusted by the amount of overheads (45.48% of labor costs) (The Treasury, 2006). The average monitoring costs per inspected procedure constitutes 676.99 LVL;
- The theoretical value of penalty *P* is not derived at the moment, as it will be calculated in the data analysis phase for the break-even case and varied to allow for different scenarios.

5.3.3. Empirical results

The results analysis section is divided into 3 sections / scenarios: the current situation with no inspections; the break-even scenario (at what conditions the benefits of the inspecting agency exceed the monitoring costs), and other scenarios (sensitivity analysis).

First of all, the author calculates the current bribery costs (scenario 1). Secondly, the author determines the minimum level of penalty *(P[25])* and inspection activity *(z)* at which the reduction of the bribery costs reaches the level of monitoring expenditures (the break-even case). It should be clarified that currently (with no administrative prosecution of offenders) the establishment of the controlling institution would not be beneficial (the net benefit would be negative). The break even case presents the minimum level of penalty necessary for the system to be beneficial in monetary terms. The third step is to assess whether the further

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[24] Public procurement inspecting agency in Bulgaria
[25] Although the controlling institution will have an authority to fine the offenders, the true level penalty is higher as it includes also the loss of work position, reputation etc.

increase in the level of penalty *(P)* can create overall cost reduction. Additionally, the author presents the most efficient level of inspection activity *(z)* for every chosen *P*.

Data analysis: The entire sample (9470 procedures) is divided into 100 data subsets (according to the theoretically applied levels of inspection activity[26]). The values of the following variables are calculated for each of the subsets (in different scenarios or P)

- The minimum contract price at which the bribery will take place (E_{crit}) (see *Eq.3*);
- The number of "risky" procedures *(N_i)* (see *Eq. 5*);
- The average contract price in the group of "risky" procedures *($\bar{E}_i$)*

The above variables are used to calculate the bribery costs, inspection costs, and the total costs for each $d_i(z_i * e)$ value in every scenario (*P* value).

<u>Scenario 1:</u> No inspections

The first step of empirical analysis is estimating the costs of bribery without the inspecting institution and fines (the point of reference) (for the formula see *Eq. 11* in the Methodology section). In the framework of the model, this would mean that the entire sample is included in the "corruption risk group" and the average bribe is calculated as the product of the average contract price ($\bar{\bar{E}}$) and the percentage size of the bribe *(x %)* (see *Eq. 9*).

Table 1

$C_0(z_0) = (N_{ss} * y\%) * \mu * \bar{B}_{ss}(z_0)$		
N_{ss}	Number of "risky procedures" (*Equation 5*)	9 470
$N_{ss}*y\%$	Number of corrupt procedures (*Equation 6*)	2 746.36
$\bar{E}_{ss}$	Average contract price of the selected tenders	133 666.31 LVL
$\bar{B}_{ss}$ ($\bar{E}_{ss}*x\ \%$)	Average bribe	1 749.69 LVL
C_0	Current bribery costs (total costs in Scenario 1)	9.6 million LVL

Source: Self-composed

<u>Scenario 2:</u> Break-even case

Break-even is the situation when the total costs for society with the inspecting agency (bribery costs + monitoring costs) are the same as the current bribery costs (Scenario 1). The minimum calculated <u>P value</u> for the break-even scenario to happen is 5.1 thousand LVL, meaning that if a government official valued the sum of direct penalty (fines), the loss of reputation, future employment opportunities, and other negative factors higher than the given sum, the inspection system would be economically viable.

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[26] The proportion of inspected procedures is increased by 1 percentage point 100 times (z ☐ N,N[0;100]%).

