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Economic Perspectives of Municipal Social Enterprises in Slovakia: What Makes Them Different? A Comparative Study

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Abstract:

Social entrepreneurship has massive support in the European Union. In Slovak conditions, it is a relatively new concept with a legal framework stipulated only in 2018, and it has still not been thoroughly examined. Currently, one-quarter of social enterprises in Slovakia are established by the municipalities, promoting the positive impact of municipal social entrepreneurship on a broader area of activities in a locality or region. This paper contributes to filling the research gap in the field of Slovak social entrepreneurship by focusing on the unexplored field of municipal social enterprises in comparison to those of privately owned running three sub-analyses from the point of view of economic activity, economic performance, and socioeconomic and demographic factors determining the establishment of municipal social enterprises. We work with a sample of Slovak social enterprises established since 2018. Our results point to different economic activities of municipal social enterprises compared to those of privately owned ones. While private social enterprises focus on economic activities related to associations and movements for adults, municipal ones focus on landscape management. When considering economic performance using financial analysis indicators, municipal social enterprises perform better than private ones. Finally, results indicate that the municipality's population size is the factor with the highest relative importance when establishing the municipal social enterprise. This paper provides policymakers and local elected authorities with encouraging insights into municipal social enterprises established in larger municipalities to help improve the local environment. Moreover, their economic results are competitive with those of

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private social enterprises.

Keywords:

local development, municipality, social economy, social enterprise

JEL Classification: Z1, H44

1. Introduction

In Slovakia, the concept of social economy and social entrepreneurship is relatively new, and the legal framework was created in 2018. Since then, several firms have transformed into social enterprises, and many new social enterprises have also been established. Various interests are involved in establishing social enterprises, and in addition to economic goals, the main requirements for social enterprises in the field of social impacts are defined by the law. However, the social impact is not an economic category. Thus, social enterprises enjoy public policy support. Direct and indirect state support encourages social entrepreneurship through different tools related to taxation, subsidies, preferential loans, support of demand, investment aid, and public procurement with a social aspect.

In Slovakia, a dominant part of social enterprises is established by private sector persons. Currently, one-quarter of social enterprises in Slovakia are established by the public sector's legal persons (e.g., local and regional self-governments), promoting the positive impact of social entrepreneurship on a broader area of activities in a locality or region. Social enterprises established by local governments, called municipal social enterprises, are considered a way of local development, thus creating additional positive social impact. As the local government is the closest formal institution to the citizens (Polačková, 2020), it naturally responds to citizens' needs. In an aim to deal with local challenges, municipalities might establish a municipal social enterprise, which is a social innovation in the management of the municipality and in solving its problems (Polačková, 2020). Municipal social entrepreneurship, as the result of the involvement of local elected authorities, considers citizens' needs through the municipality's strategic and conceptual development plan (Duniam & Eversole, 2013). Furthermore, it can deal with a so-called institutional emptiness in less developed and small municipalities due to the lack of institutional and private background (Interreg Europe, 2021).

The research on social enterprises in Slovakia suffers from little attention (as mentioned also, e.g., Placek et al., 2024). Research on municipal social enterprises in Slovakia is on the edge of scientific interest and is limited, even though the local importance of municipal social enterprises has been proven. In addition, municipal social enterprises make up one-quarter of all social enterprises, so their position in the Slovak social economy is important, which is the research's primary motivation.

The paper concentrates on the unexplored field of municipal social enterprises in Slovakia. It also contributes to the literature on Slovak social enterprises by examining the whole sample of social enterprises in Slovakia with a special focus on municipal social enterprises. The paper mitigates the evident research gap in the Slovak social economy, offering new perspectives when considering the further direction of social entrepreneurship, emphasizing the importance of local governments and municipal social enterprises.

The paper aims to map the economic activity and economic performance of municipal social enterprises in Slovakia. We compare them to those privately owned. We also focus on factors influencing the establishment of municipal social enterprise in a municipality, such as its long-term socioeconomic and demographic conditions. We use several methods of research. The economic activity of municipal social enterprises is mapped and compared to private ones via word clouds. The economic performance is analyzed via statistical methods using financial analysis indicators, including basic bankruptcy and credit indicators. Determinants of establishing municipal social enterprises are analyzed by data mining methods based on machine learning using the random forest. The sample of social enterprises is based on the information collected since 2018 in the Register of Social Enterprises provided by the Ministry of Labor, Social Affairs, and Family of the Slovak Republic. As social entrepreneurship is a relatively new and innovative form of entrepreneurship, consultancy centers have been set up in Slovakia to educate and support social entrepreneurship - Regional Centers for Social Economy, with whom we have consulted and discussed our results.

The paper is organized as follows: After the introduction, we present the institutional context of Slovak municipal social enterprises, their advantages and disadvantages, and some stylized facts about their development. In the next section, we mention research objectives and describe methods and data employed in analyses. In the section on results, our main findings are presented and discussed in the discussion section. The paper ends with a conclusion.

2. Municipal social enterprises in Slovakia – institutional context

2.1. Definitions and legal framework

The literature on social economy and social entrepreneurship deals with several definitions of social enterprises (e.g., Austin et al., 2006; Defourny & Nyssens, 2006, 2008; Certo & Miller, 2008; Teasdale, 2011; Duniam & Eversole, 2013; Defourny & Nyssens, 2017; Kimmitt & Muñoz, 2018; Sparviero, 2019; Brozmanová-Gregorová & Murray Svidroňová, 2020; Muftugil-Yalcin & Mooijman, 2023). They often try to find a consensus in the definition because of the country-specific conditions, legislation, and path dependence (Hastings & Weate, 2018; Powell & Berry, 2021; Placek et al., 2021).

Social entrepreneurship operates from social and economic logic (Duniam & Eversole, 2013; Muftugil-Yalcin & Mooijman, 2023). Thus, the basic definition combines social and commercial motives (Mair & Marti, 2006; Austin et al., 2006; Hastings & Weate, 2018; Kimmitt & Muñoz, 2018; Gupta et al., 2020; Muftugil-Yalcin & Mooijman, 2023). As mentioned by Duniam and Eversole (2013) and Hastings and Weate (2018), the broader definition of a social enterprise is based on the not-for-profit character of a social enterprise, which, through economic activity, achieves social goals or creates social benefits. Beaton and Kennedy (2021) consider social enterprise to be the 'patch' to market failures.

In the light of local public sector perspectives, many authors mention significant ties between local governments and social enterprises when place-based solutions are required to address local demand (e.g., Eversole & Eastley 2011; Pillora & McKinlay, 2011; Eversole et al., 2014; Muftugil-Yalcin & Mooijman, 2023). According to Calo et al. (2024), social enterprises are effective and efficient producers and deliverers of public services. Moreover, multiple positive impacts are observed on local communities. Duniam and Eversole (2013) mention three types of interactions between local government and social enterprise: i) local government can create a social enterprise; ii) local government can support social enterprises through funding and training programs and public procurement; iii) finally, social enterprises could partner with local governments in the delivery of local services. Additionally, Onyx and Leonard (2010) also include local communities in the relationship between local government and social entrepreneurship, concluding that local governments and local communities facilitate social entrepreneurs through land, financial support, and professional skills.

In this paper, we focus on the first type of interaction mentioned by Duniam and Eversole (2013): when the local government establishes its social enterprise, which is generally called a municipal social enterprise.

The Slovak legislation does not explicitly define the 'municipal' social enterprise, so the municipal social enterprise follows the legal definition of social enterprise stipulated by Act no. 112/2018 Coll. on Social economy and social enterprises as amended. Slovak municipalities can establish an enterprise according to Act no. 369/1990 Coll. on Municipal establishment. Afterward, they can ask to register as a social enterprise if they fulfill the conditions defined in Act no. 112/2018 Coll. on Social economy and social enterprises without further legislative regulation. According to the mentioned law, a social enterprise (thus including the municipal social enterprise) is the subject of a social economy i) which performs economic activity consistently, independently, in its name and responsibility; ii) whose primary goal is achieving a measurable positive social impact; iii) in which the goods or services it produces, supplies, provides or distributes, or how they are produced or provided, contribute to achieving a positive social impact; iv) who, if his activity makes a profit, uses more than 50% of the profit after tax to achieve the main goal; v) which, if it distributes part of the profit according to the Commercial Code, distributes it according to procedures and rules that do not violate the main objective; vi) which involves interested persons in the

management of its economic activity.

