AN INTERNATIONAL SURVEY ON FACTORS AFFECTING SELF-EMPLOYMENT INTENTIONS AMONG STUDENTS OF AGRICULTURE AND LIFE SCIENCES

Josip Juračak¹, TodorMarković², Edward Majewski³, Danka Moravčikova⁴, ŽeljkoKokot⁵ *Corresponding author E-mail: todor.markovic@polj.edu.rs

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ABSTRACT

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In this study, we investigated the dependence of selfemployment intention (SEINT) level in agricultural students from Croatia, Poland, Slovakia and Serbia on selected personal traits and country macroeconomic indicators. The results show that the SEINT level depends on student's perceived desirability of self-employment and perceived self-efficacy. Previous experience with entrepreneurship also affects SEINT. In terms of macroeconomic indicators, higher GDP per capita has been shown to have a positive effect on SEINT, while unfavorable conditions of starting a business have a negative impact.

Students from Novi Sad (Serbia) showed higher average SEINT level compared to students from Croatia (Zagreb) and Slovakia (Nitra).

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¹ Josip Juračak, Ph.D., Assistant Professor, University of Zagreb, Faculty of Agriculture, Svetošimunskacesta 25, 10000 Zagreb, Croatia. Phone: +38512393758, E-mail: jjuracak@ agr.hr, ORCID ID (https://orcid.org/0000-0002-7745-2019)

² Todor Marković, Ph.D., Full Professor, University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, Serbia. Phone: +381214853419, E-mail: todor. markovic@polj.edu.rs, ORCID ID (https://orcid.org/0000-0002-2706-4034)

³ Edward Majewski, Ph.D., Full Professor, Warsaw University of Life Sciences, Faculty of Economic Sciences, ul. Nowoursynowska 166, 02-787 Warsaw, Phone: +48225934216, E-mail: edward_majewski@sggw.pl, ORCID ID (https://orcid.org/0000-0003-0886-6645)

⁴ Danka Moravčikova, Ph.D., Associate Professor, Slovak University of Agriculture, Faculty of Economics and Management, Tr. Andreja Hlinku 2, 949 76 Nitra, Slovakia. Phone: +421376414692, E-mail: danka.moravcikova.dm@gmail.com, ORCID ID (https://orcid. org/0000-0001-6493-7634)

⁵ Željko Kokot, M.Sc., Ph.D. student, University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, Serbia. Phone: +381643055292, E-mail: zeljko. kokot5@gmail.com, ORCID ID (https://orcid.org/0000-0002-3615-5835)

Introduction

Entrepreneurship is a direct consequence of the self-employment, an act of individuals who chose to create employment and income for themselves. Although self-employment and entrepreneurship are closely related and often used as synonyms, these concepts differ in their meaning. The main difference is that entrepreneurship, in the narrow sense, is a special form of self-employment characterized by innovation and high long-term growth rate. This is important to emphasize in order to understand the high level of self-employment in less developed countries where people go for self-employment because they have no alternative. Due to the relationship between the level of self-employment, entrepreneurship and economic growth, all developed societies seek to create a favourable climate, and to encourage self-employment and entrepreneurship. In doing so, a special attention is paid to young people, some of whom are entrepreneurship of the future. In this context, the Council of the European Union (2014) also points out in its conclusions that entrepreneurship of young generations, based on creativity and innovation, promotes economic growth and alleviates the problem of unemployment.

There are several reasons why students are often the subject of entrepreneurial behaviour research. The first is the fact that today's students are the future leaders of social and business developments and as such, they are the subject of interest in entrepreneurship research. Second, and not least, higher education institutions are largely engaged in research work. Therefore, student questioning is a convenient choice for them.

The main objective of this research is to examine the relationship between students' self-employment intention and two predictors: personal desirability of self-employment and perceived self-confidence in self-employment abilities. The research is based on the modified intention model developed by McStay (2008), who refers to models of Shapero and Sokol, and Ajzen. These models have been used in similar researches (Shapero, Sokol, 1982; Ajzen, 1991; Gardner, Pierce, 1998; Venesaaret al., 2007; Juračak, Tica, 2016). In addition we use the results of the survey to compare students of different gender as well as from different countries with respect to their self-employment intention.

