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## Article

### The Influence of the Institutions on Entrepreneurship Development: Public Support and Perception of Entrepreneurship Development in the Czech Republic

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# THE INFLUENCE OF THE INSTITUTIONS ON ENTREPRENEURSHIP DEVELOPMENT: PUBLIC SUPPORT AND PERCEPTION OF ENTREPRENEURSHIP DEVELOPMENT IN THE CZECH REPUBLIC

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## Abstract

This article deals with the research of entrepreneurship development in the frame of institutional environment in the Czech Republic. The example of the Czech Republic shows similar problems and specifics of post-transformation economies in Central and Eastern Europe. The goal is to discover the impact of specific institutional barriers on entrepreneurship development from the perspective of entrepreneurs and willingness to start own business.

The surveys revealed that institutional barriers have significant impact on business. The influence of public administration and the configuration of the legislative environment are other key factors. Entrepreneurship policies should be more effective and public administration needs to create a better system of support and information transfer for new entrepreneurs and entrepreneurship development.

**Keywords:** entrepreneurship, institutional environment, barriers, development, public support, Czech Republic

**JEL Classification:** D70, H70, O43, O52

## Introduction

Over time, the view of prosperity and wellbeing and the resources for such have continually changed. This has been very closely connected to the level of societal development (or evolution), the relative political and economic position, and thus the values and priorities of particular states (or geographical units). A vertical or multilevel approach for analysing a government's role in entrepreneurship and SME development can be applied. In order to describe the institutional environment, it is assessed at three levels – micro, meso and macro. This approach was used by Xheneti and Smallbone (2008) to compare development

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in Estonia, Albania and Turkey (Bakir and Ongen, 2013). The macro level covers: responsibilities for SME Policy, national SME policy and policy implementation agency; the meso level: financial infrastructure, regulatory framework; and the micro level: network of business support organisation and clear responsibilities in the policy process. The author also points out that there is a visible shift in priorities from SMEs to entrepreneurship (Xheneti and Smallbone, 2008). Entrepreneurial policies naturally, according to different conditions and sources, differ around the world, but still some tools repeat, such as: financial sources including attracting venture capital, taxes and tax variations, trade regulation in order to increase internationalisation, and innovation support spreading from state to local level (Minniti, 2008). The trend of policy-making localisation is also visible in other areas of development strategy implementation. Grimm (2011) shows it is a result of the active role of European Union policies and instruments that include local factors into the policy-making processes. It seems that the cohesion policy has a positive impact on entrepreneurial activity in regions (Sternberg, 2012). Entrepreneurship has also become an integral part of regional policy (Gineite and Vilcina, 2011). The aspect of entrepreneurship and innovativeness is present in regional innovation strategies (Cooke, 2011; Blazek, 2013). Beside stimulation of innovation activity, it may include promotion and enhancement of entrepreneurial education. Obadić and Aristovnik (2011) argues that the quality of the education system, especially higher education is factor of economic growth.

The shift from managerial to entrepreneurial economy (Acs, Carlsson and Karlsson, 1999; Szerb, Acs and Autio, 2013) led to the entrepreneurial policy, which goes beyond supporting small businesses and is more horizontal, running through many areas, and is also more complex. The recent economic crisis affected the economic environment and performance of economic subjects including companies as well. It is predictable that profitability of companies would decrease, but the study comparing Zlin Region (Czech Republic) and Zilina Region (Slovakia) shows a surprising result about relatively high entrepreneurial optimism despite the economic downturn (Belas et al., 2014). Government also tend to prepare special programmes for unemployed to help them start their own business. And as shown in recent study from Germany evaluating their effectiveness, they might bring positive results (Wolf and Nivorozhkin, 2012). New societal challenges evoke new political initiatives in order to accelerate searching for solutions, such as development of social entrepreneurship, social economy and social innovations (Lepoutre et al., 2013).

