The Market Concentration as the Public Services Contracting Out Efficiency Factor at the Local Government Level: The Case of Slovakia

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Abstract. The changes in market concentration in recent years point to the fact that the intensity of competition is declining and the number of large players with a high market share is increasing. Therefore, the market concentration has the effect of restricting competition. The direct impact of market concentration is also felt at the local government level. Municipalities provide local public services in public–private-mix delivery system, many services are contracted out. The aim of the paper is to analyze the market concentration as the public services contracting out efficiency factor at the local government level. Paper analyzes contracting out collection and removal of municipal solid waste in 18 districts of central Slovakia. The degree of market concentration assessed using the CR and HHI indexes is confirmed. The results of the analysis showed that the private market of municipal solid waste collection and removal services in central Slovakia is highly concentrated. None of the monitored districts recorded a HHI index value lower than 2,500, which we perceive critically. The dominant players influence the price of the service. That could be the reason of new trend in local public services delivery – remunicipalisation in urban and local planning.

Keywords: Market concentration · Public services · Local government · Contracting out · Remunicipalisation · Urban and local planning

1 Introduction

Market concentration has been present in European countries since the 1960s 20th century. From an economic point of view, market concentration is associated with competition and refers to the merging (concentration) of companies in a market economy [25]. As a result of the growing range of private sector activities in the provision of public services, these economic impacts also affect the public sector. For this reason, the aim of the paper is to analyze the market concentration as the public services contracting out efficiency factor at the local government level.

At the level of local governments, the concept of market concentration is linked at the same time as the concept of decentralization. Government fragmentation limits efficiency [19, 20] gains by reducing administrative capacity and economies of scale. It is the problem of local savings in the range of local services that has intensified in recent

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decades due to the transformation of public services [16, 29]. The local self-government (municipality) is itself responsible for providing local services. We distinguish the form of the approach to provisioning internally if the municipality provides the service at its own expense, or external if the municipality uses external institutions to provide the service (for example, the form of outsourcing). Alternatively, the municipality may use the intersection between internal and external forms – contracting – to provide services.

In this context, we state that it is common practice in the public sector to provide public services at the municipal level by contracting services. Contracting services [31] are an alternative form of public service provision in which the functions of service provider and producer are separated [27]. Thus, the public sector is not a direct producer of the service, this service is provided by a private player based on a contractual relationship. We agree with Brooks' approach [8], according to which contracting is the process by which a private sector firm enters a contract with a government unit to produce a particular service. Under this agreement, the private sector creates the service and is paid for by the government unit. Typical examples of contracted services at the municipal level are waste collection and removal services, maintenance of public lighting, public greenery, and cemetery management.

2 Market Concentration and Its Impact on Public Service Delivery: Literature Review

The results published in domestic and foreign studies are the starting point for examining market concentration in Slovakia. Studies [17] increasingly focus on contracting factors such as transaction costs or market concentration, which often show results to the detriment of higher cost-effectiveness of local public service contracting. The main challenge is to create economies of scale, given the developments in the provision of services and their economic complexity.

The issue of economies of scale in waste management [3, 4, 24], especially in solid waste collection. Based on their detailed review of the literature, we find that economies of scale are present in municipalities with 20,000 to 50,000 inhabitants and that continuous economies of scale are present above 50,000 inhabitants. Economies of scale in smaller municipalities may be present, but to a lesser extent. However, economies of scale may not be present when recycling waste. This is mainly due to increased processing fees. The authors state that economies of scale in the collection and treatment of solid waste are less relevant than in the case of other services, such as the provision of education services.

Another approach to market concentrations in the provision of waste collection services [12] is in reverse privatization, which consisted of municipalities taking control of the provision of services. The analysis of this approach was performed in the period 2003–2015 in German municipalities, while the authors use CR and HHI indexes. From the results, we find that municipalities in response to the concentrated market more often switch to internal service provision (insourcing). Following this, municipalities also copy the provision of services according to the model of their neighbor, i.e. in the event that a close neighbor (municipality) applies insourcing, it is likely that its surrounding municipalities will also apply it. The authors state that this is an induced vertical

connection between municipalities. However, such behavior may lead to a reverse privatization spiral, which is associated with a high market share of municipalities, the exit of small private players and an increase in the dominance of large private players, further increasing market concentration. The authors add that the effective outcome of such cyclicality is debatable.

