***DETUROPE** – THE CENTRAL EUROPEAN JOURNAL OF REGIONAL DEVELOPMENT AND TOURISM*
Vol. 14 Issue 3 2022 *ISSN 1821-2506*

Original scientific paper

LABOUR MARKET EFFECTS AND CHANGES AMONG ENTERPRISES IN FREE ENTERPRISE ZONES IN HUNGARY

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Cite this article: Dániel, Z. A. (2022). Labour market effects and changes among enterprises in free enterprise zones in Hungary. *Deturope,* 14(3), 65-83.

Abstract

The aim of regional development and planning, as defined in the 1996 Spatial Development Law, is to promote social and economic growth and reduce significant economic and infrastructure disparities. Its role is to support community initiatives to this end, with a particular emphasis on promoting the catching up of lagging regions, reducing unemployment and supporting the regeneration of industrial and agricultural businesses. This legislation enabled the creation of the Free Enterprise Zones in Hungary in 2013. The list, which has been extended twice since then, currently includes 1202 municipalities. Municipalities belonging to the zones create a favourable environment for investment, and businesses that invest and create jobs in the area can benefit from corporate tax relief and contributions payable by employers and are eligible for EU funding. According to the hypothesis of our research, the number of jobseekers in the municipalities of FEZs (compared to other municipalities) has decreased significantly, while the number of enterprises has increased. Furthermore, counties with a higher proportion of FEZ municipalities were presumed to have received more EU funds. To demonstrate this, we examined the labour market processes within FEZs due to the effects of their inclusion in the zones. Drawing on official labour market and business-related regional statistics, the analysis takes a regional perspective and seeks to focus on temporality. The database contains data at the level of municipalities (registered jobseekers, public employees, active enterprises, number of employees, subsidies) for the period under study (2012-2020). In addition to labour market processes, a further focus of the analysis was the inclusion of the SME sector to uncover mutually positive effects. According to the findings of our research, the positive impact on labour market processes cannot be clearly justified, whereas for the enterprises, inclusion in the zone induced positive effects. A positive effect was also found in terms of average staff numbers. The results show that the use of development aid is more effective for enterprises operating within the zones than in other parts of Hungary.

Keywords: Free Enterprise Zone, SME sector, Hungary, labour market effects

INTRODUCTION

The Law on Spatial Development and Planning was adopted in 1996 (Act XXI of 1996). Since then, the law has undergone minor amendments, which first mentioned the concept of a free enterprise zone in 2012 and enshrined its operation in law. Article 68 of Act CCVII, adopted in 2012, defined the concept of a free enterprise zone and provided for the designation of zones as of 1 January 2013. The introduction of free enterprise zones by national spatial development policy, according to the original concept mentioned by the NDTC (National Development and Territorial Development Concept), serves three purposes: catching up, promoting cross-border

economic links, and high-tech knowledge industries. Government Decree 27/2013 (12.II.) classifies the municipalities of the most disadvantaged regions as free enterprise zones, in accordance with the provisions of Government No. Decree 311/2007 (17.XI.) of the Ministry of Regional Development on the classification of beneficiary regions. The purpose of the law is to establish the basic tasks and rules for spatial development and planning and to create the necessary institutional framework. The aim of spatial development and spatial planning is to promote social and economic growth and to reduce significant economic and infrastructural disparities (Hoffmann, 2018). Its role is to support community initiatives to this end, to promote the catching up of lagging regions, to reduce unemployment and to support the regeneration of industrial and agricultural enterprises. The legal definition of free enterprise zones is: 'an area designated by the Government, coordinated by a regional economic development organisation, delimited by administrative boundaries or by parcel numbers, meeting various conditions, and treated together for development purposes, or, in a beneficiary area, a sector of the economy, defined individually by the Government, which is of national economic interest, and which provides specific advantages for the development of the area' (1996. Law XXI of 1996) “The society and economy of a country are also territorially structured, and there are very significant regional differences between the various territorial units and municipalities (...) A minimum territorial size is a prerequisite for the importance of the territorial question and of policies aimed at influencing territorial processes.” (Forman & Szaló, 2013, 111).