The specific problems with the comprehension of business and the role of public administration have been resolved in the economies of the CEE countries. The institutional evolution of the environment for business in the development of the transient economies in Central Europe is characterized by Müller and Stedronsky (2000) as a period of radical re-industrialization characterized by the process of the reconstruction of ownership structures, market relationships, individual decision making and the responsibility of business owners. The evaluation of a business operator by the structuring theory (Giddens, 1984) emphasises the fact that although their behaviour is influenced by the structures and institutions, there is some feedback from their side to influence the business environment. According to Hlavacek (2012), networking and the institutions produce a wide range of effects and structures that specify the conditions for business development. This conditioning of business development is monitored in the example of the institutional barriers.

There are various approaches to the policy effectiveness evaluation – e.g. according to the matter, according to subjects, according to goals, or according to cost-benefit comparison.

From a practical and also a process point of view, the policy inefficiency might be rooted to policy formulation process. (Arshed, Carter and Mason, 2014) Another option for policy evaluation is using a Multi-criteria decision making model (Tsai et al., 2014).

## 1. Methodology of the article

The aim of the article is to describe the public support system as a part of the business environment in the Czech Republic for business and entrepreneurship development and to monitor the institutional environment and the perception of business development in this environment. The second aim of the article is to review the impact of specific institutional barriers on entrepreneurship and business development.

In the first part, the article presents the theoretical framework of the research that deals with the role of institutions and policies for business development. In the second part, of the article deals with the environment in the Czech Republic and the mapping system of government policy and programs that affect the development of entrepreneurship. The third part of article is focused on approach of barriers for entrepreneurship and business development in the Czech Republic, where are evaluated specific type of barriers (institutional, economic, social) for development of entrepreneurship. Next part of the article specifies whether there are cognitive differences in the population regarding decision-making on the establishing their own business.

In order to obtain qualitative information on business support, the published data is based on questionnaire-based surveys that can evaluate the specific standpoints and parameters of the institutional environment. The qualitative research was conducted in the Czech Republic and provides a view of the institutional conditions for business development in the Czech Republic, which to a broader extent, describes the situation in the post-transformation economies of Central Europe. The work uses the method of the questionnaire-based surveys and data processing with the use of relevant survey methods described, for example, by Dabija, Postelnicu and Pop (2014), Zambochova (2012). To interpret the data, two-selection parametric F-tests for dispersion, t-tests with equality of the dispersions, and t-tests with the difference of the dispersions, and the chi-quadrade of the independence tests were used.

The final part of the article analyze the classification of the standpoints of the respondents with respect to their willingness to start running a business under the conditions of the current institutional environment and its approach to business support. The analyses used the classification trees (CART) method that illustrates the willingness to run a business by selected groups of respondents (for example Zambochova and Tislerova, 2011). The CART method was invented by Breiman et al. (1984). The method can be used in the situations with one or more independent variables and one dependent variable. These variables can be continuous or categorical (both ordinal and nominal).

The algorithm result can be composed only in the form of the binary tree (it means that every node is divided into two child nodes). In every step the algorithm goes through all potential splitting with the help of all permissible values of all variables and the best solution is searched for. The increasing of data purity serves as the measurement. Algorithm splitting differs for regression trees and classification trees. The child node homogeneity is in the case of the classification trees measured by the impurity function  $i(t)$ .

The maximal homogeneity of two newly built child nodes is constructed as the maximal purity reduction  $\Delta i(t)$ .

$$\Delta i(t) = i(t_r) - E(i(t_d)), \quad (1)$$

where  $t_r$  represents parent node,  $t_d$  is the child node. In order to set up the child node  $t_p$ , the probability of child node  $P_p$  and the left child node  $t_l$ , the probability of the left child node  $P_l$  the expected value formula should be supplied as follows:

$$\Delta i(t) = i(t_r) - P_l \cdot i(t_l) - P_p \cdot i(t_p). \quad (2)$$

For each node the CART algorithm solves the maximization problem for the  $\Delta i(t)$  function going through all potential splitting. The  $\Delta i(t)$  function can be defined in different ways. The most frequent is the Gini index method. The regression trees are used in the case when the dependent variable is continuous. The algorithm searches for the best splitting based on the sum of variance minimizing in the terms of two newly built child nodes in this case. This algorithm works on the basis of the algorithm of minimizing the sum of squares.

$$Q(t_l, t_p) = \sum_{x \in t_l} (x - \bar{x}_l)^2 + \sum_{x \in t_p} (x - \bar{x}_p)^2 \quad (3)$$

