

# EVALUATION OF FINANCIAL EFFECTS OF PUBLIC PROCUREMENT CENTRALISATION

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**Abstract.** *One of the main goals of public procurement centralization is to generate monetary savings directly impacting the total costs of public institutions. It seems to be a remedy in economic downturn, but the impact of centralization may have both positive and negative financial effects. A central procurement organisation constitutes an additional link in the supply chain that makes the distance between the buyer and the supplier longer. Therefore, the existence of this link should be justified, and the evaluation of centralisation impact is one of the key tools in ensuring the procurement centralisation decisions to be beneficial to the state. The aim of the study was to formulate the model which would serve as a basis for evaluating the financial impact of centralised public procurement.*

**Key words:** *public procurement, centralization impact, purchasing procedures*

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## Introduction

Centralisation of public procurement is a trend that is picking up the pace in both Lithuania and abroad (Dimitri, Piga, Spagnolo, 2006). In Lithuania, a central contracting authority at which public procurement is concentrated was established in 2007. Such authorities exist in the United Kingdom, Germany, Italy, Denmark and Finland. The growth of trends towards centralised public procurement has been speeded up by the current recession. The increasing scope of centralised procurement raises questions about their financial impact. What is the financial benefit of public procurement centralisation for the state and how should it be evaluated?

An appropriate evaluation of the financial impact of centralised public procurement is relevant to various organisations connected with this process. The evaluation could help contracting authorities to make decisions on participation in the centralisation. It would enable an authority conducting centralised procurement to timely respond to and duly adapt the public procurement centralisation strategies. Public procurement policymakers would adopt well-grounded decisions on the further development of centralisation. It should be noted that the financial impact of the centralisation of public procurement is not necessarily positive. The central procurement organisation constitutes an additional

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link in the supply chain (Young, 1989) that makes the distance between the buyer and the supplier longer. Therefore, existence of this link should be justified (Nollet, Beaulieu, 2005), and the evaluation of the effects of centralisation is one of the key tools in achieving that the centralisation decisions are beneficial to the state.

In the scientific literature, the subject of public procurement centralisation is mainly examined in the form of arguing for and against its advantages and disadvantages. The evaluation of the financial impact of centralisation, however, is not sufficient. While such evaluations have been done in Finland, USA, United Kingdom and Chile (Singer et al., 2009, Karjalainen, 2009; Celec, Nosari, Voich, 2003), an overview of the scientific literature has shown that no author has presented a conceptual model allowing to identify and assess the financial benefits of public procurement centralisation.

*The purpose of this study* was to formulate, through analysis and synthesis of knowledge available in the literature, an evaluation model which would form a basis for the evaluation of the financial effects of centralised public procurement. *The object of the study* is financial savings experienced by contracting authorities conducting public procurement through Lithuania's central contracting authority. *The methods of the study* include the analysis and synthesis of scientific literature, survey of contracting authorities conducting centralised procurement, and statistical methods of data processing and analysis.

*The structure of the paper:* the first part presents an overview of theoretical literature and examines the procurement centralisation subject from other authors' perspective; the second part presents an analysis of the factors that are relevant in evaluating the financial effects of centralisation on public procurement and development of a methodology; the third part presents an evaluation of the financial effects of centralisation in Lithuania.

## **Definition of centralisation in public procurement**

Centralisation is the concentration of political or administrative power at a single place (Ferlie et al., 2005). In a democratic society, political power is always decentralised, whereas processes of centralisation or decentralisation of administrative power are taking place constantly. From the standpoint of management, centralisation is one of the dimensions of the organisational structure, which shows the vertical locus of the decision-making authority (Dröge, Germain, 1989). This is particularly relevant to large organisations with a number of divisions linked by subordination relations.

Centralisation of procurement can be described by identifying three forms of the organisation of procurement: full centralisation, full decentralisation, and a hybrid structure. Dimitri et al. (2006) provide the definitions of these three organisational forms:

- **full centralisation of procurement.** Procurement is fully centralised when the key decisions on the purchase of goods and services (what, how and when) are adopted

by the central procurement unit formed with the aim of meeting the procurement needs of an organisation's divisions;

- **full decentralisation of procurement.** Procurement is decentralised when divisions or local offices of an organisation are delegated the power to decide what, how and when to procure;
- **a hybrid model of centralisation in procurement.** This is an interim model whereby a central procurement unit shares the procurement process with the organisation's decentralised divisions.