In addition to the main objective, we upgrade the model to test if variations in the level of self-employment intention are caused by selected social and economic variables, namely:

- Previous experience in entrepreneurship or self-employment;
- The national GDP per capita;
- The national unemployment level;
- The conditions for starting a business venture in a country.

Related to the stated goals, the following research hypotheses were tested:

• There are significant differences among students from different countries with respect to the self-employment intentions;

• Perceived desirability of self-employment and perceived personal efficacy with respect to self-employment are significantly correlated with self-employment intention.

Socio-economic factors like previous entrepreneurial experience and economic situation in a country influences students' self-employment intentions.

Literature review

A number of studies and publications over the past few decades, confirms the importance of entrepreneurship and small businesses for economic growth and income (Hisrichet al., 2008, Forsman, 2011, McKeever et al., 2014). Self-employment and entrepreneurship are specific forms of human behaviour. That is why these phenomena have been the subject of research for decades by psychologists, sociologists, and economists who seek to understand and explain them. In this respect, a number of behavioural models, mainly based on the Theory of Planed Behaviour (TPB), have been developed to find out how and why certain behaviour occurs in individuals. These are cognitive models that are largely used to explain the connection between attitudes, norms, intentions and actual behaviour (Shapero, Sokol, 1982; Ajzen, 1991; Kolvereid, Isaksen, 2006; McStay, 2008). One of the main premises of such models is that expressed behavioural intention is a good predictor of an individual's actual behaviour. Accordingly, a self-employment should be linked to the previous intention of such behaviour.

The intention and the intensity of a particular behaviour with an individual are conditioned by different influences. In his theory of planned behaviour, Ajzen (1991) identifies three major predictors of intention and then behaviour: attitude toward the behaviour, subjective norms, and perceived behavioural control. Shapero's Entrepreneurial Event Model (Shapero, Sokol, 1982), which is more related to this research by topic, defines the following key predictors of an entrepreneurial event: perceptions of desirability, perceptions of feasibility and displacement. In both models, we can see the importance of attitude and perception of feasibility or control, to create behavioural intentional in an individual. In some studies these two factors have been found to be positively correlated with the self-employment intention (Shapero, Sokol, 1982; Gardner, Pierce, 1998; Tretten, 2005; Venesaaret al., 2007; McStay, 2008; Juračak, Tica, 2016). We may say that a person will exhibit a higher level of intent on a particular behaviour if he or she deems it desirable and considered fit to undertake a particular activity.

With regard to other influential variables, authors mainly prove the link between selfemployment intention and previous entrepreneurial experience, either personally or through role models (Tkachev, Kolvereid, 1999; Delmar, Davidsson, 2000; Martz et al., 2003; Shaper, Volery, 2004; Tretten, 2005; Majagoro, Mgabo, 2012; Kedmenecet al., 2014; Juračak, Tica, 2016; Siegeret al., 2016). Namely, such experience positively influences the perception of one's own ability but also the perception of entrepreneurship as desirable behaviour. The correlation between gender and propensity for self-employment has been the subject of several researches. A good number of authors find that men predominate with respect to self-employment (Vecianaet al., 2005; Teixeira, Davey, 2008; Nabi, Walmsley, 2010; Shneoret al., 2013; Buchta, Jakubiak, 2014; Siegeret al., 2016), but there are also those who argue the opposite (Tkachev, Kolvereid, 1999; Hisrichet al., 2008; Stamatovićet al., 2012). However, it seems that the self-employment misbalance by gender decreases continuously during years.

Most of researches conducted so far showed that a relatively large proportion of students have a positive perception of self-employment, high perceived self-efficacy, and a high level of stated intention to self-employment. However, the differences in established proportions are very large from research to research (Tretten, 2005; Venesaaret al., 2007; Teixeira, Davey, 2008; Nabi, Walmsley, 2010; Buchta, Jakubiak, 2014; Łuczka, Rembiasz, 2016; Siegeret al., 2016).