## 2. The role of the government and the system of public support for business development in the Czech Republic

The main and irreplaceable role of the Czech government, which is basically consensual from the economic or political point of view, is setting and ensuring clear rules, fair conditions and efficient functioning of the market. Where the differences lie, is in the form and scope of direct and indirect support of the state in the economic system, or for example, an understanding of regulation etc. Czech entrepreneurship policy lacks a comprehensive character and as a result is rather complementary to other policies such as SME or innovation (Mandysova, 2012). Thus, the main national strategic material is the Concept of SME Support for 2014-2020, which defines 50 measures in 4 strategic priorities to be financed by the structural funds of the EU complemented by national funds (Ministry of Industry and Trade of the Czech Republic - MPO, 2012). As previously mentioned, the strategic framework is vertically linked to EU documents such as Europe 2020; Innovation Union initiative; regulation of the Multiannual Financial Framework for 2014-2020; Entrepreneurship 2020 Action Plan; and other events and programmes related to the Small Business Act for Europe and entrepreneurship promotion and others (MPO, 2012).

The main financial tools for support and allocation of EU structural funds at national level are operational programmes; in the Czech Republic in the previous 2007-2013 financial period, it was the Operational Programme Entrepreneurship and Innovation, complemented by other programmes with a more sectoral or regional focus (DHV-Qartus report, 2012). These are accompanied, for example, by an investment stimuli scheme at national level, or by Horizon 2020 communitarian programmes aimed at innovation and research, and the Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME).

Moreover, at national level the concept is linked horizontally to the Strategy of International Competitiveness, Strategy of Regional Development, Strategic Framework for

Sustainable Development, Export strategy of the Czech Republic for the period 2012-2020, National Reform Programme, or National Innovation Strategy (MPO, 2012); which is followed up by Regional Innovation Strategies at regional levels. The Ministry of Trade and Industry takes the leading role and is responsible for SME policy and entrepreneurship development, and is supported by the Entrepreneurship Council, Czech Trade, Czech Invest; Czech Export Bank, Czech-Moravian Guarantee and Development Bank; Export Guarantee and Insurance Corporation and Embassies; it coordinates its activities with other ministries and additional services are provided by various associations, interest groups and networks such as the Enterprise Europe Network (EEN). Similarly, Felixova (2012) also aims to fund support for entrepreneurship and innovation, but compares the volume of regional subsidies with concentrated state aid and the rest of the regions in the Czech Republic.

Key factor is usually the quality of the business environment, its economic, social and institutional context with a special focus on the administrative burden of increasing costs, level of corruption and law enforcement (MPO, 2012). Although Central and Eastern Europe have made significant progress, due to the lack of sufficient political will and determination, it is still a problem that undermines economic growth. In the case of the Czech Republic, 1/4 of respondents answered that this is still the biggest problem for them, although 70% of respondents would not use risk capital as a source of financing. Among the subjective factors is the entrepreneurial activity of the inhabitants, their character, aspirations, overall preparedness and also their perception by the public (MPO, 2012).

### **3. Barriers for entrepreneurship and business development**

Potential factors, which influence the willingness to run a business, may be different barriers to business. Within the classification of the social economic barriers, (Jungwiewtowa 2008), the spatial barriers including the physical geographical barriers, and technological mechanical barriers are considered to be easily overcome, whereas overcoming institutional and political barriers, including social barriers, is rather complicated.

The importance of the barriers for entrepreneurship and business development was monitored on two target groups. In the first instance, the barriers to business development were evaluated from the point of view of business operators and private companies. The employers included 70.4% of joint stock companies, 39.3% of limited liability companies, 25.2% of cooperatives, and 8.4% of self-employed people (provided they also employ other employees). Hence, the employers evaluated the spectrum of barriers that restrict the development of mutual cooperation from the point of view of the following areas: a) institutional and political, b) social, c) economic (Hlavacek, 2012). The barriers, which prevented cooperation with other businesses in the field of the institutional and political barriers, were created by the unwillingness of the public administration institutions and the drawbacks of the legal system. The social barriers were created by language barriers, bad experience with other stakeholders, and a lack of information. The influence of the economic barriers was monitored through the following barriers - insufficient financial background, insufficiency of qualified employees and the insufficiency of suitable partners. These barriers arose from traditional production factors - capital and workforce, and are complemented by the example of the production factor from the field of agglomeration savings, which is also the key from the point of networking.

