Entrepreneurship in Urban and Rural Areas in the EU

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Abstract

This paper discusses entrepreneurship in urban and rural areas in the European Union. With regard to the assumption that entrepreneurship is an important driving force of national and regional development and contributes to increasing the standard of living, the main goal of the paper is to examine possible differences in preference to become an entrepreneur in rural or underdeveloped region with comparison to urban and well developed areas. Using two econometric models we examine (1) factors which affect the intention to become an entrepreneur in the future and (2) characteristics which describe entrepreneurs who have already started their business. Resulting from the regression analyses, the intention to become an entrepreneur is more likely expressed by persons living in underdeveloped regions but persons who have already set up their business live more likely in urban and well developed areas. Based on the results we came also to conclusions about important attributes increasing preference for entrepreneurial activities, such as gender, age, or personal, characteristics.

1 Introduction

Entrepreneurship can be considered as a driver of national and local economic development and as a contributor to increasing the standard of living. Entrepreneurship is a source of new jobs and it also contributes to improving the overall living standards and increasing the country's competitiveness. Establishment of new businesses enhances economic growth. This positive relation between entrepreneurship and economic development has been empirically proven in many studies (e.g. Mueller, 2005; Fritsch und Mueller, 2004, van Stel and Storey, 2004; Audretsch and Keilbach, 2004; Scarpetta, 2003). This is particularly true in case of rural and underdeveloped regions which have to deal with several economic and structural problems and therefore rural entrepreneurship is considered as a path for endogenous development (European Commission, 2012). Indeed, entrepreneurship has become a key topic in rural development (Baumgartner et al., 2013) and latter studies (e.g. Trettin and Welter, 2011) suggest the need for research of socio-spatial context that influences entrepreneurial activities in particular localities.

In our paper we assume both entrepreneurs' demographic and psychological traits and the spatial context to be potential factors affecting (1) entrepreneurial intent and (2) entrepreneurial activity. Concentrating on individual-level intentions as a prerequisite of entrepreneurial activity is essential because environmental influences on start-up formation will be mediated by the intent of individuals to act entrepreneurially (Linan et al., 2010). Aspects such as age, gender, origin and individual skills have been widely studied in relation to entrepreneurial intent and entrepreneurial activity (e.g. Meccheri and Pelloni, 2006; Pyysiäinen et al., 2006). There has been also done a plenty research on entrepreneurship in rural areas (e.g. Figueroa-Armijos and Johnson, 2013; Rijkers and Costa, 2012) and attention has been paid to the role of entrepreneurship in economic growth and development (e.g.

Goetz et al., 2010). Entrepreneurship research started to focus more on spatial aspects of entrepreneurial activities and entrepreneurship policies (Thornton and Flynn, 2003; Cuervo, 2008). In our research, we considered the rurality and the economic level of the place of origin as a *factor* with possible impact on entrepreneurial intent and entrepreneurial activity. Therefore, our analysis includes micro-level person-related variables as well as variables describing the living place of a (potential) entrepreneur.

The paper proceeds as follows. The second chapter describes the data and the methods used which were. Chapter three discusses two econometric models built with the aim to examine (1) factors which affect the intention to become an entrepreneur in the future and (2) characteristics which describe entrepreneurs who have already started their business. Results of the models are given in chapter four and the fifth chapter concludes.

2 Data Description and Methodology

In this section we present the data and methods which were used. In our examination, we have used the data from the survey "*Entrepreneurship in the EU and beyond*" which has been conducted by The European Commission's Directorate-General "Enterprise and Industry". The survey covers the 27 countries currently comprising the EU, as well as the EEA/EFTA countries (Norway, Iceland, and Switzerland), and 10 more non-EU countries; over 42,000 respondents from different social and demographic groups were interviewed. In our research we only used data from the 27 EU countries. We also used ESPON typology (ESPON 2013 Programme, 2010) to obtain the variable *country* which is described in following text. The final sample consists of 14,726 questionnaires. The data obtained from the questionnaires were further processed in the programs *SPSS* and *R*.

2.1 Dependent variable

The dependent variable entering the first model (*intention*) is a binary variable reaching a value of 0 or 1, and expresses the intention to start a business (y = 1) or not to start a business (y = 0) in the future. The dependent variable is obtained directly from the questionnaire through the question in which respondents should express whether they would prefer to be an entrepreneur or an employee if they would have a choice. The dependent variable entering the second model (*actual_occupation*) is a binary variable reaching the value 1 if the respondent is an entrepreneur or self-employed. The dependent variable is also obtained directly from the questionnaire as the respondents should answer what is their actual occupation.