In this research we surveyed students from Croatia, Poland, Serbia and Slovakia. Although they all belong to the same geographical circle, we expect variations in results due to differences in countries' historical developments. This is especially true of recent history, i.e. since the late 1980s. The three countries are EU members, but there is a difference even among them since Croatia only joined the EU in 2013, and Poland and Slovakia in 2004. Serbia has the status of candidate for EU membership. The impact of socio-economic conditions on entrepreneurship stems from the relationship between the expected benefits of self-employment and the best long-term employment alternative. Thus, it is even possible that in less developed countries, the self-employment rate will be similar to that in highly developed countries due to the high opportunity cost of self-employment in the latter (Kedmenecet al., 2014).

In terms of the economic situation, macroeconomic indicators confirm that the situation in Poland and Slovakia is better than in Croatia and Serbia. In terms of GDP per capita, the difference between Poland and Croatia is not large (USD 13,800 to 13,300, respectively), but this indicator is quite higher in Slovakia and lower in Serbia (World Bank, 2018). Another indicator of development is unemployment rate, which is below 10% in Poland and Slovakia and above 10% in Croatia and Serbia.

Furthermore, it is to be expected that a stimulating environment will encourage individuals to become entrepreneurs. According to the World Bank (2018), it is the easiest to start a business in Serbia among the four countries. It means that the regulatory environment is the most conducive to the starting of a local firm in Serbia. The World Bank ranks 190 countries annually with respect to the ease of starting a business. Serbia was ranked the highest among the four countries in 2017 (World Bank, 2018). Accordingly, the highest level of adult self-employment intention was found also in Serbia (GEM, 2017). There is also the highest proportion of self-employed in the total employed in Serbia among the four surveyed countries (World Bank, 2019).

Materials and methods

The data were collected using self-completion questionnaire. The survey was conducted in 2017 on a random sample from four universities in the field of agriculture and related sciences: University of Zagreb Faculty of Agriculture (UNIZG, Croatia); University of Novi Sad Faculty of Agriculture (UNINS, Serbia); Slovak Agricultural University in Nitra (UNINR, Slovakia) and Warsaw Life Science University (UNIWA, Poland). The survey population included all full-time undergraduate and graduate students in each country, and the sample was randomly selected using the systematic sampling technique. The sample structure by university is given in the next table (*Table 1*.).

| Unversity, Country | Sample size | Proportion in the total sample (%) |
|---|-------------|---------------------------------------|
| University of Zagreb Faculty of Agriculture, Croatia | 230 | 20.07 |
| Warsaw Life Science University, Poland | 302 | 26.35 |
| Slovak Agricultural University in Nitra, Slovakia | 429 | 37.43 |
| University of Novi Sad Faculty of Agriculture, Serbia | 185 | 16.14 |
| Total sample size | 1,146 | 100.00 |

Table 1. The survey sample size and structure by university

Source: Authors' calculations

The Intention model applied in this paper does not include all the variables used by Shapero and Sokol (1982) andAjzen (1991) in their predictor – behaviour relationship models. Following McStay (2008), in this research we used the basic model consisting of the following three elements:

- 1. Stated intention for self-employment as a dependent variable (SEINT),
- 2. Perceived desirability of self-employment as a predictor (PDSE)
- 3. Perceived entrepreneurial self-efficacy as a predictor (PESE).

The first predictor (PDSE) corresponds to the factor Perceptions of desirability in Shapero's model (1982), and the factor Attitude toward the behaviour in Ajzen's model (1991). The second predictor (PESE) replaces the factor Perceptions of feasibility in Shapero's, and the factor Perceived behavioural control in Ajzen's model. The justification for applying the second factor we can find in the work of Armitage and Conner who found that self-efficacy is more strongly related to behavioural intention than perceived behavioural control.



Figure 1. The applied self-employment intention model diagram

Source: Authors' preparations

In the second step we used the basic model to examine the impact of background factors that are assumed to be related to the predictors of the dependent variable or may have a direct effect on the level of self-employment intention. The following dummy variables are included as background factors:

- Previous experience with entrepreneurship (PEE): high-low;
- National GDP per capita: high medium low;
- Unemployment rate: high medium low;
- The World Bank Starting a Business Rank: high medium low.

The last three variables are included to help explain differences in results between subsamples (i.e. countries). Different statistical procedures explained further in the text were used in accordance with the research problem. Initial analyses concerning the psychometric characteristics of the scales and the description of the sample and the association between the variables were made in SPSS 19.