Centralisation of public procurement through a central contracting authority has become popular in Europe in the last decades (Dimitri et al., 2006). Such centralisation of public procurement is consistent with the hybrid model of centralisation. The main feature of the model is the centralisation of individual parts of the procurement process and not of the process as a whole. Figure 1 depicts the procurement process from the initiation of procurement to the final payment. In case of decentralised procurement, a full process is carried out by the contracting authority itself. Where procurement is centralised, part of the procurement process components such as preparation of public procurement documentation and execution of procurement procedures as well as potential litigation with supplier are delegated to the central contracting authority.

Full centralisation of procurement means that all parts of the public procurement process are concentrated in the central procurement unit (see Fig. 1) in all cases of purchasing goods or services. In practice, such form of centralisation of procurement is not found at all levels. A feasibility study on the centralisation of public procurement in Lithuania identifies the following levels of centralisation (Vengrauskas et al., 2006):

- organisational level (procurement is concentrated at procurement division);
- departmental level (procurement of a department is concentrated at its procurement division);
- national level (procurement concentrated at the central contracting authority).

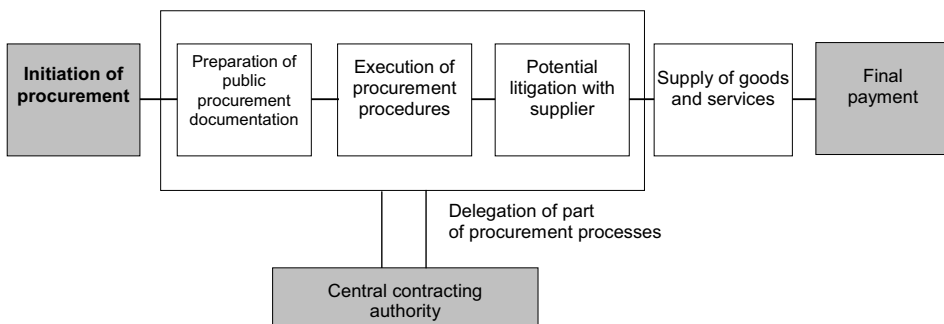


FIG. 1. Public procurement process centralisation scheme

Source: Author's compilation.

The distance between a decentralised division and a division at which procurement is centralised has a significant effect on centralisation in public procurement (Young, 1989). This distance is short at organisational and departmental levels; however, it can be very long at a national level. The government sector is extremely diverse and exists as a sophisticated organisational system, with a very wide assortment of goods and services purchased (from stationery to bridges or military vessels). Therefore, the application of the full centralisation on national level is very complicated and is rarely found in the practice of democratic states. Studies of the phenomenon of procurement centralisation on national level lead to a conclusion that centralisation or decentralisation of public procurement cannot be achieved in full. Therefore, the problem of the research is not limited to the question as to what financial benefit is derived from the decentralised procurement organisation system versus a centralised one. The research is aimed at determining the financial effect of changing the public procurement centralisation / decentralisation ratio on a national level within a certain period of time.

Having in mind the fact that the problem of the research is related to public procurement, i.e. an object which is subject to a detailed legal regulation, the scientific definition of public procurement should be harmonised with the legal one. In the public procurement law, centralisation is defined through the notion of a central contracting authority. “Central contracting authority is a contracting authority which:

- acquires goods and / or services intended for contracting authorities, or
- concludes public procurement agreements for a contracting authority, or
- concludes framework agreements on the purchase of works, goods or services.”

The legal definition of public procurement provides for three ways in which the central contracting authority may centralise public procurement. The first two ways are not suitable if the distance between the decentralised division and the central contracting authority is long. Therefore, centralisation of public procurement on a national scale is implemented through framework agreements (Dimitri et al., 2006).

