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# RESEARCHING STUDENTS' ENTREPRENEURSHIP SKILLS IN POST-SOCIALIST COUNTRIES: A MULTI-COUNTRY SURVEY *(Part 1)*

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***ABSTRACT***. ***This paper presents the theoretical overview on entrepreneurship, and further the main ideas were adopted for the multi-country survey of students' entrepreneurship skills at the universities in six selected post-socialist countries, namely Lithuania, Latvia, Poland, Ukraine, Russia, and Hungary. This is Part 1 of the paper, presenting entrepreneurship theory review, methodological issues and entrepreneurship index in all surveyed countries.***

***KEYWORDS***: entrepreneurship, entrepreneurship index, education and training, post-socialist countries, Poland, Latvia, Lithuania, Ukraine, Russia, Hungary.

***JEL classification***: L26, P36, P2.

## Introduction

Since 1989 Central European countries have been carrying out unprecedented systemic transformation. This transformation is accompanied by a dynamic development of entrepreneurship. Entrepreneurship, understood as undertaking economic activity and its effective conducting in conditions of risk and competition, is an inherent quality of managing societies. Thanks to entrepreneurship, some countries, firms or persons get better results than other ones, although the former as well as the latter adopt similar economic systems or technologies.

New university graduates enter labour market every year. Are they enterprising? Are they active? Do they have any idea for their own business? What can be a barrier to putting this idea into practice? Are they likely to establish their own enterprises? What is or will be the role of higher education institutions or other institutions established to stimulate entrepreneurship in creating respondents' entrepreneurial attitudes? Do these institutions create a proper climate for entrepreneurship development? The willingness to know the answers to the aforementioned questions was an incentive for six Central European academic centers to undertake large-scale research into entrepreneurship that had been initiated by Microeconomics Department, faculty of Economics and Management, University of Szczecin, Poland (SES, 2006).

The present paper presents the results of the research (in two parts). *Part One* will detail the theory review, methodological issues and entrepreneurship index in all surveyed countries. *Part Two* will focus on detailing the survey results.

***The main research aim*** was to make the analysis of entrepreneurial potential of students (specialist and non-specialist) and evaluate the climate for entrepreneurship in chosen Central European countries. By *specialist students* we determine bachelor and master students

undergoing studies in economics and business programmes; while *non-specialist students* come from other non-related study programmes, such engineering, the humanities, IT students, students of sport, students of art and culture, etc.

This key research aim encompassed the following four ***research tasks***, which could be formulated as follows:

1. Analysis of potential that students have for undertaking pro-entrepreneurial activity.
2. Analysis of obstacles to putting the idea for one's own business into practice.
3. Analysis of the degree to which one is likely to start his/her own business activity.
4. Evaluation of institutional actions taken in the context of creating the climate for entrepreneurship and pro-entrepreneurial attitudes.

Furthermore, the following supporting questions have been formulated as a part of the aforementioned research tasks:

Research task 1:

1. Which characteristics should enterprising person have?
2. Are students active beyond academic studies or while gaining professional experience?
3. Are students likely to change the place of residence (or even go abroad) to take up a job – what determines their behavior?

Research task 2:

1. Do students have any idea or look for ideas for their own business activity?
2. Do students know essential formalities connected with establishing their own companies?
3. Do students know the market in which they would like to conduct business activity?
4. Do students have knowledge of financial means they must possess to put their ideas into practice? Do they possess such means and if not – do they know how to get such capital?

Research task 3:

1. Are students likely to establish their enterprises – in which sector?
2. What determines the choice of form of professional activity?
3. What are the attitudes of respondents toward horizon within which they will start their business activity and within which this activity will bring in profits. To what degree they would be personally involved or other persons would be involved?

Research task 4:

1. What are the biggest obstacles to conducting business activity?
2. Are actions taken by countries, self-governments, higher education institutions and other institutions favourable to entrepreneurship development. Do these actions make it easier to overcome barriers to conducting business activity?
3. To what extent majors (areas of study) are adjusted to labour market needs? Is theoretical knowledge gained during academic studies useful in business practice?
4. What actions should be taken by higher education institutions in the basic and optional spheres to make knowledge transfer more effective?

