BRATISLAVA UNIVERSITY OF ECONOMICS AND BUSINESS

FACULTY OF ECONOMICS AND FINANCE

SELF-REPORT OF DISSERTATION

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Self-report of Dissertation

Support of entrepreneurship in less developed regions

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The dissertation defence takes place on August 21, 2025 at 9:00 o´clock at the Faculty of Economics and Finance, EUBA, Dolnozemská cesta 1, 852 35 Bratislava, before the dissertation defence committee in the doctoral study programme Economics field of study Economics and Management, appointed by the Dean of the Faculty of Economics and Finance, EUBA.

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1. An Overview of the current status of the issues addressed in the dissertation at home and abroad

The dissertation focuses on examining the sustainability of supported self-employed persons from the contribution for starting self-employment in less developed regions of Slovakia, with the start of business activities between 2012 and 2016.

Research focusing on supported self-employed workers and self-employed persons has been conducted in countries such as Germany (Caliendo et al., 2015; Caliendo & Baumgartner, 2008; Caliendo & Kritikos, 2010; Caliendo & Künn, 2013) France (Duhautois et al., 2015), Romania (Rodríguez-Planas, 2010), the Czech Republic (Dvoulety & Hora, 2020) and Slovakia (Pisar et al., 2022). However, all studies focus on the entire territory of the country. In this dissertation, we focus on less developed districts located in three regions. Specifically, the research sample refers to self-employed persons who started self-employment between 2012 and 2016 in the Košice, Prešov, and Banská Bystrica regions. According to the Central Office of Labor, Social Affairs and Family, there are 12 less developed districts in these regions (ÚPSVaR, 2024b). At the same time, most research papers use socio-demographic variables (gender, age, marital status) and the amount of financial support (Caliendo et al., 2015; Caliendo & Baumgartner, 2008; Caliendo & Kritikos, 2010; Dvoulety, 2022; Dvoulety & Hora, 2020; Pisar et al., 2021; Sánchez-Cañizares et al., 2019). A smaller amount of literature uses regional variables (Caliendo & Künn, 2011; Dvoulety & Hora, 2020).

Research shows that supported self-employed individuals have a higher survival rate in self-employment compared to other start-up self-employed individuals (Caliendo et al., 2015; Sánchez-Cañizares et al., 2019). The sustainability rate of those receiving support ranges from 66.7% to 73.4% after 2.5 years, depending on gender and the type of self-employment support program (Caliendo & Kritikos, 2010). In another study, the sustainability of self-employment after three years differs between less developed districts and other districts. In less developed districts, the sustainability rate is 37.58%, and in other districts it is 40.33% three years after the end of support (i.e., four to five years after the start of self-employment) (Pisar et al., 2021).

Efficiency of founding supported self-employers tends to be focused on less capital-intensive sectors where competition is high. Small percentages of these supported self-employers operate in the manufacturing sector (Niefert, 2010). Caliendo and Künn's (2013) research looked at different support programs, one program was more successful in regions with higher unemployment rates (Caliendo & Künn, 2013), so it is important to focus on regional factors as well.

There are regional factors that influence the sustainability of self-employment and the onset of self-employment at the regional level.

Unemployment affects self-employment, the longer the subject is unemployed, the lower the propensity to become self-employed (Bilan & Apostoaie, 2023). In rural areas, there are greater incentives to become self-employed and there is a higher opportunity in self-employment (Haapanen & Tervo, 2009). However, an increase in unemployment may lead to a decrease in self-employment in the region (Cueto et al., 2015; Filippopoulos & Fotopoulos, 2024). Another variable is population density or population. The establishment of new firms has a positive effect on population density growth (Bashir et al., 2014) because it attracts new investors and labour. Other research finds that population does not affect the proportion of small entrepreneurs (Deller, 2010).

Allowance for starting self-employment § 49 of the Act is one of the ALMP instruments to increase employment on the labour market.This allowance is one of the most frequently used allowances that are part of the ALMP instruments in Slovakia (ÚPSVR, 2013). Self-employment allowance is provided to registered unemployed who decide to engage in self-employment, agricultural production or modest entrepreneurship (ÚPSVaR, 2015). The allowance is a tool to promote employment, but also a tool to promote small business. If an unemployed person is unable to find a job on the labour market due to a lack of available employment or if the qualification does not meet the requirements of the regional labour market. Act No. 5/2004 Coll. on Employment Services has been in force in Slovakia since 2004 with several changes. The work focuses on the supported self-employed between 2012 and 2016. For this reason, we decided to examine the validity of the Act in this period. The validity of the law from 1 January 2011 to 1 May 2017 has changed a total of 15 times. The largest change to the Employment Services Act came into force on 1 May 2013 (Employment Institute, 2025).

The provider of the allowance for starting self-employment is the Office of Labour Social Affairs and Family at the district or inter-district level. The allowance for starting self-employment is intended for unemployed persons registered with the social welfare and family labour offices who have been registered as unemployed for at least 6 months. After 2013, the self-employment allowance is also intended for those who have been self-employed for at least 12 months and have been registered in the unemployment register during this period. The amount of the financial allowance varies depending on the type of district. It is calculated as a multiple of the total cost of the work calculated on the average wage of the employee in the previous calendar year. The lowest maximum amount of the financial contribution is in the districts of the Bratislava Region. The highest maximum amount of the financial contribution is in districts with a higher-than-average unemployment rate in Slovakia (Employment Institute, 2025).

The allowance for the start of self-employment is granted by the Office of Labour, Social Affairs and Family, but in the territorial district where the supported person creates a place, better to say operates his self-employment. After the grant has been agreed, applicants must undergo training to start self-employment, submit a business plan and, after one year of self-employment,

submit an annual report. From 2011 to April 2013, supported self-employed workers had to have been in business for at least 2 years. From May 2013, this requirement to be self-employed increased to 3 years. If a recipient of support ceases self-employment before the time limit in the agreement expires, they must repay a portion of the funding (Employment Institute, 2025). During the covid period, the self-employment start-up grant was suspended, followed by the "Work and Change Your Life" and the national "Take Your Chance" projects (Employment and Social Development Institute, 2022). For this reason, the research focuses on self-employment and sustainability rates among supported self-employed workers who started self-employment between 2012 and 2016.

The largest number of self-employers in Slovakia in 2016 carried out business activities in the sectors of construction (F), wholesale and retail trade, repair of motor vehicles and motorcycles (G). The smallest number of self-employers were self-employed in the sectors electricity, gas, steam and air conditioning supply (D), and mining and quarrying (B). These sectors are also very demanding for initial capital investment.