Measuring instruments

Main three elements of the basic model (perceived desirability of self-employment - PDSE, perceived entrepreneurial self-efficacy - PESE, and self-employment intention - SEINT) we measured using a questionnaire developed according to similar research (McStay, 2008; Juračak, Tica, 2016), which has been translated into local languages for the purpose of this research. Given the possible loss of measurement properties due to translation, particular attention was paid to the psychometric characteristics of the scales and certain adjustments were made to ensure construct validity and internal consistency of the measures used. Construct validity refers to the empirical conclusion about whether a scale measures the target construct, and factor analysis was used as one of ways of testing (Petz, 1981). In doing so, the structure of a

homogeneous questionnaire should be one-factor, while for heterogeneous one should obtain as many factors as there are constructs or subscales. In this case the principal component analysis (with varimax rotation) was performed taking into account the Kaiser-Guttman criterion when extracting the factors, and the results were compared with the structure obtained in other studies. The reliability of the internal consistency type examines the particle intercorrelations in the questionnaire, and the Cronbach's α coefficient of internal consistency indicates the percentage of variance explained by the true result with respect to the variance caused by random factors originating from the questionnaire construct (Krkovićet al., 1966). In the case where some particles did not have a high correlation with the total result (meaning they did not have the same object of measurement), they were dropped from the analysis, which increased α coefficient, that is, the homogeneity of the scale.

For all three constructs (PESE, PDSE and SEINT) we used a 1-5 Likert scale, where 1 represents complete disagreement with the assertion while 5 represents complete agreement. The PESE construct initially consists of 16 items, and after adjustments items 2, 4, 13 and 16 were eliminated from the analysis due to impaired homogeneity resulting in a high Chrombach α =0.897 (*Table 2.*). The PDSE construct initially consists of six items. Following the same procedure like with the PESE, items 1, 6, and 4 were ejected, which resulted in the Chrombach α coefficient of α =0.839. The SEINT construct initially had a five-factor. Items 1 and 5 were ejected to get a clear three-factor structure and the Chrombach α coefficient of 0.755 was obtained.

| Scale | No. of items | Range | Me | Sd | Crombach a |
|--|--------------|---------|------|------|------------|
| Perceived self-employment efficacy (PESE) | 12 | 12 - 60 | 3.63 | 0.20 | 0.897 |
| Perceived desirability of self- employment (PDSE) | 3 | 3 - 15 | 3.98 | 0.21 | 0.839 |
| Self-employment intention (SEINT) | 3 | 3 – 15 | 2.58 | 0.35 | 0.755 |

Table 2.Basic statistics for the scales used in the research

Source: Authors' calculations

A t-tests was conducted to examine the characteristics of the sample in more details and to obtain information on differences in results with respect to gender. Also, an analysis of variance and a post-hoc Sheffe test were conducted to examine eventual differences with respect country. In order to gain an initial insight into the interrelationship of the variables fitted to the model, as well as to verify another form of scale validity (convergent validity), the correlation analysis among the observed variables was performed.

However, the answers about the causal relationships (direct and indirect) among variables in the model can only be provided by structural equation modelling (SEM). This statistical technique is based on testing the assumptions of particular phenomena (Byrne, 2010), that is, structural modelling theory represents informal processes that observe multiple variables simultaneously (Bentler, 1988). These processes are

represented by a series of structural, i.e. regression equations, and are presented in a pictorial way to enable a clearer understanding of the model under consideration. The assumed model is then statistically tested by simultaneous analysis of the entire model to determine the impact strengths and consistency with the data. A key aspect that helps distinguish structural modelling from conventional analysis is that structural modelling is oriented solely to inferential statistics, which is different from most other descriptive processes (e.g. exploratory factor analysis) where hypothesis testing is difficult. Structural modelling makes it possible to test the appropriateness of the data and the hypothesized model in order to more specifically clarify the nature of impact, the significance of the impact, as well as the strength of these impacts among variables (Bentler, Bonette, 1980). Some of the key indicators of model fit are the fit index (NFI) and the mean squared error (SRMR). The above measures represent the criteria for determining the suitability of models and data. Accordingly, the data will be appropriate for the observed model if the fit index is greater than or equal to 0.9, the corrected fit index is greater than or equal to 0.8, and the mean square error is less than 0.08 (Hayduk, 1987). The SmartPLS statistical program (v.3) was used to test the impact and relationships in the model using SEM.