The research has a theoretical-empirical character. Achieving the objective of the research required comprehensive study of the literature and detailed and extensive empirical examination. Sources used are a theoretical material found in the literature on issues raised. The main source of empirical data was international research on entrepreneurship conducted from May to November 2006 on the group of full-time students from six Central European countries, i.e. ***Lithuania, Latvia, Poland, Russia, Ukraine*** and ***Hungary***. The survey was carried out with the use of partial method. The questionnaires were distributed among individuals qualified (random choice) to the sample (minimum size of the sample amounted to 594 students in each country). In the end, from 600 (in *Russia*), 601 (in *Lithuania*) to 603 (in *Poland*) questionnaires have been filled in and sent back.

Material collected has been analyzed with the use of various methods. In the research, qualitative, quantitative, and mixed methods were adopted (apart from commonly used

methods of deduction and induction). Hence, *research methodology* was multi-criteria since statistical and taxonomic methods as well as comparative analysis were used.

## 1. Literature Overview on Entrepreneurship

Researchers in different fields are constantly trying to standardize the definition of entrepreneurship, and at the same time specify factors that determine it and account for influence it has on economic development and growth. Hence, a study into the literature about entrepreneurship is based not only on conceptions created in the course of research conducted by economists, but also the ones carried out by sociologists, psychologists or experts on culture. Thanks to this fact, entrepreneurship is given a multidisciplinary character, which puts an even greater emphasis on its considerable importance and profound influence it has on one's life.

In this paper, the literature on entrepreneurship will be reviewed in two main directions, namely from the *economic perspective* and *psychological perspective*.

### *1.2 Economic Theories on Entrepreneurship*

**Cantillon**, a French economist who lived in the 18th century, created the notion of entrepreneurship. He was the first one who created the conception of entrepreneur and determined the relationship between entrepreneurial behaviour of an individual and a particular economic system. He based this collation on three pillars, namely landowners, entrepreneurs, and wage workers.

Cantillon noticed that there were divergences between demand and supply on the market, which made it possible to buy something at a lower price and sell it at a higher price. He claimed that entrepreneurs were people able to notice such opportunities and rise profits (Blaug, 2000, p.471). Moreover, he described them as individuals whose actions aimed at making so-called market arbitrage understood as "buy at a low price and sell at a high price." The author highlighted that this way of acting did not require entrepreneur to have his/her own means or be personally involved in the production of goods and services. His/her motivation to raise profit as well as awareness of and readiness to take risk connected with this kind of activity was of the greatest importance.

Furthermore, Cantillon had also defined entrepreneurship as the ability to notice opportunities emerging on the market and grab them despite market unbalance. The divergence between potential demand for a particular product or service and its actual number on the market enables entrepreneur to make profit, which motivates him/her to take effective actions in the future.

**Say** was another economist who dealt with entrepreneurship. Nowadays, some researchers consider him the author of the notion of entrepreneurship. As stated by Say, entrepreneur is a coordinator of the market who manages production and deals with the distribution of goods and services. According to him, entrepreneur is an individual who has set up the enterprise and is its supervisor. Additionally, he/she is a significant element in the market mechanism determining economic development and progress (Ujda-Dyńska, 2001, p.197).

Say described entrepreneurship as the ability to notice and transfer economic resources from less efficient area to more efficient one (Gruszecki, 1994, p.32). Such actions are supposed to bring profit and bring about market balance.

Another conception of a great importance to issues analyzed was the one created by **Marshall** who rated entrepreneurship among the fourth factor of production, i.e. organization (the remaining ones were land, labour, and capital). He considered entrepreneurship the ability

to establish and manage an organization (van Praag, 1999, p.318). Furthermore, he believed that specialized managers not only make an enterprise function properly but also take risk connected with its functioning, raise capital, and recruit labour resources necessary to produce goods and provide services (Kraśnicka, 2002, p.38).

Marshall claimed that the success of entrepreneurship depended on characteristics that entrepreneur had. Family and educational system shape these characteristics. The following characteristics are considered the most important:

- determination,
- efficiency,
- acting in a rational and reliable way,
- perseverance,
- how fast one adjusts to changes occurring in environment (van Praag, 1999, p.320).