Upon summing up the definitions of centralisation in public procurement, provided in the scientific and legal literature, as well as studies of procurement practice, the authors have formulated the following definition of centralisation in public procurement on a national level: “Centralisation of public procurement is a change in the ratio between centralised and decentralised public procurement on a national level, where the central contracting authority centralises the procurement through contract agreements“.

### **Advantages and disadvantages of procurement centralisation**

The subject of centralisation in public procurement is examined in scientific literature by discussing the advantages and disadvantages of public procurement. The following advantages of public procurement have been identified in the literature:

- economy of scale manifesting itself through higher quantity-based discounts and simplified procurement processes (Munson, 2007);

- standardisation of goods and services (Munson, Hu, 2009);
- standardisation of processes (Rozemeijer, 2000);
- consistent and integrated character of procurement policy (Trautmann et al., 2009).

K. Karjalainen sums up that a higher integration of the procurement function has a number of advantages and can be used for cutting down procurement costs (Karjalainen, 2009). Disadvantages of procurement centralisation are also analysed in the literature:

- high expenses for setting up and maintaining the central procurement authority (Vagstad, 2000);
- part of the goods / services are unique and their standardisation is complicated (Matthyssens, Faes, 1997);
- reasonable specific needs of contracting authorities can be disregarded in the centralisation process (Munson, 2007).

Part of the advantages identified by the researchers can be directly related to the financial impact. The economy of scale manifesting itself through quantity-based discounts (Munson, 2007) and standardisation of specifications (Munson, Hu, 2009) affects the prices of goods and services. Standardisation of the procurement processes (Rozemeijer, 2000) and expenses for setting up and maintaining the central procurement authority (Vagstad, 2000) influence the administrative expenses related to the procurement processes. Differences in the prices of goods and services as well as changes in administrative expenses are the factors that determine the financial effect of centralisation in public procurement. It should be noted that this effect may manifest itself in the form of savings or losses for the state.

Savings are defined in the scientific literature as financial savings achieved as a result of efforts made by a procurement division and directly influencing an organisation's expenses (Nollet, Beaulieu, 2005). Furthermore, savings are defined as the added value of the procurement division for an organisation (Van Weele, 2005). It can be concluded that in order to answer the question as to the financial effect of the change in the ratio between centralised / decentralised procurement on a national level, an analysis of the savings received by contracting authorities due to the operation of the central contracting authority should be made. This conclusion means that the financial effect of centralisation of public procurement is reflected by either savings or losses incurred by contracting authorities conducting their procurement procedures through the central contracting authority.

### **Assessment of the financial effect of procurement centralization**

An analysis of scientific literature has shown that empirical studies aimed at determining the financial benefit of centralisation in procurement were carried out in Finland, United Kingdom, and Chile. The authors covered by the analysis (Table 1) identify two main criteria of financial evaluation of the public procurement centralisation:

- savings due to price differences;
- savings due to changes in administrative expenses.

TABLE 1. Results of scientific literature overview

Valuation criteria	Environment	Valuation method	Source
Savings due to price differences	Electronic procurement agency (ChileCompra)	Statistical modeling of price differential	Singer, Konstantinidis, Roubik, Beffermann (2009)
	Procurement of Central Contracting Agency in United Kingdom (OGC-buying.solutions)	Survey of sample of price	National audit office (2006)
	State commodity contracts in United States of America (CASU program)	Survey of sample of price	Celec, Nosari, Voich Jr. (2003)
	Procurement of Central Contracting Agency in Finland (Hansel)	Survey of sample of price	Karjalainen (2009)
Savings due to changes in administrative expenses	Electronic procurement agency (ChileCompra)	Survey and formula for the calculation of administrative expenses	Singer, Konstantinidis, Roubik, Beffermann (2009)
	Procurement of Central Contracting Agency in United Kingdom (OGC-buying.solutions)	Survey	National audit office (2006)
	Procurement of Central Contracting Agency in Finland (Hansel)	Survey and formula for the calculation of administrative expenses	Karjalainen (2009)

Source: Author's compilation based on literature review.