Apart from the level of penalty, the break-even situation is dependent on inspection activity. Results indicate that for very small <u>proportions of inspected procedures (z)</u> the total costs for society increase compared to the case where none of the procedures is inspected (see Figure 1). This is due to the increased monitoring costs but steady bribery costs[27]. When z reaches a certain value (z_{min}) at which $E_{critical}$ is equal to 10 000 LVL the total costs start to decrease as bribery costs decrease by a larger factor than monitoring costs increase. The total costs continue to decrease till the certain level of inspection activity ($z_{effective}$) at which the steepness of both functions (bribery costs and monitoring costs) is equal[28]. For z values larger than $z_{effective}$ the total costs start to increase as monitoring costs rise faster than bribery costs decrease.

Figure 1
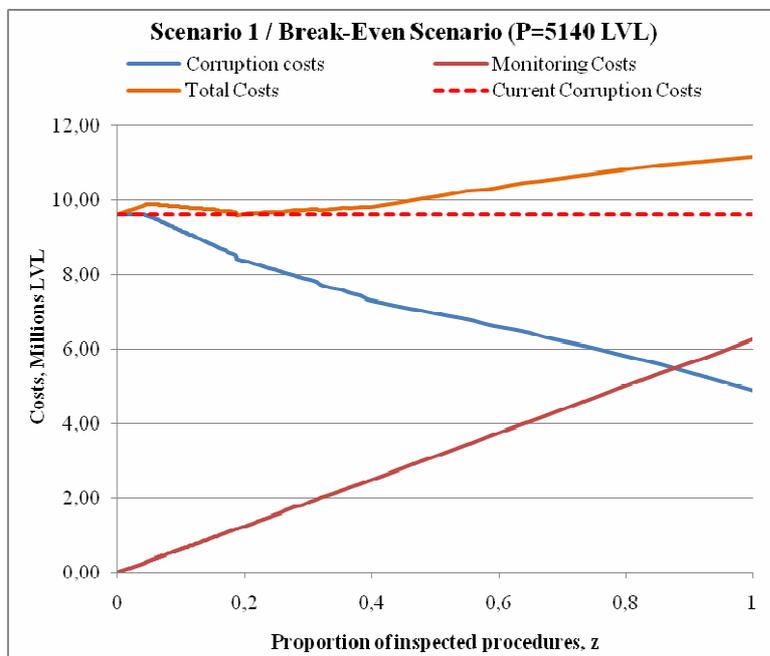
Source: self-composed

In the break-even scenario $z_{effective}$ (the proportion of inspected procedures that provide the most effective outcome in terms of total cost savings) is 0.188 (Table 2). The monitoring costs (calculated as shown in the *Equation 13*) are 1.2 million LVL and are equal to the savings in bribery costs.

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[27] At very small z values the "critical" E value at which the corruption will happen is below 10000LVL, thus none of corrupt activities is prevented

[28] Absolute slope of both curves are identical

Table 2

$C_{break\ even}(z_{effective})=(N_i*y\%)*\mu*\overline{B}_i(z_{effective})$		
E_{crit}	Minimum contract price at which the bribery will happen	50 000 LVL
P	Level of penalty	5 140.05 LVL
$z_{effective}$	Most effective inspection activity for the given P	0.188
N_i	Number of "risky procedures" (*Equation 5*)	3 421
$N_i*y\%$	Number of corrupt procedures (*Equation 6*)	1 016,04
$\overline{E}_i$	Average contract price of the selected tenders	316 997.51 LVL
$\overline{B}_i\ (\overline{E}_i*x\ \%)$	Average bribe (see *Equation 9*)	4 149.5 LVL
$C_{break\ even}$	Break-even bribery costs	8 432 092 LVL
$C_{break\ even}$ **-** C_0	Bribery cost savings	**1 178 473 LVL**
MC	Monitoring costs	**1 178 473 LVL**

Source: Self-composed

Other scenarios

From Table 3 we can see that in scenarios with P larger than 5.1 thousand LVL the total costs at $z_{effective}$ are considerably lower than in the case with no inspections (Scenario 1).