Apart from the aforementioned characteristics, Marshall noticed that the success of entrepreneur required him/her to have proper knowledge of trade, ability to take risk and act in the conditions of uncertainty, as well as be open to emerging opportunities and possibilities. Combining these two aspects, i.e. characteristics that entrepreneur must have and his/her experience and knowledge with proper behaviour enables one to achieve objectives that have already been established.

**Schumpeter** is another economist worth mentioning in this context. He has ascribed the role of creators of new reality to entrepreneurs and broke with paradigm of market balance dominating in previous theories. According to Schumpeter, entrepreneur is an individual who, by looking for greater and greater profit, destroys market order and introduces innovations (Gruszecki 2002, p.195). He understood innovation as any change in the production and distribution of goods and services. Moreover, he highlighted the fact that even the smallest change, which increases the usefulness of hitherto existing goods, may be considered innovation.

As stated by Schumpeter, there are three stages at which changes are produced, namely idea, the introduction of innovation, and innovation diffusion. The first mentioned (*idea*) consists in actions taken by entrepreneur to find a more effective method of producing and selling goods. The second mentioned (*the introduction of innovation*) consists in putting the idea into action. It should be stated that according to Schumpeter, a particular person may be an entrepreneur only if he/she introduces some innovations. Once the effect brought about by means of certain actions is accepted by environment and entrepreneur begins to act routinely, he/she automatically loses a privilege of being an entrepreneur. With reference to the last mentioned stage, i.e. *innovation diffusion*, the economist puts an emphasis on the fact that actions taken by an entrepreneur ought to result in popularizing the innovations via imitating the innovators, which contributes to the development of a particular branch and sector in which enterprise functions and results in economic growth.

Schumpeter highlights an inseparable connection between innovations and economic growth as he believes that in the majority of cases innovations modernize the way enterprises function, determine the fact that new investments are made, and bring greater profits, which encourages other individuals to create better reality that favors the development of entrepreneurship.

Moreover, in his theory Schumpeter has laid down criteria for considering someone entrepreneur who, thanks to actions he/she takes, is constantly introducing changes and innovations in environment. **Offering new products** is the first criterion adopted by Schumpeter. According to this criterion, entrepreneurs are people who are not satisfied with selling goods consumers are familiar with, but aim at producing new areas or improving hitherto existing areas.

Another determinant is as follows: **introducing new technologies and methods of production**. Such actions make the process of production function in a more effective way and contribute to coming up with unusual solutions with reference to managing a particular organization, which will result in a greater efficiency of resources used.

**Creating new markets** is another criterion. Creating new transactions of purchase and sale enables entrepreneur to launch innovative products and services, and reach new consumers as well as use modernized techniques of production.

Apart from the aforementioned criteria, there are also so-called **discovering new methods of increasing a supply of existing resources**. Finding new sources of raw materials or semi-finished products is mainly supposed to extend product range offered by entrepreneur and give an opportunity to use hitherto existing resources in a more effective way.

**The reorganization of enterprises** is the last criterion. As stated by Schumpeter, enterprising people not only set up and run their own business but also work as managers in large enterprises and take entrepreneurial actions. These actions aim at putting innovative ideas into effect in an organization that has already been functioning (Schumpeter, 1991, p.150).

As far as the theory formulated by Schumpeter is concerned, issues relating to the creativity and motivating enterprising individual to adopt new solutions is of great importance. The economist considered creativity a means of conveying new ideas that are a basis for introducing innovations. He analyzed the output of an individual paying special attention to his/her psychological characteristics. According to him, entrepreneur is someone who wants to be better that others, very successful, take up new challenges, and create something unique and original (Schumpeter, 1991, p.163). Therefore, effects brought about as a result of actions taken by enterprising individual are often not accepted by other people as they disturb economic order. As stated by Schumpeter, entrepreneur has to constantly grapple with former structures, habits, and stereotypes found in a particular environment. He/she is exposed to huge cost both financial and social.

