

Stewardship and administrative capacity in green public procurement in the Czech Republic: evidence from a large-N survey

Michal Plaček (✉ michalplacek@seznam.cz)

Univerzita Karlova <https://orcid.org/0000-0002-4746-0763>

Vladislav Valentinov

IAMO: Leibniz-Institut für Agrarentwicklung in Transformationsökonomien

Cristina del Campo

Universidad Complutense de Madrid

Gabriela Vaceková

Charles University: Univerzita Karlova

František Ochrana

Univerzita Karlova

Markéta Šumpiková

Ambis Vysoká škola: Ambis Vysoka skola

Research Article

Keywords: Green Public Procurement, Stewardship, Administrative Capacity, Large – N Survey, Czech Republic

Posted Date: June 9th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-599536/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Version of Record: A version of this preprint was published at Environmental Sciences Europe on August 16th, 2021. See the published version at <https://doi.org/10.1186/s12302-021-00534-7>.

Abstract

Background

The uptake of green public procurement in the Czech Republic is known to lag behind the European standards. We trace this condition back to the adverse effects of a specific type of decision-making tradeoff faced by the Czech public procurement officials, namely the tradeoff between stewardship and administrative compliance. The tradeoff means that public procurers are aware of, and seek to forestall, administrative risks and complications attendant on the conscientious non-perfunctory implementation of green public procurement.

Results

The overall result is that public procurers ultimately come to prioritize the contract criterion of the lowest price over ecological criteria. The existence of the tradeoff has been generally confirmed by the results of a unique large-N survey of more than 1,100 respondents from a group of local public officials and mayors in the Czech Republic.

Conclusion

We have found that the decision-making of Czech public procurers is affected by the tradeoff between stewardship and administrative compliance, which turn out to be mutually conflicting goals. On the one hand, many public procurers do possess stewardship motivation that shapes their positive attitude to GPP. On the other, they are painfully aware of, and seek to forestall, administrative risks and complications attendant on the conscientious, i.e., non-perfunctory, implementation of GPP.

Background

The public procurement expenditure of the EU states exceeds 19% of their GDP, which amounts to about 2.3 trillion Euro annually (Poukli, 2021). In view of its tremendous economic proportions, public procurement is widely recognized as a potentially important tool for implementing the EU Circular Economy Action Plan. However, the effectiveness of this tool depends on the extent to which the classic public procurement model is converted into the green public procurement (GPP) model, which may be understood as “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured” (Alhola et al., 2019; Pacheco – Blanco & Bastante Checa, 2016). Drawing on the analysis of the EU’s Europe 2020 Strategy and Renewed Sustainable Development Strategy, Yu et al. (2020, p. 1) note that GPP presents “an essential market-based instrument for attaining the EU’s economic and environmental objectives.”

Yet, the significance of GPP within public procurement varies widely across Europe. According to Yu et al. (2020), GPP accounts for 21.81% of the total procurement value; and green contracts accounts for 9.49% of all contracts' volume. The highest uptake of GPP is characteristic of countries with a long history of EU membership, such as Denmark, Belgium, France, and Ireland. In contrast, the role of GPP remains relatively insignificant in the Czech Republic. This country's GPP is currently limited to about 2% of GDP, with the share of green contracts being less than 5% of the total public procurement value (Yu et al., 2020). In an EU-wide comparison of the uptake of GPP, the Czech Republic lags far behind. The present paper inquires into the possible causes of this situation.

Much of the current GPP scholarship foregrounds a variety of decision-making tradeoffs that influence the uptake of GPP across institutional settings. The most fundamental trade-off faced by procurers and policy makers is probably the one between economic and sustainability goals (Preuss et al., 2011). Gelderman et al. (2015) discuss further trade-offs occurring between complexity, procurers' risk aversion, political relationships and green public procurement goals. The significance of these tradeoffs seems largely confirmed by Yu et al.'s (2020) recent empirical study of the public procurement of 33 EU states in 2018. The authors found that green contracts tended to be associated with large contract value and less open procedures, implying negotiations with competitors. Thus, green procurement projects turned out to be more complex than conventional ones. Following Sönnichsen and Clement (2020), a key part of this complexity can be taken to arise from the decision makers' need for the awareness and knowledge of circular public procurement attributes, as specified in the circular policy and strategy documents.

The key contention of the present paper is that the relatively poor track record of GPP in the Czech Republic can be traced back to yet another variety of the decision-making tradeoffs faced by public procurement officials. This is the tradeoff between individual stewardship and compliance with the administrative setting. This tradeoff posits that, in the Czech Republic, administrative compliance tends to be achieved at the cost of stewardship, thus resulting in the low overall rates of GPP uptake. A key conceptual source for identifying this tradeoff is stewardship theory (Lambright, 2009) which argues that public procurers are honest rather than selfish and are genuinely interested in achieving societal goals. If they act as stewards, public procurers seek intrinsic intangible rewards such as "opportunities for growth, affiliation and self-actualization" (Kauppi & van Raaj, 2014, p. 960), but are hindered by undesirable properties of administrative systems. These properties may pertain e.g. to information asymmetries, lack of administrative capacities, and problematic aspects of decentralization. These administrative hindrances may turn public procurers into "honest incompetent actors" (Kauppi & van Raaj, 2014). Over time, however, stewardship turns out to be irreconcilable with the lack of competence and gives way to the formalistic and bureaucratic attitude well-described by the expression "check-the-box-mentality" (Painter-Morland, 2008).