2. Aim and focus of the dissertation

This dissertation focuses on examining selected factors and their impact on the sustainability of supported self-employed workers compared to a control group of self-employed workers who started self-employment without a self-employment start-up allowance. The aim of the dissertation is to examine the sustainability of supported self-employers in less developed regions (higher territorial units) with explicit consideration of regional and sectoral factors.

The following research question is set out in the dissertation: *What is the impact of self-employment support on sustainability in self-employment in years 1 to 5 of self-employment (2012-2016) and how do sectoral and regional factors influence sustainability?*

In order to match the stated aim of the thesis we have created the following sub-objectives:

- Analysing the sustainability of self-employment under Section 49, support for self-employment in selected regions comparing it with general sustainability of self-employment.
- Identify sectoral (largeNACEfield), regional and temporal (year of start) variables that significantly affect the sustainability of self-employment.

Within the framework of our research objective, we set the following hypotheses:

H1: Those supported by the self-employment allowance have a higher sustainability of self-employment than the unsupported self-employed.

H2: Those supported in less developed districts are more likely to remain in self-employment (districts with higher unemployment and residing in a less developed district).

3. Methodology of work and research methods

The self-employment allowance was used in Slovakia in the surveyed years 2012-2016. During this period, according to the "Evaluation of the Application of Active Labour Market Measures", 20 909 jobs were created. In the period under review, the greatest interest in the self-employment allowance was in 2012. Subsequently, the number of people supported by the self-employment allowance has declined each year. In the period under review, more than €70 million in subsidies were paid out to start-up self-employers (OJSEC, 2014, 2014, 2015, 2016, 2017; OJSEC, 2013). Most of the supported self-employers belonged to the group of long-term unemployed. In 2016, as many as 65.61% of the long-term unemployed supported by a contribution for starting self-employment were part of the total number of supported self-employed persons. The young unemployed, also benefited from this allowance, in 2013, it was up to 15.15% of all those supported (ÚPSVaR, 2014, 2017). Between 2012 and 2016, the largest share of supported self-employed was those with high school or high school with graduation (ÚPSVaR, 2014, 2015, 2016, 2017; ÚPSVaR, 2013).

In this dissertation, we examine the sustainability of supported self-employers and compare the results with a control group of unsupported self-employers who started self-employment in the same year, in the same district, and in the same larger NACE section. First, we downloaded from finstat.sk a database of all sole proprietors, sole proprietors as self-employed peasants, and sole proprietors as freelancers who started their business from January 1, 2012 to December 31, 2016 (FinStat, 2023). The FinStat database offers an overview of almost all self-employed persons, except for selected entities that started their business as limited liability companies. We have subsequently modified the database. We then standardised our dataset by linking each self-employed worker to a single location, matching the records of registered office and business address through the organisation identification number. If a self-employed worker operated multiple establishments, we retained the one that was geographically closest to the primary residence. We used the database of administrative areas of the Office of Labour, Social Affairs and Family to assign each municipality to its district (Office of Labour, Social Affairs and Family, 2024a). We excluded from the dataset all self-employed persons whose activity was suspended, who had no record of a registered office or business address, who did not have a valid NACE classification or who lacked an organisation identification number. We removed those whose activity had been suspended because we could not determine exactly when or if they had resumed their activity at all. We did not include the date of cessation of self-employment or bankruptcy. The level of financial support also varied by district: less developed districts were eligible for higher maximum subsidies than more developed areas. To capture this variability, we created a binary indicator LDD that was equal to 1 if the self-employed person's headquarters was located in one of the less developed districts. These are the districts in Table 1.

Table 1 List of less developed districts from 2012 to 2016

Lučenec	Kežmarok
Poltár	Sabinov
Revúca	Svidník
Rimavská Sobota	Vranov nad Topľou
Veľký Krtíš	Rožňava
Sobrance	Trebišov

Source: own processing with infromation from ÚPSVaR, 2024b

FinStat data provide NACE Rev. 2 subclass codes for each self-employed person (FinStat, 2023). We put the subclasses into sections from A-U using the NACE Rev 2 classification (Statistical Office of the Slovak Republic, 2007). We then put these sections into 6 discretionary groups such as primary production, manufacturing/construction, services, professional activities and others. We created the variable largeNACE field.

Consequently, we decided to examine the sectors separately by creating binary variables for each defined largeNACEfield. For example, if the self-employed person's activity belonged to the agricul category, the agricul variable was assigned a value of 1; otherwise, the value was 0. Similarly, we created the variables indandconst, retailaccomtrans, finservisandother, scientificandother, and artandother. We split start dates by year to compare supported and unsupported self-employers and to track changes in sustainability over time. We then ascertained the end dates of self-employment, which were linked to 2023, when the database was downloaded. We initially verified and supplemented the data through the Register of Organizations of the Statistical Office (Statistical Office of the Slovak Republic, 2024) and the Commercial Register (MVSR, 2024.) For consistency, we randomly checked and selected the latest cutoff date between the start of the business (2012-2016) and the end of the observation period (December 31, 2022). We did not consider bankruptcy and excluded self-employers with suspended operations from the database.

We then focused on the database of supported self-employers. The Ministry of Labour, Social Affairs and Family of the Slovak Republic and the Institute of Social Policy, Department of Statistics, Data Analysis and Reporting provided a list of identification numbers (IDs) of self-employers who were supported by the self-employment allowance for the start of self-employment between 2012 and 2016 according to Section 49 of Act No. 5/2004 Coll. on Employment Services (Act No. 5/2004 Coll., n.d.). According to the list, 18 104 self-employers in Slovakia were supported. We compared the ID numbers in the finstat.sk database and found a match in 11 474 cases. Subsequently, we searched ID numbers in the register of organisations of the Statistical Office of the Slovak Republic (Statistical Office of the Slovak Republic, 2024) and in the Commercial Register of the Slovak Republic (MVSR, 2024). We have adjusted the data to be consistent with the survival rate of self-employment since the date of support. For example, if a recipient started self-employment in 2012, subsequently quit in

2013, and started again in 2017. We focused on 2012 and the cessation of self-employment in 2013. There are 1294 supported self-employers not in the database, these are those we could not find in the databases, those who started self-employment after 2017 or did not meet the minimum unemployment registration condition - that is, they switched from one self-employment to another or were doing business outside the Slovak Republic. Consequently, we also excluded those who had suspended self-employment.