In contrast, reverse privatization [21] reflects the complexity of public service delivery in the world. It is a dynamic process that often involves shifting from alternative provision back to the original forms of service provision. However, we note that both the internal interest and the structure of the market need to be taken into account, both in the internal and external provision of services.

Therefore, we can look at the competitive environment [10] from two perspectives. First, as for the competition for the market, where it is assessed how the market develops over time, what conditions are set for entry into the industry, or whether barriers are set (administrative or legislative regulation by the state) for the entry of new players into the industry. Second, as the competition in the market, which replicates traditional market approaches focused on internal processes. Within this view, we can monitor the volume of total production or marginal market shares of players. In terms of the transformation process, internal as well as external factors are focused on output or are result-oriented. However, in the case of services, it is important to consider, in particular, the quality of the provision of services by individual players.

The choice of a suitable form of service provision [35, 36] is determined by many internal factors (management style, material-technical and financial possibilities of the municipality, etc.) and external (geographical location, price of services, suppliers operating in the region, competitive environment, etc.) factors. The examination of the mentioned factors is the subject of professional discussions with the aim of setting up the best possible solution for the municipality or taxpayers.

The literature is increasingly focusing on factors that could undermine savings in public–private contracting, such as high transaction costs [2], or market concentration [5]. As we saw in the introduction, a more concentrated market can cause market prices to rise. This can be justified by the fact that the provision of services to the public sector is a specific area in which there may be weak competition and high concentrations (reflected in the high HHI index), which results in higher prices. The competitive environment as a factor in the efficiency of service provision can have an impact on higher municipal expenditures or on economies of scale. According to some authors, the competitive environment is an even more significant factor than the type of ownership.

In terms of the objective of the paper, we draw attention to research [17], in which the authors use various special market concentration indexes to measure the Dutch waste collection market. The study was carried out in the period 2002–2014 and shows that the waste collection market is very concentrated, which increases the cost of private collection. In the monitored period, 25, later 16 players operated on this market. In the initial period, the largest player had a contractual relationship on the provision of waste collection services with 87 municipalities, by 2014 the share of municipalities decreased to 37. The price for providing waste collection services has increased over time, since 2006 mainly due to the introduction of the fund compensation. However, the authors point out that during the period there were also concentrations of municipalities that merged,

and their number decreased from the original 496 to 403, while the area is 30–50 km. From a methodological point of view, the authors supplement the Herfindahl – Hirshman Index (HHI) with special indexes, which they compare with each other. From the results of HHI measurements, we find that if the market had an area of 50 km, the market concentration was 4,400 in 2014; if the area was 30 km, the market concentration was 6,660 in 2014. In the case of expanding the territorial area to 70 km, the concentration was 3,700 in 2014.

In terms of serviceability of the area, the authors [13] point out the high increase in concentration in the event that the monitored area shrinks. When examining the effect of market concentration on the price of the service, they found a slight increase in costs with a growing HHI index, but a decrease in costs in the case of a growing CC1 index – which examines only the largest company in the industry. Therefore, the authors hypothesize that in larger regions, where more waste is treated and competitiveness is equally higher, an oligopolistic structure could mean rising prices for the collection and disposal of municipal solid waste.

3 Materials and Methods

The degree of market concentration is an important tool that must be used by any public or private player interested in entering a particular market. There are several approaches [9] to measuring market concentration. The most well-known methods used for market analysis include statistical and econometric methods, game theory and special indexes. The literature states [6, 7, 15, 22] that the Herfindahl-Hirshman Index (abbreviation HHI). The special HHI index dates back to 1968, when it was used in the United States to assess horizontal mergers.

The HHI was followed in his work by the Hungarian economist J. Horvath, who designed a special index for measuring the complex concentration (CCI), which considers the relative size of the largest player and the variance between all players in the industry with respect to size.