Results and Discussions

Empirical data analysis

In the first step, a comparison of subsamples by gender was performed using the t-test for differences in means. The differences between two gender groups are statistically significant for all three constructs (*Table 3*.). Male subjects have greater average values than female subjects for PDSE (Md=-0.72; t=-4.33; p<0.05, PESE (Md=-1.68; t=3.55; p<0.05) and SEINT (Md=-1.44; t=-7.33; p<0.05). The results of the analysis described above are in line with results of majority of reviewed studies.

| Variable/ | Gender | N | Me | Sd | Md | t | р |
|-----------|--------|-----|-------|------|-------|-------|--------|
| SENIT | Female | 699 | 7.19 | 3.21 | 1 44 | -7.33 | < 0.05 |
| SEINI | Male | 439 | 8.63 | 3.23 | -1.44 | | |
| DDCE | Female | 700 | 11.66 | 2.71 | -0.72 | -4.33 | < 0.05 |
| PDSE Male | Male | 443 | 12.37 | 2.74 | | | |
| PESE | Female | 690 | 43.04 | 7.82 | -1.68 | -3.55 | < 0.05 |

 Table 3. Results of testing for differences between sub-samples by gender, male (n=439) and female (n=699)

Source: Authors' calculations

With respect to the country of study, students from Serbia (UNINS) were found to have the highest mean for SEINT among the respondents (F=7.57; p<0.05) (*Table 4.*). Viewed by sub-sample pairs based on the Scheffe post hoc test, the differences were significant between students at UNIZG and UNINS (Md =-1.46; p<0.05) as well as students at UNINR and UNINS (Md=-1.07; p<0.05). This proves our hypothesis about significant differences with respect to country. Statistically significant differences among

universities were also found for the PESE variable (F=15.02; p<0.05). According to the post-hoc test, UNINS students have higher PESEs than UNINR students (Md=-3.45; p<0.05), and UNIWA students have higher PESEs than UNINR students (Md=-3.00; p<0.05) and UNIZG (Md=-3.02; p<0.05). There is no significant difference between universities in the PDSE variable.

Table 4. Results of testing for differences between subsamples by country: Croatia (n=225),Poland (n=302), Slovakia (n=428) and Serbia (n=185)

| Variab | le / Country | Ν | Me | Sd | F | р |
|--------|--------------|-----|-------|------|-------|--------|
| CEDIT | Slovakia | 428 | 7.67 | 3.20 | | <0.05 |
| | Serbia | 185 | 8.74 | 3.62 | 7 57 | |
| SEINT | Poland | 302 | 7.58 | 3.20 | 1.51 | |
| | Croatia | 225 | 7.28 | 3.15 | | |
| DDGE | Slovakia | 429 | 11.92 | 2.83 | 1.39 | >0.05 |
| | Serbia | 185 | 12.16 | 2.59 | | |
| PDSE | Poland | 301 | 11.70 | 2.75 | | |
| | Croatia | 230 | 12.08 | 2.71 | | |
| PESE | Slovakia | 425 | 41.72 | 8.16 | | |
| | Serbia | 185 | 45.18 | 7.24 | 15.02 | < 0.05 |
| | Poland | 302 | 44.72 | 7.70 | 15.02 | |
| | Croatia | 216 | 44.75 | 6.62 | | |

Source: Authors' calculations

Correlation matrix of variables in the entrepreneurial intention model

A correlation analysis was performed to check for statistically significant correlation between the variables in the entrepreneurial intention model. The analysis showed that the correlation is highest between PDSE and SEINT constructs (*Table 5.*). The observed correlation coefficient is positive in direction and moderate in strength (r=0.59; p<0.01). Therefore, we can conclude that an individual who considers self-employment more desirable will also have a more pronounced intention for such behaviour. Also, the PESE is significantly correlated with self-employment intention (r=0.53; p<0.01). Thus, if a person has a higher perception of self-efficacy with respect to self-employment, he or she also has a higher level of self-employment intention. The correlation coefficient between PESE and PDSE is statistically significant and positive (r=0.48; p<0.01).