According to Celec et al., savings due to price differences is the main factor that can justify framework agreements (Celec, Nosari, Voich Jr., 2003). Lower prices due to the economy of scale are an advantage of the procurement centralisation, which is being mentioned most often. C. L. Munson and K. Karjalainen state that centralisation of procurement lowers the price of goods and services if the merging of several orders into one major one allows making use of the quantity-based discounts (Munson, 2007; Karjalainen, 2009). Many other authors emphasise that larger procurement volumes increase the buyer's negotiating power (Porter, 1998; Faes et al., 2000). H. Schiele has found that the concentration of knowledge and human resources with high qualifications lead to a larger potential of savings due to lower prices (Schiele, 2007).

Savings due to changes in administrative expenses are a consequence of procurement centralisation that has been identified in the literature. Avoiding a duplication of procurement procedures and reducing their overall number have a significant effect on the

general administrative expenses (Karjalainen, 2009; Essig, 2000; Singer et al., 2009). A public procurement procedure carried out by the central contracting authority by concluding a framework agreement can replace procurement procedures of many contracting authorities that centralise their procurement (Vengrauskas et al., 2006).

It should be noted that the results of empirical studies described in the literature show the unequivocal nature of the final effect of decentralisation in public procurement. A study carried out in Finland established that prices for office supplies were on average by 25% and for air travel by 19% lower in centralised procurement as compared with decentralised one; in the United Kingdom, prices for computer hardware were on average by 15% lower in centralised procurement. While these differences are significant, they do not necessarily prove an undisputable benefit of centralised procurement. A study in Chile has found that the price difference between centralised and decentralized procurement was only 3%. The average prices for part of goods' and services' categories were higher in centralised procurement compared with the decentralized one in the United Kingdom.

To sum up, one may state that the overall savings arising from centralisation of public procurement are determined by two factors: the difference between prices in centralised and decentralised procurement and the changes in administrative expenses for conducting public procurement procedures. In the opinion of the author, apart from these two factors, a third one – the centralised/decentralised procurement ratio – should be proposed in formulating a model for the evaluation of centralisation in public procurement. This factor has not been sufficiently emphasised in the studies referred to in Table 1. The work of K. Karjalainen should be singled out: it states that an insufficient use of centralised public procurement can lead to a failure in getting the expected benefits (Karjalainen, 2009). A certain level of public procurement centralisation is necessary to recover the expenses for setting up and maintaining the central contracting authority (Vagstad, 2000).

With regard to the literature overviewed and the conclusions drawn, the main factors to be considered in the evaluation of the overall financial effect of public procurement centralisation are as follows:

- differences in prices in centralised and decentralised procurement;
- administrative expenses for conducting the procurement in both cases (centralised and decentralised);
- the ratio of centralised and decentralised procurement.

These factors together form an evaluation model for determining the financial effect of centralisation (see Fig. 2). The indicators reflecting the factors of the model are assessed by various methods. S. E. Celec proposes the sample method as the best one for selecting goods and services that will be an object of a price survey (Celec et al., 2003). The data of the survey would be used for determining the average prices of goods and services in centralised and decentralised procurement. Based on a comparison of the

