

# THE ROLE OF EDUCATION, INDIVIDUAL AND ECONOMIC FACTORS IN ENTREPRENEURIAL INITIATIVES: A MICROECONOMIC APPROACH FOR THE CZECH REPUBLIC, SLOVAKIA AND POLAND

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## Introduction

The purpose of this research is to assess the impact of university education and business environment on entrepreneurial initiatives and to make comparisons of the results between students coming from Poland, the Czech Republic and Slovakia. These countries were selected for the analysis since these are three of the V4 countries with common targets regarding the development of business environment and with an important location advantage. The International Visegrad Fund promotes mutual cooperation within the region in various fields, including the development of economic relations (in tourism, education, scientific research, cross-border cooperation). This Fund also implements own projects in these fields. The importance of the research is justified by the identification of the factors that mostly affect entrepreneurial initiatives; these factors could be developed more in order to increase the number of successful businesses in each of these country. Moreover, some obstacles to entrepreneurial initiatives are identified and suitable recommendations are provided to minimize these obstacles. The benefits of entrepreneurship are related to new technological innovation, creation of new jobs, and competitiveness growth (Zahra, 1999; Ivanová & Čepel, 2018). Companies could also play an essential role in economic growth and national welfare provision (Prasetyo, 2016). Entrepreneurship supports the economy by ensuring the spread of innovations with real advantages for entrepreneurs themselves. A company should stimulate employees to innovate by ensuring the right working

environment. Some conditions for enhancement of innovations are related to new ideas, facilitating access to resources, accepting trial errors and failures, and promoting multidisciplinary teamwork. All firms need new business ideas to stay relevant at the market. The emergence of a new market might support overall growth. Entrepreneurs should come up with new ideas for maximizing relationships with suppliers as well as with consumers.

After a theoretical background, this paper continues with the description of methods and main empirical results. Discussion and comparison with the previous studies on similar topics are also presented. The last part contains the conclusions that synthesize the main findings of this complex research.

The paper is based on the empirical analysis of the student samples that were selected from the population in Business and Economic Studies from each country. Suitable statistical tools were applied in order to achieve the objective of the research: Kendall's coefficient of association, Kruskal-Wallis test and multinomial logistic regression. The variables that influence the entrepreneurial initiatives were chosen according to the theoretical background from previous literature.

Even if there is an approach that considers entrepreneurship as inherent behavior (Thompson, 1999), another approach considers it more like an attitude that could be learned through education and could be stimulated through certain support (Vican & Vuletic, 2013; Glaub et al., 2014; Karimi et al., 2014; Sanchez-Garcia et al., 2018). Entrepreneurship education is also promoted and supported

by the European Union in order to grow the number of companies (Kolbre et al., 2006) and the countries selected for our study are also EU members, making efforts to follow the EU requirements in part of having an attractive business environment.

In this paper, we will combine two approaches. Firstly, we will check whether university education has an effect on entrepreneurial initiatives. We selected only students from economic and business faculties, since they might be potential entrepreneurs that should ensure the good running of the economy. Secondly, we will also consider personality traits of individuals that might also influence them in their decision to start a business.

Beside the quality of university education (Kolbreet al., 2006; Nabi et al., 2010; Tvaronavičienė et al., 2018) and personal traits (Belas & Sopkova, 2016), young people's entrepreneurial initiatives are also preconditioned by other important factors: macroeconomic environment (Quadrini, 2009; Simionescu et al., 2017), microeconomic environment (Gasse & Tremblay, 2011), social environment (Marques et al., 2018), business environment (Ključnikov et al., 2017), state support to business (Belas et al., 2017), and access to funds (Belas et al., 2017; Vojtovič, 2016).

Micro- and macroeconomic environments are characterized by dynamism and at a certain moment might change the opinions of people related to business activities (Wiklund & Shepherd, 2005; Bilan et al., 2017). For example, a period of economic crisis observed at the macroeconomic level would decrease economic growth and investment volumes, and this, in turn, would affect the decisions of economic agents who might reduce their business activities (Kliestik et al., 2018; Kliestikova et al., 2017). For dynamic environments, Lumpkin and Dess (2011) recommended proactiveness (response to opportunities), while for firms in hostile environments or mature industries responding to threats through competitive aggressiveness is more preferable.

Social environment also influences people's inclination towards entrepreneurship (Guroł & Atsan, 2006). Society's perception of the business environment and political support for business activities are the key elements defining the social environment that might affect the decisions on business launch. Social entrepreneurship is explained by Mair and

Marti as a business for which financial benefits are not the main objective of managers (Mair & Marti, 2006; Kliestik et al., 2015). The role of family in supporting the launch of business is explained by Zachary et al. (2017) and Le Breton-Miller and Miller (2017), who showed the advantage of business experience brought by a relative. In our study, we describe social environment through appreciation provided by family, society and politicians to business activities. Moreover, we consider that media information and the existence of an appreciated businessperson in a family might also motivate people to start a business.

