

Preferential treatment of disabled persons in public contracts – case of the municipalities in the Czech Republic (public administration) and business impact

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Abstract: Persons with disabilities are among the persons who have difficulty applying to the labor market for objective reasons. For this reason, they are favored when employed in the business sphere. One example is their possible advantage in the field of public contracts. The reason for this is the fact that all employers, including the public sector that awards public contracts, are obliged in a situation where they employ more than 25 employees to ensure that 4% of them are employees with disabilities. They can replace this legal obligation by withdrawing goods or services within the framework of public contracts or pay fine. This article addresses this topic and analyzes the employment of the disabled by suppliers of public contracts in municipalities in the Czech Republic.

Key-Words: administrative science, public contracts, disabled, mathematics methods, European directive, the Czech Republic

Received: April 29, 2022. Revised: February 19, 2023. Accepted: March 12, 2023. Published: April 28, 2023.

1 Introduction

The application of disabled persons is problematic. For this reason, the effort is to positively favor them in many areas [8]. One of the business areas is public contracts with approximately 6,500 contractors, which is the number of municipalities in the Czech Republic [5].

This article deals with whether individual municipalities prefer contractors employing disabled employees when awarding public contracts [2].

Their employment is important from the point of view of integrating the disabled into Czech society and into normal life [3].

2 Problem Solution

Some suppliers participate in public procurement and are dependent on their implementation [4]. One of the state's policies is the possible preferential treatment of suppliers employing persons with disabilities [1]. This article examines and presents the characteristics of public procurement with a focus on implementation of specific politics [6]. From January 1, 2021, contracting authorities in the Czech Republic are obliged to consider social and ecological aspects, i.e. employment of persons with disabilities, when awarding public contracts [9]. Next, we will analyse how individual municipalities in the Czech Republic fulfill this policy which is important for our environment [10]. The next part deals with the experimental mathematical models and methods [15].

3 Results and discussions

In a context of above said notes let's discuss economical interpretation of the preference of disabled [7].

Selected data were adjusted for inflation, recalculated to the base year 2020, 2021 and 2022 and divided into 12 groups according to the size of municipality (Table 1).

Table 1. Distribution of Czech municipalities by size category

Size category	Number of residents
1	0 – 500
2	501 – 1000
3	1,001 – 3000
4	3,001 – 10000
5	10,001 – 100000
6	100,001 – 1,000,000
7	Over 1,000,000

Source: Authors

For each group there are 10 annual data on public contracts and using the preference of disabled which are therefore labelled $cost_{ij}$,

where $i \in \{1, 2, \dots, 12\}$ indicates the group to which the given data belong and the index j in turn indicates the year while there applies that $j \in \{1, 2, \dots, 10\}$. Public contracts in individual municipal size categories were number of public contracts $cost_{ij}$ recalculated into public contracts with preferences of disabled ($costres_{ij}$) and from such adjusted public contracts were determined time moving averages (\bar{x}_{ij}) that are always based on three consecutive years. For analysis we operate with differences in absolute values of public contracts in individual years: $difcost_{ij} = costres_{ij} - \bar{x}_{ij}$. From the values were determined dependencies of differences in public contracts with and without preference of disabled there was verified a dependency of whether the size of a municipality has any effect on the preference of disabled in public contracts. There was carried out a correlation analysis of dependencies between differences in public contracts generally $publcontr_{ij}$, with the parameter $prefdis$ (1 = election year, 0 = non-election years) and the size of a municipality i . The calculation of correlation coefficient was carried out using the formula:

$$r = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 \sum_{i=1}^n (y_i - \bar{y})^2}} \quad (1)$$

where x and y are random variables.

At the beginning there were analysed changes in volume of 2020 (before mandatory consideration of the disabled application) and changes during years 2021 and 2022 (during mandatory consideration). These average differences were recalculated to the per capita basis with using moving average. Results are shown in Table 2.

Table 2. Average difference in non-preference and preference of disabled

	Before mandatory	During mandatory

	consideration 2020	consideration 2021, 2022
Average from the difference in using	-0.091897	0.298893

Source: Authors

Within above analysis we find out that in years 2020, 2021 there comes to a significant average difference in using public contracts with preferences of disabled. These conclusions are supported by further analysis presented in Table 3 where percentage of positive differences is calculated. Positive differences indicate what percentage of analysed public contracts items is higher than the corresponding moving average.

Table 3. Percentage of positive differences

	Percentage of positive differences	
	Year 2020	Years 2021, 2022
Using preferences for disabled	0.39600	0.823331

Source: Authors

As Table 3 shows the difference significant increase between before 1.1.2021 (2020) and after 1.1.2021 (2021, 2022). It can be said assumption that public contacts is identified in fulfilment of legal regulation.

More precise results are obtained using correlation analysis and linear coefficients. There are monitored values of differences in preference and differences in non-preference of disabled depending on legal regulation (before and after 1.1.2021) and depending on size of municipality. That is followed by another correlation which examined the impact of size of municipality on using preference of disabled in the public contracts. Results are in Table 4.

Table 4. Results of correlation analyses, correlation coefficients

Preference	Index of municipality	Index size of municipality	
		Before 1.1.2021	After 1.1.2022

			1	1
Public contract s	0.328976	-0.00301	0.07187	0.26398

Source: Authors

Already previous tests have shown that preference of disabled in the public contracts can be demonstrated for period after 1.1.2021. Also the results of correlation analysis have similar conclusions. Then, there can be created conclusion, that the size of municipality has impact on the amount of public contracts with preference of disabled.

4 Conclusion

The employment of disabled persons is an expression of the principle of solidarity in a society that is characterized by the fact that it protects the weaker members [11]. Then, there can be created conclusion, that the size of municipality has impact on the amount of public contracts with preference of disabled [12]. Among them are mostly people with disabilities through no fault of their own [13]. The forms of their support are different, from the determination of the minimum number of disabled persons, which the selected supplier of a public contract must ensure, to the evaluation criteria within which the supplier can offer the extent of their involvement in the public contract [14]. State policy in the given area can only be welcomed and it works to a certain extent, especially in larger cities.

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