Strečanský and Strečanská (2023) and many other authors (e.g., Polačková, 2020) mention that from the theoretical point of view, municipal social enterprises are not pure social enterprises because the private sector does not run their activities. Municipal social enterprises are considered social innovations in managing municipalities (Polačková, 2020), which meet community challenges through the municipalities' strategic and conceptual development plans (Duniam & Eversole, 2013).

The need for strong interconnection between local governments and social enterprises is also mentioned by Pillora and McKinlay (2011), Hastings and Weate (2018), and Choi and Park (2021). Hastings and Weate (2018) stress the mentioned connection because of several types of knowledge required: local knowledge based on lived experiences and place-based knowledge, specialized knowledge based on expert knowledge, strategic knowledge comprising the knowledge in governance and administration, and holistic knowledge answering the shared purposes. By establishing the municipal social enterprise, it is possible to cover all the aspects of knowledge mentioned by a sole actor, a municipality as a social entrepreneur. This business model might increase the social enterprises' effectiveness and efficiency in public services production and delivery, as mentioned by Calo et al. (2024).

As mentioned, Slovakia's social economy and social entrepreneurship still suffer from a lack of research. However, the research gap in the field of municipal social enterprises is more obvious. Except for Machničová and Chreneková (2020) and Chreneková et al. (2022), a short chapter in Polačková (2020) and a couple of records in the edited book by Polačková (2023), there is no systematic research on municipal social enterprises, their economic activity, and economic performance in Slovak conditions.

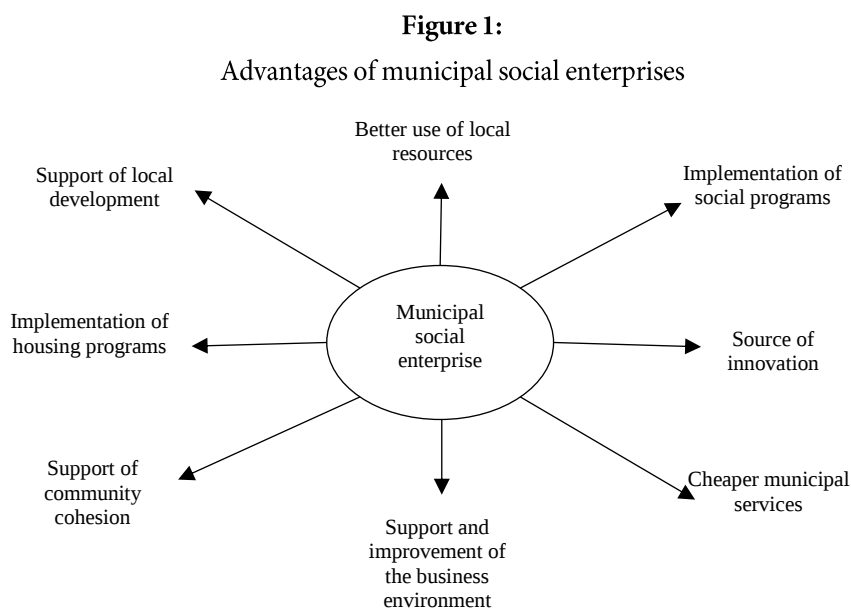
2.2. Theoretical underpinning – Promotion and praxis of municipal social enterprises in Slovakia

To support social entrepreneurship including municipal social entrepreneurship in Slovakia, the Implementation Agency of the Ministry of Labor, Social Affairs and Family of the Slovak Republic (2020; hereinafter IMPLEA, canceled by the Ministry of Labor, Social Affairs and Family of the Slovak Republic since December 31, 2023) developed the National program of Institute of Social Economy (abbreviated as NP ISE IMPLEA). It mentions the benefits of municipal social entrepreneurship as “a municipal social enterprise can significantly contribute to the cohesion of residents and the development of the municipality and microregion, support the economic activity of citizens, increase the attractiveness of the municipality, support self-determination and increase the quality of life of citizens and their satisfaction” (IMPLEA, 2020).

IMPLEA (2020), on its website, and Ujváriová (2024) mention that provisioning municipal social entrepreneurship has several advantages because it:

- might support the development of the municipality (municipal services, elimination of accidents, development of the economic potential of the municipality, reduction of unemployment),
- might make better use of the community's resources (human resources, production and consumption at home, external financial assistance),
- often implements a social program (employs the disadvantaged on the labor market, increases the qualifications of the population, builds personal and practical skills, helps solve difficult life situations),
- can implement a housing program (construction work, external financing),
- is a source of innovations (uses knowledge of local problems and needs of citizens, their skills and knowledge, and is close to the voter),
- might revive cohesion, cultural, sports, and social life in the municipality (traditions, events),
- can support and improve the business environment (cooperation with other entities, premises for operations, activities of citizens and various associations) and
- can make municipal services cheaper and better (rent, winter and summer maintenance, investment construction).

Figure 1 summarizes the advantages of municipal social enterprises mentioned by IMPLEA (2020) and Ujváriová (2024).



Source: Authors' own processing in accordance with IMPLEA (2020) and Ujváriová (2024), 2025

Furthermore, Ujváriová (2024) mentions that municipal social enterprises might increase the quality of life in the municipality. According to her, from the regional perspective, the benefits of municipal social entrepreneurship consist of the implementation of joint promotion of goods and services, the implementation of mutually complementary activities, the sharing of administrative capacities in the administration of a municipal social enterprise and increasing the attractiveness and prosperity of the region or microregion. Ondruš (2023) agrees that municipal social entrepreneurship fortifies regional development, too.

However, municipal social enterprises have certain disadvantages, too. Polačková (2020) mentions the shortcomings of municipal social enterprises (and their management), e.g.:

- lack of professionalism of the management at the local level (considering small municipalities dominate the system of fragmented residential structure that is characteristic of Slovakia),
- market oversaturation occurs when neighboring municipalities establish municipal social enterprises with the same economic activity,
- orientation to the internal needs of the municipality, while the municipal social enterprise does not enter the real market,
- municipal social enterprises are not entrepreneurs because they do not want to expand into new markets but address the needs in the municipality's territory (the customer is the municipality itself).

Especially, in Slovak conditions the praxis shows, that in Slovakia municipal social enterprises are often established to gain the benefit from subsidies to municipalities to support the social economy through wage subsidies for disadvantaged and vulnerable employees and by regional financial contributions for the municipalities in the least developed districts (Strečanský & Strečanská, 2023; Polačková, 2020).

Another question in the context of municipal social entrepreneurship is public procurement with a social aspect. In this case, social enterprises are positively discriminated against, contradicting the principles of market competition (Polačková 2020). On the contrary, IMPLEA promoted public procurement with a social aspect (IMPLEA, 2020).

According to Strečanský and Strečanská (2023) and Polačková (2020), municipal social enterprises in Slovakia are established for two, often interlinked, reasons. First, she mentions that municipalities are trying to save financial resources, leading them to establish their social enterprise. Second, it is a reaction to an undesirable level of unemployment in the municipality. Municipal social enterprises that deal with competencies usually operate in road maintenance, waste management, public spaces and greenery maintenance. The increase in local employment is a positive externality (Polačková, 2020). In the second case, the municipal social enterprise aims to directly support local employment (decrease local unemployment) while its economic activity is a secondary goal. According to Meszáros (2023), a former manager of the

implementation of professional activities of the NP ISE expert team provided by IMPLEA and a co-author of the act on social economy and social enterprises in Slovakia, municipal social enterprises are a means of regional development and of the development of employment. The important goal of municipal social entrepreneurship is the integration of disadvantaged and vulnerable citizens into the working process to become independent. They focus on socially marginalized citizens or citizens out of the working process, meaning unemployed up to the age 26 years, unemployed with low qualifications, returnees from serving a sentence or from treatment centers for drug addicts, and adults coming from institutional care centers. However, the activity of municipal social enterprises matches the socially beneficial goals. As mentioned by Meszáros (2023), a prevalent part (99%) of municipal social enterprises are integration-oriented social enterprises.