Access to financial resources is one of the main issues for entrepreneurs (Dacin et al., 2010; Balcerzak et al., 2017) beside the insignificant economic results (Kashitsina et al., 2016). The issues related to access to financial resources concern the banking sector support to companies, the existence of alternative financial resources, state support in starting and developing a business (Gavurova et al., 2017). Other countries made efforts to create suitable organizational and legal framework for young entrepreneurs. For example, Russia created a strong state support system for young entrepreneurs (Golovina et al., 2017). Other countries, like France, the United Kingdom, Japan and Germany, experienced many advantages at the global markets due to availability of indirect and direct support provided by the state (Umemura, 2007). In general, there are many conflicting situations between the state and companies. Entrepreneurs criticize state support system, bureaucracy (Dobeš et al., 2017; Oehler et al., 2015), corruption (Belas et al., 2016), the quality of education system (Millian et al., 2014). Most of entrepreneurs in Slovakia (53%) and the Czech Republic (84%) are of the opinion that the state does not fulfil its obligations to firms (Apostoliuk, 2016).

Business environment is directly influenced by the state. The legislative environment can support entrepreneurs in their development of activities or it can burden them. For example, high staff recruitment costs may discourage start-ups from applying a recruitment procedure. In this case, administrative burden should be reduced in order to grow employment (Demirguc-Kunt et al., 2006). In Central and Eastern countries, like the analyzed here countries (Poland, the Czech Republic, Slovakia), business

environment is deeply affected by corruption which might reduce innovations. Corruption should be better controlled in order to grow the level of innovation (Baker et al., 2005; Anokhin & Schulze, 2009; Apostoliuk, 2016). Problems related to corruption in business revealed in media might discourage people from launching business activities.

Our findings will show common factors that affect entrepreneurial initiatives in all three countries (the Czech Republic, Slovakia and Poland) related to business disadvantages and access to financial resources. On the other hand, there are some factors specific to other countries (more importance given to family by the Poles and the Slovaks as compared to the Czechs; a significant contribution of higher education to entrepreneurial initiative in the Czech Republic and Slovakia). However, our study has several limitations due to the specificity of the samples of students in these three countries.

### 1. Methodology

As the aim of this paper is to evaluate the impact of higher education, personality traits and different types of environments on business entrepreneurship in Poland, Slovakia and the Czech Republic, we conducted the attitude surveys among the students from these countries. The surveys were conducted in autumn 2017 among the students in the last year

of their Bachelor studies. They were expected to graduate their faculties of Economics and Business in 2018. The questionnaires were filled in by 503 students from 14 faculties in the Czech Republic, 372 students from 3 faculties in Poland and 582 students from 8 faculties in the Slovak Republic. The samples were randomly selected and they are representative for the populations of students in Economics and Business in these three countries.

In this study, random sampling technique was chosen to extract a representative sample for the population. Some demographic and social characteristics (age, experience (employed now or before) and gender) were considered in order to compute the sample size for each country. The sampling characteristic was chosen as to fulfil the criterion of maximum variance (minimum value for the coefficient of variation). According to this criterion, gender was selected as sampling characteristic in all cases as Tab. 1 suggests.

According to Tab. 2, in these three countries 37%-38% of the students are males and more than half of the students are females. The proportions are kept when selecting the samples.

The volume of the sample for each country was computed using the formula:

$$n = \frac{z^2 \sigma^2}{\Delta_{\bar{x}}^2} \tag{1}$$

**Tab. 1: The demographic characteristics in the sample and corresponding coefficients of variation**

Characteristic	Coefficient of variation		
	Poland	Slovakia	Czech Republic
Gender	18%	19.3%	15.5%
Age	22%	23.4%	18%
Employed	24%	27%	25.5%

Source: own

**Tab. 2: The proportions of males and females in the population**

Gender	Proportion in the population		
	Poland	Slovakia	Czech Republic
Males	38.7%	37.03%	38.1%
Females	61.3%	62.97%	61.9%

Source: own

$Z$  – probability for which results are guaranteed;  
 $\sigma^2$  – variation in the population expressed by variance;  
 $\Delta_{\bar{x}}^2$  – maximum limit of acceptable error.

For each sentence in the questionnaire the students were supposed to choose one of the following answers: 1. I totally disagree. 2. I disagree. 3. I do not stand for this. 4. I agree. 5. I totally agree.