According to the aforementioned economist, every innovative action taken by an individual, which aims at satisfying the needs, relates to the maximization and not minimization of social cost. Social cost result from introducing new changes for environment, which are very often hard to understand at first glance and because of which innovator has to demonstrate that he/she takes actions he/she is certain of, and also convince others that processes used are right.

Apart from creativity and motivation to take actions, Schumpeter considered ability to notice and use opportunities emerging in environment a characteristics that entrepreneur must have. He distinguished the following ways of creating opportunities in a particular environment:

- technological changes,
- changes in the state policy,
- demographic-sociological changes (Shane, 2005, p.23).

As stated by Schumpeter, technological changes are a very important factor determining innovativeness and entrepreneurship since they provide society with possibilities of more effective allocation of resources during production process (Casson, 2003, p.22). Noticing the opportunity to use production factors in a novel way, entrepreneur gets a better and cheaper product that he/she may sell at a higher price, and so increase his/her profits.

Changes in the state policy offer a possibility of distributing profits among different social groups (Grundey *et al*, 2006). Generally speaking, this means that changing the state policy into more entrepreneurial provides ordinary people, who do not have capital to develop innovations, with opportunities. These opportunities are reflected in the creation of new means of using the hitherto existing resources. Finally, demographic-sociological changes are

also the way in which innovator notices opportunities. These changes depend on the urbanization of a particular community, development and size of a population, its mobility, and educational infrastructure (Shane, 2005, p.27). The first mentioned factor (determining socio-demographic changes) refers to disseminating information about a better use of resources within a particular community. The more developed the urbanization, the easier and more effective spreading of knowledge (Chen, 2008). This fact has a profound influence on the number of people who receive a certain piece of information, and also makes it easier to notice new opportunities. The development and size of a population is also of great importance in this context. Schumpeter understood development as demographic growth, whereas size as the number of a population. According to him, the greater the growth in the birth rate, the greater is the need for innovations. This fact has also an effect on the increase in the number of entrepreneurs and innovators. Such a state of affairs is achieved as more individuals notice new opportunities. The mobility of society plays a crucial role in producing changes as well. Free traveling makes people see better ways of using emerging opportunities. Furthermore, Schumpeter ascribed a very important role to a well developed educational infrastructure in noticing opportunities. According to him, scientific research institutions give rise to new mechanisms of disseminating information among communities, which facilitates the creation and observation of new possibilities by the entire population.

Summing up the theory of entrepreneurship formulated by Schumpeter, it should be emphasized that it is based on innovative actions taken by an individual who, by adopting new solutions, starts a process leading to the destabilization of market structures, which contributes to economic instability. As stated by the economist, only the instability of the market creates conditions in which innovations develop, innovations that are a basis for and essence of the development of economic subjects in a particular economic environment.

In his theory, **Kirzner** carried on the idea of entrepreneurship, according to which entrepreneur notices and uses emerging opportunities. His theory has been developed on the basis of achievements of Austrian school, and particularly **Mises** and **Hayek**. The former gave rise to the conception of subjectivism, while the latter created the idea of spontaneous order (Kraśnicka, 2002, p.33).

The principle of subjectivism refers to perceiving opportunities emerging in environment from the angle of entrepreneur who is an independent individual and takes action based on subjective perception of reality.

The other theory proposed by Kirzner, which has been a basis for creating the idea of entrepreneur, is a theory of spontaneous order formulated by Hayek. He ascribed a great importance of rules to the functioning of entrepreneur on the market. These rules result from actions taken by particular subjects in a particular environment and have been retained and handed down along with the development of civilization.

Kirzner applied these two theories while coming up with his own idea of entrepreneurship. He ascribed a key role to entrepreneur in the market process. According to the economist under discussion, entrepreneur notices chances resulting from the instability on markets and brings about stability by means of his/her activity. Contrary to the theory proposed by Schumpeter, Kirzner claims that entrepreneur will be able to grasp new opportunities only if differences found on a particular market become minor (Adamczyk, 1995, p.12). Furthermore, he believes that once entrepreneur has noticed opportunities to improve resources (through their exchange, production or combination of particular market areas), he/she will take actions until the market is stable.