Table 3

Scenario	1	2	3	4	5	6
P	5 140,05	6 000	7 000	8 000	9 000	10 0000
$z_{effective}$	0.188	0.164	0.309	0.277	0.250	0.243
Monitoring costs (MC)	1 178 473	1 026 190	1 932 971	1 731 446	1 567 975	1 519 037
Bribery costs (BC)	8 432 092	8 432 086	7 343 104	7 343 104	7 343 104	7 253 091
Total costs (BC+MC)	9 610 565	9 458 275	9 276 075	9 074 550	8 911 079	8 772 128
Bribery cost savings	1 178 473	1 178 479	2 267 461	2 267 461	2 267 461	2 357 474
Net savings[29]	0	152 289	334 490	536 015	699 486	838 437
Net savings / MC	0	0.148403	0.173045	0.309576	0.446108	0.551953

Source: Self-composed

For example, in scenario 6 (P=10 000LVL) the net savings from inspections at $z_{effective}$ are 0.8 million LVL (corruption cost savings are 2.4 million LVL; monitoring costs are 1.5 million LVL). In this case the return on investment (ROI) for society would be 55.2%.

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[29] Difference between bribery cost savings and monitoring costs

Figure 2
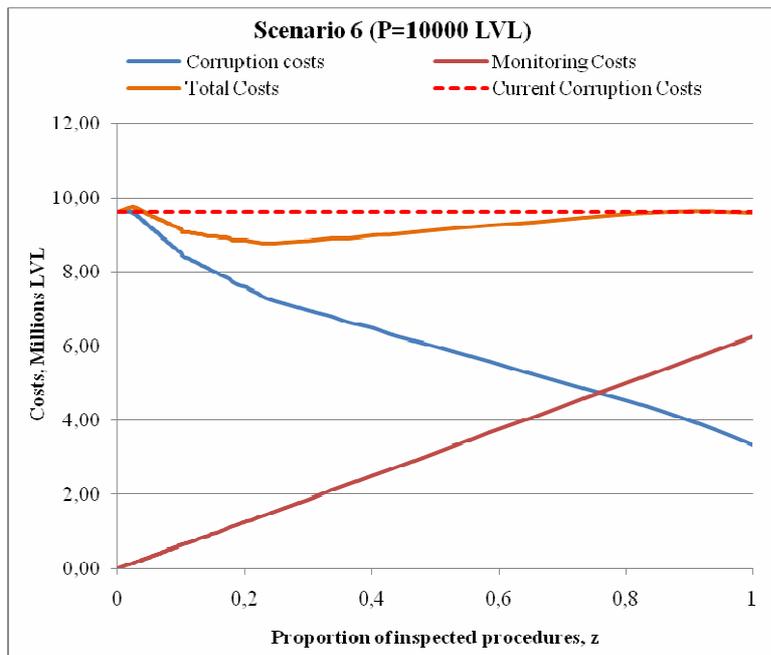
Source: Self-composed

Summary of results

Taking into account that the net benefits of the inspecting institution are highly dependent on the level of penalty, it is impossible to draw unequivocal conclusions about its economic effectiveness (prove that the decrease in bribery costs > monitoring costs). However, if the inspecting department ensured large enough penalties for offenders (P > 5.1 thousand LVL), random inspections of procurement procedures would decrease the overall costs for society.

What concerns the economic viability[30] of the inspecting body, also there the results are conditional upon the level of penalty as cost savings from inspections are rather small if the imposed penalty is not considerably large (20 000 LVL in monetary terms, when the cost savings reach 21.3%). However, as the model accounts only for the costs of bribery, the benefit side of the inspecting body is underestimated (reduction in other forms of corruption – barter, acquaintanceship – are not taken into account). Hence the overall cost savings from the inspecting agency are much larger. Furthermore, the introduction of an ex-ante controlling mechanism would reduce also the negative corruption externalities (capital misallocation, competition distortion), which are difficult to estimate in monetary terms, but are important for effective usage of public funds.

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[30] Is it worth to develop such an institution? Are cost savings large enough?