In the public procurement literature, the problems of stewardship have been widely acknowledged in areas as diverse as the Covid recovery (Harland, 2021), social investment (Vluggen et al., 2020), and military procurement (Fourie, 2017). However, we suggest that in the Czech context, these problems are

Loading [MathJax]/jax/output/CommonHTML/jax.js Czech public procurement system has traditionally been

more formalistic compared to the older EU members (Plaček et al., 2020). This suggestion is buttressed by the extant evidence of relatively high institutional distrust, underdeveloped audit procedures and lack of expertise in the Czech Republic (Datlab, 2020). As Plaček et al. (2020a) argue, the Czech system of public procurement seems to be aimed at legal compliance and formal accountability rather than the genuine achievement of social goals. Moreover, in many cases, individual procurers are not provided with appropriate education and professional growth opportunities (Plaček, 2020a). Thus, it comes as no surprise that they lose their stewardship motivation and enthusiastic attitudes toward the ideals of ecological sustainability (Roth, 2019).

Empirically, we examine the implications of the proposed tradeoff between stewardship and administrative compliance by drawing on a unique large-N survey of more than 1,100 respondents from a group of local government officials and mayors in the Czech Republic. The statistical analysis of the data confirms the existence of the tradeoff. The results obtained are important not only for theory but also for public policy making. The results suggest the administrative barriers to GPP arise from the formalistic attitudes toward GPP and are particularly acute in decentralized governance settings. Thus, policy makers must be made responsible for overcoming these barriers to GPP, as well as for stimulating a deeper systemic change aimed at restoring the potential of stewardship.

Decentralization, stewardship, and administrative capacity in the Czech context: framing the research questions

The point of departure for deriving our research questions is the study by Plaček et al. (2020b), who found significant differences in the efficiency of public service provision among Czech municipalities. The key finding of the authors is that the smaller municipalities perform worse than bigger ones, for reasons related to economies of scale, limited municipal fiscal capacity, and the effects of grant funding (ibid). Crucially for the present paper, Plaček et al. (2020b) show that the role of stewardship is systematically weakened by fiscal illusion, low public involvement and rational inattention of voters. These results are broadly in line with the current scholarship exploring the relationship between decentralization and the performance of local governments. This relationship can be generally taken to depend on information asymmetry, rational ignorance and rational abstention (Boetti et al., 2012, Grossman et al., 1999), bureaucratic behavior (Agasisti et al., 2015), competition among municipalities (Šťastná & Gregor, 2015), fiscal illusion (Boetti et al., 2012), intergovernmental grants and transfers (Bönisch et al., 2011), and municipality size (Drew et al, 2015).

A similarly precarious relationship between stewardship and administrative capacity is likewise suggested by recent investigations into the capacity of local governments in the Czech Republic to implement new managerial tools or policies. Several studies have found the efficiency of local governments to remain unaffected by the adoption of management tools supported by funds from the EU such as benchmarking, CAF, ISO, and national excellence policy (Plaček et al., 2020c; Plaček et al., 2020d). The authors take these findings to be indicative of a number of administrative problems, including a predominantly ceremonial and formalistic approach to the implementation of public policies, and purely

verbal commitment to reforms on the part of local policy makers (ibid). In view of the lack of support from and control by the central government, local governments focus on the formal, perfunctory fulfillment of EU funding requirements (ibid).

The significance of these problems is further confirmed by a recent comparative study of the EU states exhibiting low GDP performance (Plaček et al., 2020g). Drawing on a uniquely large sample of public procurement in 11 Central and Eastern European countries, the study employed hierarchical regression to analyze factors influencing the types of public contracts (ibid). The authors found that institutional factors such as the level of administrative decentralization, quality of governance and corruption climate have a greater impact on overpricing than individual decisions by the contracting authority. Again, the emerging pattern is that stewardship considerations, which could potentially inform these decisions, turn out to be trumped by administrative bottlenecks.

In the light of these studies, we can formulate several more specific conjectures about how the tradeoff between stewardship and administrative compliance plays out in the decentralized governance context of the Czech Republic. Drawing on the insight that education, information, and awareness are the most important factors of individual acceptance of GPP (Liu et al., 2019; Nikolaou & Loizou, 2015; Grandia & Voncken, 2019), we consider stewardship behaviors to be more likely forthcoming from public officials with experience in the area of GPP and who exhibit a high degree of genuine acceptance of GPP. We hypothesize, however, that these officials will tend to be concentrated in bigger municipalities, which have specialized buying departments and are able to deliver appropriate information and training for their staff. We are skeptical whether these advantages would be equally possible in smaller municipalities, which often face more severe fiscal stress while having weaker administrative capacities.

At the same time, in line with the tradeoff logic, we consider the GPP experience of public officials to result in their intimate familiarity with the bureaucratic requirements of the Czech public procurement system. Reacting to these requirements, public officials would tend to adjust their GPP decision making in such a way as to minimize the risks of administrative complications and the attendant administrative transaction costs. In practice, this means that over time, the GPP decision making will come to prioritize evaluation criteria based on the lowest price rather than adequate ecological sustainability impact. This interpretation of the meaning of experience accords with Gelderman et al.'s (2015) argument that in public service, risk aversion considerations may come to trump enthusiastic and honest effort to achieve societal goals. This interpretation thus yields a valuable contribution to scholarship underlining the importance of experience for the governance of particularly complex projects (Coviello et al., 2018), for enabling positive learning and sunk cost asymmetries (Iossa & Waterson, 2019), and for the evolution of long-term procurer-supplier relationships (Spagnolo, 2012).