The economist describes entrepreneur's activity as "*entrepreneurial element*", which expresses the essence of making the decisions (Kirzner, 1973, p.35). This element contributes to the creation of decision-making sequences that are logically connected with one another. Every decision made gives rise to another one as a result of the sensuality of a particular

individual. According to Kirzner, by choosing certain alternative, entrepreneur gains experience, knowledge and information about environment. This fact makes him/her notice opportunities that have not been used in environment, and hence figure out other ways of acting.

It is worth emphasizing that Kirzner has introduced the term "pure entrepreneur", which refers to individuals who do not produce anything and base their production-business activity on external supplies. Making use of market instability and imprecise information, enterprising people notice opportunities to sell products at a higher price than they have paid for it (Kirzner, 1982, p.143). The economist believes that a kind of arbitrage makes one generate profit that does not result from the production of goods. This fact makes an entrepreneur feel more confident as to the way he/she notices and uses chances. In this sense, he/she is sure that decision he/she has made is right and that events are forecasted in a right way.

As far as the theory under analysis is concerned, entrepreneur does not have to have his/her own capital and be wealthy to make profit. It is enough that he/she is particularly vigilant about opportunities coming his/her way, and encourages potential investors to finance his/her undertakings. Kirzner does not equate entrepreneur only with the aforementioned pure entrepreneur but with the owner of a firm or employer who invests his/her own funds (Kirzner, 1983, p.145). According to him, an individual ought to meet basic condition, i.e. be vigilant about noticing emerging opportunities.

In this context, it is also important how Kirzner refers to the essence of profit. He does not understand it as a payment for using the production factor in the course of production or as a percent for investing the capital. Profit is defined as a benefit accruing from using the senses of an individual and particularly abilities acquired that allow for identifying opportunities and ways in which they are taken.

As stated by the economist, the process of entrepreneurship is determined by **the sensuality of a human being and uncertainty**. If an entrepreneur is vigilant, he/she is able to not only notice emerging opportunities but also establish objectives and devise methods by means of which he/she is going to fulfill these objectives. This characteristic is a sort of motivation and encouragement to take actions. A sensitivity of entrepreneur is based not only on actual knowledge that he/she has but most of all on knowledge acquired spontaneously. Kirzner describes two kinds of knowledge. The first one is costly wisdom resulting from effects of the research undertaken and the use of technologies vs. knowledge determined by cost incurred. The other one is based on spontaneous learning so on using knowledge based on experience (Yu, 2001, p.50). These experiences are extremely important values and a part of human nature (they determine the success that entrepreneur has achieved). Entrepreneur, who has knowledge and is vigilant, becomes more enterprising in comparison with other individuals, and this leads to a competition between other subjects functioning on the market. This fact determines the extent to which one notices new and better opportunities emerging in environment by means of market arbitrage resulting from price difference. Therefore, by applying "buy at a lower price, sell at a higher price" rule, entrepreneur becomes a coordinator of market processes that are taking place.

According to Kirzner, uncertainty is the other determinant of entrepreneurship. He describes it as an immanent trait of environment in which an individual functions and which determines any action. As stated by the economist, entrepreneur should reduce the risk by being vigilant about opportunities that emerge in a particular market environment. If an entrepreneur does not have such a characteristic, there is a danger he/she may lose a chance of carrying out undertakings and become uncertain.

All the aforementioned theories define entrepreneurship as actions taken by an individual that are oriented to making certain profit. However, one should bear in mind the

fact that every undertaking is burdened with some risk and uncertainty. It is **Knight** who has raised this issue in his theory.

He claims that uncertainty and risk, which entrepreneur takes while running his/her business, is determined by environment on which many factors, characterized by a great unpredictability of changes, have influence. Moreover, human being has a limited ability to analyze behaviours of particular individuals in the future. He/she is not able to forecast events and behaviours of market subjects precisely, and does not have information about the situation that takes place in a particular area (Knight, 1971, p.36). Thus, uncertainty and risk are inseparably connected with the surrounding reality and constant changes of phenomena occurring in nature brought about by the evolution of a particular civilization.