**Tab. 3: The description of questionnaire (Part 1)**

<b>K1: Social environment</b>	
H1	K11: There is a businessperson in my family and I highly respect him/her. K12: Society in general appreciates businesspersons. K13: Politicians as well as public consider businesspersons to be beneficial for society. K14: Media provides true information regarding status and activities of businesspersons.
<b>K2: State support for the business</b>	
H2	K21: The state supports entrepreneurship through the use of specific tools. K22: The state creates high-quality conditions for starting a business. K23: The state financially supports business. K24: Legal conditions for doing business are of high quality.
<b>K3: Macroeconomic environment</b>	
H3	K31: I consider the macroeconomic environment in my country to be positive for doing business. K32: The state of macroeconomic environment in my country supports the launch of new businesses. K33: Present macroeconomic environment does not prevent me from starting a business. K34: Present level of basic macroeconomic factors (GDP, employment, inflation) supports businesses and creates interesting business opportunities.
<b>K4: Quality of business environment</b>	
H4	K41: Business environment in my country is of good quality and convenient for starting a business. K42: Business environment in my country is relatively risk-resistant and enables starting a business. K43: Conditions for doing business have improved in my country in the last five years. K44: The amount of administrative work of businesspersons in my country has decreased in the last five years.
<b>K5: Access to the financial resources</b>	
H5	K51: There is no intensive financial risk in the business environment, i.e. having limited access to external financial sources, bad payment habits, etc. K52: Business entities have easy access to bank credits. K53: I consider the credit conditions of commercial banks in my country to be appropriate. K54: The interest rates of commercial banks support business activities.
<b>K6: Quality of university education</b>	
H6	K61: I consider university education of my country to be of good quality. K62: I consider the educational structure at my faculty (university) to be of high quality. K63: The knowledge acquired at my faculty (university) will help me when doing business. K64: The knowledge acquired by students in my country will help them to start a business.
<b>K7: Personality traits</b>	
H7	K71: A businessperson does not have to have any special innate abilities. K72: The most important characteristics of a businessperson are specialization, persistence, responsibility, and risk-resistance. K73: It is easier to do business if close relatives are in business. K74: Every person has certain prerequisites for doing business.

**Tab. 3: The description of questionnaire (Part 2)**

<b>K8: Business advantages</b>	
H8	K81: The advantages of entrepreneurship outnumber the disadvantages. K82: A businessperson is wealthier and having a higher social status. K83: Doing business enables to have career growth and interesting job opportunities. K84: Doing business enables to make use of own abilities.
<b>K9: Business disadvantages</b>	
H9	K91: The disadvantages of entrepreneurship outnumber the advantages. K92: The disadvantage of doing business is not having a regular income. K93: The negative aspect of doing business is the fact that a businessperson does not have time to be with his/her family. K94: The disadvantage of doing business is not having good reputation within society.
<b>KY: Entrepreneurial initiative</b>	
	KY1: I am very interested in business. KY2: I am convinced that I will start a business after I graduate from university.

Source: own

The full structure of the questionnaire is presented in Tab. 3.

We added the gender in the questionnaire (1-male, 2-female). The data are processed in SPSS software. Firstly, we tried to identify the statistically significant associations between variables related to entrepreneurial initiatives and the rest of the variables in the database. Therefore, we computed Kendall's coefficient for each country taking into account that we do not have a normal distribution of the data and we only have qualitative variables. Considering the joint random variables Y and X and the corresponding set of  $n$  observations  $(x_1, y_1), (x_2, y_2), \dots, (x_n, y_n)$ , the Kendall's coefficient is computed as:

$$K = \frac{1}{n(n-1)} \sum sgn(x_i - x_j) \cdot sgn(y_i - y_j) \quad (2)$$

$$= \frac{1}{n(n-1)} \sum sgn(x_i - x_j) \cdot sgn(y_i - y_j)$$

Starting from relevant associations identified by the Kendall's coefficient, we check some hypotheses related to association between variables using Kruskal-Wallis test, which is a non-parametric test suitable for qualitative variables. The null hypothesis of this test states that the median of all groups are equal. In other words, the null hypothesis in our case states that there is not any association between the two variables. If we reject null hypothesis, we assume that we do not have reasons to say that the variables are not associated.

The results based on the application of the two previous two methods help us in identifying the relevant variables that may affect the entrepreneurship initiative. These variables are considered in the multinomial logistic regression as explanatory variables. The variables related to entrepreneurship initiative are nominal variables with more categories. The multinomial logistic regression assumes that the dependent variable is not entirely predicted from the explanatory variables that take a single value for each case. Therefore, this type of regression has the advantage that the coefficients of explanatory variables do not necessarily need to be statistically significant for each case. Moreover, the multicollinearity is low in this case.

## 2. Results and Discussions

Previous studies on entrepreneurial activity and orientation in the Visegrad group are focused more on the theoretical concepts without a relevant analysis on samples of people. For example, Wach (2015) described the concept of international entrepreneurial orientation from theoretical point of view. However, a recent study made for V4 countries on survey data indicated that females have lower entrepreneurial intentions compared to males (Nowinski et al., 2017). In addition, our empirical study focuses more on psychological and sociological variables that have not been exploited yet.

The data collected using the same questionnaire were subject to statistical processing in order to figure out the reasons that determine students in economics and business to start a business after graduation and to manifest more interest in business activities. Each analysis is separately conducted for each country (Slovakia, Poland, the Czech Republic), but comparisons between countries are made and the results of this empirical analysis are compared with previous studies from literature. In the end, some recommendations are provided in order to grow the entrepreneurship initiative in these countries which will bring benefits for the entire macroeconomic environment. In multinomial logistic models we used gender and experience as control variables. Experience is a binomial variable with variants yes (1) and no (0), expressing is the student is or was employed before. His status on labour market might be important in forming the opinion related to entrepreneurship.

Czech business environment is characterized by more important advantages: high-skilled labour force at low costs, the location advantage, the highest GDP per capita in the Central and Eastern Europe, developed infrastructure, good conditions for doing business and intensive entrepreneurship that surpass the average within EU-27, patent and regulatory environment consistent with the EU standards.