In the Czech Republic, the legal system is regularly criticized by employers. The legislative environment places a large burden on local business operators and instead of positively evaluated public policies, their evaluation of the quality of the legal system in the Czech Republic is criticised. An insufficiency of qualified employees (table no.1) for development is regarded as a highly important barrier (2.16) to business development, which points to the insufficient flexibility of the labour market, because the number of unemployed in the Czech Republic greatly exceeds the number of vacancies. Public support and the employment policy respond with a delay in changing the requirements of companies, which attenuates the possibilities for expansion. The companies also feel that there are an insufficiency of suitable partners for cooperation and a lack of information. Public administration can enter the fields and establish communication platforms or support the establishment of a network of companies in a production chain. An example is the development of clusters in the Czech Republic as analysed by Skokan, Polednikova and Stanickova (2012), which required public support and the incorporation of the relevant development government policies.

**Table no.1: Classification of barriers**

barrier	evaluation	% of responding entities	rank
<i>institutional</i>			
unwillingness of public administration	2.31	80.4	5
insufficiencies of the legal system	2.15	80.4	1
<i>social barriers</i>			
language barriers	2.61	84.1	7
bad experience	2.63	84.1	8
lack of information	2.29	87.9	4
<i>economic barriers</i>			
insufficient financial background	2.41	85	6
insufficiency of suitable partners	2.25	84.1	3
insufficiency of qualified employees	2.16	86.9	2

The barriers preventing employers from establishing cooperation with the other entities were classified on a three-point scale, where 1 represented a very important barrier, 2 a less important barrier, and 3 a negligible barrier. The resulting average marks including the determination of the percentage of employers that were unable to assess the barriers.

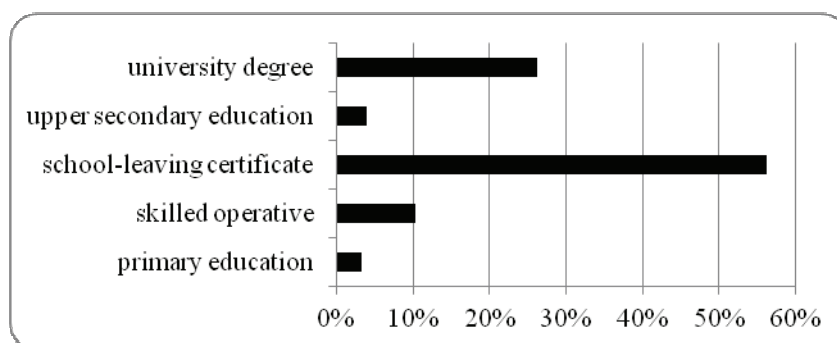
Greater importance of the institutional barriers is attached to the institutional density of the environment as characterized by Amin and Thrift (1995) emphasising the developed institutional environment, clearly defined roles and the responsibility of the public administration institutions and other stakeholders.

The World Bank Group's (2014) Ease of Doing Business Ranking (EDBR) – using also the distance to frontier score based on 10 different topics related to regulations confirms the above mentioned institutional and legislative as significant factors helping or discouraging starting and operating a company. The Czech Republic is ranked 44th (out of 189), which is better in comparison to the previous year by 3 places. However, in the context of the Visegrad countries, only Hungary is behind it (EDBR 54), although it has better conditions for starting business (57) than the Czech Republic (110). Slovakia (EDBR 37) and Poland

(EDBR 32) show better results in this respect as well. The progress, the Czech Republic made, is largely due to improvement of credit accessibility (+22 places).

### 5. Perception and cognitive differences in the population in the evaluation of business development

Business development was the subject of research aimed at monitoring the perception of business and cognitive differences in the standpoint of the population to business development, the impact of the selected barriers on business and the willingness to run a business in the current economic environment, and the operation of public policies for supporting business development. In total, 836 respondents took part in the research and the group was divided into 43% men and 57% women. The respondent's pool included 33.2% of people under 25 years old, 45.2% between 26 and 40, 16.2% between 41 and 55 years old, while 5.4% of respondents were older than 55. The structure of the respondents from the point of view of their education is shown in Figure no. 1.