Knight differentiates between risk and uncertainty. According to him, risk is a kind of departure from expectations that may be quantified by means of calculus of probability and statistical law of large numbers. By contrast, he defines uncertainty as a non-measurable state that cannot be appraised by means of any mathematical-statistical method.

The economist ascribes a great importance to entrepreneur who has a certain store of information necessary to make decisions. Knight believes that under conditions of uncertainty, knowledge becomes the most creative resource that determines not only the success or failure of actions taken, but also places an individual in the social hierarchy (Kwiatkowski, 2000, p.43). The economist emphasizes the fact that in a dynamically changing environment, it is knowledge that has a strategic importance to actions taken by entrepreneur as it increases chances of being successful that individuals have. At the same time, knowledge gives one a better socio-professional position.

Knight calls for remunerating entrepreneur (in the form of profit) for taking risk. He treats this as a kind of compensation for taking actions in conditions of threat and uncertainty. On the other hand, he believes that profit is a difference between future incomes that are difficult to assess and costs incurred that result from fees for using the factors of production. Therefore, it is an unpredictable quantity. Entrepreneur is not sure whether profit included in price will be made in the conditions of changing environment, situation on the market, technologies, and preferences that society has. Hence, it may not be treated as a payment or price for uncertainty that cannot be measured. It ought to be equated with entrepreneurial actions taken by an individual that cannot be predicted with accuracy. This individual is no one else but entrepreneur who grapples with overcoming the uncertainty, and actions are not subject to mathematical calculations. He/she stands out from the society, has abilities and knowledge in the scope of making decisions, and also bears responsibility for these decisions. Finally, he/she manages production factors and also employees. Yet, one should bear in mind what Knight highlights, namely that not everyone may become an entrepreneur who functions in the conditions of risk. Such a state of affairs is mainly caused by lack of knowledge and abilities to cope with uncertainty that is inseparably connected with actions taken by an individual.

**Casson** makes an attempt to combine theories of entrepreneurship. According to him, entrepreneur is someone who specializes in making final decisions on using rare resources (Casson, 2003, p.39). He believes that enterprising person stands out because of entrepreneurship itself, understood as characteristics and abilities that a certain individual has, and particularly the following ones: ability to acquire and use knowledge, analyze actions taken, predict the future effects, and make numerous contacts (Kraśnicka, 2002, p.47).

As stated by Casson, entrepreneur is also a coordinator of any actions taken on the market (Casson, 2003, p.77). This coordination consists in favorable reallocation of resources so that changes are made to generate greater profit in conditions of changing reality.

Nowadays, in the literature of the subject, economists do not equate entrepreneurship only with a private individual entrepreneur whose aim is to organize and manage enterprise in

such a way so that as high profit as possible could be made. They analyze and identify the aforementioned subject of the research as noticing and creating new economic opportunities along with the process of making the decision about locating and using particular resources found in environment (Kapusta, 2006, p.32).

With respect to this perspective, entrepreneurship may be analyzed from the point of view of process or attitude. As a process, it is based on the fact that individual sets up and expands his/her business, whereas as an attitude, it is considered a human characteristic. As far as the first perspective is concerned, it is treated as the continuation of theory formulated by classics and neoclassics. The analysis is based on the establishing and expanding of business units, and also the introduction of innovations used to produce new goods and services. It is oriented toward actions aiming at introducing changes, finding a source of finance for adopting new solutions, making the analysis of opportunities and risks that one has to face while carrying the undertaking out, and determining the effects brought about.