2.2 Independent variables

The selection of independent variables was based on already conducted studies which are mentioned in the introduction. Independent variables entering the econometric models can be divided into two groups. The first group of variables consists of respondents´ predispositions, e.g. their gender, age, country and region (urban, rural or metropolitan) which they live in. When looking at country of origin, we were not really interested in particular countries, but into their economic level. With the aim to examine the relation between economic welfare and the preference to start a business, according to the ESPON methodology (ESPON 2013 Programme, 2010), we divided the EU countries into four groups: (1) countries with GDP above and unemployment rate below ESPON average, (2) intermediate countries with GDP below ESPON average, (3) intermediate countries with unemployment rate above average and (4) countries with GDP below and unemployment rate above ESPON average. All mentioned variables are nominal or binary variables and their overview is given in Table 1. The second

group of variables consists of variables reflecting personal characteristics of respondents. In this group the variables are binary and express agreement (0) or disagreement (1) with various statements concerning their character. Overview of the variables included to the second group is shown in the Table 2.

Tab. 1 Variables describing respondents´ predispositions

Variable	Category	Value
Country (*country*)	Countries with GDP above and unemployment rate below ESPON average	0
	Intermediate countries with GDP below ESPON average	1
	Intermediate countries with unemployment rate above ESPON average	2
	Countries with GDP below and unemployment rate above ESPON average	3
Region *(reg*)	Metropolitan area	0
	Urban area	1
	Rural area	2
Gender (*gen*)	Male	0
	Female	1
Age (*age*)	Age group 15-24 years	0
	Age group 25 – 39 years	1
	Age group 40- 54 years	2
	Age group > 55 years	3

Tab. 2 Variables describing respondents´ personal characteristics

Variable	Description	Value	
		Agree	Disagree
Char_1	In general, I am willing to take risks	0	1
Char_2	Generally, when facing difficult tasks, I am certain that I will accomplish them	0	1
Char_3	My life is determined by my own actions, not by others or by chance	0	1
Char_4	If I see something I do not like, I change it	0	1
Char_5	The possibility of being rejected by others for standing up for my decisions would not stop me	0	1
Char_6	I am an inventive person who has ideas	0	1
Char_7	I am optimistic about my future	0	1
Char_8	I like situations in which I compete with others	0	1
Char_9	When confronted with difficult tasks I can count on luck and the help of others	0	1

3 Econometric Models

In our research we decided to build two econometric models. In the first model (Model 1) we focus on factors which may influence the preference to start a business in the future. The dependent variable in the model is the variable *preference* which expresses the preference to start a business or not to start a business in the future. The second model (Model 2) aims to examine factors which may affect the real providing of entrepreneurial activity. The

dependent variable in the second model is the variable *actual_occupation* expressing whether the respondent is self-employed or not.

To investigate the determinants of the decision to start a business we decided to use *logit* model which is suitable in the case when the dependent variable is binary. In contrast to the linear regression, logistic regression is not limited by the requirement of normality of residues or homoscedasticity. Testing the independence of the variables (*GVIF*) didn´t show any presence of multicollinearity in both models.

Table 3 and table 4 show the results of the models and the results of testing multicollinearity (*GVIF*). The null hypotheses assuming no multicollinearity cannot be rejected in any case.