2.3. Empirical overview - some stylized facts about municipal social enterprises in Slovakia

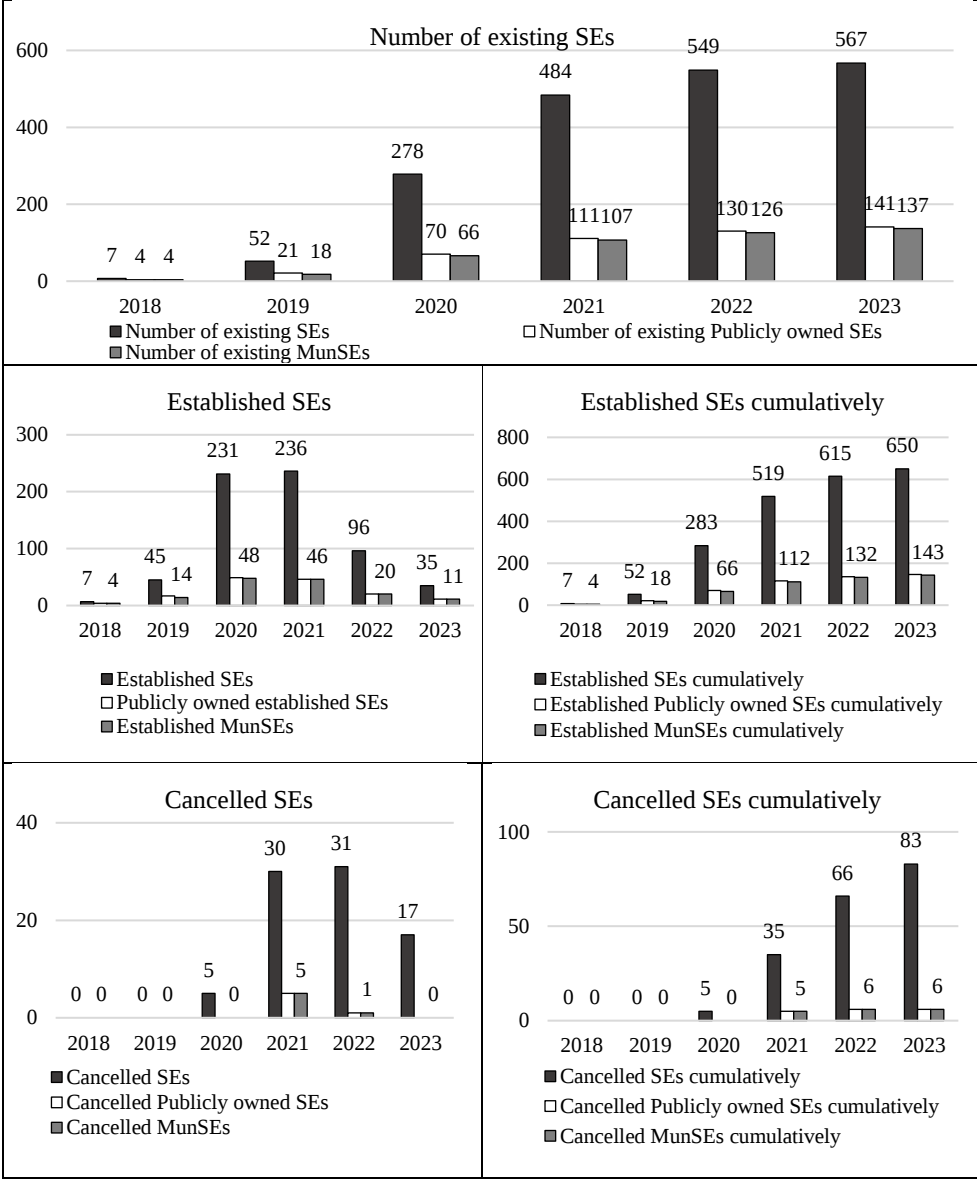
A basic source of information on Slovak social enterprises is the list of social enterprises published by the Ministry of Labor, Social Affairs and Family of the Slovak Republic (hereinafter MLSAF SR) as the Register of Social Enterprises (MLSAF SR, 2024). It provides us with the number of social enterprises, the date when they were established, the date of cancellation of the enterprise, the owner, and/or headquarters of the company, and the like. This information describes the development and structure of Slovak social enterprises.

Andrassy (2023, p. 3), the President of the Supreme Audit Office of the Slovak Republic, provides a detailed report on the forms and types of social enterprises in Slovakia. Our research, focusing on municipal social enterprises, aims to describe the structure of social enterprises from the point of ownership.

Figure 2 displays the development and structure of social enterprises (abbreviated as SEs) in Slovakia from 2018 to 2023 from the ownership perspective. We distinguish between private and public ownership. In the case of public ownership, we focus on a subgroup of publicly owned social enterprises established by municipalities, the municipal social enterprises (abbreviated as MunSEs). Slovakia also has publicly owned social enterprises established by self-governing regions. Except for Figure 2, these social enterprises are excluded from further analysis by focusing only on social enterprises created by Slovak municipalities (cities, towns, and villages).

Figure 2:

Development and structure of SEs in 2018-2023



Note: In the case of smaller numbers, Established SEs, Established SEs cumulatively, Cancelled SEs, and Cancelled SEs cumulatively only display values for SEs and MunSEs because of the high similarity between publicly owned SEs and MunSEs.

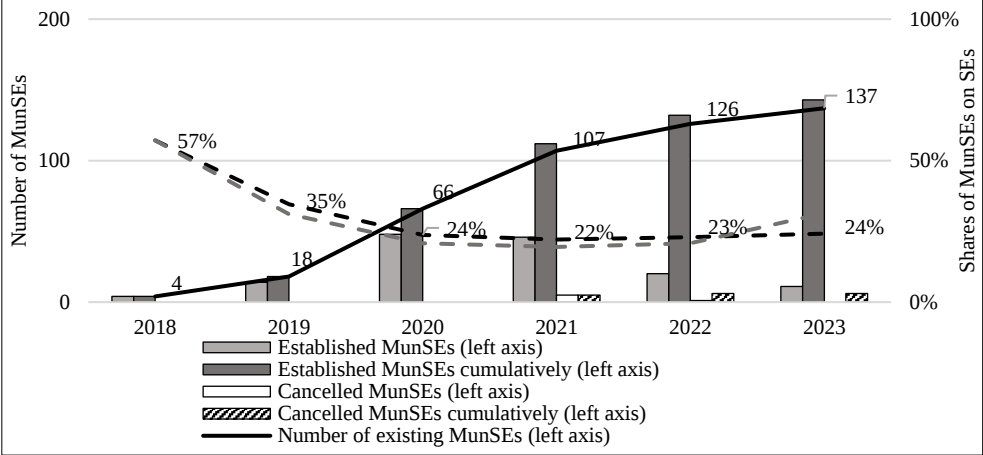
Source: Authors' own, 2025

At the beginning of the monitored period, in 2018, when the Slovak government stipulated the legal framework for social economy and social enterprises, only seven were created, four publicly owned, and the municipality established all four. A massive increase in 2020 and 2021 is evident. It was caused by the direct state support to maintain employment during the COVID-19 pandemic, which was easily accessible for social enterprises. In 2020, 231 social enterprises were established in Slovakia, of which 48 were established as MunSEs. In 2021, 236 social enterprises were created, including 46 MunSEs. The increasing trend of established SEs has decelerated in recent years (since 2022). The deceleration of the social enterprise creation could have been caused by the malfunction of the other forms of state support, except for the compensatory aid, as mentioned, e.g., by Polačková (2020) and Andrassy (2023). Andrassy (2023) mentioned that potential social entrepreneurs identified certain obstacles related to applying for investment aid and excessive bureaucracy. Moreover, low interest in using the service vouchers and reduced value-added tax is observed. In 2022, 'only' 96 social enterprises were established in Slovakia, of which 20 were established as MunSEs. Finally, 35 SEs were established in 2023, of which 11 are municipal.