Table 2 Description of variables largeNACEfield

Sections	Name of section	description
A,B	agricul	agriculture, forestry, fishing, mining and quarrying
C,D,E,F	indandconst	industrial, supply of electricity, gas, steam, water supply, construction
G,H,I	retailaccomtrans	wholesale and retail trade, transport and storage, accommodation
J,K,L,N	finservisandother	information and communication, financial and insurance activities, activities in the field of real estate, administrative and consulting services
M,P,Q	scientificandother	professional, scientific and technical activities, education, health and social work
R,S	artandother	arts, entertainment and recreation, other activities

Source: own processing with information from (Štatisticky úrad SR, 2007) and list of supported self-employment from ÚPSVaR.

The dissertation focuses on less developed regions. In our case, these are three higher territorial units - regions, namely the Banská Bystrica Region, the Košice Region and the Prešov Region. In each of these districts there is at least one less developed district. The total number of self-employed persons (in dissertation database) in Slovakia who were not supported to start a business between 2012 and 2016 is 44 278 persons. The number of those supported in less developed regions is 7210.

Many publications use matchnig and then regression models to identify the impact of selected factors on sustainability supported by ALMPs (Borik et al., 2015; Caliendo & Künn, 2011, 2013; Duhautois et al., 2015; Rodríguez-Planas, 2010; Sánchez-Cañizares et al., 2019). Research uses a probit model (Niefert, 2010; Rodríguez-Planas, 2010) or a logit model (Duhautois et al., 2015; Kaščáková et al., 2024; Pisar et al., 2021) or a classical regression model (Deller, 2010). Propensity score matching (PSM) is also used in this dissertation.

In the research, dependent and independent variables were created. The dependent variable examines the sustainability of self-employment from 1 to 5

years after the start of self-employment. If after the first year from the start, the self-employer remained active in the labour market as a self-employed practitioner. The binary variable tracking sustainability (Followup1) had a value of 1. In the case if the self-employment ended, the binary variable had a value of 0. Subsequently, we also assigned independent variables.

Table 3 Independent variables

abb	Variable name	Description
treat	treated or untreated group	Treat are supported self-employers from the SE start-up allowance, the value of treat is 1. Untreated are unsupported self-employers from the SE start-up allowance, the value of treat is 0.
agricul	agriculture and other.	Self-employers operating in the NACE sections headed agriculture, forestry, fishing, mining and quarrying. Binary variable, if the SE is active in the section, the binary variable takes the value 1. Otherwise, it takes the value 0.
indandconst	Industrial and construction and other.	Self-employers active in NACE industrial, supply of electricity, gas, steam, water supply, construction. Binary variable, if the SE is active in the given section, the binary variable takes the value 1. In other cases, it takes the value 0.
retailaccomtrans	Retail trade, accomodation and transport	Self-employers active in the NACE sections wholesale and retail trade, transport and storage, accommodation. Binary variable, if the SE is active in the section, the binary variable takes the value 1. In other cases, it takes the value 0.
finservisandother	Financial and insurance servise and other	Self-employers active in the NACE sections information and communication, financial and insurance activities, activities in the field of real estate, administrative and consulting services. Binary variable, if the SE is active in the given section, the binary variable

		takes the value 1. In other cases, it takes the value 0.
scientificandother	Scientific and other	Self-employers active in the NACE sections professional, scientific and technical activities, education, health and social work. Binary variable, if the SE is active in that section, the binary variable takes the value 1. In other cases, it takes the value 0.
artandother	Arts and other	Self-employers active in NACE arts, entertainment and recreation, other activities. Binary variable, if the SE is active in that section, the binary variable takes the value 1. In other cases, it takes the value 0. Artandother is omitted because collinearity.
Year2012	year of self-employment 2012	If the self-employment start year is 2012, the variable takes the value 1. Otherwise, it takes the value 0.
Year 2013	year of self-employment 2013	If the self-employment start year is 2013, the variable takes the value 1. Otherwise, it takes the value 0.
Year 2014	year of self-employment 2014	If the self-employment start year is 2014, the variable takes the value 1. Otherwise, it takes the value 0.
Year 2015	year of self-employment 2015	If the self-employment start year is 2015, the variable takes the value 1. Otherwise, it takes the value 0.
Year 2016	year of self-employment 2016	If the self-employment start year is 2016, the variable takes the value 1. Otherwise, it takes the value 0. Year2016 is omitted because collinearity.
LDD	Less developed districts	Less developed districts as per the list of less developed districts. Binary variable if the self-employer has a place of operation in a less developed district, the binary variable takes the value 1. Otherwise, it takes the value 0.
treat_LDD	interaction variable treat and LDD	interaction variable - treat times less developed districts.

unempl	Registrated unemployment rate in %	The registered unemployment rate expressed as a percentage and in two decimal places at the time of the start of self-employment.
treat_unempl	interaction variable treat and unempl	Interaction variable - treat time unemployment
inhabit1000	Number of inhabitants divided by 1000	Number of permanent resident population as at 31.12 at district level expressed in thousands and at the time of the start of self-employment.

Source: own processing

In this dissertation, we used the treat variable tracking support for starting self-employment. If the self-employer received support, the variable took the value 1, otherwise 0. We also focused on tracking support in less developed districts and districts with higher unemployment rates. Therefore, we created the interaction variables treat_LDD and treat_unempl. We then focused on the sectors in which the self-employer operates his/her self-employment. In case he had more than one business activity, we selected the first one in the list. The binary variables agricul, indandconst, retailaccomtrans, retailaccomtrans, inservisandother, scientificandother, and artandother were created. The last variable artandother is omitted due to colineartie. We created the same procedure for the variables Year - year of the start of self-employment. The variable LDD denotes the location of the self-employer. If the self-employer is located in a less developed district, the variable takes the value 1, otherwise 0. The variable unempl shows the registered unemployment rate expressed as a percentage at the time of the start of self-employment at the district level; we obtained this variable from the Statistical Office of the Slovak Republic (SUSR, 2024). We then used the independent variable inhabit1000, which shows the number of permanent residents at the district level at the time of the start of self-employment at the end of the calendar year (31 December) (STATdat., 2025).

In this dissertation, we created a control group of unsupported self-employers based on the following criteria: same year of self-employment start, same sector by largeNAEfield group (1 to 6), and same district-level location of self-employment. We used the quantitative propensity score matching (PSM) nearest neighbour method and logistic regression. Propensity score matching was based on a three-criteria logit model with a caliper of 0.01 and no possibility of selecting unsupported more than one time to one supported. We created a database of supported and unsupported 1:1, that is, 7210 supported and 7210 unsupported self-employers. The reason for using a caliper is to achieve a better balance in order to obtain better and more reliable results (Caliendo & Kopeinig, 2008; Wang et al., 2013), which means that the criterion was very strict.