Based on the conceptualization of the trade-off between stewardship and administrative compliance in the context of the decentralized governance setting of the Czech Republic, we formulate the following research questions:

1. Is municipality size positively associated with GPP experience and acceptance on the part of local public officials?
2. Is previous experience with GPP associated with declining enthusiasm about it on the part of local public officials?

In line with these questions, we expect that public procurers from larger municipalities will have greater experience with GPP and greater preference for GPP than those from smaller municipalities. At the same time, we believe that public procurers' enthusiasm about GPP will decline as they develop increasing familiarity with the bureaucratic requirements of the Czech bureaucratic procurement system.

Methods And Data

Our data come from a unique large-N survey, which took place during summer 2020. The survey was carried out with the help of an electronic questionnaire that was sent out to the official email addresses of all Czech municipalities, accompanied by a cover letter. The target respondents group comprised persons in charge of green public procurement implementation, a designation that is not specified precisely in the documentation of many organizations. Thus, respondents included politicians at the level of mayors or vice-mayors, as well as upper echelon bureaucrats at the level of department head. The exact position of respondents also depended on the size of municipalities.

Having approached 6,248 municipalities, we obtained 1,117 responses, a response rate of 17.88 percent. The questionnaire included seven questions dealing with respondents' attitude towards green procurement. Six questions employed a Likert-type scale offering a range of five answers from "absolutely agree" to "absolutely disagree". One question had the binary form of yes/no and another allowed the selection of an option. We also asked respondents to provide information about the size category of their municipality. See Table 1 for the complete details of the questionnaire.

The crucial part of the questionnaire included questions asking respondents to indicate their level of agreement with statements reflecting the tradeoffs affecting green procurement. These tradeoffs took account of the possibilities of a preference for the lowest price, of the risk of a higher probability of an appeal to the Office for Protection of Competition, and a preference for particular contract criteria. The structure of the questionnaire is explained in the following Table 1.

Table no. 1: Structure of questionnaire

No. of question	Wording	Possible answers	Type of question
1	Do you have experience in awarding public contracts with ecological (or environmental) criteria?	Yes/no	
2	It is socially useful to award 'green public contracts,' i.e. contracts taking into account environmental criteria.	Absolutely disagree, somewhat disagree, do not know, somewhat agree, absolutely agree	Personal attitude towards green public procurement
3	I am in favor of awarding public contracts that take into account the environmental criteria.	Absolutely disagree, somewhat disagree, do not know, somewhat agree, absolutely agree	Personal attitude towards green public procurement
4	Personally, I would prefer to announce a tender for a cheaper contract (without environmental requirements) before awarding a more expensive public contract with environmental criteria.	Absolutely disagree, somewhat disagree, do not know, somewhat agree, absolutely agree	Tradeoff between stewardship and bureaucratic accountability rules
5	If I have information that a public contract with an environmental criterion increases the risk probability of an appeal to the Office for Protection of Competition, then I will clearly prefer the public contract without environmental criteria	Absolutely disagree, somewhat disagree, do not know, somewhat agree, absolutely agree	Tradeoff between stewardship and bureaucratic accountability rules
6	If the contract has the following evaluation criteria: "employment criterion," "criterion of the support for local companies," and "criterion of ecological impact of public procurement on the environment," then I will always (or mostly) consider "criterion of ecological impact" as most important.	Absolutely disagree, somewhat disagree, do not know, somewhat agree, absolutely agree	Tradeoff between stewardship and bureaucratic accountability rules
7	If I wanted to include a criterion of ecological impact on the environment in the contract, then I would classify it as a general obligation of the supplier under the contract.	Absolutely disagree, somewhat disagree, do not know, somewhat agree, absolutely agree	Tradeoff between stewardship and bureaucratic accountability rules

No. of question	Wording	Possible answers	Type of question
8	Size category of municipality	Up to 500 inhabitants, between 501–999, between 1,000–9,999, between 10,000–49,999, 50,000 and more	

Source: Authors

Pearson's Chi-square test of independence (referred to here simply as the Chi-square test) is one of the most useful and commonly used statistics for answering questions about the association between categorical variables, such as in the present case. However, while the Chi-square test describes the association between independent (categorical) variables, its value alone is unable to describe the strength of the association between them, given that its value is largely dependent on sample size, which likewise influences whether or not a significant association exists between the variables. The strength of the association between such variables can be explored and described with the help of Cramer's V, which varies between zero and one without any negative values. Cramer's V is similar to Pearson's r, in that a value close to zero means no association. Furthermore, a value higher than 0.25 indicates a very strong relationship (Akoglu, 2018).

Results

Research question 1: Is the size of municipality positively associated with GPP experience and acceptance on the part of local public officials?

As has already been mentioned, a total of 1,117 valid questionnaires were obtained. In terms of population, the size of the respondents' municipalities varied from 29 inhabitants to approximately 290,000, with an average of 3,036.222 (standard deviation 13,474.46) and a median value of 557.