As is evident from the bottom of Figure 2, privately owned SEs were predominantly canceled compared to publicly owned and municipal SEs. The most obvious increase in the number of SEs is observed in 2020 and 2021, but the most obvious cancellation of SEs is lagged by one year, and we can observe it in 2021 and 2022. In the monitored period, only six MunSEs were canceled, less than 1% of all SEs and 4% of MunSEs.

Figure 3 provides a detailed summary of MunSEs' section from the whole sample of Slovak SEs. This is evidenced again by the massive increase in MunSEs during the period of suffering from the COVID-19 pandemic. As proved in Figure 2 and Figure 3, and in line with Meszáros (2023), approximately one-quarter of SEs are MunSEs. This fact enhances the need to analyze the MunSEs in Slovakia, even if the share of MunSEs decreased between 2018 and 2020 due to significant increases in privately owned SEs reported in Figure 2.

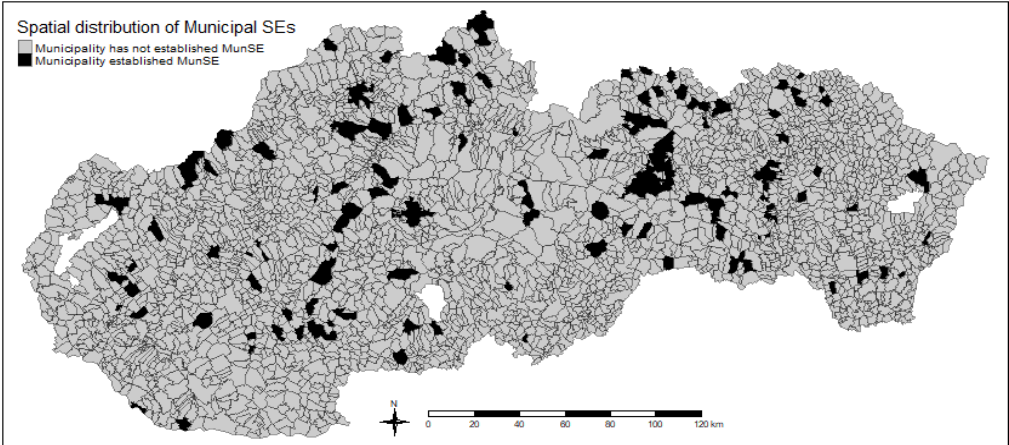
Figure 3:
Municipal SEs in 2018-2023



Source: Authors' own, 2025

At the end of this sub-chapter, we display the spatial distribution of municipal social enterprises established during 2018-2023. We can observe an important portion of municipal social enterprises located in the eastern part of the republic – Prešov Region, in the first place, and Košice Region, in the second place. The Žilina Region is only in third place, which, according to e.g., Andrassy (2023, p. 5), is where most social enterprises are located.

Figure 4:
Spatial distribution of municipal social enterprises in 2018-2023



Source: Authors' own processing, 2025

3. Research objective, methodology, and data

This paper analyzes the economic aspects of municipal social enterprises compared to private ones. In addition, it aims to identify factors influencing municipalities to establish social enterprises. For these purposes, we ran three types of sub-analyses:

1. Analysis of the economic activities of social enterprises, distinguishing the municipal social enterprises.
2. Analysis of the economic performance of social enterprises – bankruptcy and credit models indicators projected using boxplots.
3. Analysis of the socioeconomic and demographic factors determining the establishment of the municipal social enterprise in a municipality.

These analyses allow us to elicit what Slovak social enterprises focus on and what the main differences are in the economic activity of private and municipal social enterprises. We can examine how different social enterprises perform when conducting their economic activities, and we might unveil the local circumstances that lead local governments to enter the social economy as social entrepreneurs.

To run the three sub-analyses mentioned above, we used different methods for each and merged data from different resources. The methodology and data for each sub-analysis are mentioned in the next section.

Word clouds, which are based on word frequencies, are used to reveal the main economic activity of municipal social enterprises and to compare it to the sample of all social enterprises and privately owned social enterprises in Slovakia in the corresponding years. We create three samples:

- sample including all social enterprises,
- sample including only private social enterprises,
- sample including only municipal social enterprises.

Economic activity is expressed using the SK NACE codes declared by social enterprises in their yearly financial statements, which are available to the public in the Register of Financial Statements provided by the Ministry of Finance of the Slovak Republic (MF SR). Data from financial statements is collected by the commercial company FinStat and is provided to the clients under a paid license; hence, in this research, we work with the FinStat Premium license (FinStat, 2024). The same source, FinStat Premium, provides us with information on the ownership of social enterprises. In this research, ownership is expressed as a binary variable, becoming 1 when a municipality establishes a social enterprise, otherwise 0. The Register of Social Enterprises (MLSAF SR, 2024) provides us with the number of social enterprises, the data about the date of establishing and/or canceling the social enterprises, the ownership, and much other information that is not employed in this research regarding the aim of the paper. We merged the FinStat Premium databases and Register of Social Enterprises according to the unique identification number of the company/social enterprise known as Business Identification Number (hereinafter BIN, labeled initially as IČO - identifikačné číslo objektu).

Thus, in this paper, the word clouds employ words expressing the SK NACE code declared by the social enterprises. In the final figure, the word with the highest frequency is located in the middle of the 'ball' and is displayed by the largest font size. Other frequencies are minor and around the most frequently used word. This analysis is performed in R Studio using the R packages "tm" (Hornik, 2024), "SnowballC" (Bouchet-Valat, 2023), "wordcloud" (Fellows, 2018), and "RColorBrewer" (Neuwirth, 2022).

Descriptive statistics visualized by the boxplots are used to express and compare the social enterprises from the point of economic performance. Boxplots belong to the frequently used methods of statistical analysis. It is a standardized manner used to display the distribution of a data set based on the summary of data points, considering the minimum, first quartile [Q1], median, third quartile [Q3], and maximum (e.g., Chajdiak, 2010). To project the potential differences between private and municipal social enterprises, we employ the factorized boxplots where a factor is a discrete variable – a binary variable becoming 1 when a social enterprise is established by a municipality, otherwise 0. Hence, we create two samples:

- sample including only private social enterprises,
- sample including only municipal social enterprises.

We evaluate and compare the economic performance of social enterprises in different samples using bankruptcy and credit indicators known as Altman Z-score and IN05 Index, and by indicators Earnings before interest, tax, depreciation, amortization (EBITDA) and Total Profit/Loss. When considering the economic performance of Slovak social enterprises, financial indicators, financial analysis indicators, profit and profit-related indicators, as well as aspects of ownership, are employed, e.g., also by Baláž et al. (2023). All indicators employed in this research are characterized, e.g., in Kotulič et al. (2018), and are computed and provided by the FinStat Premium database (FinStat, 2024). According to the BIN, we merged the FinStat Premium databases and the Register of Social Enterprises. Based on our experience and expertise, we excluded the outlying values of the aforementioned indicators from the sample to avoid bias. Outliers in the database appear to be due to incorrect accounting, which is not under Act no. 431/2002 Coll. on Accounting, or for other unknown reasons. The exclusion of outliers proceeds in line with the proposition of, e.g., Dash et al. (2023) and Greco et al. (2023). For the detection of the outliers, we employed the Inter Quartile Range (IQR) method, where IQR is defined as (75th percentile – 25th percentile) and values outside the range of (25th percentile - 1.5*IQR) to (75th percentile + 1.5*IQR) were treated as outliers (Dash et al., 2023).