In the first step, we estimate the probability that self-employed i is assigned to the experimental group (Di = 1) based on the observed covariance Xi = (bussdistrictd, largeNACEfieldi, yeari). We use regression to estimate the propensity score following (Pedace, 2013; Wooldridge, 2013).

$$\Pr(D_i = 1 \mid X_i) = e(X_i)$$
$$= \frac{\exp(\beta_0 + \beta_1 bussdistrict_d + \beta_2 largeNACEfield_i + \gamma year_i)}{1 + \exp(\beta_0 + \beta_1 bussdistrict_d + \beta_2 largeNACEfield_i + \gamma year_i)}$$

For each *i* we define a logit score

$$li = log\ (\hat{e}(X_i)/(1 - \hat{e}(X_i)))$$

then

$$j(i) = \arg \min_{j:\, D_{j=0}} |_{l_i} - l_j \mid st. \mid l_i - l_j \mid < \delta$$

We continue after matching by creating a group and then saving it. Each observed unit *i* gets a weight

$$\omega_i = \begin{cases} 1 \\ 0 \end{cases}$$

In case 1, *i* is the treated unit to which the second unit per pair has been assigned. In case 0, otherwise. ω_i=0, these are the ones that did not pass the caliper or were dropped from the matching. Consequently, we obtained a balanced subset of the data that is unionized. After balancing via PSM nearest-neighbor matching, we estimated the treatment effect via binary logistic regression, where the dependent variables are from Followup1 to Followup5.

We then focused on a logistic regression to examine the support and its impact on the sustainability of self-employment, including all independent variables. The variable equations are described below in the text, where we also examine the effects including interaction terms.

$$\left(\Pr\left(Y_{i,k} = 1 \mid Xi\right)\right) = \frac{\exp(\mu_{i,k})}{1 + \exp(\mu_{i,k})},$$

where the linear predictor $\left(\mu_{i,k}\right)$ has the form:

$$\mu_{i.k} = \alpha_k + \delta_k treat_i + \phi_k LDD_i + \psi_k unempl_i)$$
$$+ \sum_{s=1}^{5} \beta_{k,s} Z_{i,s} + \sum_{t=2012}^{2015} \gamma_{k,t} I\{year = t\} + \varphi_k inhabit1000_i$$

We then looked at the corelation between our independent variables. We found a high correlation between the variables registered unemployment rate (unempl) at the district level and less developed district (LDD). This is a correlation of R = 0.73087. Therefore, we used these variables in different equations. In the first equation, we use the binary variable LDD with the interaction term LDD and treat. In the second equation we use treat_unempl as the interaction term and then unempl, there is no LDD.

$$treat\_LDD_i = treat_i * LDD_i$$

We first estimated the effect of treatment through binary logit, and later we used binary logistic. The results of both models were identical. For better interpretation of the results, we decided to use the results of the logistic model. For each successive period k = 1, ... 5. Y is Followup dependent variable from 1 to 5 year.

We estimate a logistic model on the matched data.

$$\left(\Pr\left(Y_{i,k} = 1 \mid Xi\right)\right) = \frac{\exp(\mu_{i,k})}{1 + \exp(\mu_{i,k})},$$

where the linear predictor $(\mu_{i,k})$ has the form:

$$\mu_{i.k} = \alpha_k + \delta_k treat_i + \phi_k LDD_i + \theta k\ (treat_i * LDD_i) + \sum_{s=1}^{5} \beta_{k,s} Z_{i,s} + \sum_{t=2012}^{2015} \gamma_{k,t} I\{year = t\} + \varphi_k inhabit1000_i$$

where

$$\sum_{s=1}^{5} \beta_{k,s} Z_{i,s}$$

Where, 5 binary sector variables Zi,1...Zi.8´5 are included in the sum where,

$$Z_{i,s} = \begin{cases} 1, & if\ the\ self - employer\ belongs\ to\ the\ sector, \\ 0, & other \end{cases}$$

But where sector artandother (sector 6) is an implicit refrence category (βk.6 = 0). The reason is omitted because collinearity.

$$\sum_{t=2012}^{2015} \gamma_{k,t} I\{year = t\}$$

Where the 4 binary sectoral variables I{year=t} are 2012, 2013, 2014, 2015 and the reference year is 2016.

- treati is a binary variable exploring support (supported=1, unsupported=0)
- LDD_i is an indicator that reflects a less developed district (1 is a district that was among the less developed, i.e. economically weaker, districts between 2012 and 2016).
- (treati * LDDi) is the interaction term between treat and LDD.
- $Z_{i,s} \in \{agricul, indandconst, retailaccomtrans, finservisandother, scientificandother,\}$ there are binary sector indicators (1 self-employer is in the sector, 0 = in another sector), artandother is omitted.

- I{year=t} are years where yeari represents the calendar year of the start of self-employment, expressed as an integer: 2012,2013,2014,2015). 2016 is the implied baseline with γ=0.
- $inhabit1000_i$ is the number of permanent residents as of 31.12 in the districts. The variable is expressed in the year of the start of self-employment and in thousands (e.g. 15.65 = 15 650 inhabitants).

We then repeated the logistic regression procedure but without the LDD variable and its interaction variable. Instead of these prememnels, we created the interaction variable treat__unempl and used the unempl variable.

$$treat\_unempl_i = treat_i * unempl_i$$

Another objective was to investigate how industry, time of self-employment start, and regional factors affect the survival probability of the supported self-employed (treat = 1). We then repeated this procedure for the unsupported (treat = 0). We then ran the analysis with the LDD variables (underemployment rate) and later with the unempl variables (unemployment rate). At the same time, we split the results into those involving the treat_unempl interaction and then focused on the results with the treat_LDD interaction.