Table 2 indicates that larger municipalities seem to have a higher likelihood of having experience with awarding public contracts with ecological (or environmental) criteria. Furthermore, there is a clear association between municipality size and respondents' experience with awarding public contracts with ecological (or environmental) criteria (Chi-squared = 36.672, df = 4, p-value = 0.0000002104). Moreover, Cramer's V test ($V = 0.1811935$) shows that the association between the two variables is strong. The following table shows the answers of respondents according to municipality size.

Table no. 2 Experience with GPP according to municipality size

Q1 - Experience in awarding public contracts with ecological (or environmental) criteria			
Municipality size category	No	Yes	Count
50,000 and more	37.5	62.5	16
10,000–49,999	53.7	46.3	41
1,000–9,999	67.7	32.3	300
501–999	72.7	27.3	238
Up to 500	80.3	19.7	522
Source: Authors			

Table 3 shows the degree of respondents' agreement with specific statements offered in the questionnaire. For all sizes of municipalities, and for most questions, respondents most often chose the option "somewhat agree," with "do not know" being the second-most popular option. Respondents are more divided over the statement, "If the contract has the following evaluation criteria: 'employment,' 'support for local companies,' and 'ecological impact of public procurement on the environment,' then I will always (or primarily) consider 'ecological impact' as the most important criterion of public procurement." Here, the most common answers encompass "somewhat disagree," "do not know," and "somewhat agree." The following table reports respondents' reactions classified according to municipality size.

Table no. 3: Survey questions response percentages by size of municipality.

Questions	Answer	Size of Municipality					Tests results	
		Up to 500	501–999	1,000–9,999	10,000–49,999	50,000 and more	Chi-squared p-value	Cramer V
It is socially useful to award 'green public contracts,' i.e. contracts that include an environmental criterion in the evaluation criteria.	Absolutely disagree	1.7	1.3	1	2.4	6.2	0.02983	0.07946
	Somewhat disagree	5.7	6.7	7.3	14.6	18.8		
	Do not know	46.9	43.3	39.3	24.4	18.8		
	Somewhat agree	37.5	41.2	44.3	46.3	31.2		
	Absolutely agree	7.1	7.6	8	12.2	25		
I am in favor of awarding public contracts that take into account the environmental criterion.	Absolutely disagree	1.5	1.7	0.7	0	0	0.00141	0.09
	Somewhat disagree	3.6	2.9	2.7	4.9	18.8		
	Do not know	39.3	40.8	28	22	25		
	Somewhat agree	43.3	40.8	54	46.3	37.5		
	Absolutely agree	12.3	13.9	14.7	26.8	18.8		
Personally, I would prefer to announce a tender for a cheaper contract (without environmental requirements) before awarding a more	Absolutely disagree	2.5	1.3	1.7	2.4	0	0.0015	0.09226
	Somewhat disagree	16.1	21.8	28.7	43.9	31.2		
	Do not know	28.5	30.7	30	17.1	18.8		

public contract with environmental characteristics.	Somewhat agree	41.4	35.7	32.3	29.3	43.8		
	Absolutely agree	11.5	10.5	7.3	7.3	6.2		
If I have information that a public contract with an environmental criterion increases the risk probability of an appeal to the Office for Protection of Competition, then I would clearly prefer a public contract without an environmental criterion.	Absolutely disagree	2.1	1.3	2.3	7.3	18.8	< 0.00001	0.11412
	Somewhat disagree	7.7	5	10	19.5	6.2		
	Do not know	31	21.4	23	9.8	6.2		
	Somewhat agree	38.9	49.6	39.7	36.6	31.2		
	Absolutely agree	20.3	22.7	25	26.8	37.5		
If the contract has the following evaluation criteria: "employment," "support for local companies," and "ecological impact of public procurement on the environment," then I will always (or usually) consider "ecological impact" to be the most important criterion of public procurement.	Absolutely disagree	3.4	2.5	2	7.3	6.2	0.09566	0.07287
	Somewhat disagree	22.8	26.9	29.3	31.7	37.5		
	Do not know	29.9	28.6	35	31.7	25		
	Somewhat agree	35.1	34.9	30	26.8	31.2		
	Absolutely agree	8.8	7.1	3.7	2.4	0		
If I want to include an	Absolutely disagree	1	1.7	0.7	2.4	0	0.02966	0.07949
Loading [MathJax]/jax/output/CommonHTML/jax.js								

impact criterion in the contract, then I would classify it as a general obligation of the supplier under the contract.	Somewhat disagree	4.0	4.0	3.7	3.0	2.3
	Do not know	23.9	21	25.7	19.5	25
	Somewhat agree	56.7	54.6	59.3	58.5	43.8
	Absolutely agree	13.6	18.1	8.7	9.8	6.2

Source: Authors

(Values in bold are important for interpretation)

The Chi-squared test statistic p-value is larger than the significance level of 0.05 for only one statement, namely, “If the contract has the following evaluation criteria: ‘employment criterion,’ ‘criterion support for local companies,’ and ‘criterion of ecological impact of public procurement on the environment,’ then I will always (or primarily) consider ‘criterion of ecological impact.’”

This allows the rejection of the null hypothesis for all remaining statements, and the conclusion on this basis that respondents’ answers are associated with the size of the municipalities. However, these associations are mostly weak (smaller than 0.10), with the only exception being the statement, “If I have information that a public contract with an environmental criterion increases the risk probability of an appeal to the Office for Protection of Competition, then I will clearly prefer the public contract without environmental criterion.” For this statement, the association of respondents’ reactions with municipality size is moderate (larger than 0.10).