THEORETICAL BACKGROUND

Each region faces different problems arising from its historical, economic, and infrastructural past. The starting point is always to identify the real situation, for which the EU development guidelines provide a good basis. The use of urban enterprise zones is a common practice worldwide, including in the UK. The provision of a greater concession to encourage enterprise is of great help, as shown by a study of Peter S. Fisher (1997) demonstrating its benefits through practical examples. The IPSCO Steel Corporation has negotiated with several states in America about the opening of a new plant. The state of Iowa has promised several tax breaks and assistance to build the plant there. This was not only beneficial for the company, but also for the state, as the state's workforce, infrastructure and economy benefited from this investment. As this practice has proved successful, more and more countries around the world have started to encourage investment and entrepreneurship in a similar way (Fisher & Peters, 1997).

Initiatives such as the domestic free enterprise zones can be found all over the world, as one can find areas everywhere that are considered disadvantaged in one or more aspects and therefore need economic policy incentives. In response to these, several governments – in the UK, the US and more recently France – have set up enterprise zone programmes. These place-based policies generally provide tax incentives for businesses to stimulate investment, employment and ultimately improve the social and economic conditions of the residents of the targeted zones. However, the effectiveness of such enterprise zones remains controversial. First, the results of evaluations of different enterprise zone programmes are inconclusive (Kline & Moretti, 2014; Neumark & Simpson, 2015). Second, there is still much debate about whether 'place-based policies' or 'people-based policies' should be implemented (Glaeser & Gottlieb, 2008).

In the United States, the creation of enterprise zones was already preceded by strong expectations in the 1980s, with 695 areas in 21 states designated as areas where businesses could receive benefits. Most of these designations were in Arkansas (252) and Florida (138). Businesses locating in these areas typically received corporate, personal, and local tax breaks (Rubin, 1985). Opinions are mixed on the success and effectiveness of enterprise zones. Studies using different methodologies report different results in different states. Positive impacts have been observed in Texas (Freedman, 2013), for some federal initiatives (Busso et al., 2013 and Ham et al., 2011), and in the Tennessee Valley (Kline & Moretti, 2014). However, there are also analyses of ineffectiveness and negative impacts in California (Elvery, 2009) and Indiana (Papke, 1993).

In France, the Economic Zone (EZ) programme has been introduced at the national level, but opinions on its success are mixed. An analysis of Givord et al. (2017) concluded that job creation under the EZ programme has a higher per unit cost than otherwise, and Rathelot and Silard (2009) reached a similar conclusion in their study on the impact of the EZ programme on the reduction of employment taxes.

In addition to the above, there is a wealth of research on the functioning of enterprise zones in all regions of the world. The following table summarises some of them by region, others by the models developed to measure their impact, and a group of them by their long-term impact. Research on the impact on the workforce has been collected separately.

Table 1 Literature review on Special Economic Zones

United States	Bartik, 1985 Birch, 1980 Erickson, 1991 Lavation & Miller, 1992 Litser, 1990 Lynch & Zax, 2010 Wilder & Rubin, 1996
Asia	Aggarwal, 2012 and 2019 Leong, 2013 Wang, 2017 Yeung et al., 2009
Western Europe	Herrera, 2011 Püle & Innuse, 2017 Killingsworth, 1983 Larkin &Wilcox, 2011
Eastern Europe	Ambroziak & Hartwell, 2018 Gulbis, 2018 Dorozynski et al., 2017 Smetkowsky, 2002 Ezmale & Rimsane, 2013 Stojcic et al., 2020 Franczak, 2015
Impacts measuring models	Alibergovic et al., 2019 Gokhan & Crittle, 2008 Wong & Buba, 2017
Long-term effects	Freedman, 2013 Givon et al., 2018 Jensen & Winiaczyk, 2014 Rubin &Wilder, 1989
Labour market effects	Boarnet, 2001 Cizkowicz et al., 2017 Givord et al., 2017 Jensen, 2018 O'Keefe, 2004

Source: Author's own edition, based on relevant literature

The fundamental objective of the European Union is the economic "integration" of its member states, and it is therefore important that territorial fragmentation is blurred or minimised. This was the first time that economic criteria were also stipulated for the candidate countries, with the aim of achieving not only political/democratic development but also economic development (Forman & Szaló, 2013). For this competition, all regions of Hungary were expected to have a developed economy, jobs, and companies, and to overcome the shortcomings accumulated during state socialism (Rácz, 2019). This requires both qualitative and quantitative enterprise development. It is in the government's interest to create as many fast-growing enterprises as possible. Free enterprise zone subsidies address the quantitative issue first and the qualitative one second. Therefore, the division of Hungary into appropriate strategic planning regions

(NUTS) and their subdivision into smaller units, which is a common practice among EU Member States, was already outlined during the accession negotiations. Furthermore, it is most relevant for countries with significant differences between regions, such as Italy (Finta, 2014). But at the global level, we also see countries where territorial development is not centrally regulated, such as the United States.