Another well-known special index used in measuring concentration is the Hannaha-Kaya index [1], which aims to provide a link between concentration and inequality in the distribution of market power. Quite often, when measuring market concentration, we can also encounter the Lorenzo curve capturing the actual distribution of market shares, or the Gini index, which is used to measure the uneven distribution of market shares.

$$CR = \sum_{i=1}^{n} s_i \tag{1}$$

$$\mathrm{HHI} = \sum_{i=1}^{n} \mathrm{s_i^2} \tag{2}$$

where:

s_i – market share of the market player,

i – order of the market player, where i = 1, 2, 3, 4, … n,

n – number of market players.

In the paper, we use the HHI as a key index, which is closely related to the concentration ratio (CR index). The concentration ratio is calculated by summing the market

share of the largest players in the industry. By multiplying this value by the second, we obtain an HHI, which can reach values from 1,000 to 10,000. Based on the HHI value, the market is divided (Table 1) into low to high concentration. However, it is important to note [15] that the whole percentage value is used to measure market share, not in decimal.

Table 1. Market concentration: Herfindahl – Hirshman Index (HHI) value

Concentration	Value	Market type
Low concentration	1 000–1 499	Efficient competition, part of monopolistic competition.
Moderate concentration	1 500–2 499	Part of monopolistic competition, loose oligopoly.
High concentration	2 500–10 000	Tight oligopoly, dominant player.

Current market concentration measures include the calculation of the sum of the market shares of the first four or the first eight players in relation to the total market size. The reasons for using a larger number of competitors [14] are based on the classical model of price competition (named after Bertrand). This model prescribes that at equilibrium prices, prices are equal to marginal costs. The prices do not depend on the number of competitors.

However, this result is not in line with the real-life observations known as the 'Bertrand's paradox', where we find in markets with experimental price competition that prices depend on the number of competitors. For this reason, it is not appropriate to use only two players when measuring the concentration, but four or more competitors. Similarly, larger countries use higher-class indicators to measure market concentration, where they monitor the HHI of the 50 or 100 strongest players. In smaller countries [7], the concentration rate is most often monitored on the four or eight strongest players.

The data we use in the paper are data obtained by primary research, which was carried out in the form of a questionnaire survey. For this reason, it is the object of research of 195 municipalities located in central Slovakia (Fig. 1). The subject of the investigation is market concentration as a possible factor in the cost-effectiveness of contracting public services. The aim of the paper is to analyze the market concentration as the public services contracting out efficiency factor at the local government level. We verify the set goal through two research assumptions. The first research premise (RP_1) is to find out whether the market of municipal solid waste collection and removal services in central Slovakia is highly concentrated. The second research premise (RP_2) is to verify whether higher market concentration brings with it higher prices for contracting a given service.

The price of a contracted service has an impact on the cost-effectiveness of contracting, which can normally be assessed by comparing the cost of the service in contracting and internalizing it. However, evaluating the cost-effectiveness of contracting by this comparison is not the primary goal of the work. We are interested in the cost of the contracted service, which we monitor through the cost of the service per capita and the cost

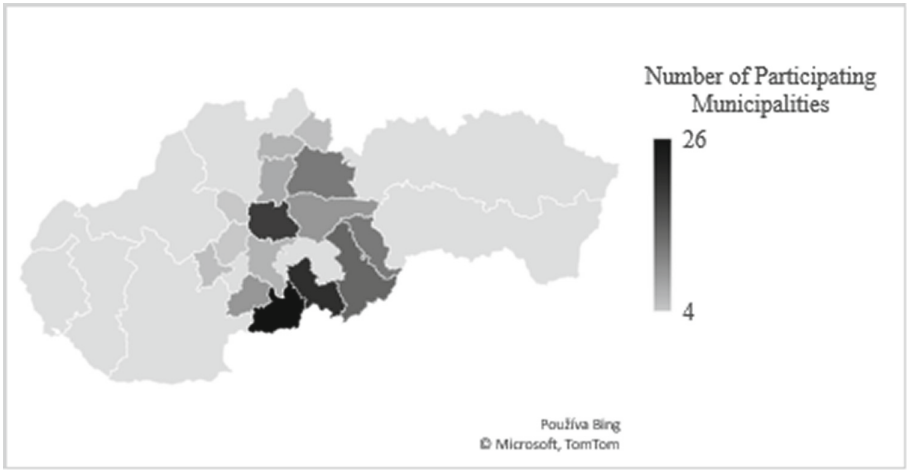

Fig. 1. Number of municipalities participating in the primary data collection by districts