For the assisted self-employed, we ran all logistic regressions on the subset where treat = 1.

$$\{i : treat_i = 1\},$$

$$Y_{i,k} = \begin{cases} 1, & Self - employment\ i\ survived\ at\ the\ time\ k, \\ 0, & other \end{cases}$$

$$\Pr(Y_{k,i} = 1 \mid X_i, treat_i = 1) = \frac{\exp(\mu_{i,k})}{1 + \exp(\mu_{i,k})},$$

Where the linear predictor has the form with LDD

Where the linear predictor $(\mu_{i,k})$ has the form:

$$\mu_{i.k} = \alpha_k + \phi_k LDD_i + \sum_{s=1}^{5} \beta_{k,s} Z_{i,s} + \sum_{t=2012}^{2015} \gamma_{k,t} I\{year = t\} + \varphi_k inhabit1000_i,$$

After, the second regression:

$$\{i : treat_i = 1\},$$

$$Y_{i,k} = \begin{cases} 1, & Self - employment\ i\ survived\ at\ the\ time\ k, \\ 0, & other \end{cases}$$

$$\Pr(Y_{k,i} = 1 \mid X_i, treat_i = 1) = \frac{\exp(\mu_{i,k})}{1 + \exp(\mu_{i,k})}$$

Where the linear predictor $(\mu_{i,k})$ has the form:

$$\mu_{i.k} = \alpha_k + \psi_k unempl_i + \sum_{s=1}^{5} \beta_{k,s} Z_{i,s} + \sum_{t=2012}^{2015} \gamma_{k,t} I\{year = t\} + \varphi_k inhabit1000_i,$$

We also used a binary logistic model for the untreated group - unsupported self-employers (treat=0)

$$\{i : treat_i = 0\},$$

We also controlled for multicollinearity via VIF after regressions. In all the equations, with indandconst = 5.20, the multicollinearity is only slight, and you don't have to throw out any key term from the variables right away. Therefore, we retained these variables.
We then focused on robustness checking by using vce(robust) after logit in each of our equations. We compared the results without and with robustness via ChatGPT (ChatGPT, 2025). For each model, we began by estimating a standard logit regression under the homoskedasticity assumption and then re-estimated it using robust standard errors to address potential heteroskedasticity. Although the robust SEs were slightly larger, the estimated β-coefficients and their significance levels remained virtually unchanged.

4. Structure of the dissertation

In the first part of the dissertation, we describe the initial state of the problem and describe the structure of the thesis. In the theoretical part of the dissertation, we focus on employment policy instruments, looking at their effectiveness and sustainability. We then focus on more specifically tracking sustainability among supported self-employers and the factors that affect supported self-employers through a review of domestic and foreign literature. In the first chapter, we also trace the sustainability of self-employment and the factors that influence sustainability. We take a closer look at the functioning of the self-employment allowance in Slovakia and later in the Czech Republic. In the last subchapter of the theoretical part, we follow the state of self-employment in Slovakia in 2012-2016. In the second chapter we set the aim of the thesis, research question, sub-objectives and hypotheses. In the third chapter we describe the methodology of the thesis. We begin with an analysis of the contribution to the start of self-employment from the annual evaluations of the Social Welfare and Family Labour Centre in Slovakia. We then analyse all self-employers in Slovakia between 2012 and 2016, focusing more closely on supported self-employers and later supported and unsupported self-employers located in less developed regions in Slovakia. We devote the last part of the methodology to the description of the quantitative method used. We describe the process of using Propensity Score Matching (PSM) nearest neighbour 1:1 and logistic regression. In the fourth part of the dissertation, we present the results. First, an analysis of supported self-

employers in Slovakia, then an analysis of our research sample only. In the last part of the results, we follow the sustainability of self-employment and present the results of the logistic regression also for supported and unsupported. In the fifth section, we discuss the main findings, compare the results with other research papers, then describe the limitations of the research and conclude for whom the results of the dissertation are beneficial. Finally, we review the most important results, answering the research question. In the last section, we summarize the entire dissertation in a resume in Slovak language.

5. The results of the work

The original support sample in Slovakia (in database for dissertation) consisted of 16,336 self-employed (sole traders, freelancers and farmers), of which 54.46% were men and 44.68% were women (0.86% without gender). Most of them had their registered office in Prievidza district and the least in Košice III. In 2012-2016, 13.53% were doing business in less developed districts and 86.47% in developed districts; we placed beneficiaries who officially started their business on January 1, 2017, on the date of December 30, 2016, while we excluded all those with a date after January 1, 2017.

The highest number of supported self-employers was in 2012, after which the number of self-employers has declined each year. Before the change in legislation 44.97% were supported (1.1.2012 to 30.4.2013) and 55.03% after it (from 1.5.2013), indicating a decrease in interest in the allowance for starting self-employment. The number of active self-employed who remained in business declines as the reference period increases. After the first year, 98.49% of supported self-employed in Slovakia remained in self-employment, in the fourth year 71.19%. Beneficiaries are sorted by NACE Rev. 2 activities (Sections O, T and U - public administration and defence, compulsory social security, non-commercial activities of households - were excluded from the support). For the purpose of clarity, we have grouped NACE sections into six broad sectors and created a largeNACEfield category and six binary variables: agricul, indandconst, retailaccomtrans, finservisandother, scientificandother and artandother.

We then focused our analysis on all self-employers in the less developed districts and then the distribution between supported and unsupported. In the first part of the analysis, we selected only self-employed persons operating in less developed regions (total sample of 51 488 persons; supported 7 210, unsupported 44 278) from the Slovak database for 2012-2016. After the PSM (1:1), taking into account the year of starting the business, sector and district, the sample was reduced to 7,210 supported and 7,210 unsupported self-employers (14,420 in total) from the regions of Banská Bystrica, Prešov and Košice. In this case, the amount of sustainability of the supported within 2 years is higher than that of the unsupported. Subsequently, this changes and the sustainability rate after 3 years is higher for unsupported as opposed to supported self-employers.

Before PSM, for all self-employers in less developed regions, the highest rate of self-employment was in the indandconst sector (42.87%). Subsequent to

PSM, the proportion of supported and unsupported self-employers in indandconst sector is 31.37% and 36.37% respectively. In some cases, the percentages varied between pre and post PSM within the business sectors. This adjustment within largeNACEfield shows how the PSM balanced the choice of variables to make the sample as relevant as possible.

The decline in the sustainability of unsupported self-employment in less developed regions is moderate, but most pronounced in the first year, when the termination rate between the first and second years reaches 6.17%. After the second year, the annual exit rate stabilizes at around 2.5% until the fifth year.. The high rate of sustainability for those supported is only within 2 years of the start of self-employment. This is due to the validity of the contribution agreement in which the self-employed commit to operate the business for 2 years, 3 years in the later period.

We then focused our analysis on the less developed districts, which are located in less developed regions. Most of the supported were in the Prešov region. The sustainability rates of self-employed workers who are self-employed in both LDDs and non-LDDs have been declining each year, with self-employed workers in LDDs having a lower survival rate in self-employment than others from the second year onwards. After five years, supported self-employers have a sustainability rate of 66.42%, while in other districts the sustainability rate of self-employers is 77.63%. This indicates market barriers in less developed districts compared to other districts in less developed regions.