After EU accession, EU funds (Molnár & Molnár-Barna, 2019) were opened to Hungarian micro, small and medium-sized enterprises, but members of this sector often failed to qualify for tenders. However, these resources influence the financing of businesses and provide them opportunities for development. In addition to their development, their competitiveness must also be boosted, and to this end, it is important to encourage companies in the same region to cooperate, to make joint purchases and carry out joint technological development.

A report[17] published by the European Commission in 2017 shows that 4 Hungarian regions are still among the poorest in the EU (Northern Great Plain, Northern Hungary, Southern Transdanubia, Southern Great Plain). Most of the designated zones are located in these regions, with numerous peripheral areas where research shows that living conditions are underdeveloped and intervention is needed (Lipták, 2019). However, it is also clear from the report that 3 of these 4 regions have already improved their position, with the help of free enterprise zones. The most underdeveloped areas of Hungary are in the regions of Gömör and Ózd, where high unemployment and the lack of schooling are the biggest problems. Territorial balance can be examined on both theoretical and practical levels. What constitutes balanced territorial development differs from country to country, but in all cases, territorial policy goals should be set that are in line with the idea of balance (Józsa, 2016). “The catching-up of disadvantaged regions and the reduction of regional disparities have only partially been alleviated by the ROP[18] funds, despite the high disbursement and utilisation rates, but they have helped several regions, such as the Southern Great Plain, Northern Great Plain, and the Northern Great Plain. However, in the case of two regions, North Hungary and Central Transdanubia, the regional development gap and the gap in GDP production relative to the national average continued to widen.” (Varga, 2018). In Hungary, the Law on Spatial Development and Planning distinguishes 6 regions that are significant from the point of view of spatial development, which are defined in the Act:

- Regions: territorial planning statistical units consisting of several counties. Practically identical to the NUTS2 regions defined earlier and described above.

[17] Eurostat news release 52/2017: https://ec.europa.eu/eurostat/documents/2995521/7962764/1-30032017-AP-EN.pdf
[18] ROP – Regional Operative Programme – Regionális Operatív Program

- Priority area: an area covering one or more counties or parts of their territory to be managed together from a socio-economic-environmental point of view (e.g. Balaton Priority Holiday Area, Budapest Agglomeration).
- Lagging areas: areas where economic, infrastructural and social indicators are significantly below the national average.
- Beneficiary area: an area supported by financial and economic incentives in the context of territorial development.
- Free enterprise zone: an area clearly delimited by the government, which provides specific benefits to entrepreneurs in a coordinated way by the regional economic development agency.
- Industrial parks and other development units: development units created by municipalities or associations of municipalities.