| Variable | PDSE | PESE | SEINT |
|----------|------|--------|--------|
| PDSE | 1 | .477** | .591** |
| PESE | | 1 | .533** |
| SEINT | | | 1 |

** Statistically significant, p<0.01 Source: Authors' calculations

Model testing results

Based on the results of the model testing, it can be concluded that both predictors of self-employment intention are significantly related to this construct. The PESE positively and moderately influences the intention of self-employment or SEINT (t=3.40; p<0.05), as well as the PDSE (t=2.40; p<0.05). The higher the predictors, the level of self-employment intention are higher (*Table 6.*).

| Basic model effects | Standard estimate | t | p |
|---------------------|-------------------|-------|-------|
| PESE => SEINT | 0.459 | 3.398 | 0.001 |
| PDSE => SEINT | 0.228 | 2.397 | 0.017 |

| Fable 6. | Coefficients | and the | significance | of impact |
|-----------------|--------------|---------|--------------|-----------|
| | | | | |

Source: Authors' calculations

Model performance indicators

The reliability indicators are covered in the next table (*Table 7.*) and the next figure (*Figure 2.*). All variables are highly reliable. The composite reliability indicator for two of the three observed variables assumes a high value (Crombach alpha >0.7 for PDSE and SEINT), while for PESE it achieves a value less than marginal but sufficient (>0.6) according to Bentler and Bonette (1980).

Table 7. Model performance indicators

| Indicators | The model of self-employment intention |
|------------|--|
| SRMR | 0.067 |
| NFI | 0.862 |

Source: Authors' calculations

The results of the average extracted variance are lower than the marginal limits (<0.5) on two of three variables (SEINT and PESE), and the value for PDSE is considered sufficient (>0.4). The problem of multi-collinearity is not present in the model because all VIF indicators for the observed items are lower than 5. Likewise, the indicators of model compliance are satisfactory. The SRMR achieves values lower than 0.08, while the NFI is at a satisfactory value (>0.8) although it is not at the optimum (>0.9).



Figure 2. The graphical representation of results of testing the basic SEINT model

Source: Authors' calculations

In the next step, the model was varied with introduction of dummy variables to test it regarding to the following factors: the entrepreneurial background of the respondent, the GDP level of the country of respondent, the unemployment rate of the country, and the ranking of the country with respect to ease of starting a new business.

| The effects | Standard estimate | t | р |
|---|-------------------|-------|-------|
| Entrepreneurial experience (EE, low) => PESE | -0.244 | 7.053 | 0.000 |
| Entrepreneurial experience (EE, low) => PDSE | -0.173 | 5.670 | 0.000 |
| PESE (EE, low) => SEINT | 0.429 | 3.186 | 0.002 |
| PDSE (EE, low) => SEINT | 0.242 | 2.568 | 0.011 |
| Entrepreneurial experience (EE, high) => PESE | 0.244 | 7.050 | 0.000 |
| Entrepreneurial experience (EE, high) => PDSE | 0.173 | 5.820 | 0.000 |
| PESE (EE, high) => SEINT | 0.429 | 3.194 | 0.001 |
| PDSE (EE, high) => SEINT | 0.242 | 2.614 | 0.009 |

 Table 8. The previous entrepreneurial experience level: coefficients of impact

Source: Authors' calculations

In the previous table (*Table 8.*) are given results for the model with the dummy variable previous entrepreneurial experience (PEE). It is a dichotomous variable with values 'high' for respondents with more contacts or experience with entrepreneurship, or 'low' for those with less. All impact coefficients are statistically significant and the values of the coefficients in the basic model are changed. The results let us to conclude that low PEE has marginal but negative effect on PESE and PDSE. That is, a person with less entrepreneurial experience will have a lower PESE (t=7.05; p<0.05), and PDSE (t=5.67; p<0.05). The opposite is true for high entrepreneurial experience: the impact is marginal, but it is positive for PESE (t=7.05; p<0.05) as well as for PDSE (t=5.82; p<0.05).

In conclusion, respondents with less entrepreneurial experience will have unfavourable predictors for self-employment, while for those with high entrepreneurship experience the predictors will be favourable.