Tab. 3 Results of the Model 1 – Entrepreneurial intent

Variable	Estimate	Pr(>|z|)	GVIF	Coefficients
COUNTRY (1)	0.280	$2.59.10^{-16}$ ***	1.081	**1.332**
COUNTRY (2)	0.371	$1.40.10^{-08}$ ***	-	**1.471**
COUNTRY (3)	0.343	$< 2.10^{-16}$ ***	-	**1.420**
REG (1)	-0.052	0.2691	1.042	0.949
REG (2)	-0.012	0.8027	-	0.989
GEN (1)	-0.312	$< 2.10^{-16}$ ***	1.033	**0.733**
AGE (1)	-0.311	$3.34.10^{-06}$ ***	1.062	**0.729**
AGE (2)	-0.326	$3.51.10^{-07}$ ***	-	**0.721**
AGE (3)	-0.443	$1.53.10^{-12}$ ***	-	**0.644**
CHAR_1 (1)	-0.463	$9.91.10^{-15}$ ***	1.555	**0.637**
CHAR_2 (1)	-0.073	0.2610	1.686	0.930
CHAR_3 (1)	-0.004	0.9444	1.565	0.996
CHAR_4 (1)	-0.259	0.0020 **	1.069	**0.785**
CHAR_5 (1)	-0.224	0.0002 ***	1.077	**0.813**
CHAR_6 (1)	-0.490	$5.10.10^{-15}$ ***	1.066	**0.625**
CHAR_7 (1)	-0.072	0.2291	1.678	0.929
CHAR_8 (1)	-0.270	$2.19.10^{-06}$ ***	1.075	**0.772**
CHAR_9 (1)	0.277	$2.61.10^{-06}$ ***	1.049	**1.335**
Signif. codes:	0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1			

Tab. 4 results of the Model 2 – Actual occupation

Variable	Estimate	Pr(>|z|)	GVIF	Coefficients
COUNTRY (1)	-0.346	$2.74.10^{-09}$ ***	1.111	**0.707**
COUNTRY (2)	0.202	0.0055 **	-	**1.224**
COUNTRY (3)	-0.477	$< 2.10^{-16}$ ***	-	**0.620**
REG (1)	-0.222	$2.60.10^{-05}$ ***	1.053	**0.801**
REG (2)	-0.498	$< 2.10^{-16}$ ***	-	**0.608**
GEN (1)	0.209	$2.11.10^{-07}$ ***	1.041	**1.233**
AGE (1)	1.852	$< 2.10^{-16}$ ***	1.085	**6.375**

AGE (2)	1.837	$< 2.10^{-16}$ ***	-	**6.278**
AGE (3)	-0.030	0.7325	-	0.970
CHAR_1 (1)	0.224	0.0013 **	1.652	**1.251**
CHAR_2 (1)	-0.355	$2.60.10^{-06}$ ***	1.674	**0.701**
CHAR_3 (1)	-0.006	0.9386	1.542	0.995
CHAR_4 (1)	0.190	0.0109 *	1.607	**1.210**
CHAR_5 (1)	-0.011	0.8421	1.690	0.958
CHAR_6 (1)	-0.158	0.0293 *	1.613	**0.854**
CHAR_7 (1)	-0.201	0.0036 **	1.652	**0.818**
CHAR_8 (1)	-0.130	0.0211 *	1.627	**0.878**
CHAR_9 (1)	0.122	0.0729 .	1.388	**1.130**
Signif. codes:	0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1			

4 Results and Discussion

The results of the model enable us to evaluate the factors that have statistically significant effect on the intention to become an entrepreneur and on the actual occupation of respondents.

The first of all examined variables was the variable *country* which is statistically significant in both models. As a reference group, countries with GDP above and unemployment rate below ESPON average were used. In the model of preference (Model 1) the chance to start a business in the future increases in each of other types of countries, which may be considered as underdeveloped. In case of intermediate countries with GDP below ESPON average, the chance to start a business in the future is more than 33% higher; in the intermediate countries with unemployment rate above ESPON average more than 47% higher and in case of countries with GDP below and unemployment rate above ESPON average more than 42% higher in comparison to the most developed countries. These results indicate that in countries with lower economic level and lower welfare, the preference to start a business in the future is higher. According to the results of the survey, one of the main motivational factors of starting a business in underdeveloped countries is the possibility of higher earnings. Besides that, in well developed countries with high GDP level and low unemployment level, the opportunity costs of starting a business are too high. Other results arise in the actual occupation model (Model 2). The chance of being self-employed is only higher in the intermediate countries with unemployment rate above ESPON average (more than 22%). In other two groups the chance of being self-employed is lower – in the countries with GDP below ESPON average more than 29% lower and in countries with GDP below and unemployment rate above ESPON average more than 38% lower. The lower rate of being self-employed seems to be an important factor correlating with lower economic level and welfare.

The second variable was the variable *region*. Using this variable we aimed to examine whether the chance of preference of being self-employed and the chance of being self-employed is higher in rural, urban or metropolitan areas. In the first model this variable wasn´t statistically significant. In the second model we came to the conclusion that in metropolitan region the chance of being self-employed is the highest one. In comparison to the metropolitan regions the chance decreases in urban regions (almost 20% lower) and also

in rural regions (almost 40% lower). This result points to the main problems of rural areas which have been described in many previous conducted studies concerning the rural entrepreneurship.