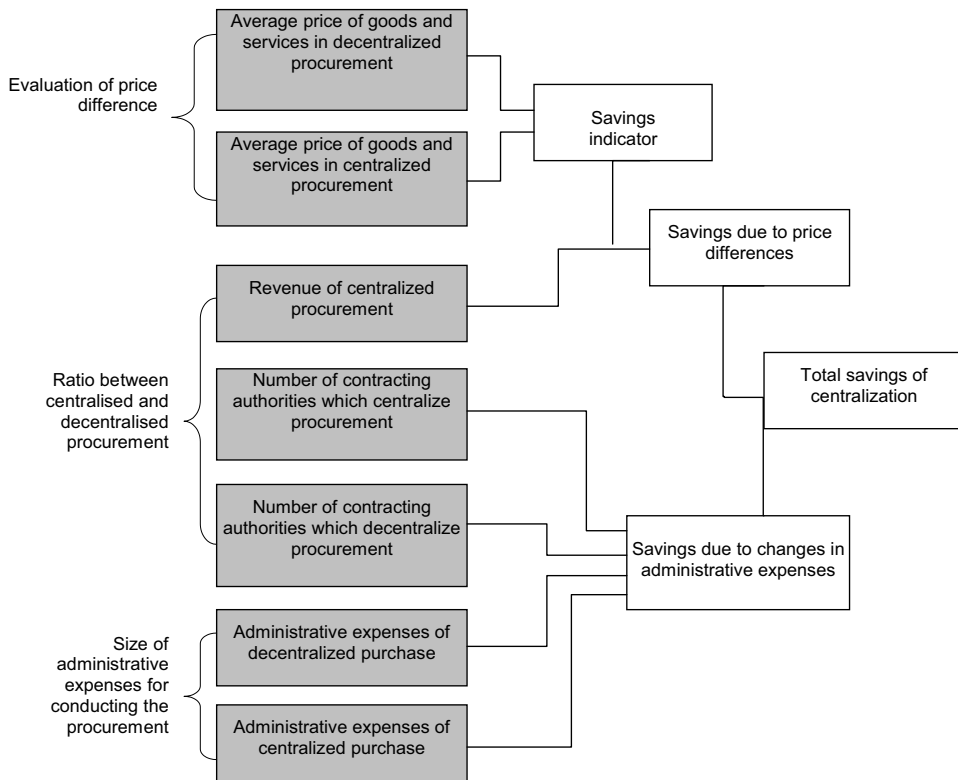


FIG. 2. Model for the determination of the financial effect of centralisation in public procurement

Source: Author's compilation.

prices, the savings indicator  $S_{perc}$  is calculated. Statistical modelling of the price differential, another method of evaluating this factor (Singer et al., 2009), was not chosen due to the complexity of its application.

Administrative expenses  $C_{dec}$  are assessed by analysing the length of working time and the amounts of pay to the employees carrying out the procurement procedures in decentralised procurement. Administrative expenses  $C_{cen}$  are assessed from the financial performance indicators of the central contracting authority. Savings due to changes in administrative expenses are assessed by calculating the administrative expenses in case of decentralised procurement  $C_{dec} \cdot n$  and in case of partial centralisation  $(C_{\downarrow cen} + C_{\downarrow dec} \cdot (n - n_{\downarrow cen}))$ , where  $n$  is the number of contracting authorities and  $n_{cen}$  the number of organisations centralising procurement. Thus, in case of full decentralisation, administrative expenses would amount to  $C_{dec} \cdot n$ , while in case of full centralisation to  $C_{cen}$ . The formula for the determination of savings due to changes in administrative expenses depends on the organisational structure of public procurement at the beginning and at the end of the period. For example, if the public procurement was fully decentralised at the



beginning of the period but partially centralised at the end of it, savings due to changes in administrative expenses are determined as the difference between the above-mentioned expressions from the formula:

$$\Delta C_{administrative\ expenses} = C_{dec} \cdot n - (C_{cen} + C_{dec} \cdot (n - n_{cen}))^1.$$

This change in administrative expenses depends on the change in the ratio between centralised and decentralised procurement, which is measured as the difference between  $n$ , the total number of contracting authorities, and  $n_{cen}$ , the number of authorities centralising procurement.

Financial savings due to price differences depend on changes in the volume of centralised procurement during the given period. Savings due to this factor are determined from two indicators: the determined savings percentage  $S_{perc}$  and the calculated indicator of the value of centralised procurement during the period  $R_{cen}$ . The total financial effect of the centralisation of public procurement is determined by summing up the amounts of savings due to price differences ( $S_{perc} \cdot R_{cen}$ ) and savings due to changes in administrative expenses  $\Delta C_{administrative\ expenses}$ .

## Methods

In Lithuania, public procurement has been centralised through the Central Contracting Authority since 2007; however, its financial effect has not been studied. Studies were carried out (see Table 2) based on the findings of analysis of the literature and the evaluation model developed. The purpose of the studies was to assess the financial effect of public procurement centralisation in Lithuania in 2007–2010.