**Figure no. 1: Highest level of education attained by respondents**

The results of the questionnaire-based survey revealed rather critical results as far as the awareness of public support for business development is concerned, where 33% of the respondents did not personally encounter any form of business support, 51% of respondents only know of the support from mass media, while only 16% have personal experience of such support (Zambochova, 2013).

The research of the barriers to entrepreneurship and business development monitors the relationships between the evaluation of each barrier to business and the willingness to run a business, and the barriers to business were reviewed with respect to preferring employment to running a business. The monitored barriers were the risk of failure, insufficiency of funds, administrative requirements, lack of ideas, insufficiency of commercial spaces and unstable earnings.

For these purposes, the two-selection parametric F-tests for dispersion, t-tests with equality of dispersions, and t-tests with the difference of the dispersions were used. The tests were conducted at the level of a significance of 5%. The resulting p-values of each test are summarized in Table no.2.

At the 5% level of significance, the difference in the perceptions of barriers to administrative requirements and unstable earnings by both sexes was demonstrated. It could



be said, based on the results of the tests that the women interviewed consider the barrier of administrative requirements less important compared to the men. On the contrary, the female part of the respondents considered the barrier to unstable earnings to be much more important. As far as the barrier of the insufficiency of commercial spaces is concerned, the statistically significant differences in the dispersions were found at a level of significance of 5%, which indicates that the people willing to run a business have inconsistent opinions in this field compared to those people who are not willing to run a business.

**Table no. 2: Relation between barriers and willingness to run a business or preference of employment**

relation	p-value		relation	p-value	
	F-test	t-test		F-test	t-test
willingness – risk	0.3761	0.4066	employment – risk	0.1649	0.0648
willingness – finance	0.1961	0.1795	employment – finance	0.4616	0.3292
willingness – admin. complication	0.4472	0.2833	employ. – adm. complication	0.3035	0.4800
willingness – uncertain earnings	0.2287	0.2632	employ. – uncertain earnings	0.3081	0.1824
gender - administrative complication	0.2886	0.0005	gender – unc. earnings	0.1425	0.0085
gender - risk	0.2925	0.2177	gender - finance	0.4052	0.8583

No difference in the mean values was found at the 5% level of significance as far as the barrier to the risk of failure, but the 10% level of significance showed the difference in the mean values. It could be assumed that the difference in the evaluation of the barrier of the risk of failure by the employed and unemployed is negligible. The other barriers were perceived similarly at the 5% level of significance across the different groups of respondents.

The research also confirmed the assumption that the respondents perceive the risk of failure and insufficiency of finance as the most important barriers to running a business. This is also related to the fact that 68% of respondents prefer employment to running a business, especially because of a fixed monthly income. Another reason for preferring employment to running a business is the reduced level of stress.

Part of the research focused on identifying factors that potentially influence the willingness to run a business. These factors could assist in specifying the needs of business operators as well as defining the appropriate fields for the potential support of business or for determining which support is suitable for the groups targeted by the business operators.

While testing, we found that the monitored factors influence the willingness to run a business and the opinion on the level of business support. Among others, the monitored factors included gender, age group of the respondents, work situation, the industry most suitable for the respondent to run a business, awareness of the respondent of the possibilities of business support, and the opinion of the respondents on the level of business support. The next block of tests dealt with finding out the relationships between the factors and preferring employment to running a business. In this case, the monitored factors included gender, age, education, and work situation. The dependency on the preferred form

of business support in the field, which seemed to be the most promising to the respondents, was also reviewed.

To this end, the chi-square test of independence was used. We worked at a 5% level of significance. In all cases, independence was the zero hypotheses. The resulting p-values are shown in Table no.3.