In the following step (*Table 9.*) a dummy variable of the GDP level was added to the basic model and three sub-samples were constructed for this purpose: (1) high GDP per capita (i.e. Slovakia), (2) medium GDP per capita (i.e. Croatia and Poland, and (3) low GDP per capita (i.e. Serbia). The results show a more pronounced intention to self-employment if the GDP is high (t=3.39; p<0.05). Model testing results for medium GDP per capita on SEINT. Thus, respondents from countries with medium GDP will have 14.6% less intention to self-employ than in the basic model (t=4,539; p<0.05). The coefficient for the case with a low level of GDP per capita is insignificant for self-employment intention.

| The effects | Standard estimate | t | р |
|----------------------------------|-------------------|-------|-------|
| BDP per capita (high) => SEINT | 0.128 | 3.391 | 0.001 |
| BDP per capita (medium) => SEINT | -0.146 | 4.539 | 0.000 |
| BDP per capita (low) => SEINT | 0.030 | 1.006 | 0.315 |

Table 9. The level of BDP per capita: coefficients of impact

Source: Authors' calculations

The model was modified to check the impact of the unemployment level as a dummy variable. For that purpose, respondents were divided in two groups regarding to the unemployment rate of a countJry: less than 10% (Poland and Slovakia), and higher than 10% (Croatia and Serbia). However, the results do not indicate significant effect of unemployment level on self-employment intention.

Table 10. The ranking by country conditions for starting a business: coefficients of impact

| The effects | Standard estimate | t | р |
|-------------------------|-------------------|-------|-------|
| Rank 1-50 => SEINT | 0.030 | 1.073 | 0.284 |
| Rank 50-100 => SEINT | 0.057 | 1.803 | 0.072 |
| Rank below 100 => SEINT | -0.090 | 3.355 | 0.001 |

Source: Authors' calculations

Then a dummy variable based on the country rank according to the ease of starting a business among 190 countries of the world was introduced to the basic model (World Bank, 2018). The higher the rank (closer to 1) the more conducive regulatory environment is to the starting of a business. Three groups were formed based on the rank: high (Serbia, ranked 0-50), medium (Croatia and Slovakia, ranked 51-100) and low (Poland, ranked below 100). Results of the analysis indicate that only for the 'low rank' case the impact is significant and negative: the self-employment intention tends to be lower for 9% if the country is ranked below 100 with respect to starting a business conditions (t=3.36; p<0.05) (*Table 10*.).

Conclusions

In this paper we firstly investigated the extent to which perceived attractiveness of selfemployment (PDSE) and perceived ability for self-employment (PESE) as predictors are related to the intention to self-employment (SEINT) among life science students from four countries of Central and Eastern Europe. Assuming that these predictors are influenced by different socio-economic factors, we also examined how previous experience with entrepreneurship (PEE), and selected economic development indicators affect the model results. The results confirmed significant causal and positive relation between SEINT as dependent variable, and the two predictors: PDSE and PESE. Significant differences in SEINT are among respondents with respect to gender and country. The level of self-employment intention is higher among male students, while students from Serbia (Novi Sad) expressed higher SEINT than their colleagues from Croatia and Slovakia (Zagreb and Nitra).

Given the socio-economic variables examined, a higher level of previous experience with entrepreneurship - either directly or through a role model - has been shown to have a positive effect on both: the predictors and intention of self-employment. As for the GDP per capita level, only the higher and medium levels have a significant impact on SEINT: positive in the first and negative in the second case. In addition, selfemployment intention also seems to be affected by the conditions for starting a business in a particular country. If the country is ranked low in terms of ease of starting a job the self-employment intention among students is lower.

This paper validates of many similar studies based on the Theory of Planned Behaviour confirming causal relation between behavioural intention and predictors in the form of perceived desirability of behaviour and perceived personal self-efficacy with respect to. However, we found that socio-economic factors such as past experience related to the investigated intention, and macroeconomic conditions (GDP per capita, business start-up conditions) may influence students' intentions and/or predictors of the intentions. These findings make a contribution to the explanation of differences in the stated self-employment intentions in different countries.

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Conflict of interests

The authors declare no conflict of interest.

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