The other type of entrepreneurship is connected with a set of human characteristics and functions that determine actions taken by individuals to change and improve the reality. Nowadays, there are six fundamental characteristics that enterprising people have, namely the dynamism of acting, leadership abilities, ability to notice opportunities, ability to act in conditions of risk and uncertainty, creativity, independence, ability to adjust oneself to conditions, and inner motivation (Byers *et al*, 1999, p.10). These characteristics have been distinguished by another researcher, namely Timmons, as a result of 50 analyses of essence of entrepreneurship. The first mentioned characteristics describes entrepreneur as an active individual who demonstrates initiative and looks for new solutions as to the ways improving the methods or processes. Apart from this, enterprising person has to have leadership abilities and cooperate with others. These two characteristics are inextricably connected with each other as they make leader manage a particular team effectively. The leader cannot be a tyrant but a link that finds a common ground for agreement. Another characteristic is ability to notice opportunities that are reflected in constant looking for new chances in environment. Furthermore, another important characteristic is ability to act and particularly to overcome risk and uncertainty connected with every activity undertaken by an individual as well as ability to adjust to changing environment and surrounding. The last characteristics analyzed, i.e. inner motivation, is necessary so that one acts constantly and effectively in order to make profit.

Analyzing the entrepreneurship as a human being's attitude, it should be emphasized that four patterns of entrepreneurial behaviours are distinguished in the literature of the subject. These are as follows:

- spontaneous entrepreneurship,
- evolutionary entrepreneurship,
- ethical entrepreneurship,
- systemic entrepreneurship (Haber, 1996, p.15).

The first mentioned pattern is described as a kind of actions, taken by individuals that are burdened with a considerable risk. This risk is connected with the fact that one strives after achieving and fulfilling a particular objective (Kumpikaitė, 2008). The second occurs when an employee works his/her way up the ladder. At the beginning, a person employed in an enterprise is an ordinary hired worker. As he/she gains knowledge and experience, he/she decides to set up his/her own company.

***Ethical entrepreneurship*** is another pattern of entrepreneurial behaviour. It results from the fact that entrepreneurs and management board accept norms, views, and rules that operate in a particular business surrounding (Grundey *et al*, 2008). The last pattern analyzed is systemic entrepreneurship. Here, entrepreneur is considered a person who promotes entrepreneurship among society. This is mainly connected with the ingeniousness and

innovativeness of entrepreneur, which results in actions taken for the benefit of a particular community. Everything takes place within a certain economic-legal system that allows for a constant observation of entrepreneurial behaviours and so pathological phenomena are eliminated.

To sum up, it can be noted that entrepreneurship is reflected in various actions taken by an individual to introduce innovations, look for and grasp emerging opportunities, take risk, create new reality thanks to putting ideas into action (ideas that no one else has). It is a special kind of a human activity that brings profit both to environment and creative individuals themselves. Moreover, profit is one of effects brought about by actions taken by entrepreneur. Profit is a payment for undertakings carried out and determines the existence of entrepreneur and his/her immediate environment and further investments that he/she makes.

### *1.2 Psychological Theories on Entrepreneurship*

Issues relating to entrepreneurship have also been raised by researchers in other fields than economics. On the basis of models and theories formulated, they tried to explained what factors determined entrepreneurial behaviours and who entrepreneur was. Thus, it is worth analyzing the most important conceptions of entrepreneurship established on the basis of achievements in psychology.

As far as psychology is concerned, the notions of entrepreneurship and entrepreneur can be divided into two groups. The first one analyzes factors because of which entrepreneur stands out from society. The second one distinguishes psychological characteristics of human behaviour that may be defined as entrepreneurial regardless of conditions in which one acts (Tyszka, 2004, p.311).

Having the aforementioned aspects in mind, psychologists define entrepreneurship as a process of creating new value, which takes place through devoting necessary time and making an effort as well as taking financial, psychological and social risk that makes one generate profit and feel satisfied and independent (Tyszka, 2004, p.324). On the other hand, entrepreneur is described as an individual who has certain characteristics which makes him/her convinced he/she has influence on carrying out a particular undertaking.