The answer to research question 1

Public procurers’ experience with GPP varies according to municipality size. The procurers from larger municipalities seem to be more experienced with GPP, as well as more optimistically disposed toward it. The most remarkable difference between larger and smaller municipalities concerns the tradeoff between ecological criteria and the criteria of the lowest price. With respect to this tradeoff, procurers from larger cities do not prioritize the lowest price criteria over the ecological impact, while the procurers from smaller municipalities have the opposite preference. Similar variation is observed in respondents’ reactions to the question dealing with the risk of probability of an appeal to the Office for Protection of Competition.

Research Question 2: Is previous experience with GPP associated with declining enthusiasm about it on the part of local public officials?

Table 4 provides insights into the way the experience in awarding public contracts with ecological (or

Loading [MathJax]/jax/output/CommonHTML/jax.js

f agreement with the statements offered in the survey. Most

respondents chose the options of “somewhat agree” or “do not know” for all offered statements. As the Chi-squared p-value is smaller than the significance level of 0.05, respondents’ reactions to all the statements are correlated with the above-noted experience, with the only exception pertaining to the statement “If the contract has the following evaluation criteria: ‘employment,’ ‘support for local companies,’ and ‘environmental impact of public procurement,’ then I will always (or mostly) consider ‘criterion of ecological impact’ as the most important criterion of public procurement.” Moreover, the effect of this experience is strong (Cramer V > 0.15) in all cases where the Chi-squared p-value is significant. The following table shows the answers to the questionnaire sorted according to previous experience with GPP.

Table no. 4: Survey questions response percentages by experience in awarding public contracts with ecological (or environmental) criteria

	Associations with:	Experience in awarding public contracts with ecological (or environmental) criteria		Tests results	
Questions	Answers	Yes	No	Chi-squared p-value	Cramer V
It is socially useful to award “green public contracts,” i.e. contracts in which the evaluation criteria include an environmental criterion.	Absolutely disagree	1.7	1.5	< 0.00001	0.22498
	Somewhat disagree	11.6	5.8		
	Do not know	25.2	49.2		
	Somewhat agree	49.3	37.2		
	Absolutely agree	1.4	1.2		
I am in favor of awarding public contracts that take into account the environmental criterion.	Absolutely disagree	1.4	1.2	< 0.00001	0.17816
	Somewhat disagree	3.4	3.5		
	Do not know	24.1	39.9		
	Somewhat agree	49	44.5		
	Absolutely agree	22.1	10.9		
Personally, I would prefer to announce a tender for a cheaper contract (without environmental requirements) before awarding a more expensive public contract with environmental characteristics	Absolutely disagree	2.4	1.8	< 0.00001	0.16405
	Somewhat disagree	27.6	19.9		

	Associations with:	Experience in awarding public contracts with ecological (or environmental) criteria		Tests results	
	Do not know	18.4	32.6		
	Somewhat agree	37.1	37.4		
	Absolutely agree	14.6	8.3		
If I have information that a public contract with an environmental criterion increases the risk probability of an appeal to the Office for Protection of Competition, then I will clearly prefer the public contract without environmental criterion.	Absolutely disagree	2.4	2.4	< 0.00001	0.15986
	Somewhat disagree	11.6	6.9		
	Do not know	15.6	29.3		
	Somewhat agree	41.5	41.1		
	Absolutely agree	28.9	20.3		
If the contract has the following evaluation criteria: "employment," "support for local companies," and "environmental impact of public procurement," then I will always (or mostly) consider "environmental impact" as the most important criterion of public procurement.	Absolutely disagree	2	3.4	0.43	0.05853
	Somewhat disagree	25.9	26		
	Do not know	28.6	31.8		
	Somewhat agree	35.4	32.6		
	Absolutely agree	8.2	6.2		

	Associations with:	Experience in awarding public contracts with ecological (or environmental) criteria		Tests results	
If I want to include an environmental impact criterion in the contract, then I would classify it as a general obligation of the supplier under the contract.	Absolutely disagree	1.4	5.00	< 0.00001	0.14812
	Somewhat disagree	6.8	5		
	Do not know	15	26.7		
	Somewhat agree	58.2	56.4		
	Absolutely agree	18.7	10.9		

Source: Authors

Answer to research question 2: For this research question, respondents' reactions are more ambivalent. The results seem to be mixed.

Whereas a significant percentage (49.3%) of the respondents with previous GPP experience "somewhat agree" on the social usefulness of including GPP criteria and also favor utilizing GPP criteria, another significant part of the sample (25.2%) remain indifferent. Furthermore, a very significant group of respondents (49% somewhat agree and 22.1% absolutely agree) are in favour of prioritizing the ecological criterion over other social criteria, while another, although smaller, significant group of respondents remain indifferent (24.1%).

With regard to the tradeoff between the criterion of lowest price and the ecological criterion, a significant percentage of the sample respondents prioritize the former (37.1%), while a smaller yet significant percentage (27.6%) reveal the opposite preference. This sample is also larger than the group of respondents without previous GPP experience.

Regarding respondents' responses to the question dealing with the probability of an appeal to the Office for Protection of Competition, a significant group of respondents would not prefer the ecological criterion (41.5% somewhat agree and 28.9% absolutely agree). It is noteworthy that, of all the questions in the questionnaire, this one has the largest share of "absolutely agree" answers rejecting the preference for the ecological criterion.