In general, the associations between entrepreneurial initiatives and the rest of the variable are quite weak. We identified significant positive association between deep interest in business and:

- Social environment (the appreciation of a businessman in the family, the positive appreciation of the society related to businesspersons);
- Quality of university education (the high quality of educational structure, the knowledge acquired at university helps students in doing business);
- Personality traits (the implication of close relatives in business makes it easier to do, the prerequisites of every person to do business);
- Business advantages (the advantages of entrepreneurship that outnumber the disadvantages, the businessperson wealth and higher social status, career jobs and

interesting job opportunities, own abilities created by doing business).

The gender is negatively correlated with entrepreneurial initiatives. This shows that in the Czech Republic males are more eager to start a business compared to females like in the study of Murugaiah and Vishvas (2018).

In general, the personal and societal appreciation assigned to businesspersons supports the interest of students in business. The high quality of educational structure and the entrepreneurial education in the faculty stimulated the interest in business like in case of Estonia (Kolbre et al., 2006) or Croatia (Vican & Vuletic, 2013). The prerequisites of the people for doing business confirmed by Solesvik (2017) are important, but the family support is also necessary as Zachary et al. (2017) and Le Breton-Miller and Miller (2017) explained. As Sánchez-García et al. (2018) showed, the personality traits are essential for entrepreneurs, but they should be improved through corresponding education in the field. A lot of business advantages were identified by Czech students that help them to keep interest in business (Vican & Vuletic, 2013).

We identified significant negative association between deep interest in business and:

- Social environment (the politicians' opinion on businesspersons advantages for society);
- Business support by state (the state support to entrepreneurship by specific tools, state financial support to business);
- Access to financial resources (easy access to banks credits);
- Business disadvantages (the disadvantages of entrepreneurship that outnumber the advantages).

The issues related to access to banks credits discourage Czech students to be more interested in business like previously Dacin et al. (2010) observed. The state business support is not appreciated by students, the state system of support being criticized before by Oehler et al. (2015). The Czech students present a quite high level of risk aversion that does not motivate them to give more important to business activities. A similar situation was observed for Estonia by Kolbre et al. (2006). The support provided by politicians to businesspersons is not well seen by Czech people, probably because of the high corruption signaled by other authors before (Baker et al., 2005).

We identified significant positive association between the strong belief that a business will be started after graduation and:

- Social environment (the appreciation of a businessman in the family, the positive appreciation of the society related to businesspersons);
- Personality traits (the prerequisites of every person to do business);
- Business advantages (the advantages of entrepreneurship that outnumber the disadvantages, the businessperson wealth and higher social status, career jobs and interesting job opportunities, own abilities created by doing business).

In general, the personal and societal appreciation assigned to businesspersons supports the interest of students to start a business after graduation. The prerequisites of the people for doing business confirmed by Solesvik (2017) are important, but the family support is also necessary as Zachary et al. (2017) and Le Breton-Miller and Miller (2017) explained. A lot of business advantages were identified by Czech students that motivate them to start a business after graduation (Glaub et al., 2014). The motivation for business is a consequence of fast economic development in the Czech Republic and the business advantages will motivate students to start business after graduation.

We identified significant negative association between the strong belief that a business will be started after graduation and:

- Business support by state (the state support to entrepreneurship by specific tools);
- Access to financial resources (credit conditions of commercial banks);
- Business disadvantages (the disadvantages of entrepreneurship that outnumber the advantages).

The issues related to credit conditions of commercial banks discourage Czech students to start a business, issues related to credit conditions being previously mentioned by Dacin et al. (2010). The state business support through different tools is not appreciated by students, the state system of support being criticized before by Oehler et al. (2015). The Czech students present a quite high level of risk aversion that discourage them to start a business. A similar aversion to risk was observed for Estonian students by Kolbre et al. (2006). The implication of this result is that government should design better policies to improve credit conditions offered by commercial banks.

We selected the variables related to the quality of university education and the variables for which the Kendall's coefficients are greater than 0.3 and we tested the statistical significance of the association using Kruskal-Wallis test. The results are presented in Tab. 4.

Tab. 4:

**Kruskall-Wallis test to check for the association between quality of university education, personality traits and different types of environments in relation with entrepreneurial initiative in the Czech Republic**

Entrepreneurial initiative	Variables related to quality of university education and business environment	Chi-square statistic	Asymptotic significance
deep interest in business	the knowledge acquired at university helps students in doing business	28.515	0.000
	the knowledge acquired at university helps students to start a business	3.525	0.474
	the disadvantages of entrepreneurship that outnumber the advantages	59.905	0.000
the strong belief that a business will be started after graduation	the knowledge acquired at university helps students in doing business	26.328	0.000
	the knowledge acquired at university helps students to start a business	10.368	0.035
	the disadvantages of entrepreneurship that outnumber the advantages	45.563	0.000

Source: own

We observed a stronger association between the entrepreneurial initiatives and the opinion according to which the disadvantages of entrepreneurship outnumber the advantages. The students are less inclined to risk and the disadvantages of business activities could be an important barrier for the Czech students. The same risk aversion was observed in the case of Estonian students (Kolbre et al., 2006). Even though there are many advantages in Czech business environment, there are also disadvantages that should be taken care of by the government.