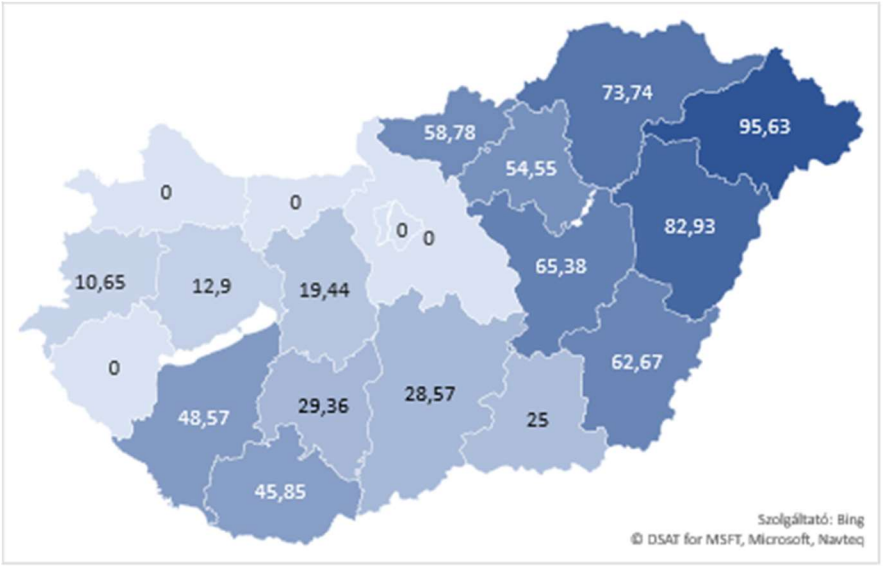
"One of the region's fundamental assets is its geographical, economic and cultural diversity. This diversity permeates the sub-region, and these opportunities add up, but this requires the sub-region itself to develop qualitatively in terms of cooperation. This is significant, not least because the multiplication of advantages is just as true in reverse: disadvantages can also be cumulative and mutually reinforcing." (Bende, 2014). Csaba Varga, a sociologist, has defined a complex concept of a micro-region, which is divided into ten points. A micro-region is, first, an ecological space; second, a local social space; third, a local community consciousness; fourth, an economic space; fifth, a local information and communication space; sixth, a micro-regional self-government and administration space; seventh, a historical space; eighth, an integrated planning and development space; ninth, a space of action; tenth, a technological space. In summary, it can be called a quality-of-life space. Its complexity is reflected not only in its concept, but also in its development, which always requires specific development at the spatial level. Despite the availability of many subsidies, simple programmes and capital injections, the development of regions cannot be schematised (Varga, 2011). The Baltic Sea Strategy and the Danube Regional Strategy have been such macro-level developments. These developments have not only been conceptualised at macro level, but also at micro level, and sometimes several micro-level developments have been transformed into a single macro-level development.

In Hungary, the Free Enterprise Zones were designated in 2013. The aim was to reduce unemployment and to boost investment. Research on the effectiveness of Free Enterprise Zones is relatively scarce. A 2019 study (based on data from 2017) showed that municipalities under

this classification experienced higher growth in terms of the number of businesses, business outcomes and average statistical headcount compared to other municipalities (Dániel & Takács, 2019). The increase in the number of businesses may have been influenced by the tax credit, which has a motivating effect (Dániel et al., 2018).

The following map shows the areas that are most affected by the designation of Free Enterprise Zones. The designation is based on the level of development and thus closely linked to the development indicators of counties and regions (Majerova, 2018).

Figure 1 Proportion of municipalities belonging to a free enterprise zone in each county



Source: Author's own construction based on Hungarian Central Statistical Office data

DATA AND METHODS

After reviewing the domestic and international literature on Free Enterprise Zones, the paper examined the potential positive changes arising from the designation of domestic Free Enterprise Zones. The objective of the research was to contribute to the literature presenting the FE zones in Hungary and to conduct a quantitative study looking for medium-term effects.

The research was seeking to answer the following questions:

1, If a relationship between the variation in the number of jobseekers registered in each type of municipality can be detected and whether the municipality is in an FEZ
2, If a relationship between the variation in the number of jobseekers registered in each type of municipality can be detected and whether the municipality is in a "pure" or "mixed" FEZ.

3, If a relationship between the variation in the number of jobseekers at county level and the proportion of FEZ municipalities can be detected in the given county.
4, How did the FEZ classification impact the number of businesses in each municipality?
5, How did the classification of FEZs impact the average number of employees of enterprises in each municipality?
6, What characterizes the relationship between the classification of FEZs and the amount of EU funds received?

The table below shows the analyses carried out to answer the research questions.

Table 2 Summary of data and methodologies used

Step	Analysis	Used data variables	Methodology
1	Change in the number of registered jobseekers in the municipalities	Registered jobseekers	Pivot table, grouping by municipal status and FEZ/Non-FEZ, t-test, F-test
2	Change in the number of registered jobseekers by municipality	Registered jobseekers	Pivot table, grouping by municipal status and pure area/mixed area, t-test, F-test
3	Change in the number of registered jobseekers by county	Registered jobseekers, share of FEZ municipalities	Map representation
4	Change in the number of active enterprises	Number of active enterprises	Correlation
5	Change in the average number of employees in enterprises	Number of enterprises, number of employees, minimum wage	Pivot table, grouping by municipal status and FEZ /Non-FEZ, t-test, F-test
6	Relationship between EU aid and municipalities in the FEZ	Amount of EU subsidies, share of FEZ municipalities	Pivot table, grouping by municipal status and FEZ /Non-FEZ, correlation, t-test, F-test

Source: Author's own construction

As the Enterprise Zones have been in place from January 2013, their impact was examined over the period 2012-2020. To ensure the availability of sufficient statistical data (data from 2021 was incomplete), year 2012 was identified as the starting year, being the last year before the introduction of the zones, and 2020 as the end of the analysed period. The data were downloaded from the Hungarian Central Statistical Office, which provided data at the municipality level. The data were then categorized by assigning Free Enterprise Zone status to each municipality, and by the status of the given municipality. The analyses were conducted along these groupings.