Loading [MathJax]/jax/output/CommonHTML/jax.js

Last, but not least, a statistically significant group of respondents would prefer the incorporation of ecological criteria as a general obligation for suppliers (58.2% somewhat agree and 18.7% absolutely agree).

Discussion And Public Policy Recommendations

Our results reinforce street-level bureaucracy theory's insights into the adverse effects of accountability pressures and resource deficits on the implementation quality of regulatory procedures (Lerusse, Van de Walle, 2021a). We also confirm the results of Hall et al. (2016), who conclude that the centralization of administrative processes could lead to a higher uptake of green public procurement. Our study provides grounds for conjecture that the excessive decentralization in the Czech Republic presents a barrier for GPP implementation, insofar as small municipalities turn out to lack experience and capacity. These problems are exacerbated by the pervasive risk aversion of the Czech policy makers and bureaucrats who are keen on minimizing the risk of an appeal to the Office for Protection of Competition, even at the cost of giving up on the attainment of GPP goals. In view of the complicated regulatory environment and the absence of secondary policy objectives in the Czech public procurement system, it is small wonder that our results are at variance with those of Lerusse and van de Walle (2021a) who found that public managers in Belgium, Norway, Estonia, and Germany are willing to pay more for the support of innovative ecological and social public procurement goals.

Even though our findings yield a generally pessimistic outlook on the implementation of GPP in the Czech Republic, they point out some positive developments. We found that a significant amount of public procurers and mayors have positive attitudes to GPP. This is in line with Lerusse and van de Walle's (2021b) study that demonstrated similar results for waste contracting in Belgian municipalities. Moreover, a statistically significant part of Czech procurers and policy makers would not prioritize the criterion of the lowest price after having acquired GPP experience. At the same time, a statistically significant number of respondents are indifferent to such tradeoffs, a finding which could be explained by the generally low experience with GPP in the Czech Republic.

Based on these results, we can offer policy recommendations aimed at increasing the uptake of GPP. We propose that policy measures should be realized at the systemic and individual levels. At the systemic level, the key task of these measures should be to accompany the effects of what the public governance theory describes as the erosion of traditional decision-making processes and decision-making schemes (Osborne, 2010). In view of the ongoing shift from traditional vertical decision-making schemes to more deliberative horizontal schemes (Witz et al., 2021), we do not consider centralization to be an effective tool. Instead, we recommend coordination mechanisms based on municipal cooperation. In the Czech context, these mechanisms have already proven their viability in the area of municipal waste management (Soukopová & Vaceková, 2018). Inter-municipal cooperation could strengthen the administrative and fiscal capacity and improve knowledge sharing, especially in small municipalities with low GPP uptake. Another type of systemic policy measure could be targeted at increasing the legitimacy of GPP by strengthening the classic dimensions of legitimacy such as trust, majority

and morality (Witz et al., 2021). Such measures could dampen the excessive accountability requirements which fuel extreme sensitivity to administrative risks. Finally, at the individual level, public policy should give much more weight to promoting education and forging awareness of GPP benefits.

Concluding Remarks

All over the world, sustainability goals are high on political agendas, and are actively pursued by governments through many strategies, of which GPP is becoming increasingly prominent. It is, however, becoming no less clear that the uptake and effectiveness of GPP depend not only on political ambitions but also on high-quality implementation at the street level of bureaucracy (Hall et al., 2016). Among GPP scholars and practitioners, there is a growing recognition that it is at the level of practical decision making by local public procurers that the rubber meets the road. While not much is known about the processes of this decision making (Grandia, Meehan, 2017; Tramell et al., 2019), three facts are fairly clear. First, public procurers need to deal with tradeoffs between the criteria of the lowest price and adequate ecological impact (Lerusse, Van de Walle, 2020); second, the way public procurers do so depends on their cognitive and especially affective characteristics (Grandia et al., 2015; Preuss & Walker, 2011); third, the lack of skills, expertise, and resources prevents public procurers from achieving high GPP performance.

All of these facts are borne out by the results of our large-N survey of the Czech local government officials and mayors engaged in GPP and delineate the contours of our explanation of why the uptake of GPP in the Czech Republic has been lagging behind European standards. We have found that the decision-making of Czech public procurers is affected by the tradeoff between stewardship and administrative compliance, which turn out to be mutually conflicting goals. On the one hand, many public procurers do possess stewardship motivation that shapes their positive attitude to GPP. On the other, they are painfully aware of, and seek to forestall, administrative risks and complications attendant on the conscientious, i.e., non-perfunctory, implementation of GPP. The overall result is that public procurers ultimately come to prioritize the contract criterion of lowest price over ecological criteria. This pattern is particularly characteristic of smaller municipalities, which have more limited access to administrative and financial resources, quite in line with Liu et al.'s (2019) findings about GPP in China.

Our findings have at least three major implications for further research. In conceptual and theoretical terms, they provide new impetus for the debate between the advocates of agency and stewardship theories. While a traditional public administration approach to explain a poor track record on GPP would stress the problems of agency and opportunism (Waterman, Meier, 1998), we build on the idea of stewardship implying motivation by pro-organizational rather than personal goals (Lambright, 2009). Yet not even stewardship guarantees high performance. While some of the known problems of stewardship take the form of "honest incompetence" (Hendry, 2005), we suggest that further research could investigate an alternative phenomenon of what may be called "honest overburdening by administrative problems." This overburdening does not imply opportunism and hence does not restore the idea of agency, but does depart from the full-fledged idea of stewardship, in ways that still need to be examined.