There is a significant relationship between the knowledge acquired at university that helps students in doing business and some entrepreneurial initiatives (deep interest in business, the strong belief that a business will be started after graduation). However, the knowledge that helps students to start a business does not motivate them to show deeper interest in business.

The knowledge acquired at university for motivating the students to start and to do business helped Czech students in convincing them to start the business after graduation. This result indicates that higher education in economics in the Czech Republic contributes to graduates' decision to start a business, which shows the quality of education that helps graduates integrating on labour market. This result is different from that obtained previously for Estonia. Kolbre et al. (2006) showed that students have knowledge on entrepreneurship, but this knowledge does not motivate them to start a business.

Based on the associations between variables, some multinomial regression models were built to explain the entrepreneurial initiative in case of Czech students in economics and business. More regressions were run, but in the end we selected only one valid model.

According to this model, the people who totally disagree with the fact that disadvantages of entrepreneurship outnumber the advantages have by almost 5.7 times more chances to disagree with the deep interest in business rather than to totally disagree. The Czech students that disagree with the fact that disadvantages of entrepreneurship outnumber the advantages have by almost 14.4 times more chances to disagree with the deep interest in business rather than to totally disagree. Students that have a businessman in the family

that is highly appreciated have by 82.8% more chances to agree that they have deep interest in business rather than totally disagree with this. Even if the students agree with the fact that the disadvantages of entrepreneurship outnumber the advantages, they have by 4 times more chances to be deeply interested in business rather than totally disagree. Students that considerate appropriate the credit conditions of commercial banks have 2 times more chances to have a deep interest in business than people who totally disagree with this. Males have by almost 6 times chances to agree with the deep interest in business rather than totally disagree. Students who considered that knowledge acquired in the faculty did not help them in doing business have by almost 9 times more chances to be interested in business rather than totally disagree with business. This result might suggest that even if the information provided in the faculty is not enough, the interest for business is very high. These findings support the approach of Thompson (1999) that showed the inherent attitude on entrepreneurship. However, if useful information is provided by faculty to enhance start-ups, the chances to be more interested in business grow (Sanchez-Garcia et al., 2018). The consequence would be the improvement of education system as to provide more practical information for starting a business.

The similar analysis will be conducted for Poland that also has location advantage like the Czech Republic. According to the World Bank's Ease of Doing Business Survey for 2017, Poland made progress in issue related to resolving insolvency, getting credit and protecting minority investors.

In general, the associations between entrepreneurial initiatives and the rest of the variable are quite weak.

We identified significant positive association between deep interest in business and:

- Social environment (the appreciation of a businessman in the family, the media information about status and activities of businesspersons);
- Personality traits (the implication of close relatives in business makes it easier to do, the characteristics of the businessperson should be related to specialization, persistence, responsibility, risk-resistance);
- Business advantages (the advantages of entrepreneurship that outnumber the

disadvantages, the businessperson wealth and higher social status, own abilities created by doing business);

- Business disadvantages (less time for family in case of businessperson).

The gender is negatively correlated with entrepreneurial initiatives (Kot et al., 2016; Cera et al., 2018; Lazányi et al., 2017). This shows that in Poland males are more eager to do or start a business compared to females like in the Czech Republic and other countries (Murugaiah & Vishvas, 2018).

The quality of university education is not significantly correlated with deep interest in business in case of Poland, while in the Czech Republic the information provided by university is important in supporting the business initiative. Compared to Czech students, the Polish ones give a significant importance to media that provide useful information for starting a successful business. Students that do not agree to spend less time with families are less motivated to become businesspersons. Compared to Czech students, Polish ones seem to assign a more importance to family rather to make career as businessperson and gain more money. This typology of people that prefer family relationships rather than money are described more by Mair and Marti (2006). This observation is in accordance with findings at macroeconomic level. Family and religion play a central role in Polish society and these are reflected at the level of the business environment. Most of the Poles are Roman Catholic. For this religion, the family should be at the center of Polish social structure (Kowalewski et al., 2010).

A lot of business advantages were identified by Polish students that help them to keep interest in business (Glaub et al., 2014). Indeed, compared to other countries in Europe, Poland was the single country that was not affected by the recent economic crisis and came up with many initiatives to support business activities. The Czech Republic and Slovakia experienced the consequences of recent crisis that were observed even at microeconomic level. The Czech Republic recovered quite fast after the crisis, but Slovakia encountered more economic issues.

We identified significant negative association between deep interest in business and:

- Business support from state (the state support to entrepreneurship by specific tools, high-quality condition created by state

to start a business, state financial support to business);

- Business disadvantages (the disadvantages of entrepreneurship that outnumber the advantages).

As in the case of Czech students, the business support from state is considered inappropriate. This situation seems to be specific to all Central and Eastern European countries from EU where the level of corruption is high (Belas et al., 2016). Like Czech students, the Polish ones have also a significant aversion to risk, result confirmed by other studies from literature (Kolbre et al., 2006). Therefore, the disadvantages of business determine a decrease in the interest for business.