of the service per performance indicator (one tonne of waste). The price in the private market of the service reflected in the service costs incurred by the municipality affects the cost-effectiveness of contracting the service. The cost of service per capita and the cost of service per performance indicator are therefore compared with the results of the first part of the analysis – HHI values in individual districts. We used causal analysis to examine the interdependencies (causes and outcomes), i.e., as the private producers that predominate in the market, they set their prices in the case of monopolies and in case the market concentration is lower. We used the comparison to compare the results relating to individual districts, taking into account the origin of private producers (purely private companies or organizations belonging to other cities). The last part of the analysis, which focused on defining the research conclusions and the validity of the assumptions, was processed using methods of synthesis and partial induction.

4 Analysis of Market Concentration in the Provision of Collection and Removal of Municipal Solid Waste in Slovakia

At the beginning, we examined the degree of contracting compared to the internal provision of the service, given that we calculate market concentration only with private players and not with technical services of the city (except in cases of technical services of one city by another municipality) or non-profit organizations.

In this paper, we used the district division to divide municipalities into groups, while the analysis was performed in the following districts of central Slovakia: Banská Bystrica, Brezno, Detva, Krupina, Lučenec, Revúca, Rimavská Sobota, Veľký Krtíš, Zvolen, Žarnovica, Žiar nad Hronom, Dolný Kubín, Liptovský Mikuláš, Martin, Ružomberok, Turčianske Teplice, Tvrdošín and Žilina. The results of the contraction rate are presented graphically in Fig. 2.

Based on the obtained data, we can see that the contracting of the service of collection and removal of municipal solid waste significantly prevails over the internal security

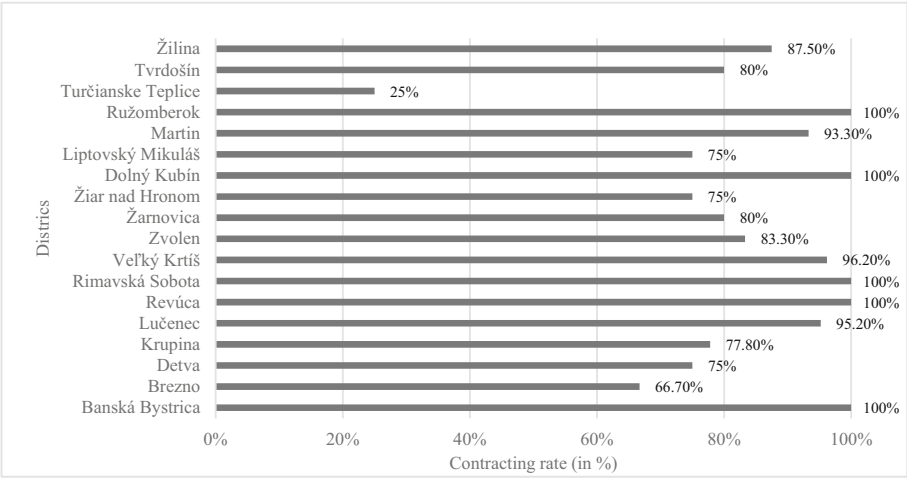

Fig. 2. Result of the contracting rate in the monitored file (in percent)

of this service. The assumption [12] is confirmed that ammunitions are not willing to provide the service internally due to the high technical complexity of the service. However, we see several exceptions, such as the district of Turčianske Teplice, but here we perceive the reason in the fact that the return from the municipalities in the district was not sufficient in comparison with other districts. The number of municipalities in this district in the basic sample was 26, in the sample only 4 answers. Therefore, we exclude this district from the observation of market concentration. The reason for this decision is also the fact that only one municipality of the district uses external security, which would be reported as an absolute monopoly in the method of evaluation. However, this result does not reflect reality.