In empirical terms, future research is called for to estimate and quantify precise impacts of the tradeoff between stewardship and administrative compliance on a variety of GPP indicators, at the levels of local and national government in the Czech Republic and elsewhere. This would be helpful for gaining a clearer insight into the practical and political salience of the tradeoff. Finally, in political terms, there is an urgent need for action directed at dissolving and transcending this tradeoff, in such a way that administrative compliance would no longer occur at the expense of stewardship motivation on the part of public procurers. While we have suggested some very basic policy instruments for reaching this goal, we sense that in the longer term, the only way to determine the right policy is through stakeholder discourse, which we hope our paper helps to get off the ground.

Declarations

Ethics approval and consent to participate

Not applicable

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Funding

This research received funding from the Czech Grant Agency [GA19-06020S].

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

Authors' contributions

All authors contributed equally to this manuscript.

Acknowledgements

Not applicable

References

- Agasisti, T., Dal Bianco, A., & Griffini, M. (2015). The public sector fiscal efficiency in Italy: the case of Lombardy municipalities in the provision of the essential public services. *Technical Report No. 691*, Societ *aItalianadiEconomiaPulica*, Universita di Pavia, Italy.
- Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, 18(3), 91-93. <https://doi.org/10.1016/j.tjem.2018.08.001>
- Alhola, K., Ryding, S., & Salmenperä, Busch, N. (2018). Exploiting the potential of public procurement: Opportunities for circular economy. *Journal of Industrial Ecology*, 23(1), 96-109. <https://doi.org/10.1111/jiec.12770>
- Boetti, L., Piacenza, M., Turati, G. (2012). Decentralization and local governments' performance: How does fiscal autonomy affect spending efficiency? *FinanzArchiv: Public Finance Analysis*. 68(3), 269–302. <https://doi.org/10.1628/001522108X653840>
- Bönisch, P., Haug, P., Illy, A., & Schreier, L. (2011). Municipality size and efficiency of local public services: Does size matter? *IWH Discussion Papers* No. 18/2011, Halle Institute for Economic Research (IWH), Germany.
- Coviello, D., Guglielmo, A. & Spagnolo, S. (2018). The effect of discretion on procurement performance. *Management Science*, 64(2), 715-738. <https://doi.org/mnsc.2016.2628>
- Dastidar, K., & Mukherjee, D. (2014). Corruption in delegated public procurement auctions. *European Journal of Political Economy*, 35(C), 122-127. <https://doi.org/10.1016/j.ejpoleco.2014.05.003>
- Drew, J. Kortt, M., & Dollery, B. (2015). What determines efficiency in local government? A DEA analysis of NSW local government. *Economic Papers*. 34(4), 243-256. <https://doi.org/10.1111/1759-3441.12118>
- Fourie, D. (2017). Ethics and integrity in the procurement of goods and services for the military. *Public integrity*, 19(5), 469-482. <https://doi.org/10.1080/10999922.2016.1276790>
- Gelderman, C.J., Semeijn, J., & Bouma, F. (2015). Implementing sustainability in public procurement: The limited role of procurement managers and party-political executive, *Journal of Public Procurement*, 15(1), 66-92. <https://doi.org/10.1108/JOPP-15-01-2015-B003> ISSN 1535-0118.
- Grandia, J., & Voncken, D. (2019). Sustainable public procurement: The impact of ability, motivation, and opportunity on the implementation of different types of sustainable public procurement. *Sustainability*, 11(19). <https://doi.org/10.3390/su11195215>
- Grossman, P., Mavros, P., & Wassmer, R. (1999). Public sector technical inefficiency in large US cities. *Journal of Urban Economics*, 46(2), 278–299. <https://doi.org/10.1006/juec.1998.2122>

Harland, Ch. (2021). Discontinuous wefts: Weaving a more interconnected supply chain management tapestry. *Journal of Supply Chain Management*. 57(1), 27-40 . <https://doi.org/10.1111/jscm.12249>

Iossa, E., & Waterson, M. (2019). Maintaining competition in recurrent procurement contracts: A case study on the London bus market. *Transport Policy*, 75(C), 141-149. <https://doi.org/10.1016/j.tranpol.2017.02.012>

Kauppi, K., & van Raaij, E. M. (2015). Opportunism and honest incompetence - Seeking explanations for noncompliance in public procurement. *Journal of Public Administration Research and Theory*, 25(3), 953–979. <https://doi.org/10.1093/jopart/mut081>

Kristina, K. (2009). Agency theory and beyond: Contracted providers' motivations to properly use service monitoring tools. *Journal of Public Administration Research and Theory* 19(2), 207–27. <https://doi.org/10.1093/jopart/mun009>

Lerousse, A., & Van de Walle, S. (2021). Public managers' valuation of secondary policy objectives in public procurement – results from a discrete choice experiment. *Journal of Behavioral Public Administration*, 4(1), pp. 1-22. <https://doi.org/10.30636/jbpa.41.206>

Lerousse, A., & Van de Walle, S. (2021). Local politicians' preferences in public procurement: Ideological or strategic reasoning? *Local Government Studies*, <https://doi.org/10.1080/03003930.2020.1864332>

Liu, J., Xue, J., Yang, L., & Shi, B. (2019). Enhancing green public procurement practices in local governments: Chinese evidence based on a new research framework. *Journal of Cleaner Production*, 211(2019), 842-854. <https://doi.org/10.1016/j.jclepro.2018.11.151> ISSN 0959-6526.