Random forest is employed to identify factors that might determine the establishment of a municipal social enterprise. It belongs to the data mining and machine learning methods of research (Breiman, 2001). Random forest is a classification and regression method that avoids overfitting. It identifies important attributes and deals with big data. In this research, the analysis based on the random forest method is performed in R Studio using the package "randomForest" (Breiman &

Cutler, 2024).

To analyze socioeconomic and demographic determinants, we work with a sample of all Slovak municipalities listed by the MF SR (2,926). First, we create a binary variable referring to the existence of a municipal social enterprise in a municipality, becoming 1 when a municipality establishes a municipal social enterprise in the next year, otherwise 0. Furthermore, the Register of Social Enterprises (MLSAF SR, 2024) which provides us with information about the date of establishing the municipal social enterprise during 2018-2023 (2024 is not finished, yet), and the FinStat Premium database (FinStat, 2024), which provides us with data about the ownership, we employ socioeconomic and demographic variables for each Slovak municipality collected from the DataCube database provided by the Statistical Office of the Slovak Republic (2020). We aim to catch the conditions that led the municipalities in question to establish the municipal social enterprise; we work with a 10-year time horizon. Finally, we create a wide database of all Slovak municipalities by merging information from several databases covering 2013 to 2022. Our set does not contain variables on the share of disabled and vulnerable individuals employed by social enterprises and on the disabled and vulnerable individuals in municipalities due to data and access to data limitations.

As the random forest tells us only the importance of factors related to a certain dependent variable and does not provide us with information about whether the effect is positive or negative, we ran a correlation analysis between the dependent variable and factors displayed by the random forest horizontal bar chart. Due to the discrete, binary character of the dependent variable, we ran a Spearman’s rho (Chajdiak, 2010).

The overview of sub-analyses, methods, and basic data sources used for sub-analyses is shown in Table 1.

Table 1:
Main data sources and indicators according to the type of analysis

Analysis	Economic activity	Economic performance	Factors of establishing the MunSEs
Method	Word clouds	Boxplots	Random forest, Spearman ‘s rho
Source of data and indicator character	FinStat Premium: Ownership SK NACE MLSAF SR: Register of social enterprises BIN of social enterprises	FinStat Premium: Ownership Altman Z-score, IN05 Index, EBITDA, Total Profit/Loss MLSAF SR: Register of social enterprises BIN of social enterprises	SO SR: socioeconomic and demographic variables MLSAF SR: Register of social enterprises BIN of social enterprises FinStat Premium: Ownership

Source: Authors’ own processing, 2025

A technical definition of socioeconomic and demographic variables, descriptive statistics, and sources of data in more detail and correlation matrix are presented in Appendix A.

4. Results

4.1. Economic activity of municipal social enterprises compared to that of privately owned social enterprises

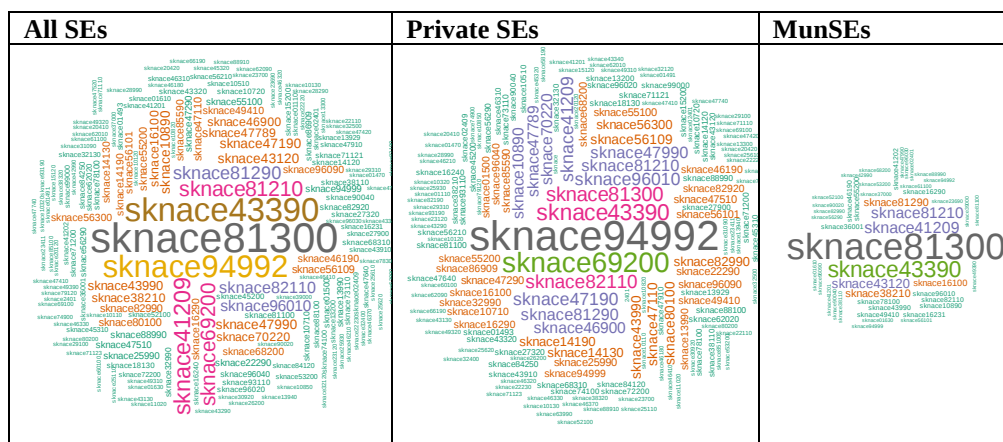
The analysis of social enterprises' most frequent economic activity in Slovakia, according to SK NACE codes declared in their financial statements, shows significant differences in the economic activity of privately owned and municipal social enterprises (see Figure 5).

First, we can observe that the most frequent economic activity of the sample containing all SEs is SK NACE 81300 (Landscape management). The next most frequent economic activities are SK NACE 43390 (Other finishing construction n.e.c.) and SK NACE 94992 (Associations and movements for adults).

Second, when separating the sample into two sub-samples according to the ownership, we can observe significant differences in their economic activity. In the case of private SEs, the SK NACE 94922 dominates, followed by SK NACE 69200 (Accounting, bookkeeping and auditing activities; tax consultancy) and SK NACE 43390. In the case of MunSEs, the most frequent is SK NACE 81300 (Landscape management), followed by SK NACE 43390 (Other finishing construction n.e.c.) and SK NACE 41209 (Construction of any type of residential building). It is in line with previous findings of Machničová and Chreneková (2020) and Polačková (2020). As Polačková (2020) mentioned, to save resources, municipalities often tend to establish social enterprises that are directly controlled by the municipality. Municipal social enterprises usually deal with part of municipalities' competences that often involve managing and maintaining local roads, greenery, and activities related to waste management. Similar economic activity of municipal social enterprises is observed in other EU countries, e.g., Poland (Czuba, 2019) and Latvia (Brencis et al., 2020). Furthermore, in Slovakia, social enterprises benefit from state support, from which compensatory aid is the most required for subsidizing the wages of disadvantaged and/or vulnerable employees (Polačková, 2020; Andrassy, 2023), and this significantly contributes to covering the social enterprises' costs and thus saves municipal resources, too.

Figure 5:

Most frequented SK NACE codes of social enterprises in 2018-2023



Source: Authors' own processing, 2025

A detailed overview of the economic activity development each year is projected in Appendix B. For the MunSEs in 2018, no economic activity was preferred, while only four MunSEs were established in this year. In the following period 2019-2023, it is evident that SK NACE code 81300 (Landscape management) dominates over the years, except for the year 2021, when SK NACE 43390 (Other finishing construction n.e.c.) was the most frequent and influenced the whole sample, where also this economic activity dominated. In the years 2020 and 2021, an economic activity declared by the SK NACE 81210 (General cleaning of buildings) and SK NACE 81290 (Other cleaning activities) appeared in the local public sector service delivery. The above was caused by the situation when municipal offices decreased the number of employees cleaning, and those people were employed in the MunSE.

4.2. Economic performance of municipal social enterprises compared to privately owned social enterprises

Figure 6 projects the results of evaluating municipal social enterprises according to Altman Z-score, IN05 Index, EBITDA, and Profit/Loss compared to private social enterprises using factorized box plots. Figure 6 also provides descriptive statistics to show the differences in the cases of EBITDA and Profit/Loss, where they are less evident.