We identified significant positive association between the strong belief that a business will be started after graduation and:

- Social environment (the appreciation of a businessman in the family, the media information about status and activities of businesspersons);
- Quality of business environment (the improvement in conditions for doing business in the last five years);
- Personality traits (the prerequisites of every person to do business, the implication of close relatives in business makes it easier to do);
- Business disadvantages (less time for family in case of businessperson).

The existence of a businessperson in family that is highly appreciated motivates Polish students to start a business after graduation, this familial factor being also relevant in other studies (Le Breton-Miller & Miller, 2017). Moreover, less time with family because of business activities seems to be a serious issue for Poles.

Unlike the Czech students, the Polish ones assign a significant confidence to media information about activities and status of businesspersons. The improvement in business conditions was observed by Poles, the performance of Polish economy being proved mostly in the period of recent global crisis. Moreover, Poland improved its competitiveness in the last year due to foreign capital that was attracted in the country (Rae, 2013).

The prerequisites of the people for doing business confirmed by Solesvik (2017) are important [38], but the family support is also necessary as Zachary et al. (2017) and Le

Breton-Miller and Miller (2017) explained. As Sánchez-García et al. (2018) showed, the personality traits are essential for entrepreneurs, but they should be improved through corresponding education in the field.

We identified significant negative association between the strong belief that a business will be started after graduation and:

- Business disadvantages (the disadvantages of entrepreneurship that outnumber the advantages; the lack of a regular income).

The males are more eager to start a business after graduation compared to women. Like Czech students, the Polish ones have also a significant aversion to risk, result confirmed by other studies from literature [8]. Probably, the lack of experience makes them to see more disadvantages hard to pass.

We selected the variables related to the quality of university education and the variables for which the Kendall's coefficients are greater and we tested the statistical significance of the association using Kruskal-Wallis test in Tab. 5.

The deep interest in business of Polish students might be justified by the knowledge acquired at university for starting a business. The media information about status and activities of businesspersons and the advantages of business that outnumber the disadvantages encouraged the Polish students to decide to start a business

after graduation. The knowledge acquired for doing business do not encourage students to start a business or manifest a deeper interest in business. This means that the education focused more on starting a business rather than doing business. Improvements should be made in order to help students in having a successful business (Cepel et al., 2018).

Based on the associations between variables, some multinomial regression models were built to explain the entrepreneurial initiative in case of Polish in economics and business. More regressions were run, but in the end we selected only a valid model.

Polish students who agree or disagree with media information about businesspersons have few more chances to disagree and agree with deep interest in business or to not stand for this rather than totally disagree with it. There are not significant differences in gender related to interest in business. So, the media provide information about businesspersons and their activity that do not make people to totally reject any interest in business. So, media could be an important source of education for motivating Poles to have higher interest in business as Kohli-Khandekar (2008) suggested. However, improvements are required in the education system to orient the students more onto practical issues of doing business.

**Tab. 5: Kruskal-Wallis test to check for the association between quality of university education, personality traits and different types of environments in relation with entrepreneurial initiative in Poland**

Entrepreneurial initiative	Variables related to quality of university education and business environment	Chi-square statistic	Asymptotic significance
deep interest in business	the knowledge acquired at university helps students in doing business	8.936	0.063
	the knowledge acquired at university helps students to start a business	17.040	0.002
	the media information about status and activities of businesspersons	79.122	0.000
strong belief that a business will be started after graduation	the knowledge acquired at university helps students in doing business	4.312	0.365
	the knowledge acquired at university helps students to start a business	1.562	0.816
	the media information about status and activities of businesspersons	121.713	0.000
	the advantages of a business outnumber the disadvantages	37.171	0.000

Source: own

The similar analysis will be conducted for Slovakia. This country also has location advantage and a stable political environment, competitive tax system, high skilled labour force at lower costs and with the highest productivity from Central and Eastern Europe. However, in the last years, a deterioration of business environment was observed in the last years, the recent economic crisis having an important contribution to this.

In general, the associations between entrepreneurial initiatives and the rest of the variable are quite weak.

We identified significant positive association between deep interest in business and:

- Social environment (the appreciation of a businessman in the family, the appreciation of a businessman by the society, the media information about status and activities of businesspersons);
- Quality of business environment (relatively risk-resistant business environment in the country, improvement of business conditions in the last five years);
- Quality of university education (high quality of university education, high quality of structural education);
- Personality traits (the lack of innate abilities for businessperson, the implication of close relatives in business makes it easier to do, the characteristics of the businessperson should be related to specialization, persistence, responsibility, risk-resistance, the prerequisites for doing business);
- Business advantages (the advantages of entrepreneurship that outnumber the disadvantages, the businessperson wealth and higher social status, own abilities created by doing business, career growth and job opportunities);
- Business disadvantages (less time for family in case of businessperson, reputation in society).