The evolution of the number of registered jobseekers was examined over this period, assuming that the rate of decline was higher in the Free Enterprise Zone municipalities. Another objective of Free Enterprise Zones was to encourage the establishment of businesses, the study

therefore measured the change in the number of operating businesses compared to other municipalities.

Since one of the objectives of development zones (or rather catching-up zones in Hungary) is to increase the number of employees, the study also looked at the change in the number of employees. Pivot tables were used, and samples were tested using Student's t-test. The two-sample mean test is used to compare the means of two samples. The first step in a two-sample t-test is to verify if there is a significant difference between the variances of the samples. The Fisher F-test provides an opportunity to test this. The value of F can be calculated from the relationship $F = \frac{S_1^2}{S_2^2}$, the ratio of the two variances is compared to the value in the F-distribution table for the 95% probability level. If the resulting value is greater than the value in the table, then there is a statistically significant difference between the variance quotients at the 5% significance level. In this case, the t-test to be used is the test for equal variance squares.

$$t'' = \frac{|\bar{x}-\bar{y}|}{\sqrt{\frac{\sum_{i=1}^{n}(\bar{x}-x_i)^2+\sum_{i=1}^{m}(\bar{y}-y_i)^2}{n+m-2}\cdot\frac{n+m}{nm}}},$$

where n and m are the element numbers of the samples. The value of the resulting t is compared to the probability level of the distribution t. If the value is larger than the value corresponding to the probability level, there is a verified difference between the means, it is not due to chance (Molnár, 2015).

The study of the structure and conditionality of calls for EU co-financed SME funds revealed that municipalities belonging to Free Enterprise Zones had a higher aid score with higher aid intensities. The resource absorption capacity of SMEs operating in these municipalities was also examined, in order to determine whether the more favourable conditions would result in higher scores. For this purpose, in addition to the data on the resources received in each municipality, data on the number of operating enterprises were also analysed.

RESULTS

The **first step** of the analysis was to look at the change in the number of registered jobseekers. To do this, municipalities were grouped primarily by Free Employment Zone and secondarily by municipal status. The following table (Tab. 3) shows the type of municipality with the largest decrease.

Table 3 Change in the number of registered jobseekers, 2012-2020

	Change in the number of registered jobseekers, 2012-2020 (2012=100%)
Municipality in a Free Enterprise Zone	**-39.31%**
Parish	-38.62%
county seat, city with county rights	-29.75%
large village	-44.20%
City	-43.35%
Non-FEZ municipality	**-40.81%**
metropolitan district	-58.62%
municipality	-40.36%
city with county rights	-51.60%
county seat, city with county rights	-42.87%
large village	-39.76%
City	-42.52%

Source: Author's own calculation based on Hungarian Central Statistical Office data

Contrary to our preliminary assumption, municipalities in the Free Enterprise Zones experienced a smaller decrease on average. However, as the Non-Free Enterprise Zone also included data from Budapest districts, the analysis was also carried out by type of municipality. It can be observed that the decline is lower in the Free Enterprise Zones in terms of municipalities, but more positive in the large municipalities and cities. Given the higher economic potential of the districts of the capital and the county capitals and cities with county status, the average change was also analysed after excluding the above-mentioned areas from the second phase of the analysis. Their exclusion was also justified by the fact that these municipalities really stand out, while small towns are treated on an equal footing with municipalities with less than 5,000 inhabitants when allocating economic development funds (Horeczki & Egyed, 2021). Although the gap between the two groups has narrowed, it is still higher for municipalities not belonging to Free Enterprise Zones.

In the **second step**, municipalities and sub-regions containing municipalities were re-grouped according to whether they contain only one type of municipality, i.e. whether they contain only municipalities belonging to a Free Enterprise Zone or only municipalities not belonging to a Free Enterprise Zone. These areas are considered as "pure" and those areas where both Free Enterprise Zone and non-FEZ municipalities can be found are considered as "mixed". The previous analysis was also carried out for the above groupings and the results are shown in the following table (Tab. 4).