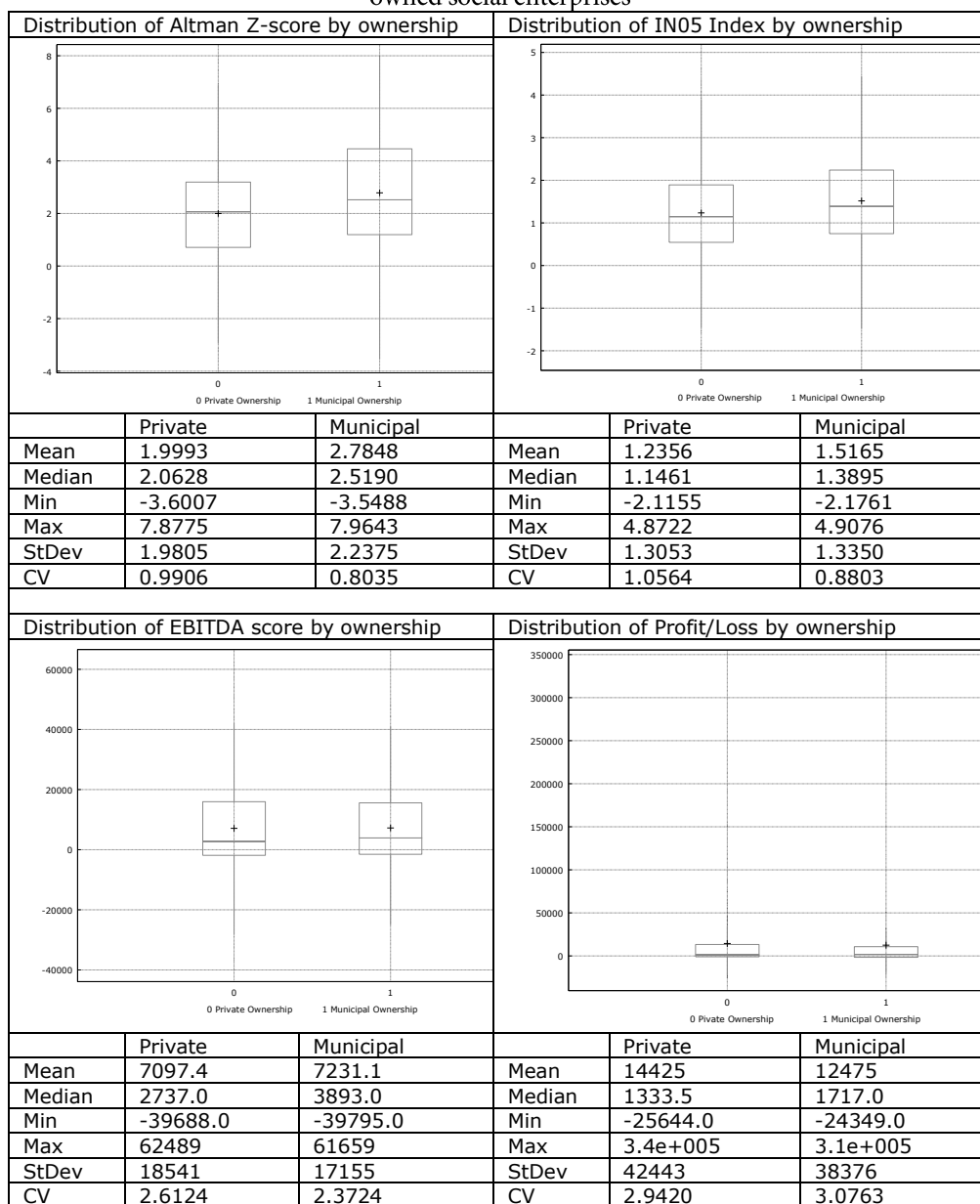
The Altman Z-score and IN05 Index belong to indicators measuring the financial situation and financial health of the enterprise (Kotulič et al., 2018), but from different points of view. The Altman Z-score expresses the likelihood of future bankruptcy, whereas the IN05 Index focuses on bonity through the financial health. Our results show that municipal social enterprises perform better, especially in the Altman Z-score and IN05 Index cases. Literature on financial analysis mentions the interpretation of

indices' values, classifying the values into several intervals. In the Altman Z-score case, values above 2.60 indicate good financial conditions of the non-production enterprises and start-ups. In contrast, values above 1.1 indicate future financial problems of the enterprises (see e.g., (Kotulič et al., 2018). Figure 6 shows that the mean values of the Altman Z-score of privately owned SEs are in the "grey zone". The mean value of the Altman Z-score of MunSEs is above the boundary defining enterprises with good financial condition. In the case of the IN05 Index, values above 2 indicate good financial health, and values below 1 indicate weak financial health. Here, both types of enterprises belong to the average zone, but MunSEs achieve higher values of financial health measured by IN05 Index. When providing the comparative analysis of SEs by their ownership, we also use profit-related indicators, EBITDA and Profit/Loss. We emphasize EBITDA, eliminating the bias that might cause the overvalued indicator, Profit/Loss. We can observe that MunSEs achieve higher mean values of EBITDA and, thus, perform better.

The better economic performance of MunSEs might be the result of several factors. One could be the direct entry of orders from the municipalities' side about their MunSEs. As in the case of the private market, and also in the case of social economy and social enterprises, the sustainable activity of the entrepreneur is a moving force. It requires the product to be in demand. Private social enterprises are established to bring a positive social impact and to deal with a particular social problem. However, they often offer a product with a temporal demand and follow their hobbies. Municipal social enterprise addresses the local demand for local services and goods; thus, the product is demanded over several periods – e.g., landscape management and other finishing construction n.e.c.– when dealing with green spaces, road maintenance, etc., general cleaning of buildings – when cleaning public buildings and schools, and the like. Another point of view on the performance of municipal social enterprises is that we should also consider the fact that municipalities can be more careful when managing their social enterprises since they come from a public sector environment. Higher accountability to citizens in the case of publicly owned social enterprises is mentioned, e.g., by Choi et al. (2021) when comparing publicly and privately owned social enterprises.

Figure 6:

Economic performance of municipal social enterprises compared to privately owned social enterprises



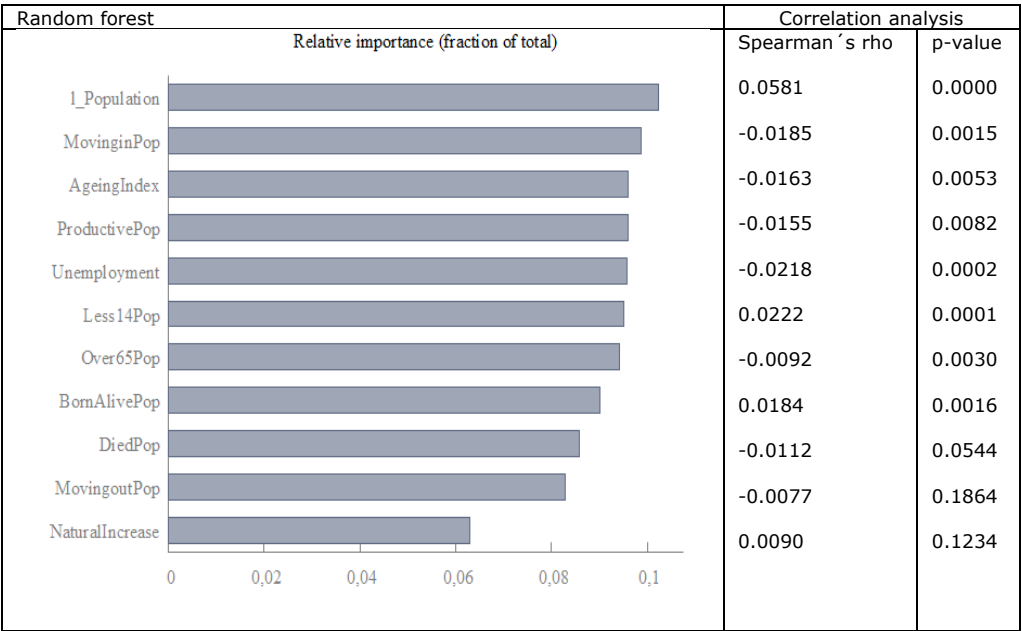
Note: 0 stays for privately owned, 1 for municipal social enterprise.

Source: Authors' own processing, 2025

4.3. Socioeconomic and demographic factors of creating municipal social enterprises

Results of the random forest are presented in Figure 7. We used 29,9260 observations (10 x 2,926 covering 2013-2022 and 2,926 Slovak municipalities). As usual, a sample was split into 80% for training and 20% for testing when running the random forest method. As data mining methods, including the random forest, allow us to work with a large set of variables in different units, we created the dataset of socioeconomic variables available at the municipality level in the DataCube database (SO SR, 2024). Variables involved in the analysis are mentioned and characterized in Appendix A.