TABLE 2. List of research projects

Research project	Research object	Method	Date of research
Evaluation of administrative expenses of decentralised purchase	Length of working time and the amounts of pay to the employees carrying out the procurement procedures in a decentralised procurement	Survey	March–May 2006
Evaluation of price differences in centralised and decentralised public procurement	Sample of prices of goods and services	Survey	April–June 2010
Evaluation of centralized procurement volume	Statistics of central contracting authority procurement volumes in 2007–2010	Statistical data analysis	2010
Evaluation of of decentralized procurement volume	Statistics of decentralised public procurement in 2007–2010	Statistical data analysis	2010

Source: Author's compilation

<sup>1</sup> Source: Karjalainen, K. (2009). Challenges of purchasing centralization – Empirical evidence from public procurement. Helsinki School of Economics.

The research object consists of two parts: prices of goods and services acquired through the public procurement procedure and of administrative expenses for conducting these procedures in the environment of 1) decentralised public procurement and 2) centralised public procurement. The results of the analysis are compared using the developed theoretical evaluation model which enables determining the financial effect of public procurement centralisation.

### ***Evaluation of price differences due to public procurement centralization***

To determine the differences in prices in decentralised and centralised procurement, a survey of all contracting authorities that centralised their procurement procedures through the central contracting authority was conducted. Questionnaires were sent via electronic mail to 274 organisations, and 154 questionnaires (56.2%) were properly completed. The results of the survey were recognised as representative ones based on the conclusion that when the general population is small, all its members or half of them should be surveyed where possible (Kardelis, 2005).

In this survey, the contracting authorities that had a centralised procurement of mobile communication services were asked to provide the amount of the bill for the past full calendar month prior to the procurement through the central contracting authority and the amount of the bill for the first calendar month after such procurement. A comparison of the bills was selected as the one reflecting the changes better than a comparison of minute rates. The contracting authorities that centralised the procurement of fuel were asked to provide information on the discount received on one of the fuel types. A discount per litre of fuel is expressed in cents, which is a usual way to agree on rates in fuel purchases. The contracting authorities that had centralised procurement of other goods were asked to provide prices at which goods were purchased prior to starting procurement through the central contracting authority.

In order to calculate the results as accurately as possible, savings ( $S_{savings}$ ) were determined for each contracting authority separately, followed by the calculation of the savings percentage  $S_{perc}$  for each procurement category from the formula:

$$S_{perc} = \frac{\sum S_{savings}}{\sum R_{revenue \text{ of centralised procurement}}} .$$

Table 3 presents the values of saving percentages for each category of centralised public procurement. It should be noted that, in the calculation of this indicator, negative savings (with the prices in centralised procurement higher than those in decentralised procurement) were also taken into account. A small part of the respondents have incurred a loss due to centralisation of procurement. In the procurement of mobile communication services, higher costs after centralisation were incurred by 3 organizations out of 35 (8.5%) and in fuel procurement by 14 out of 54 (26%). Nevertheless, centralisation of

public procurement enabled the majority of the organisations to save money. The saving percentages were highly significant in the mobile communication and office supply categories (40% and 45.32%, respectively). The lowest savings were observed in the procurement of fuel: savings due to price changes in this category amounted to just 1.2%. To sum up, overall savings were positive in all categories of centralised procurement, and price changes due to centralisation were significant.

**Evaluation of the price-to-quality ratio**

The survey was aimed also at verifying whether the price change was not achieved by compromising the quality of the goods and services. The surveyed contracting authorities were asked to assess the price-to-quality ratio according to the Likert scale. A point was assigned if the ratio between the price and quality of the purchased goods / services had deteriorated considerably in centralised procurement as compared with decentralised procurement. Three points were assigned if the price-to-quality ratio remained unchanged, and five points were assigned in case of considerable improvement.

Table 4 presents the results of the contracting authorities’ survey reflecting the evaluation of the price and quality ratio. Changes in the price-to-quality ratio received most favourable evaluations in mobile communication service procurements (score 4.43). Procurement of computer equipment was the category that received worst evaluations (score 3.45).

TABLE 3. Savings in the centralised procurement categories, %

Procurement category	Savings
Computer hardware	7%
Printers	24%
Mobile services	40%
Fuel	1.20%
Stationary goods	45.32%
Printing paper	15.35%
Toners	4.50%

Source: Author’s compilation.

TABLE 4. Average and standard deviations of the price-to-quality ratio

Price and quality ratio	N – number of respondents	Average	Deviation
Mobile services	35	4.43	0.9292
Fuel	54	4.05	0.8111
Stationary goods	74	3.51	1.0760
Computer hardware	58	3.45	1.0117

Source: Author’s calculation.