**Table no.3: Relation between selected factors and preferring employment to running a business**

variables	p-value	variables	p-value
willingness - age	$5.39 \cdot 10^{-05}$	present work situation - priority	$7.10 \cdot 10^{-09}$
willingness - present work situation	$4.56 \cdot 10^{-07}$	age - priority	0.385
willingness - gender	0.023	gender - priority	$1.20 \cdot 10^{-06}$
willingness - field	0.118	attained education level - priority	0.019
willingness - opportunity of support	0.060	support - education	0.124
willingness - level of support	0.238	forma - field	0.119

The test showed that age most influences the willingness to run a business. The research shows that people under 25 years old were the most willing to run a business. The willingness to run a business is also strongly dependent on the current work situation of the respondents. According to the research, those respondents already running a business and students showed the greatest willingness to run a business. It was also demonstrated that the male respondents were much more willing to run a business. It could be presumed that this is caused by the greater courage of men to take a risk, whereas women prefer the security that employment gives them (at least to a partial extent).

The tests also demonstrated a high dependency on preferring employment to running a business in the current work situation of the respondents. The results confirm the assumption that the employed respondents preferred employment the most, and those running a business the least. A very strong influence can also be seen in the case of gender. The result corresponds with the conclusion of the test on the relationship between the willingness to run a business and gender. It was confirmed that women prefer employment, whereas men are much more willing to start a business.

The last of the demonstrated dependencies was the relationship test between preferred employment to running a business and education. People with a higher level of education are much more willing to run a business. On the contrary and at a 5% level of significance it wasn't demonstrated that the industry, which is the most attractive for running a business according to the respondents, impacts the willingness to run a business. In this case, independence is perhaps caused by the fact that although a field of business seems to be attractive to the respondents, they were not willing to face the risk, requirements or competition in the running of a business in this field. Neither dependency on the willingness to run a business or awareness about potential business support was demonstrated.

The research showed that the vast majority of the respondents consider the business support insufficient, they lack personal experience with support or do not know anything about it.

This may be the reason why this aspect is not considered in their decision of whether to start a business or not. The impact of the factor was not demonstrated at any level. It was either demonstrated at the 5% level of significance that the education structure would neither influence opinion to the level of the business support nor influence the preferred form of the business support by the field that seemed to be the most promising to the respondents.

## 6. Segmentation of people according to their approach to education

We tried to create a classification of the respondents from the point of view of their willingness to run a business. We created classification trees to this end. The decision-making trees were made using three selected methods (CART). The willingness to start running a business was the selected explanatory variable, and all responses to each descriptive question were selected as the explanatory variables. Figure no. 2 shows the resulting decision-making tree created using the CART method.