Figure 7:
Results of random forest and correlation analysis



Note: For the random forest, the training percent correct is 99.55, and the testing percent correct is 99.45.

Source: Authors' own computation, 2025

When analyzing the socioeconomic and demographic factors determining the social enterprise's establishment by a municipality using the random forest, we observe the results presented in Figure 7. Variables are sorted according to their relative importance to the dependent variable (establishment of MunSE in the next year), with the variable at the top of the chart being the variable with the highest relative importance. As the interpretation of some results might be tendentious, as we know that

small villages in Slovakia have more existential problems and the population variable is the most influential one in this analysis, we decided to compute the correlation coefficients using Spearman's rho to express the direction of the relationship between the dependent variable and other variables. The results of the correlation analysis, shown in Figure 7, also provide more insights into the relationship between the dependent variable and factors. The population is positively correlated to the dependent variable (pointing to whether the municipality established the MunSE in the next year, or not). The above means that larger municipalities create MunSEs, not the small ones. It directly corresponds to the size of the local budget, when larger municipalities dispose of more resources and can cover the initial expenditure related to establishing municipal social enterprises. These additional resources might not be found in the budget of a small municipality when compared to larger municipalities. The share of the unemployed population, the ageing index, the productive population, and the share of immigrants and the older population are negatively correlated to the dependent variable. In the case of the share of the unemployed population, municipalities with higher unemployment rates do not establish social enterprises. It seems to be the opposite of the goal of social entrepreneurship, focusing on the support of employment. However, we cannot ignore that municipalities with higher unemployment rates are those smaller in size. Moreover, as our results show, MunSEs are established in larger municipalities. It is the same in the case of the variable on the ageing index and the older population (over 65). The share of productive population and immigration negatively correlates with the dependent variable, pointing to a sufficient level of local development and attractive locality that could offer many work opportunities; thus, such municipalities do not create a social enterprise to solve unemployment. The share of the population under 14 (Less14Pop) and the share of the population born and still alive (BornAlivePop) positively correlate with the dependent variable. They might point to larger municipalities that suffer less from shrinking populations. The rest of the variables have low relative importance and are not statistically significant at the standard significance level (0.05).

5. Discussion

The available literature on municipal social enterprises promotes municipal entrepreneurship for several reasons. The combination of commercial and social logic leads to social innovation, resting in its ability to deal with specific challenges in unemployment tied to the structure of the unemployed. By boosting job creation, it can also support local development (Polačková, 2020; Interreg Europe, 2021; Meszáros, 2023; Strečanský & Strečanská, 2023). Moreover, it can manage public services more responsibly (Interreg Europe, 2022; Calo et al., 2024) when responding to local needs and specifics and addressing the local demand by place-based solutions (Hastings & Weate, 2018; Polačková, 2020; Strečanský & Strečanská, 2023) covering several types of

knowledge required when running the social enterprise (Hastings & Weate, 2018). The main contribution is therefore defined as a measurable positive social impact.

Our results reveal several important insights into the profile of municipal social entrepreneurship. First, when analyzing the economic activity of social enterprises declared in their financial statements, we can see apparent differences between private and municipal social enterprises. This results from a strategic decision made by the local authorities combining different aspects of the knowledge. The sustainability of the economic activity is followed by municipal social enterprises when their services are offered within the economic activity declared as Landscape management. This economic activity covers, e.g., maintenance of municipal greenery, roads, and buildings, which together with another economic activity observed in our results, known as Other finishing construction n.e.c., belong to activities required in a municipality daily in line with place-based solutions. In Poland and Latvia municipal social enterprises focus on similar activities as in Slovakia, mainly related to landscape works, e.g., replenishing defects in the roadway, clearing snow, maintenance of green areas, selective waste collection point, cleaning works, and minor cleaning works, demolitions of buildings, revitalization, renovation and construction works (Czuba, 2019; Brencis et al., 2020).

On the other hand, the sustainable product/service delivered by the municipal social enterprise also influences economic performance compared to privately owned social enterprises. The results of our analysis show that municipal social enterprises achieve better economic evaluation. As mentioned, the product/service plays an important role. Furthermore, the sustainable product/service of the municipal social enterprises is procured within the simplified administration using direct entry orders. While saving time, municipalities might save financial resources, too, when reduced value-added tax (10%) is applied to the services of municipal social services. Achieving the savings and making the delivery of services efficient, the working integration as a positive measurable social impact is also reported. Andrews and Hodgkinson (2022), analyzing municipal social enterprises in England, state that the sustainability of social enterprises is influenced by resource dependence. They stress that in the case of publicly owned social enterprises, the probability of their cancellation is lower when compared to private ones, which supports our findings. Choi et al. (2021) also investigate the impact of publicness and ownership on social enterprises' economic performance. According to them, publicness enhances the outcomes through political and economic control. Ownership influences organizational performance. Public and non-profit organizations perform better when delivering public services. According to Choi et al. (2021), publicly owned social enterprises are more accountable to citizens.

Nevertheless, they mention that the results when comparing the economic performance of private and public social enterprises are mixed. In Slovak conditions, Baláž et al. (2023) examined the determinants of the economic performance of selected social enterprises using profit-related and other indicators of financial analysis. They considered the factor of ownership, too, without any statistically significant effect on the economic performance of Slovak social enterprises. However, we conducted the

research on a full sample of Slovak social enterprises.

The municipality's decision on whether to establish social enterprises or not is influenced by several factors. The hypothesis of institutional emptiness (Polačková, 2020; Interreg Europe, 2021) stresses the limited possibilities of inhabitants due to the insufficient size of municipalities, which causes a lag in local development because of insufficient financial coverage. The random forest results, which aimed to catch the socioeconomic and demographic factors determining the establishment of the social enterprise in a municipality, reveal the high relative importance of the size of the municipality measured by its population. Further correlation analysis of the direction between these variables did not support the institutional emptiness hypothesis, because the population is positively correlated with the existence of the municipal social enterprise in the following year. We can explain it straightforwardly. The insufficient financial resources characteristic of small municipalities discourage them from establishing a municipal social enterprise when the municipality should bear all the related costs in the first month of its existence. Initial investments and eventual state support, which comes with an unavoidable delay (several months), seem crucial. Thus, larger municipalities with larger local budgets and better financial coverage enjoy the benefits of municipal social enterprises to a greater extent. Furthermore, the unemployment problem, which is often dealt with by municipal social enterprises (Meszáros, 2023; Andrassy, 2023), is a domain of smaller municipalities.

Observed results that larger municipalities establish municipal social enterprises implicitly point to small municipalities facing several financial and professional capacity insufficiencies, as mentioned, e.g., by Maličká and Mourao (2023). The solution might include creating a municipal social enterprise operating in a group of neighboring municipalities, taking the same logic as joint municipal offices proposed, e.g., by Klimovský (2009). At the same time, the question of territorial consolidation of municipalities in Slovakia is still open (e.g., Jüptner & Klimovský, 2022; Lukáčová & Maličká, 2023). Creating larger municipalities by merging smaller ones will naturally increase local budgets. Thus, it might prepare a more appropriate ground for municipal social entrepreneurship to address local needs in a broader area.

However, the motivation to establish municipal social enterprises, the general perception of social entrepreneurship, and municipal social entrepreneurship support differ in certain countries. The feelings towards establishing municipal social enterprises are not well-disposed in these countries. In Latvia, local governments set up municipal social enterprises because they 'have to' (Brencis et al., 2020) when people complain about maintaining public spaces to local authorities, even if private social enterprises maintain them. In Montenegro, citizens think that social entrepreneurship positively impacts local development, but the support from the side of municipalities is poor (Melović et al., 2020). In Scotland, local governments tend to hinder social entrepreneurs from providing local public services to maintain control over local public goods (Sinclair et al., 2018). In contrast, local governments support social enterprises to provide local public services in many countries, e.g., in the USA (Korosec & Berman,

2006), China (Yu, 2020), and South Korea (Choi & Park, 2021).