Table 4 Change in the number of registered jobseekers between 2012 and 2020 in small regions

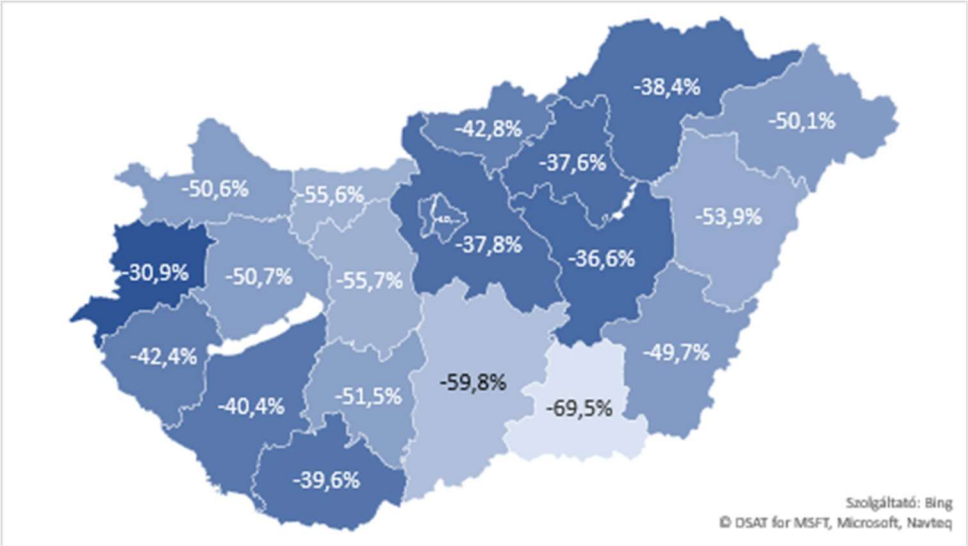
	Change in the number of registered jobseekers between 2012 and 2020 in small regions (2012=100%)
"Mixed" sub-region	**-49.13%**
Municipality of FEZ	-44.95%
Non-FEZ municipality	-50,12%
"Clean" micro-region	**-44.15%**
FEZ municipality	-43.28%
Non-FEZ municipality	-44.71%

Source: Author's own calculation based on Hungarian Central Statistical Office data

The municipalities of the "mixed" sub-regions studied performed better, but the municipalities not belonging to a Free Enterprise Zone also stood out in this grouping.

In step three, analyses were conducted on the registered jobseekers. The graph below (Fig. 2) shows the change in the number of registered jobseekers. The aim was to determine the existence of a relationship in the proportion of municipalities in Free Employment Zones at county level, but the values obtained do not show a significant relationship.

Figure 2 Change in the number of registered jobseekers between 2012 and 2020



Source: Author's own construction based on Hungarian Central Statistical Office data

In **step four** of our analysis, the change in the number of active enterprises was examined, as described above. According to the statistical methodology, an enterprise is considered to be an active enterprise if it had a turnover or more than zero employees in a given year. This is a narrower set than registered enterprises, i.e. enterprises with a legal status, but it is more relevant and more accurate for the purpose of the analysis. The results show that the number of enterprises in the municipalities in the Free Enterprise Zones shows a higher change than the increase in the number of enterprises in unclassified municipalities. The number of enterprises in small settlements has increased significantly. After filtering out the data for large

municipalities, the municipalities in the Free Enterprise Zones also showed a higher rate of growth (Tab. 5).

Table 5 Change in number of active enterprises, 2012-2020

	Change in the number of active enterprises, 2012-2020 (2012=100%)
Municipality in a Free Enterprise Zone	**38.75%**
Parish	42.16%
county seat, city with county rights	1.84%
large village	25.51%
City	15.05%
Non-FEZ municipality	**35.30%**
metropolitan district	37.49%
Municipality	21.50%
city with county rights	12.65%
county seat, city with county rights	25.66%
large village	21.51%

Source: Author's own calculation based on Hungarian Central Statistical Office data

In step five, we examined whether the statistical number of persons per enterprise had increased and whether the increase was higher in municipalities in Free Enterprise Zones. Tab. 6 shows that the statistical headcount has decreased, and that this decrease is higher in the Free Enterprise Zones, contrary to our assumptions.