In all categories of goods and services, the evaluation given to the price-to-quality ratio was higher than 3, which means that centralisation of procurement led to an improvement of this ratio in all procurement categories.

### ***Evaluation of changes in administrative expenses of conducting procurement through centralisation***

In the procurement centralisation process, contracting authorities transfer part of the procurement procedures to the central contracting authority. In this way, the contracting authorities avoid such processes as:

- drawing up public procurement documentation;
- carrying out public procurement procedures;
- potential disputes with suppliers.

Avoiding these processes means that the contracting authorities cut their administrative expenses for the processes. According to contracting authorities that conduct public procurement by the decentralised methods, a public procurement procedure ending in concluding a sale-purchase contract costs LTL 2,805 on average. Thus, through centralisation, contracting authorities avoid paying LTL 2,805 as administrative expenses. It should be noted that depending on the procurement method, a public procurement takes 83 days on average in case of an open tender procedure, 47 days in a simplified tender procedure, 46 days in a restricted tender procedure, 30 days in a negotiated procedure with a publication of a contract notice, and 24 days in a negotiated procedure without a publication of a contract notice.

By assuming the conduct of the public procurement procedure, the central contracting authority incurs high fixed costs related to the conclusion and management of contract agreements. The central contracting authority pays the expenses for activities such as:

- studies of contracting authorities' requirements and market research;
- drafting of public procurement documentation;
- potential disputes with suppliers;
- management of orders received from contracting authorities and of renewed competition processes by electronic means.

As procurement processes are more complicated in case of centralisation as compared with decentralised processes, administrative expenses for a centralised procurement procedure are much higher. The administrative expenses on concluding a contract agreement amounted to LTL 181,000 on average (data provided by the Central Contracting Authority).

The overall scope of change in administrative expenses depends on the number ( $n_{cen}$ ) of contracting authorities starting centralisation of public procurement in each procurement category ( $n$  – the total number of contracting authorities). The change in these expenses  $\Delta C_{administrative\ expenses}$  is calculated for each procurement category by the formula:

$$\Delta C_{administrative\ expenses} = C_{dec} \cdot n - (C_{cen} + C_{dec} \cdot (n - n_{cen})).$$

The above formula compares the size of administrative expenses in a certain procurement category in cases of decentralised procurement  $C_{dec} \cdot n$  and of partial centralisation ( $C_{cen} + C_{dec} \cdot (n - n_{cen})$ ). Given that the costs of conducting a centralised public procurement procedure and of further contract administration are very high, savings are essentially determined by the number of contracting authorities centralising procurement.

**Assessment of financial savings due to centralisation of public procurement in Lithuania in 2007–2010**

In Lithuania, centralisation of public procurement on the national scale was started in 2007. Since then, the scope of centralisation has been increasing according to the following criteria:

- the value of centralised public procurement;
- the number of contracting authorities centralising procurement; and
- the number of categories of goods and services purchased through centralised procurement.

The year 2010 is exceptional in terms of the scope of centralised public procurement. In that year, the value of centralised public procurement increased by 214% (see Fig. 3). The number of contracting authorities conducting public procurement through the Central Contracting Authority also increased considerably.

The trend toward an increase in the volumes of centralised public procurement has a positive effect on the dynamics of financial savings. The findings of the above-mentioned survey show that the average prices in centralised public procurement procedures are lower as compared with decentralised procurement. Therefore, financial savings due to differences in prices of goods and services increase along with the rising value of centralised public procurement.