6. Conclusions

This paper analyzes the economic activity and performance of municipal social enterprises compared to privately owned social enterprises. Furthermore, the paper aims to identify socioeconomic and demographic factors determining the establishment of a municipal social enterprise, because social enterprises should address a given social problem. Three sub-analyses were conducted using different research methods to fulfill the paper's aim. Economic activity is analyzed using word clouds, economic performance is analyzed using descriptive statistics and determinants are analyzed using machine learning methods known as random forest.

When researching economic activity and performance, the results show important differences between private and municipal social enterprises. Municipal social enterprises focus on Landscape management economic activities, while the dominant part of private social enterprises are hobby organizations. From the point of financial analysis, municipal social enterprises perform better when compared to private ones, according to the Altman Z-score, IN05 Index, and EBITDA. The explanation of the observed results might rest in the type of product/service of everyday demand, and the demand of municipalities solved by direct entry orders to their municipal enterprises, allowing them to save time and public money. The results of the socioeconomic and demographic factors analysis influence the decision to establish the municipal social enterprise by a municipality and limit the municipality's potential in social development, showing us the high relative importance of the municipality's population size. This result is directly connected with the size of the municipal budget, as larger municipalities have more possibilities to cover initial costs related to the functioning of the social enterprise.

The research's unique focal point adds value. Municipal social enterprises are mentioned in the relevant literature on the social economy in Slovakia, but they are not systematically scrutinized in the research. The research contributes to filling the gap in this field of scientific interest.

The primary source of the research limitations is data availability. Financial data on social enterprises, including municipal social enterprises, available in the Register of Financial Statements, suffer from inaccuracies and are incomplete. Thus, the commercial platform FinStat operates under the same restriction when gathering data from the aforementioned source. Moreover, when analyzing social enterprises, more data that better characterizes the positive social impact of the social enterprises would significantly enhance the research possibilities when applying the quantitative methods. Another limitation of the research is that the sample contains different types and forms of social enterprises with completely different aims and goals. For this reason, the

current research focuses more on case studies that present a qualitative approach.

Future research on municipal social entrepreneurship should deal with the challenges mentioned in related scientific literature and reports. For example, the reports of the Supreme Audit Office of the Slovak Republic authored by Andrassy (2023) discuss the ineffective state aid and ineffective state control of social enterprises. Another branch of the literature mentions innovative and future-oriented solutions for social enterprises, which have been promoted recently (Interreg Europe, 2022). Besides focusing on the social inclusion of marginalized groups, lagging regions, and regional disparities, social entrepreneurship should also focus on demographic and climate changes. Similarly, according to the state secretary of the MLSAF SR, new challenges in social entrepreneurship, including municipal social entrepreneurship, rely on environmental protection (Ondruš, 2023). Taking into account research results, by knowing the dominant economic activities of municipal social enterprises that focus on public spaces and greenery maintenance, waste management, construction, and reconstruction works that significantly contribute to the improvement and vitality of local public spaces and knowing that economic results of municipal social enterprises are comparable, even better than those of private social enterprise, policymakers and other stakeholders should reshape public policies to support the social entrepreneurship of local governments. Our results align with the Regional Center for Social Economy's opinion that municipal social enterprises dispose of non-negligible potential. When considering the observed results that larger municipalities are those that establish municipal social enterprises, policymakers should consider the problem of small municipalities that face several financial and professional capacity insufficiencies and further socioeconomic and demographic development in these localities.

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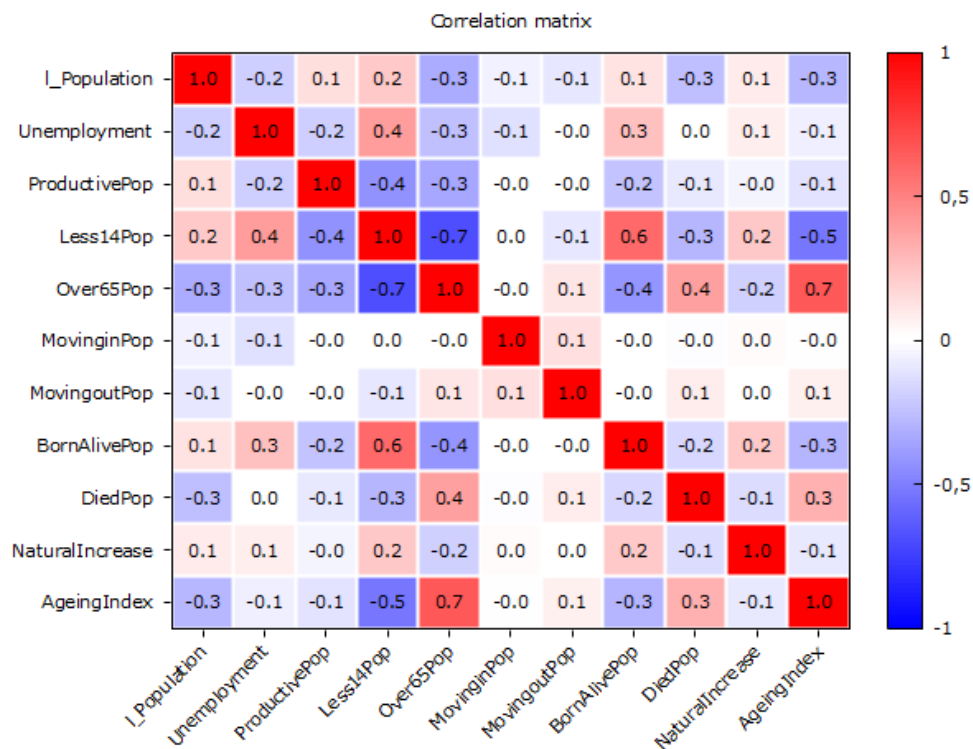
Appendix

Appendix A: Socioeconomic and demographic variables

Label	Characteristic	Source	Mean	Median	Min	Max	Std. Dev.	Missing obs.
Dependent variable								
NextYearMunSE	Dummy, Binary, 1 if municipality established a SE in next year, otherwise 0	MLSAF	0.0085	0.0000	0.0000	1.0000	0.0918	0
Socio-economic and demographic variables								
ProductivePop	Share of population between 14 and 65 on population	SO SR	0.6841	0.6893	0.2308	1.5982	0.0447	0
Unemployment	Share of unemployed persons on productive population	SO SR	0.0722	0.0573	0.0000	0.9474	0.0551	0
I_Population	Number of inhabitants on January 1st of the correspondent year expressed in logs	SO SR	6.5461	6.4862	1.9459	13.075	1.2171	0
AgeingIndex	Population over 65 on a population less than 14 (%)	SO SR	117.96	100.00	0.0000	5000.0	120.39	0
BornAlivePop	Share of persons born alive on population	SO SR	0.0102	0.0094	0.0000	0.3077	0.0065	0
MovinginPop	Share of population moving in the municipality	SO SR	0.0205	0.0166	0.0000	0.6154	0.0191	0
MovingoutPop	Share of population moving out of the municipality	SO SR	0.0167	0.0147	0.0000	0.6154	0.0131	0
DiedPop	Share of died persons on population	SO SR	0.0122	0.0108	0.0000	0.2500	0.0083	0
Lesst14Pop	Share of population less than 14 years	SO SR	0.1598	0.1513	0.0000	0.6923	0.0526	0
Over65Pop	Share of population over 65 years	SO SR	0.1561	0.1509	0.0000	0.7500	0.0528	0
NaturalIncrease	Natural Increase of the population	SO SR	0.2407	-1.0000	-1,018	1,300	28,745	0

Source: Authors' own, 2025

Correlation matrix



Source: Authors' own, 2025

[illegible]