Table 6 Change in the average number of employees per enterprise, 2012-2020

	Change in the average number of employees per enterprise, 2012-2020 (2012=100%)
Municipality in a Free Enterprise Zone	**94.54%**
Parish	95.01%
county seat, city with county rights	85.85%
large village	90.57%
City	92.15%
Non-FEZ municipality	**95.21%**
metropolitan district	96.18%
Municipality	79.88%
city with county rights	92.58%
county seat, city with county rights	88.64%
large village	89.58%

Source: Author's own calculation based on Hungarian Central Statistical Office data

This decrease can be attributed to the increase in the minimum wage, as a negative relationship between the size of the minimum wage and the average statistical headcount can be observed.

The correlation calculation carried out shows a strong negative (-0.894) relationship at a significance level of 0.1 for the years under study (Table 5).

Table 7 The relationship between the minimum wage and the average number of workers

Correlations

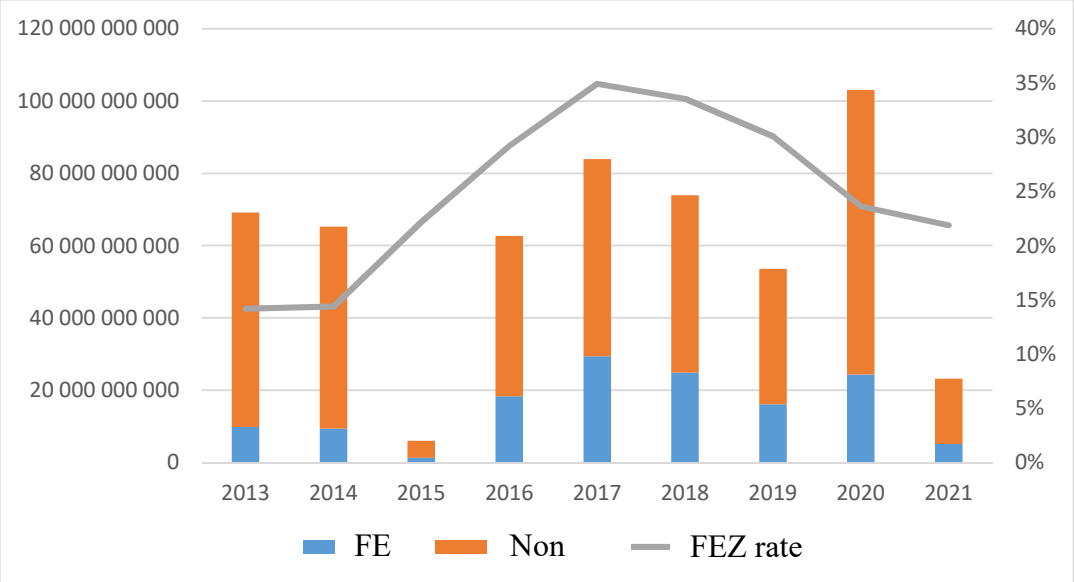
		MINWAG	AWEEMP
MINWAG	Pearson Correlation	1	-.894**
	Sig. (2-tailed)		.001
	N	9	9
AWEEMP	Pearson Correlation	-.894**	1
	Sig. (2-tailed)	.001	
	N	9	9

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Author's own calculation based on Hungarian Central Statistical Office data

In the last step of the analysis **(step six)**, we looked at the evolution of the share of aid to enterprises in the municipalities belonging to Free Enterprise Zones in the years under review. Fig. 3 shows the amount of aid allocated per year and the proportion of aid allocated in Free Enterprise Zones. This proportion is slightly above 35%. In the study, 38% of the municipalities in the sample were in Free Enterprise Zones.