Males have more interest in business compared to females like in the previous cases. In Slovakia, the quality of education is important in developing the interest in business like in the Czech Republic. However, in Slovakia the general quality of education is considered essential, while in the Czech Republic the education related to business is relevant for motivating students to do business. Like in Poland, media has an important role in promoting the interest in business in the

Slovak Republic. Compared to the other two countries, students from Slovakia consider the bad reputation of businesspersons as a barrier for developing interested in business.

The business disadvantages are related to the less time spent with family and to bad reputation of businesspersons in society. As in the case of Poland, family is an important value in the Slovak society (Mandl, 2008). Unlike the other two countries, the students are discouraged by the bad reputation in society of some businesspersons. This might be explained by the cases of corruption that have a higher impact on Slovak society (Kljucnikov et al., 2016). Unlike Poles and Czech people, Slovak ones give more importance to individual features of the entrepreneur (Kozubikova et al., 2015).

We identified significant negative association between deep interest in business and:

- Business disadvantages (the disadvantages of entrepreneurship that outnumber the advantages).

Like in previous cases, the disadvantages of entrepreneurship discourage students in developing interest in business. This is in line with previous findings that confirm aversion to risk (Kolbre et al., 2006).

We identified significant positive association between the strong belief that a business will be started after graduation and:

- Social environment (the appreciation of a businessman in the family, the appreciation of a businessman by society, the media information about status and activities of businesspersons);
- Business support from state (high conditions created by the state for starting a business);
- Quality of business environment (the good quality of business environment);
- Access to financial resources (inappropriate credit conditions of commercial banks);
- Quality of university education (high quality of university education, high quality of structural education);
- Personality traits (the lack of innate abilities for businessperson, the implication of close relatives in business makes it easier to do, the characteristics of the businessperson should be related to specialization, persistence, responsibility, risk-resistance, the prerequisites for doing business);
- Business advantages (the advantages of entrepreneurship that outnumber the

disadvantages, the businessperson wealth and higher social status, own abilities created by doing business);

- Business disadvantages (less time for family in case of businessperson, bad reputation of businesspersons within society).

Contrary to results for Poland and the Czech Republic, the bad reputation of businesspersons within society discourages many Slovak students to start a business after graduation. In Slovakia, the quality of education is important in motivating students to start a business after graduation, like in the Czech Republic. However, in Slovakia only the general quality of education is considered essential, while in the Czech Republic the education related to business is relevant for motivating students to start a business after graduation. Access to financial resources is a common issue for all the countries and this is specific to all countries in the Central and Eastern Europe (Meyer & Gelbuda, 2006).

We identified significant negative association between the strong belief that a business will be started after graduation and:

- Business disadvantages (the disadvantages of entrepreneurship that outnumber the advantages; the lack of a regular income).

The males are more eager to start a business after graduation compared to women like in the case of Poland and the Czech Republic. Previous studies confirmed the men's propensity for businesses compared to females

(Murugaiah & Vishvas, 2018). Government programs should be designed to encourage and financially support women to start a business.

For Slovak students, the disadvantages of business and the lack of a regular income are the main barriers for starting a business after graduation. The aversion to risk is confirmed in other studies, but also for Polish and Czech students. The lack of a regular income is a problem previously detected Sanchez and Ricart (2010) for low-income markets. Therefore, more financial opportunities should be available to recent graduates start a business of their own.

We selected the variables related to the quality of university education and the variables for which the Kendall's coefficients are greater and we tested the statistical significance of the association using Kruskal-Wallis test presented in Tab. 6.

The deep interest in business of Slovak students might be justified by the knowledge acquired at university for starting a business at 5% level of significance. The media information about status and activities of businesspersons encouraged the Slovak students to be more interested in business and to decide to start a business after graduation. Unlike Slovak students, the Polish students were encouraged by media information only to start a business, not to be more interested in business. These results confirm the role of media in promoting the entrepreneurship in these countries like Aral

**Tab. 6: Kruskal-Wallis test to check for the association between quality of university education, personality traits and different types of environments in relation with entrepreneurial initiative in Slovakia**

Entrepreneurial initiative	Variables related to quality of university education and business environment	Chi-square statistic	Asymptotic significance
deep interest in business	the knowledge acquired at university helps students in doing business	7.705	0.103
	the knowledge acquired at university helps students to start a business	11.028	0.026
	the media information about status and activities of businesspersons	178.610	0.000
the strong belief that a business will be started after graduation	the knowledge acquired at university helps students in doing business	8.020	0.091
	the knowledge acquired at university helps students to start a business	1.562	0.816
	the media information about status and activities of businesspersons	236.089	0.000

Source: own

et al. (2013) suggested. In all the countries, the status on labour market seems to not be relevant in explaining the interest in business. Even if they were not employed, students are still interested in business.

Based on the associations between variables, some multinomial regression models were built to explain the entrepreneurial initiative in case of Slovak in economics and business. More regressions were run, but in the end we selected only a valid model. Like in the case of Polish students, the media information on businesspersons status and activities make the Slovak to be more interested in business rather than totally disagree with businesses. In the case of Slovak students that agree they have deep interest in business, the coefficients and p-values for agreement on media capacity to provide true information on business are the following: disagreement (coef. – 18.2, p-value – 0.00), I do not stand for this (coef. – 13.184, p-value – 0.00), agreement (coef. – 11.894, p-value – 0.00), total disagreement (coef. – 12.813, p-value – 0.00). 88.7% of the cases were correctly classified which allow us conclude that the model is valid. So, media could be an important source of education for motivating people to have higher interest in business as Kohli-Khandekar (2008) suggested.