We monitored the validity of the first research assumption using the HHI index, which expresses the absolute concentration in the industry. The index reaches values in the range <0; 10 000>. The value of 10,000 indicates a borderline situation where there is only one company on the market that provides the overall offer, and the market is highly concentrated. Conversely, HHI values approaching 0 indicate that there are many companies of similar size in the market and the market is low. Thus, the market has the character of perfect competition.

The results of the value of the CR index showed us (Fig. 3) that in several districts there is a high concentration of the market in the provision of collection and disposal of municipal solid waste. The average value of the CR index in the file is 84.28 (statistical deviation 12.88). Calculating the CR index is the first step in calculating the HHI.

When evaluating the results of the HHI index (Fig. 4), we find that we did not record a value lower than 2,500 in any of the districts. The average value of the HHI set is 7,260 (statistical deviation 2,153, 61). This excludes the existence of perfect competition in the market or the possible existence of monopolistic competition. On the contrary, the presence of a natural monopoly (HHI = 10,000) was recorded in several districts Revúca, Žiar nad Hronom, Martin, Tvrdošín and Žilina – in which municipalities use only one

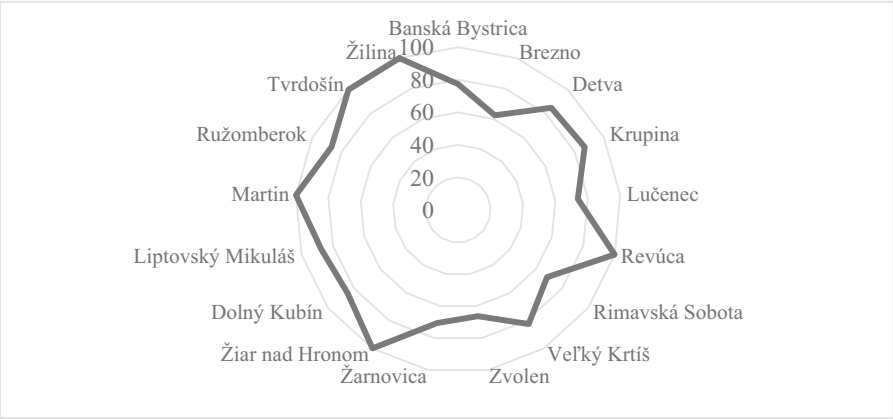

Fig. 3. The result of the CR index in the monitored file

private producer of the service. For example, for Revúca and Martin, it was Brantner s.r.o. which has been operating in Slovakia since 1992. Today, it employs more than 700 workers and provides waste management services to more than 550,000 inhabitants and 2,000 corporate customers. According to annual reports, the company processes 30,000 tons of secondary raw materials per year.

For Žilina, the only private producer is T + T a.s. which was created after 1991 by the abolition of technical services of the city. Today in the Žilina, it provides waste collection for 365,000 inhabitants and annually processes 40,000 tons of municipal waste, from which alternative fuel for cement plants is created. In 2012, the company bought 90 percent of the shares of Technique services Žiar nad Hronom, which is a newly established monopoly in the district of Žiar na Hronom and provides services to more than 90,000 inhabitants. The last identified monopoly is the Technical Services of Ružomberok, which is used by municipalities in the Tvrdošín district. They were founded in 2000 and the co-founder (51% of shares) is also T + T a.s.

HHI index in the range <6,800.00; 7,654.32> reach the districts of Detva, Krupina, Veľký Kritíš, Dolný Kubín, Liptovský Mikuláš and Ružomberok. There are two or three players in these districts. The dominant company is Marius Pedersen, a. s., which has been the largest provider of waste management services in Slovakia since 2003. It currently works with more than 400 municipalities, providing its services to almost 1,000,000 inhabitants and 4,000 companies.