In the first part of the analysis, we focus on the "treatment" effect - the impact of the start-up subsidy on the sustainability of self-employment during the first five years after the start of self-employment. In the first year, the supported are up to five times more likely to be sustainable than the unsupported, which is related to the terms of the contract and the disbursement of the remaining funds after the first year. In the second year, this effect weakens but still remains strongly positive - the supported are up to 2.5 times more likely to remain in the labour market than the unsupported. However, from the third year onwards, the effect of support drops below 1, meaning that after this time the subsidy no longer reduces the chance of staying in the self-employed compared to the unsupported. In the first two years, those who started in the retail, transport, accommodation or financial and other services sectors have higher chances of being sustained compared to those in the arts and other activities sector; after the third year, this effect diminishes. Those who started businesses in later years all had lower sustainability than those in 2016. The unemployment rate variable for entering entrepreneurship has an OR of about 0.95-0.96, suggesting that 1 bb higher unemployment reduces the odds of staying in business by about 4%.

In the second part of the analysis, we focus on survival in LDD in the period from one to five years after the start of self-employment, using the treat_LDD interaction. The year of starting self-employment has a negative significance in all the years examined. Starting self-employment in an earlier year (e.g., 2012) leads to a decrease in the chances of sustaining self-employment,

unlike self-employed persons who started in 2016, throughout the entire five years from the start of self-employment. The size of the population at the district level (in thousands) at the start of self-employment has a slight positive effect, increasing the probability of survival by 0.3–0.5% per year. Self-employment in a less developed district reduces the probability of survival by approximately 30% per year, with the treat_LDD interaction being significant in the fourth year, when support partially offsets the negative impact of LDD on self-employed persons.

In the third part of the analysis, we examine the sustainability of self-employment in less developed regions using the variables unemployment rate and the interaction variable unemployment rate and treat_unempl support. In the first year, those receiving support have up to twice the chance of survival as those not receiving support, but from the third to the fifth year, support reduces the chance of survival by up to 40% in the third year and up to 75.4% in the fifth year. The unemployment variable is significant in all five years: each percentage point of higher unemployment in the district reduces the chance of survival by approximately 5%. The interaction between support and unemployment is significant in all years except the third, with support increasing the chances of self-employment sustainability by 4–5.7% in the first two years in districts with higher unemployment and still by 2.3% in the fourth and fifth years. In the agriculture, forestry and fisheries sector (agricul), the chances of survival are 22.8% lower than in the arts and other services sector (artandother), while in the first two years, entrepreneurs in retail, transport, accommodation (retailaccomtrans) and financial and other services (finservisandother) have higher chances in the first two years. Start-ups in 2012–2015 have lower sustainability compared to 2016 (e.g. entrepreneurs from 2012 have a 34.6% lower chance of survival in the first year and up to a 52.7% lower chance of survival in the fifth year than entrepreneurs from 2016). A larger population of the district inhabit1000 increases the chance of survival by 0.3–0.5% per year.

In the fourth part of the analysis, we focused on monitoring sustainability for supported self-employers only, using sectoral variables, unemployment, and district size by population. Compared to the benchmark arts and other services sector (artandother), supported entrepreneurs in all other sectors are less likely to be sustained, with the most significant decline in the retail, transport and accommodation sector (retailaccomtrans). Entrepreneurs who started in 2012-2015 had significantly lower chances of survival in the medium and long term (years 4 and 5) than those in 2016. Operating in a less developed district reduces the chances of supported self-employers from years 3 to 5 in the sustainability of self-employment by about 25% compared to those supported in other districts.

In the fifth part of the analysis, we focused on monitoring the sustainability of only supported self-employed persons using the unempl variable. Among supported self-employed persons who started their businesses in districts with higher unemployment rates, there is a decline in survival chances in years 3 to 5, unlike self-employed persons who started their businesses in districts with lower unemployment rates. Specifically, each percentage point

increase in the unemployment rate at the time of starting employment reduces the chance of remaining self-employed among supported self-employed persons by approximately 2.5%.

In the sixth section, we focus on the factors influencing the sustainability of unsupported self-employed persons after PSM. In the retail, transport and accommodation (retailaccomtrans) and financial and other services (finservisandother), the chances of survival throughout the entire period are approximately twice as high as in the arts and other services (artandother) sector; in the industry, construction and energy (indandconst) sector, the chances increase from the second year onwards. Self-employed persons without support who started their business in 2012–2013 are 60–72% less likely to remain in business during the first five years than self-employed persons who started their business in 2016. Doing business in a less developed area reduces the chance of remaining self-employed during the first three years by 25–33%, while a larger population in the area slightly increases this chance by 0.5–0.8%.

In the seventh section, we focus on unsupported self-employed persons and use the unempl variable. The results are very similar to those in the sixth section. The unempl variable has a consistently negative impact throughout the five years: each one percent increase in unemployment at entry reduces the chance of staying in business by 4.7% in the first year and 5.0% in the fifth year.

6. Conclusion

The thesis "Support of entrepreneurship in less developed region" examines the impact of selected factors on the sustainability of self-employment of supported self-employers in less developed regions (Banská Bystrica, Prešov, Košice region), which between 2012 and 2016 contain at least one less developed district. In the dissertation we set 2 hypotheses. Hypothesis 1 focuses on tracking the sustainability of self-employment among the supported. Sustainability rates for supported self-employers are higher by the second year in contrast to unsupported self-employed. In the third year, the sustainability rate for supported self-employers is 80.79%, in the fifth year it is 62.89% in less developed regions. Supported self-employers who are based in less developed districts have even lower sustainability rate in self-employment than all supported self-employers after 5 years.

In the first year, supported self-employers have a several times higher chance in the sustainability of self-employment as opposed to unsupported self-employers. This positive impact lasts only for the duration of the agreement on the self-employment start-up allowance. Once the agreement expires, the opposite effect occurs. In the third year, the impact of the support is reversed and in years 4 and 5, the supporters have a lower chance of sustaining self-employment compared to the unsupported.

Hypothesis 2 focuses on the degree of sustainability in less developed districts by looking at variables such as LDD and unemployment and the interaction variables LDD and treat, unemployment and treat. The first interaction, treat_LDD, tests whether support has a greater impact in less

developed districts; the second interaction, treat_unemployment, tests whether support is more effective where unemployment was higher at entry. Residing in a less developed district has a negative effect on self-employment survival over the study period. However, the treat_LDD interaction is only statistically significant in year 4 (OR = 1.202), implying that those supported in less developed areas have a 20.2% higher chance of survival each year compared to those not supported in other counties in less developed counties. The treat_unempl interaction term is statistically significant in every year except year 3 (Followup 3). In Followup1 and Followup2, each 1% increase in the unemployment rate increases the probability of surviving self-employment by 4.4% and 5.7%, respectively, holding other factors constant. This suggests that support is more effective in districts with higher unemployment because it increases both the short- and long-term sustainability of self-employment. We can conclude that the earlier self-employment starts, the lower the probability of continuing in self-employment compared to those who started in 2016, with this negative effect being even more pronounced for earlier years. In addition, some sectors show a higher probability of survival than the arts and other sectors, but only during the period of the subsidy agreement.