All in all, the main results of this empirical analysis show that Czech students consider that their interest in business is explained by the knowledge acquired at university related to doing business, while Polish and Slovak students were stimulated to have deep interest in business by the knowledge related to starting a business. The immediate consequence is the fact that quality of business education in Czech universities is superior to that of Polish and Slovak universities. This conclusion is also confirmed by the reality since Czech economy is the most developed one in the region in question. Moreover, Polish and Slovak students are convinced to start a business by the media information about business environment while Czech students are motivated to start a business mostly by the knowledge acquired during the studies. Some recommendations are necessary stemming from these results: Polish and Slovak education in Economics and Business fields should be improved as to orient the graduates to start and do business of their own. A solution could be the organization of

more traineeship during the studies as to explain them how to be a successful businessperson. Professors should explain more that media information is not always the most reliable source while real-life meetings with successful businessmen could be useful for them. Some lectures should also be taught by the experts coming directly from the business environment.

### 3. Conclusions

This study has focused on the empirical assessment of the factors influencing the entrepreneurial initiatives of Polish, Slovak and Czech students in Economics and Business. Since their duty will be to ensure growth in competitiveness in their origin countries, the study is important for describing different profiles of future businesspersons in these countries. Some common characteristics were observed for all the students, but also some specific opinions concerning business environment, higher education and individual traits were identified. It is more than likely that these students have a significant aversion to risk that influences their interest in business, but also the decision to start a business. The result is not surprising since other studies came to very similar conclusions. Lack of professional experience might explain the students' attitudes too. Therefore, more internship are recommended for all three countries in order to help students in passing easier the difficulties that appear in the course of business activities. Access to financial resources is a common issue for all three countries as well as for other countries in Central and Eastern Europe.

For the Poles and the Slovaks that are more religious as compared to the Czechs, family plays the central role and its values are transferred to business environment. Therefore, an important obstacle for entrepreneurial initiative in Poland and the Slovak Republic is less time spent with family due to business activities. Moreover, lack of regular income among businesspersons is a common problem for the Poles and the Slovaks. This result makes us to believe that aversion to risk is higher in case of Polish and Slovak students as compared to Czech ones. Moreover, quality of higher education has its important role in supporting entrepreneurial initiatives in the Czech Republic and Slovakia, while the Poles focus more on the information provided by media about status and activities of businesspersons. In other words, the

Slovaks and the Czechs give more importance to formal education, while the Poles consider informal education through media and other indirect sources to be more reliable. Therefore, improvements in the quality of higher education are needed in Polish universities in order to support more students in starting a business. The Slovaks give more importance to personal features of businesspersons.

However, our study is limited by the use of data collected via questionnaires. We did not analyze the entire population of students of Business and Economics in these countries. Moreover, we selected only three countries for the analysis based on their location and their main objective of economic competitiveness as part of V4 countries. In future studies, the empirical analysis should be based on more countries (for example, all new member states of the EU).

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## Abstract

**THE ROLE OF EDUCATION, INDIVIDUAL AND ECONOMIC FACTORS IN ENTREPRENEURIAL INITIATIVES: A MICROECONOMIC APPROACH FOR THE CZECH REPUBLIC, SLOVAKIA AND POLAND****Yuriy Bilan, Mihaela Simionescu, Grzegorz Mentel, Zoltan Rozsa**

*Considering the role of entrepreneurial initiatives in supporting national economies, the main purpose of this paper is the assessment of various factors' impact on entrepreneurial initiatives in the Czech Republic, Poland and Slovakia. Using the data collected via surveys of students in Economics and Business, the association between entrepreneurial initiatives (deep interest in business, intention to start a business after graduation) and quality of higher education, individual traits and economic factors is investigated. The results based on Kendall's coefficients, Kruskal-Wallis test and multinomial logistic regression indicated that all the students present a certain aversion to risk due to a high number of business disadvantages. Less time left to be spent with family due to business activities and the irregularity of incomes discourage the Poles and the Slovaks to start a business. Unlike Polish students, the Czechs and the Slovaks consider that the quality of higher education motivate them to have entrepreneurial initiatives. Polish and Slovak students decision to start a business depends on the media information about business environment, while for Czech students the knowledge acquired during the studies about starting a business are enough determine them to have own affairs. Some recommendations could be made based on these results: Polish and Slovak higher education in Economics and Business fields needs improvement as to determine the graduates to start and do business of their own. In this context, the organization of more traineeship during the studies to explain them how to be a successful businessperson could have a positive impact on the decision to become entrepreneur. Professors could inform their students that media information is not always the most reliable source, while the experience of successful businessmen shared with students and some lectures taught by experts coming directly from the business environment could be more useful for them.*

**Keywords:** Higher education, entrepreneurial initiative, business.

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