To sum up, it would be beneficial to introduce an ex-ante controlling institution for public procurement with authority and obligation to penalize the offenders of the Law with large enough penalties.

6. Conclusions

This thesis has been devoted to study the existing policy gaps in the public procurement system in Latvia and to determine the most effective policy improvements to be implemented in the future. The effectiveness and corruptibility of the current system has been analyzed from the perspectives of bidders, policy researchers, and policy makers. Additionally, the author has assessed the compliance of Latvian public procurement system with international policy suggestions and empirically estimated the benefits of the monitoring and prosecution system development.

In general, maximum public procurement efficiency is reached under the conditions of perfect competition and information. The public procurement market in Latvia is far from this goal – experienced private sector representatives and policy researchers characterize it as corrupt, imperfect and unreliable. Furthermore, an existing view among PMB[31] employees is that there is no need to decrease the participation costs to bidders as they have to pay for the opportunity to profit. However, as found during the interviews with private sector companies and proposed by researchers internationally, all the costs incurred in the proposal preparation and information search phases are finally included in the offered contract price. Thus, it is exactly in public sector interests to make the process maximally cheap, easy and fair.

Having identified the current policy gaps, the author has developed several policy suggestions for both small and large procurement.

Although assumed to be trivial by policy makers, small tenders are considered as important and extremely corrupt public sphere by the interviewed suppliers. The sequence of the necessary policy changes for small procurement is presented below:

Redefining the thresholds for procedure-free and small procurement according to economic calculus and the needs of procedure stakeholders (bidders, contracting authorities);

Setting price quotation as the only winner selection method in small tenders. The quality problem should be solved by establishing suppliers' rating base (with similar development

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[31] Procurement Monitoring Bureau - an institution responsible for small procurement management

model as eBay rating).

Establishing an institution / department responsible for small procurement. The institution should ensure complaint system functioning, free of charge consultations about the procurement regulations, the development of the model announcement forms and model procurement documentation, the management of publication portal, and the necessary research activities in the field.

Centralized announcement and documentation publication.

The present research reveals that if compared to small procurement, large tenders are more competitive, transparent, effective, and regulated. Still, several efficiency gaps exist:

System transparency could be increased by establishing mandatory tender documentation publication along with an announcement about the contract or adopting the idea of the E-procurement system from the countries where it already has succeeded.

Administrative effectiveness could be increased by sharing the public sector capital (human resources, information). Common procurement specialists would ensure the necessary expertise in tender documentation drafting to avoid the conflict of interest situation when consulting the potential bidders and reduce the level of mistakes.
 Public sector information re-use would reduce administrative burden to the potential suppliers and finally decrease the contract price.

Political corruption should be limited by assigning an independent field expert to all procurements with an estimated contract price above the certain threshold.

Apart from public procurement, efficient spending of state resources should be controlled by alternative motivators – e.g. establishing objective operational goals and measurable thresholds; counting public officials responsible for results; and promoting professional ethics

Finally, this research work has contributed to the existing policy literature by presenting the theoretical framework for testing the economic efficiency of ex-ante procurement inspections and administrative penalties. Although being greatly conditional upon the level of penalty, the results of the model indicate that random inspections of procurement documentation and process help to decrease the bribery costs and at large enough penalties (>5 000 LVL) are economically beneficial. Due to the data specifics, the

model is limited to bribery, which is relatively rarely used corruption method (private sector interviews, 2008). Thus, suggestions for further research include primary corruption data collection for the model.

Another limitation of this research as well as current policy strategy formulation techniques is data collection methods – well grounded policy suggestions should be based on thorough economic and legal analysis and should be evaluated by policy stakeholders (including contracting authorities). The author would like to stress the necessity of further policy research activities in this field as currently policy decisions are made without comprehensive situation analysis.

To conclude with, the author admits that proposed policy solutions require significant human resource and capital investments. Moreover, implementation of them requires strong political will from the side of policy makers. Yet, if implemented the system improvements would ensure significant efficiency improvements and private sector costs reduction.

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