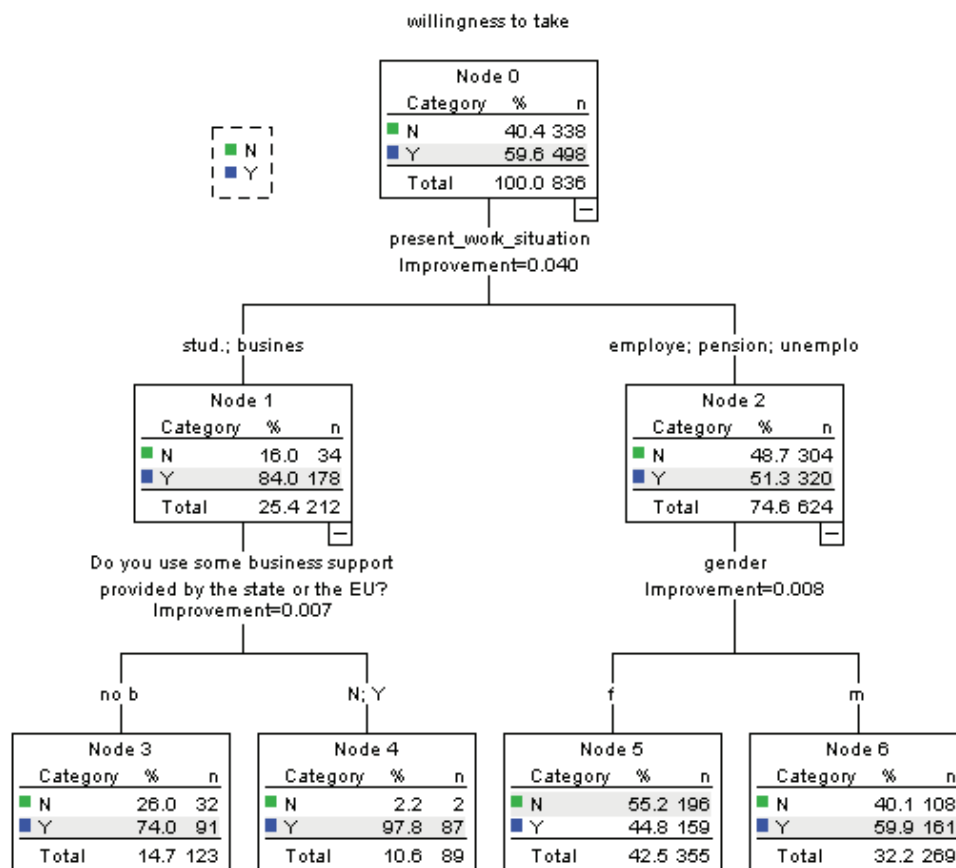


Figure no. 2: The decision tree (the CART method)

The risk estimate ranged from 0.292 - 0.371 for all the trees created. This means the success ratio of the classification of the entities ranged from 70.8% to 62.9%.

The following conclusions could be interpreted from the obtained tree structure. The greatest willingness to run a business was seen in middle aged people with lower education that come from smaller municipalities. They would like to run their business in the field of services and trade, they are inexperienced in support, and would like to use different subsidies. There is somebody in their environment that runs the business. The next group is young men with higher education. They know something of the possibility of support and would like to use both financial support as well as a form of consultations. Older people show little willingness to run a business, and prefer stable earnings in their employment. Their information about public support for business development is very limited.

### **Conclusions**

A system of support from public resources, which is diversely financed from international, national and regional resources, has been created for the development of business and encouraging entrepreneurship in the Czech Republic. Following the accession of the Czech Republic to the European Union, the second system of multi-resource funding from the EU's budget was created, and together they create a complex mechanism for supporting business development. The system includes many priorities with the emphasis on improving the competitiveness of companies. In this way, the state transforms the priorities of its development and supporting programs aimed at helping companies to succeed in an increasingly more competitive environment.

The survey suggests that challenges for policy makers are related to the level of awareness about various tools available and to increasing the attractiveness of entrepreneurship and starting their own companies. This confirms the previous studies of the Ministry of Industry and Trade (MPO, 2012). Low awareness might also be a result of fragmented policy tools (Mandysova, 2012). There is a slight contradiction in the perceptions of respondents. They find business support insufficient, despite their low awareness and personal experience. The subjective factors give explanation to previous studies e.g. of the World Bank Group (2013) on low entrepreneurial activity. As Hölzl (2010) points out, the strategic shift from SME support to entrepreneurship policy might be desirable. Thus better focused communication together with uniting entrepreneurship policy might contribute to the improvement of policy efficiency. One of the possible elements of popularisation of entrepreneurship is further acceleration of start-up and spin-off companies in cooperation with universities (Peterkova, Wozniakova and Stefanova, 2014).

The research found that from the point of view of the employers, the business development is rather limited by the institutional barriers, legislative environment, and the approach of public administration. On the contrary, when beginning to run a business, the respondents are much more afraid of failure and insufficient funds, which indirectly points to an insufficiently developed support network for beginners in running a business, limited resources of risk capital, and a generally low communication level between the business operators and institutions in the field of support and business development. Analysis of the relationship between entrepreneurship policies and decisions of entrepreneurs at the micro level indicates a lack of information and feedback on the needs of entrepreneurs. They often deemed more important institutional barriers than social and economic barriers. State should increase the effectiveness of entrepreneurship policies and improve the attitude of the public administration to support new entrepreneurs and business development.

Further research of the impact on business development should focus on researching the decision-making process for establishing and development of small and medium-sized enterprises and the effectiveness of public programs. Searching for more factors of an institutional, social and economic nature and establishing daily priorities for their influence on the decision-making processes in terms of business development should also be substantial. The research should consider the regional differences in the conditions for entrepreneurship development; because regions with a higher or lower economic level produce a regionally specific environment in the innovative, social-psychological and information dimension (Friedman, 1972).

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