Nikolaou, I. E., & Loizou, C. (2015). The green public procurement in the midst of the economic crisis: Is it a suitable policy tool? *Journal of Integrative Environmental Sciences*, 12(1), 49-66. <https://doi.org/10.1080/1943815X.2014.993657> ISSN 1943-815

Osborne, S. P. (Ed.) (2020). *The new public governance? Emerging perspectives on the theory and practice of public governance*. Routledge.

Pacheco-Blanco, B., Bastante-Ceca, M. J., (2016). Green public procurement as an initiative for sustainable consumption. An exploratory study of Spanish public universities. *Journal of Cleaner Production*, 133(2016), 648-656. <https://doi.org/10.1016/j.jclepro.2016.05.056>

Painter-Morland, M. (2008). *Business ethics as practice. Ethics as the everyday business of business*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511488641>

Plaček, M., Nemeč, J., Ochrana, F., Půček, M.J., & Schmidt, M. (2020e). Analysis of factors of overpricing in EU countries. *International Journal of Public*

Administration, 43(4), 350-360. <https://doi.org/10.1080/01900692.2019.1636393>

Plaček, M., Ochrana, F., Půček, M.J., Nemec, J. (2020b). Fiscal decentralization reforms. The impact on the efficiency of local government. Springer International Publishing.

<https://doi.org/10.1007/978-3-030-46758-6>

Plaček, M., Ochrana, F., Schmidt, M., Nemec, J., Půček, M. (2020a). The factors causing delays in public procurement: The Czech Republic versus the UK. *Public Money & Management*, 40(2), 131-139. <https://doi.org/10.1080/09540962.2019.1651034>

Plaček, M., Špaček, D., Ochrana, F., Křápek, M., Dvořáková, P. (2020d). Does excellence matter? National quality awards and performance of Czech municipalities. *Journal of East European Management Studies*, 24(4), 589-613. <https://doi.org/10.5771/0949-6181-2019-4-589>

Plaček, M., Nemec, J., Ochrana, F., Půček, M., Křápek, M., & Špaček, D. (2020c). Do performance management schemes deliver results in the public sector? Observations from the Czech Republic. *Public Money & Management*. <https://doi.org/10.1080/09540962.2020.1732053>

Pouikli, K. (2021). Towards mandatory green public procurement (GPP) requirements under the EU Green Deal: Reconsidering the role of public procurement as an environmental policy tool. *ERA Forum* 21, 699–721. <https://doi.org/10.1007/s12027-020-00635-5>

Preuss, L., Walker, H. (2011). Psychological barriers in the road to sustainable development: evidence from public sector procurement. *Public Administration*. 89(2), 493-521. <https://doi.org/10.1111/j.1467-9299.2010.01893.x> ISSN 1540-6210

Roth, S. (2019). Heal the world. A solution-focused systems therapy approach to environmental problems. *Journal of Cleaner Production*, 216, 504-510. <https://doi.org/10.1016/j.jclepro.2018.12.132>

Skuhrovec, J. (2019 May 16). *Can governments pick quality suppliers?* Datlab. <https://blog.datlab.eu/can-government-pick-quality-supplier/>

Sönnichsen, S., Clement, J. (2020). Review of green and sustainable public procurement: Towards circular public procurement. *Journal of Cleaner Production*, 245. <https://doi.org/10.1016/j.jclepro.2019.118901> ISSN 0959-6526.

Soukopová, J., Vaceková, G. (2018). Internal factors of intermunicipal cooperation: What matters most and why? *Local Government Studies*, 44(1), 105-126. <https://doi.org/10.1080/03003930.2017.1395739>

Spagnolo, G. (2012). Reputation, competition, and entry in procurement, *International Journal of Industrial Organization*, 30 (3), 291-296. <https://doi.org/10.1016/j.ijindorg.2012.01.001>

Sťastná, L. and Gregor, M. (2015). Public sector efficiency in transition and beyond: Evidence from Czech local governments. *Applied Economics*, 47(7), 680-699. <https://doi.org/10.1080/00036846.2014.978077> ISSN 1514-0326.

Vluggen, R., Kuijpers, R., Semeijn, J., Gelderman, C. (2020). Social return on investment in the public sector. *Journal of Public Procurement*, 20 (3), 235-264. <https://doi.org/10.1108/JOPP-06-2018-0023>

Witz, P., Stingl, V., Wied, M., Oehmen, J. (2021). Asymmetric legitimacy perception across megaproject stakeholders: The case of the Fehmarnbelt Fixed Link. *International Journal of Project Management*. <https://doi.org/10.1016/j.ijproman.2021.01.006> ISSN 0263-7863

Yakovlev, A., Vyglovsky, O., Demidova, O., Bashlyk, A. (2016). Incentives for repeated contracts in public sector: Empirical study of gasoline procurement in Russia, *International Journal of Procurement Management*, 9 (3), 272-289. <https://doi.org/10.1504/IJPM.2016.076305>

Yu, C., Morotomi, T., Yu, H. (2020). What influences the adoption of green award criteria in a public contract? An empirical analysis of 2018 European public procurement contract award notices. *Sustainability* 12(3), 1261. <https://doi.org/10.3390/su12031261>