HHI index in the range <3,888.89; 5,987.65> reach the districts of Banská Bystrica, Brezno, Lučenec, Rimavská Sobota, Zvolen and Žarnovica. The lowest concentration of the market in the monitored group shows the district of Rimavská Sobota. The reason is that there are four organizations in the district providing collection and disposal of municipal solid waste. Companies, that serve the area in an area of 40 km^2, include Marius Pedersen, a.s., Brantner Gemer, s.r.o., Profax, MEPOS s.r.o.

Based on the values of the HHI index, we can unambiguously confirm the first research premise (RP_1). The market for the provision of municipal solid waste collection

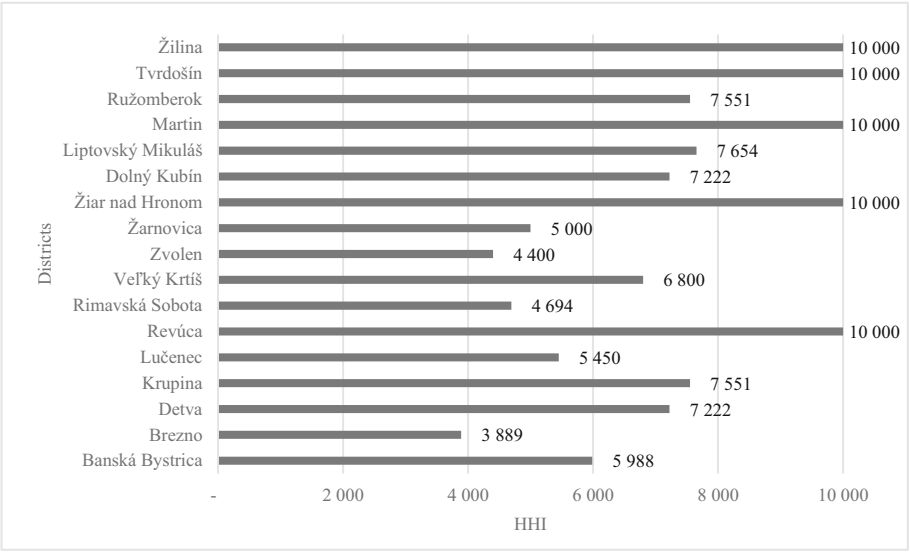

Fig. 4. The result of the HHI index in the monitored file

and removal services in central Slovakia is highly concentrated and characterized by a monopoly or oligopoly with a dominant player.

Based on the findings, we proceed to verify the second research premise (RP_2), which is to verify whether higher market concentration brings with it higher prices for contracting the service. As stated in economic theory, in the case of a natural monopoly, it is typical that the monopoly decides on the price with its production volume if only it remains on the market. At the same time, it may apply price discrimination to increase profits. In the first stage there are different prices for different consumers, in the second stage there are different prices for different production volumes and in the third stage there are different prices for consumer groups according to price elasticity. It is price discrimination [26] that is often present in the external provision of public services (Table 2).

When recalculating the average values, it was necessary to exclude some extreme cases, such as the municipality of Donovaly, where the first cost per capita indicator was more than 690 EUR. The reason is that the village is a well-known ski and tourist resort with high attendance and that is why it incurs high service costs with a relatively small population.

The lowest values of the first indicator were recorded in the Tvrdošín district with 14.32 EUR, which is also the district with the monopoly of Technical Services Ružomberok. It is here that we see that higher market concentration may not be reflected in higher service prices. Other low values of the first indicator were measured in the districts of Lučenec, Dolný Kubín, Ružomberok and Žiar nad Hronom, in which the monopoly of the Technical Services of Žiar nad Hronom was also recorded. In the districts of Dolný Kubín and Ružomberok, we again observed the almost monopoly position (83% and 85% market share) of the Technical Services of Cities organizations. In the