The third examined variable was the variable *gender*. Respondents´ gender seems to be significant in both models. The first model showed that the chance of preference of being an entrepreneur is more than 26% higher if the respondent is male. This gender effect on entrepreneurial intentionality has been found and replicated frequently in other studies (e.g. Maesa et al., 2014). The second model showed different results, namely the chance of being self-employed is more than 23% higher if the respondent was female. This result indicates the necessity of supporting female entrepreneurs what is nowadays a widely discussed topic (e.g. Brush, Cooper, 2012).
The age of the respondents appears to be significant in both models, as well. In the first model the results show that the chance to become an entrepreneur in the future is the highest in the age group *15-24 years*. With increasing age the chance decreases – in the age group *25-39*, the chance is more than 27% lower, in the age group *40-54 years* almost 28% lower and in the age group *>55 years* more than 35% lower. These results indicate that the intention to start a business is mainly high among young people. On the other hand, the second model shows that the chance of being self-employed in the present in this age group is the lowest one. In following age groups (*25-39* and *40-45 years*) the chance of being an entrepreneur in the present is almost 6-times higher. These results point to the assumption that young people aim to establish their own business sometimes in the future but only a few of them really start it in early ages.

From the other group of variables, several variables seem to be significant in the first model. The chance to prefer being an entrepreneur in the future is higher in case of individuals, which are willing to take risk (36% higher), which are able to change what they don´t like (21% higher), which like to compete with others (23% higher), which don´t count on luck and the help of others (36% higher) and which are persistent (19% higher) and inventive (37,5% higher). These results indicate that individuals who describe their personality as an ideal personality of an entrepreneur are more likely expressing their intention to start a business in the future. The second model showed very different results. In case of some characteristics (risk tolerance, ability to make changes) the chance to be an entrepreneur is even lower. Other characteristics show positive relation to the increasing chance of being self-employed, whereby the most important characteristic seems to be persistency (30% higher). The inconsistency in the second model may highlight the importance of examining the necessity and opportunity of being self-employed. This issue should be taken into account mainly in research which looks at actual occupancy of respondents.

Based on the results of the model it is also possible to compare the respondents´ profile in both models. When looking at the *model of preference*, the chance of becoming an entrepreneur in the future increases if the respondent is 15-24 years old male coming from underdeveloped region who considers himself as willing to take risk, inventive and self-sustaining. In the *actual occupation model*, the chance of being self-employed increases in case of 25-54 years old woman who lives in metropolitan region and in well-developed area with high economic level. The profile of respondent from the first model match the results from many already conducted studies mentioned in the first chapter of our paper, but the differences between results of the two models suggest lot of inspiration for further research. The results point also to an essential issue, namely to the importance of supporting entrepreneurship in underdeveloped and rural areas across the Europe.

5 Conclusion

With regard to the assumption that entrepreneurship is an important driving force of national and regional development and contributes to increasing the standard of living, the main goal of the paper is to examine possible differences in preference to become an entrepreneur in rural or underdeveloped region with comparison to urban and well developed areas. Using two econometric models we examine (1) factors which affect the preference to become an entrepreneur in the future and (2) characteristics which describe entrepreneurs who have already started their business. When looking at the model of preference, the chance of becoming an entrepreneur in the future increases if the respondent is 15-24 years old male coming from underdeveloped region and who considers himself as willing to take risk, inventive and self-sustaining. In the actual occupation model, the chance of being self-employed in case of 25-54 years old woman who lives in metropolitan region and in well-developed area with high economic level.

Econometric modeling has also its limitations. Several other factors affecting the preference of being self-employed have not been investigated in this research, such as reasons and motivations of starting a business which may be very different in urban and well developed areas in comparison to underdeveloped and rural areas. In would be beneficial to include the factor of opportunity and necessity of starting a business into further research.

To sum up, resulting from the regression analyses, the intention to become an entrepreneur is more likely expressed by persons living in underdeveloped regions but persons who have already set up their business live more likely in urban and well developed areas. This lesson is particularly important because it highlights the need of supporting entrepreneurship in rural areas.

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