Figure 3 EDOP[19] and EDIOP[20] funds disbursed in Free Enterprise Zones and beyond

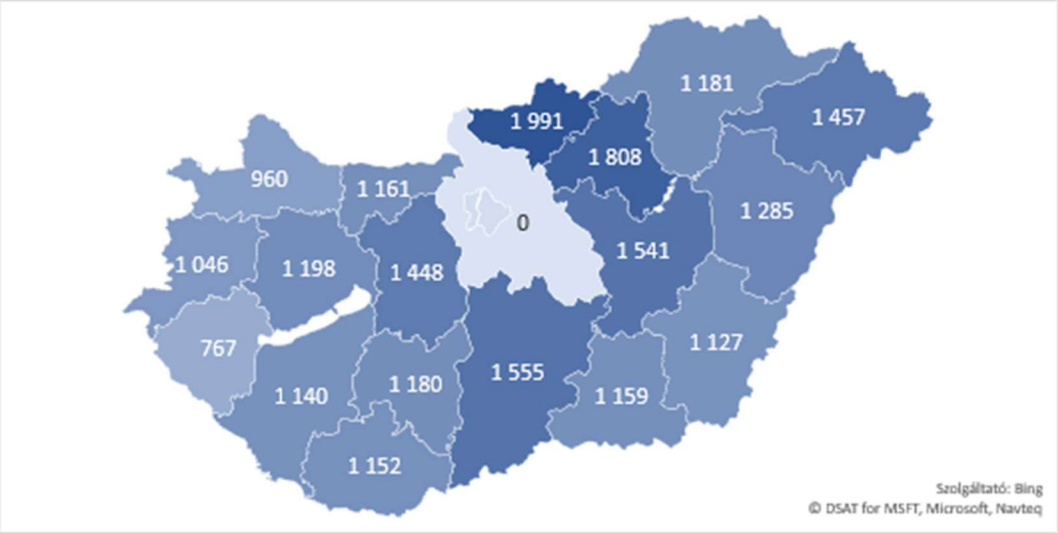


Source: Author's own construction based on Hungarian Central Statistical Office and palyazat.gov.hu data

[19] Economic Development Operational Programme (GOP – Gazdaságfejlesztési Operatív Program)
[20] Economic Development and Innovation Operational Programme (GINOP – Gazdaságfejlesztési és Innovációs Operatív Program)

Fig. 4 shows data on the relative aid at county level, i.e. the average amount of aid per active enterprise in each county.

Figure 4 EDOP/EDIOP aid per enterprise (thousand HUF)



Source: Author's own construction based on Hungarian Central Statistical Office and palyazat.gov.hu data

Comparing these values with the proportion of municipalities belonging to the Free Enterprise Zones already presented in each county, we found a stronger than medium (0.01% significance level) relationship with a coefficient of 0.577.

Table 8 The relationship between the rate of FEZ municipalities on county level and medium funds/enterprise obtained

Correlations

		FZRAT	MEDFUN
FZRAT	Pearson Correlation	1	.577**
	Sig. (2-tailed)		.008
	N	20	20
MEDFUN	Pearson Correlation	.577**	1
	Sig. (2-tailed)	.008	
	N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Author's own construction based on Hungarian Central Statistical Office and palyazat.gov.hu data

CONCLUSION

In conclusion, our assumptions were only partially confirmed by the obtained data. No link could be found between the inclusion in enterprise zones and the reduction in the average number of jobseekers in the municipalities, i.e. the positive effect of the inclusion in the zone on the number of workers could not be demonstrated. The results of the study are in line with

international research that has reported similar results (Boarnet & Bogart, 1996; Hanson, 2009; Lynch & Zax, 2011).

According to our findings, the change in the number of registered jobseekers is lower in FEZ municipalities than in those not classified under zones. A similar finding was obtained by dividing the areas into mixed (FEZ and non-FEZ) and pure zones. In these cases, too, the number of jobseekers decreased more in non-FEZ municipalities. Moreover, no significant relationship was observed at the county level between the proportion of FEZ municipalities and the change in the number of registered jobseekers. Similar results were obtained when the average statistical headcount was examined, but no positive effect was found. In contrast, the classification of a municipality had a positive effect on the number of active firms. Similar results have typically been reported in the Anglo-Saxon region (Greenbaum & Engberg, 2004; Bondonio & Greenbaum, 2007).

A Hungarian specificity is that there is a stronger than medium positive correlation in terms of the amount of aid received by enterprises, i.e. the objective of the calls for proposals to attract more resources to the areas concerned has been achieved.

In summary, the first eight years of the FEZs have mainly resulted in an increase in the number of enterprises, with no demonstrable positive impact on the labour market. The research has therefore partially confirmed our assumptions. The analysis, after examining the medium-term effects, could be performed in the future, complemented by an examination of other factors affecting the labour force.

Acknowledgements

The research was supported by the Research Centre for Management and Organization of the University of Pannonia (PE-GTK-GSKK A095000000-6 no.).

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