Table 2. Cost per capita and cost per tonne of waste in the monitored districts

Districts	Cost per capita (in EUR)	Cost per tonne of waste (in EUR)	HHI
Banská Bystrica	26,57	144,84	5 987,65
Brezno	23,62	119,76	3 888,89
Detva	26,07	202,12	7 222,22
Krupina	23,40	160,41	7 551,02
Lučenec	22,25	123,05	5 450
Revúca	24,41	178,81	10 000
Rimavská Sobota	24,27	161,10	4 693,88
Veľký Krtíš	23,42	148,98	6 800
Zvolen	23,89	192,89	4 400
Žarnovica	26,78	127,03	5 000
Žiar nad Hronom	22,74	130,14	10 000
Dolný Kubín	18,96	168,04	7 222,22
Liptovský Mikuláš	23,32	121,50	7 654,32
Martin	26,34	152,02	10 000
Ružomberok	22,72	102,42	7 551,02
Tvrdošín	14,32	137,27	10 000
Žilina	24,09	127,52	10 000

district of Lučenec, two companies competing among the largest in central Slovakia compete, and therefore we assume that their efforts to gain the upper hand led to lower prices for the district. The indicator reached the highest values in the districts of Banská Bystrica, Detva, Žarnovica and Martin. Only in the last district was the monopoly of Brantner s.r.o. In the remaining three districts, Brantner s.r.o. or Marius Pedersen a.s.

Based on the observed values of the indicator, we observe several phenomena – Technical services of cities, which usually operate in only one district and consider them as external suppliers, have the lowest prices for the service, despite the fact that there is no other competition at the same level. On the contrary, the highest prices were recorded in districts where the service was provided by purely private players who did not arise in connection with the city.

Looking at the second indicator, we observe the lowest value of costs per 1 ton of waste in the district of Ružomberok with the amount of 102.42 EUR. It is confirmed that the producer of Technical Services Ružomberok achieves the lowest amount. In addition, low values were recorded in the districts of Lučenec, Liptovský Mikuláš and Brezno. However, Brezno is the district with the lowest HHI value and, as in the district of Lučenec, the largest part of the market is shared by two private players – Profax and Brantner s.r.o. In the Liptovský Mikuláš district, the market was relatively evenly divided between OZO a.s., Liptovský Mikuláš public services and Liptovský Hrádok

public services. We recorded the highest values of the second indicator in the district of Detva, which also had high values for the first indicator. In the district of Zvolen, the market is dominated by the private organization Marius Pedersen a.s. The monopoly of Brantner s.r.o. was recorded in Revúca. Here we also assume the same phenomenon as in the first indicator of lower prices of Technical Services of Cities.

We confirm the second research premise (RP_2) partially. Looking at the overall HHI values and the values for the individual indicators, we cannot confirm the assumption, but at a closer look at purely private organizations such as Brantner, a.s. or Marius Pedersen, a.s. we see the possibility of lower prices if there are at least two dominant players in the market. In the case of central Slovakia, we see a problem in that, despite the different HHI values, all the districts examined are highly concentrated and therefore it is difficult to estimate how the situation would change in less concentrated markets. Another shortcoming, despite the more than 190 participating municipalities, is the relatively low return rate and therefore the aim of future research is to supplement the observed group with other municipalities.

5 Discussion

Alternative provision of public services by contracting a service is perceived by society as an ideal way of providing services. Due to this, it is assumed that contracting services will bring cost savings together with a higher quality of secured services compared to the internal security of the organization. In recent years, however, domestic and foreign studies have moved away from the original understanding of contracting options and point to possible problems such as transaction costs or market concentration.

In the presented analysis, we focused on the degree of contracting the service of collection and removal of municipal solid waste in central Slovakia. The empirical results we find confirm the conclusions of previous studies. In verifying the research premise (RP_1), we find that the market for the provision of municipal solid waste collection and removal services in central Slovakia is a highly concentrated market and characterized by a monopoly or oligopoly with a dominant player. The analysis also briefly introduced the dominant players in the market for the collection and removal of municipal solid waste. We state that the result of the first research premise coincides with the results of foreign studies [2, 13, 17, 32], which often pointed to high market concentration.

To approximate the research, our research confirms the conclusions of the study [13], where the authors found that in only 4 regions out of 20 examined the value of the HHI index was lower than 2,000. The findings of 195 municipalities in 17 districts show that the HHI index is higher. The average HHI of the file is at the level of 7,260. However, we find that in the presence of several players in the market, the price decreases.