There are several limitations in the research. The data obtained do not allow us to determine exactly when the supported person signed the agreement on the receipt of the allowance to start self-employment, but we know the date of registration in the commercial register so the start of self-employment. the research did not take into account bankruptcy at the time of self-employment, only the date of termination of self-employment. If business interruption or bankruptcy were perceived as the cessation of self-employment, this fact could affect the results in the dissertation. In the research we focus on the length of time self-employment has been carried out since the start of registration, however, the supported sole traders had to legally carry out business activities within two years and after the change in the law in 2013 up to three years. Another limitation of the research is the entry into self-employment from the position of performing the main and only job activity (dependent work) or in the case of only quasi-employment for the unsupported self-employed. another limitation is the lack of information on the previous status of the unsupported self-employed, namely whether they entered self-employment from employment or unemployment.

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9. Summary

The dissertation focuses on examining the sustainability of those supported by grants for starting self-employment in less developed regions (higher territorial units). The research focuses on those supported between 2012 and 2016, monitoring sustainability within five years of starting self-employment. The dissertation uses dependent variables monitoring sustainability within five years on an annual basis. We use dependent binary variables Followup1 to Followup5. The dissertation examines the sustainability of supported self-employed persons based on selected factors: the sector in which they are self-employed, the district in which they operate their self-employment, the unemployment rate at the district level at the time of starting self-employment, the number of inhabitants at the district level at the time of starting self-employment, the year of starting self-employment, and the impact of support (the treat variable).

In the methodological section, we use Propensity Score Matching Nearest Neighbourhood as a tool that assigns one unsupported self-employed person to a supported one according to criteria. We used caliper and the option of selection without repetition. In propensity score matching, we used matching conditions and logit. These conditions are the same district in which they operate their self-employment (supported and unsupported self-employed persons), the same largeNACEfield code, and the same year of commencement of self-employment. We then added other independent variables and created a logistic model. Due to the high correlation between the variables unemployment rate (unempl) and location in a less developed district (LDD), we used these variables separately.

Research results show that support for starting self-employment has a positive impact on the sustainability of self-employment within two years of starting self-employment. During this period, the agreement on the provision of a contribution for starting self-employment from unemployment also expires. The agreement stipulates that self-employment (business activity) must be carried out for at least two years, but after May 2013, the requirement to carry out self-employment increased to at least three years. After the third year, the effect of the support decreases, and after the fourth year, the support has a negative effect on the sustainability of self-employment. The unemployment rate among supported self-employed persons at the time of starting self-employment has a negative effect. The unempl variable is significant in all five years: each percentage point of higher unemployment in the district reduces the probability of survival by approximately 5%. Support for starting self-employment increases the chance of survival by 4-5.7% in the first two years in districts with higher unemployment and by another 2.3% in the fourth and fifth years.

The results suggest that the self-employment start-up grant is a more effective tool in districts with higher unemployment rates, which are located in the Banská Bystrica, Prešov, and Košice regions. At the same time, supported self-employed persons have a higher chance of sustaining self-employment in the artandother sectors, unlike in other sectors. Unsupported self-employed persons in the retail, accommodation, transport, and financial services and other sectors have almost twice the chance of sustaining self-employment throughout the entire period under review compared to the arts and other sectors. The later the year of starting self-employment, the lower the chance of sustaining self-employment throughout the entire period under review.

The results of the study can help employees at social affairs and family offices who select suitable candidates for self-employment start-up grants, based on information about the sectors in which self-employed persons will carry out their self-employment activities and based on regional variables at the time of starting self-employment. At the same time, the results can help the Central Office of Labor, Social Affairs and Family in evaluating the effectiveness of support.

10. Extended abstract in the Slovak language

Príspevok na začatie samostatnej zárobkovej činnosti je jedným z nástrojov aktívnej politiky trhu práce určeným pre nezamestnaných, ktorí sa rozhodnú vstúpiť do samozamestnávania. Dizertačná práca sa zameriava na skúmanie faktorov vplyvu na udržateľnosť samozamestnávania u podporených samozamestnávateľov v porovnaní s kontrolnou skupinou samozamestnávateľov, ktorí sa rozhodli začať samozamestnávanie z vlastnej motivácie. Hoci väčšina predchádzajúcich štúdií analyzuje programy na národnej alebo medzinárodnej úrovni (Caliendo & Kritikos, 2010; Caliendo & Künn, 2013; Card et al., 2010; Duhautois et al., 2015; Pisar et al., 2021) dizertačná práca sa špecializujeme na menej rozvinuté regióny Slovenska (Banskobystrický, Prešovský, Košický kraj). V každom z týchto krajov totiž aspoň jeden okres patrí k ekonomicky slabších okresom.

Cieľom dizetačnej práce je preskúmať udržateľnosť podporených samozamestnávateľov v menej rozvinutých regiónoch s explicitným zohľadnením regionálnych a sektorových faktorov so stanovenou nasledujúcou výskumnou otázkou: *Aký je vplyv podpory samostatnej zárobkovej činnosti na udržateľnosť samostatnej zárobkovej činnosti v 1. až 5. roku samostatnej zárobkovej činnosti (2012 - 2016) a ako ovplyvňujú udržateľnosť sektorové a regionálne faktory?*

V rámci nášho výskumného cieľa sme si stanovili nasledujúce hypotézy: H1: Podporení z príspevku na samostatnú zárobkovú činnosť majú vyššiu udržateľnosť samostatnej zárobkovej činnosti ako nepodporovaní samozamestnávatelia. H2: Podporení v menej rozvinutých okresoch majú vyššiu šancu udržať sa v samozamestnávaní (okresy s vyššou nezamestnanosťou a bydliskom v menej rozvinutom okrese).