Savings due to changes in administrative expenses depend on the number of contracting authorities switching to centralisation of the procurement. It should be noted that,

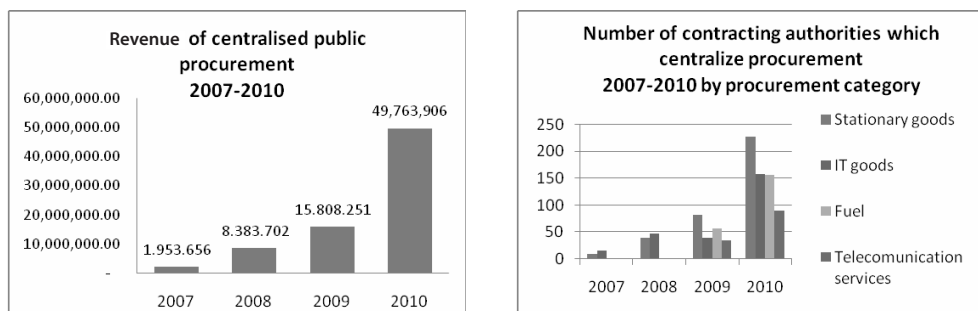


FIG 3. Scope of centralised public contracting authorities centralising procurement

Source: Author's calculation.

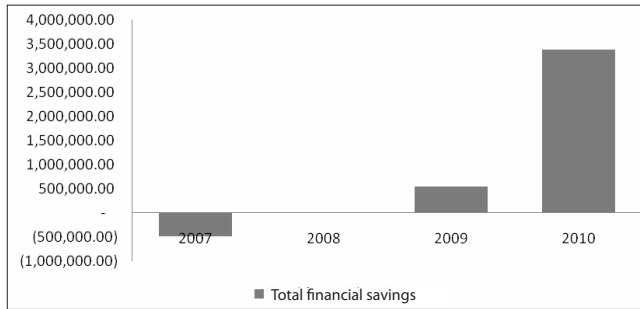


FIG. 4. Dynamics of financial savings due to procurement through CCAin 2007–2010

Source: Author's calculation.

based on results of this study, fixed administrative expenses for centralised public procurement are very high as compared with those incurred in decentralised procurement. As a result, when the degree of centralisation is insufficient, the overall administrative expenses are even higher in comparison with decentralised procurement.

In 2007–2010, the overall dynamics of the savings value has been positive, including savings due to both price differences and changes in administrative expenses. High administrative expenses of the Central Contracting Authority and an insufficient degree of centralisation of public procurement resulted in negative or insignificant savings in the first three years of the period. However, the scope of centralisation increased significantly in 2010, followed by a rapid growth of financial savings. Financial savings due to centralisation of public procurement amounted to LTL 3.3 million in 2010 (see Fig. 4).

To sum up the results of savings in centralised public procurement, the following key factors of success in centralisation can be identified:

- significant price differences in favour of centralised procurement;
- large volumes of public procurement centralisation.

Significant price differences in favour of centralised procurement are achieved by using the advantages of this procurement method. The Central Contracting Authority employs the best procurement experts, the best procurement practice is applied, innovations are introduced, and the advantages of the economy of scale are made use of. Significant differences in prices, however, are achieved with relatively high administrative expenses.

A sufficient degree of centralisation in public procurement is required to convert these price differences in favour of centralised procurement into financial savings. While the increase in this degree is accompanied by the growing savings due to price differences, savings due to changes in administrative expenses start increasing after these expenses reach a certain break-even point.

## Conclusions

1. Upon summing up the definitions of centralisation in public procurement provided in the scientific and legal literature as well as studies of procurement practice, the authors have formulated the following definition of centralisation in public procurement on a national level: Centralisation of public procurement is a change in the ratio between centralised and decentralised public procurement on a national level, when the central contracting authority centralises the procurement through contract agreements.
2. The main factors to be considered while evaluating the overall financial effect of centralised public procurement are as follows: differences in prices in centralised and decentralised procurement; size of administrative expenses for conducting the procurement in both cases – centralised and decentralised; the ratio of centralised and decentralised procurement.
3. In 2007–2010, the overall dynamics of the savings has been positive, including savings due to both price differences and changes in administrative expenses. High administrative expenses of the Central Contracting Authority and the insufficient degree of centralisation of public procurement resulted in negative or insignificant savings in the first three years of the period. However, the scope of centralisation increased significantly in 2010, followed by a rapid growth of financial savings. Financial savings due to public procurement centralisation amounted to LTL 3.3 million in 2010.
4. To sum up the results of saving in centralised public procurement, the following key factors of success in centralisation can be identified: significant price differences in favour of centralised procurement and large volumes of centralisation in public procurement.

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