However, it is important to note that market concentration processes may also be accompanied by negative effects. Unlike vertical mergers, where a competitor integrates, which does not increase market concentration, only shifts market share [28], horizontal mergers represent a merger of players in order to increase their profits and thus often increase prices indirectly. In both cases, it is a matter of strengthening the position of the market operator to such an extent that it gains a majority share of the market. Mergers thus strengthen market power, resulting in a high level of market concentration resulting

in higher prices [11, 18], and growing concerns about declining job opportunities in labor market. For this reason, the supervision of the Antitrust Authority is needed, which must monitor the situation and prevent restrictions of competition.

The influence of subjects on the price is confirmed by the findings of research [30], in which the authors examined the effect of competition on the market of collection and removal of municipal solid waste in the Czech Republic. They describe the theory of the effect of competition, which says that with a larger number of competing companies in the market, prices should theoretically fall. Given the obligation to publish the expected prices at the same time as the prices offered by the company, which follows from the Public Procurement Act, it is possible to verify this theory. In the Pilsen region, the authors recorded prices that were higher than the average prices in other regions. It is in this region that the company Západočeské komunální služby is located, with a market share of almost 50%. However, the authors point out that in order to confirm the theory of the effect of competition, in this case it would be necessary to study the contract in detail. For other larger companies in the market, the regression analysis did not show a trend of rising prices. In the context of our research, we present the example of the municipality of Donovaly, in which the indicator of costs per capita was more than 690 EUR. However, this situation is due to increased tourism in the village. The Donovaly has an officially declared population of 229 inhabitants in 2021. Thus, a possible solution [36] for reducing waste management expenditures in small municipalities with less than 1,000 inhabitants may be the application of intermunicipal cooperation.

The aim of second research premise (RP_2) was to verify whether a higher market concentration entails higher prices for contracting the given service, is partly confirmed. However, during its verification, we observe several significant phenomena. When a service is produced by technical services set up by municipalities, which usually operate in only one district and are considered an external supplier, they have the lowest prices for the service, even though there is no other level of competition for them in that district. On the contrary, the highest prices were recorded in districts where the service was provided by purely private companies that were not established in connection with only one municipality. For strategic planning, it is therefore necessary to recognize whether the producer is a purely private company or organization set up in cooperation with the municipality. These results are in line with foreign studies [13, 30, 33, 34], which in several cases have found that in a highly concentrated market – especially in the case of a monopoly – higher prices for service may occur. However, these studies looked at external producers as a whole and did not focus on whether it was a purely private trading company or an organization belonging to another city. However, we agree with the results of research [34] which states that competitiveness has a high impact on the prices of collection and removal of municipal solid waste. Therefore, when providing a public service by contracting, it is necessary to pay more attention to the public procurement process [23] to ensure maximum participation of competitors.

6 Conclusion

Based on the presented research results, we conclude that the contracting of municipal solid waste collection and removal services is provided externally in the monitored municipalities. The contracting of services, that means the contractual relationship

between the municipality and the private player providing the service, is applied. Based on this starting point in the paper, we analyze the market concentration as the public services contracting out efficiency factor at the local government level. The main challenge is to concentrate on the market of municipal solid waste collection and removal service providers. The results of the CR and HHI indexes confirm that in the surveyed districts of central Slovakia, the market is highly concentrated, characterized by a monopoly or oligopoly with a dominant player. We point out that the consequence of such a highly concentrated market may be price discrimination in the third degree.

On the other hand, it is confirmed that if there is a monopoly player on the market, which is established with the participation of the municipality, the price of the service may not increase due to the existence of the monopoly. Examples are the municipalities of Tvrdošín, Lučenec, Dolný Kubín or Žiar nad Hronom.

However, if the contracting is provided by a private player who also has a monopoly, economic theory is confirmed. Thus, the monopoly determines the higher price of the service, an example is the ammunition of Detva. However, price developments can eliminate the entry of an additionally strong player. Therefore, when considering the possibility of providing public services by contracting, we recommend municipalities to analyze in advance not only possible economies of scale, but especially market concentration.

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