V prvom kroku sa vytvorila databáza pozostávajúca z rôznych údajov a databáz. Najprv z portálu finstat.sk (FinStat, 2023) sa stiahla databáza živnostníkov, živnostníkov ako slobodne hospodáriacich roľníkov a živnostníkov ako slobodné povolanie, ktorí začali v samozamestnávaní (podnikať) v rokoch 2012-2016 so sídlom v menej rozvinutých krajoch. Následne podľa zoznamu najmenej rozvinutých okresov v rokoch 2012 až 2016 sa vytvorila nezávislá binárna premenná LDD (less developed district). V ďalšom kroku sa upravili dátumy zberu údajov na stav k 31.12.2022 a vypočítala sa celková dĺžka prevádzkovania v samozamestnávaní. Na základe tejto dĺžky sme vytvorili päť binárnych premenných Followup1–Followup5, ktoré indikujú udržanie samozamestnávania (podnikania) v príslušnom období daného roka. Takýmto spôsobom sa vytvorili závislé binárne premenné sledujúce mieru udržateľnosti v samozamestnávaní. V prípade, ak chýbal údaj o ukončení samozamestnávania, doplnil sa na základe informácie z portálu Registra organizácií štatistického úradu SR (Štatisticky úrad SR, n.d.) a Živnostenského registra Slovenskej republiky (MVSR, 2024). V databáze FinStat (FinStat, 2023) sa nachádzala aj oblasť samozamestnávania podľa päťmiestneho kódu NACE Rev 2. Na základe zoznamu sekcií NACE Rev 2 (Štatisticky úrad SR, 2007) sa ku každému kódu priradila sekcia a väčšia podskupina largeNACEfield. Takto sa vytvorila premenná largeNACEfield. Databáza sa doplnila o regionálne nezávislé premenné: miera evidovanej nezamestnanosti vyjadrená v % v čase začatia samozamestnávania a počet obyvateľov vyjadrený v tisícoch v čase začatia samozamestnávania na okresnej úrovni. Databáza bola očistená od subjektov, ktorí nedisponovali informáciami o sídle, NACE kóde alebo mali pozastavenú živnosť a iné.

V druhom kroku sa z počiatočnej databázy samostatne zárobkovo činných osôb vyselektovali podporení samozamestnávatelia podľa IČO. Požadovaný zoznam IČO príjemcov príspevku na začatie SZČ bolo poskytnutých z databázy Ministerstva práce, sociálnych vecí a rodiny SR (Inštitút sociálnej politiky, analýzy dát a reporting). Následne sa doplnili zostávajúci samozamestnávatelia z Registra organizácií (Štatisticky úrad SR, n.d.) a Živnostenského registra (MVSR, 2024.), čím sa celkový počet podporených rozšíril na 16 336.

V treťom kroku sa z databázy podporených a nepodporených vybrali len samozamestnávatelia, ktorí prevádzkovali svoju podnikateľskú činnosť (miesto prevádzky) v menej rozvinutom regióne. Ako menej rozvinuté regióny sa definovali tie kraje, v ktorých sa nachádzal aspoň jeden okres zo zoznamu najmenej rozvinutých (2012–2016). V týchto krajoch pôsobilo 7 210 podporených a viac ako 40-tisíc nepodporených samostatne zárobkovo činných.

V dizertačnej práci sme použili logistic regresiu, avšak predtým sme si vytvorili kontrolnú skupinu ku našej skúmanej skupine pomocou metódy Propensity score matching (nearest-neighbour 1:1, caliper 0,01), následne bola vytvorená vyvážená databáza rovnakého počtu podporených a nepodoprených samozamestnávateľov sídliacich vo vybraných menej rozvinutých regiónoch.

Následne bola použitá binárna logistická regresia s konštruovanými binárnymi závislými premennými. Závislé premenné sú udržateľnosť v jednotlivých rokoch od začiatku samozamestnávania až do 5 roku. Ako kontrolné premenné boli použité sektorové skupiny zosúladené zo sekcií NACE Rev 2, rok vstupu do samozamestnávania, premenná zachytávajúca sídlo v menej rozvinutom okrese (LDD), miera nezamestnanosti a veľkosť okresu podľa počtu obyvateľov. Premenné miera evidovanej nezamestnanosti a sídlo v menej rozvinutom okrese sú medzi sebou vysoko korelované. Z tohto dôvodu sme ich v analýze a výsledkoch používali oddelene. Zároveň sme vytvorili interakčné premenné skúmajúce vplyv podpory (treat) v LDD a na nezamestnanosť – (LDD*treat) a (unempl*treat).

Miera udržateľnosti samostatnej zárobkovej činnosti podporených samozamestnávateľov postupne klesá s najvýraznejším prepadom medzi druhým a tretím rokom a následne medzi tretím a štvrtým rokom. Práve v týchto obdobiach totiž končí zákonom stanovená povinnosť vykonávať samozamestnávanie (najprv minimálne 2 roky, po novom až 3 roky).

Výsledky ukazujú, že príspevok na začatie samozamestnávania zvyšuje šancu udržať sa v samozamestnávaní v prvých dvoch rokoch, no od tretieho roku je efekt opačný. V prvom roku od začiatku samozamestnávania mali podporení takmer 5-násobne vyššiu šancu v udržaní na trhu práce než nepodporení, v druhom roku je to 2,3-násobok. Od tretieho roku sa efekt podpory obrátil, podporení mali o 39% nižšiu šancu v udržateľnosti samozamestnávania na rozdiel od nepodporených. Vo štvrtom a piatom roku sa efekt ešte viac prehlbuje. V štvrtom roku, podporení v menej rozvinutom okrese majú nižšiu šancu v udržateľnosti samozamestnávania v porovnaní s ostatnými samozamestnávateľmi. Čím samozamestnávatelia neskôr štartovali samozamestnávanie, tým bola šanca v udržateľnosti samozamestnávania vyššia v porovnaní s rokom 2016. Intervencia podpory je účinnejšia v okresoch s vyššou mierou nezamestnanosti v prvom a druhom roku. V okresoch s vyššou nezamestnanosťou je šanca v udržateľnosti samozamestnávania vyššia o 4% až cca 5,7%.

Dizertačná práca prináša dôkazy o krátkodobom prínose dotácie v čase platnosti dohody o poskytnutí príspevku na začatie samozamestnávania a o potrebe ďalších doplnkových opatrení pre zvýšenie dlhodobej efektívnosti na trhu práce. Výsledky práce môžu napomôcť úradom práce sociálnych vecí a rodiny pri výbere vhodných uchádzačov o podporu s dôrazom na sektor samozamestnávania a aktuálnu situáciu na okresnej úrovni s dôrazom na regionálne premenne.

Kľúčové slová: samozamestnávateľ, udržateľnosť, propensity score matching (PSM), logistická regresia, príspevok na začatie samostatnej zárobkovej činnosti