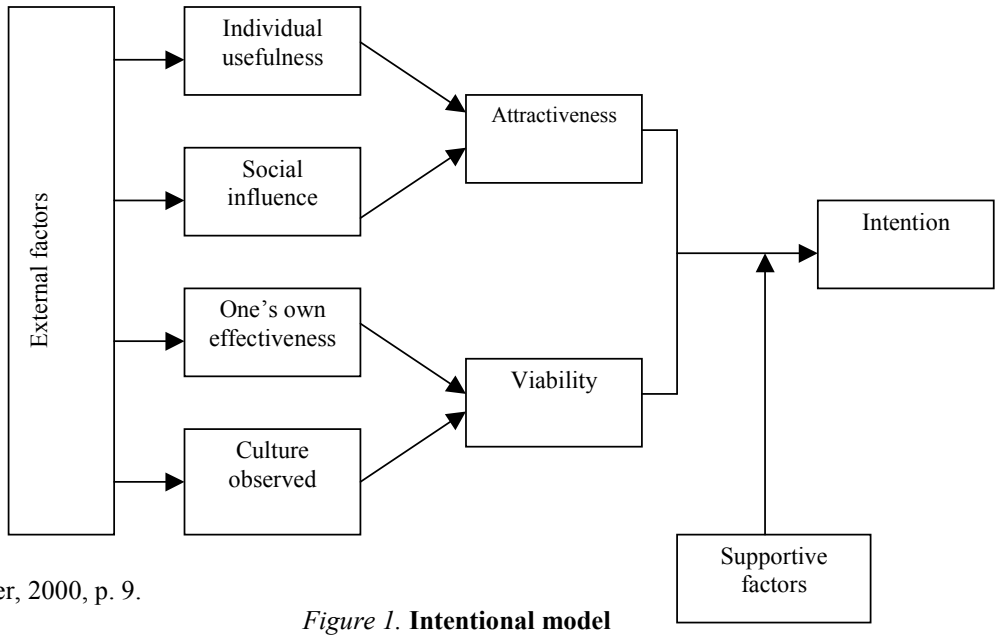
As it has already been mentioned, researchers in this field concentrate mainly on factors determining the fact that a certain undertaking is carried out. They devote much attention to explaining the aspects of creating entrepreneurial intentions and attitudes. As far as models referring to issues discussed are concerned, the model created by **Azjen** and **Shaper** is considered one of the most important. The first one has been created on the basis of the theory of intended behaviour. According to this theory, enterprising individual will take on certain undertaking only if he/she believes it is feasible. This decision depends mainly on one's determination (Tyszka, 2004, p.315).

The other model, which accounts for the way in which entrepreneurial attitudes are promoted in the society, has been created by Shaper. He concentrates on explaining how people construe and understand opportunities. This model ascribes a crucial role of one's intention to the way opportunities are grabbed. As far as psychology is concerned, this is the most popular theory that is commonly used to account for the way in which entrepreneurial attitudes are shaped, and that is why this model is going to be analyzed thoroughly.

Shaper's model identifies factors that influence noticing and putting opportunities into action, and so affects shaping entrepreneurial intention. External factors, attractiveness, and viability of a particular action are of a key importance (see *Figure 1*).

Factors determined by external forces are an important element of the model under analysis as these forces have an effect on attractiveness and the appraisal of the viability of

undertaking in further stages of decision-making process. The most significant determinants are socio-economic situation and access to market information.




*Source*: Kruger, 2000, p. 9.

*Figure 1.* **Intentional model**

The extent to which the economy has developed influences actions taken by entrepreneur (if any). As far as this schema is concerned, this extent is expressed as income level of a family, economic growth, poverty level of society. The second factor is a constant readiness of enterprising individuals to seek and analyze information. Knowledge acquired in such a way enables particular individuals to assess plausibility and chances of a success of a particular undertaking (Grundey, 2008). In the case of unfavorable economic-market situation and insufficient market information, actions taken by entrepreneur are weakened and devoid of a spirit of innovativeness and creativity.

Another determinant of entrepreneurial intensions is the fact that becoming an entrepreneur is attractive. This factor is influenced by a positive attitude that society has toward actions taken by an individual, and belief that carrying a particular undertaking out is going to bring certain profit. This implies that entrepreneurial actions are taken in such an environment in which being an entrepreneur and showing initiative will not result in social exclusion but a favorable assessment made by society. Furthermore, enterprising people will function in environment in which there are no legal-administrative-financial barriers that do not allow for making the profit (Ginevičius and Ginevičienė, 2009). This means that entrepreneurial actions will be taken in environment that favors and improves the viability of particular objectives established by entrepreneurs (Bratnicki, 2002; Kryk and Zielińska, 2007).

The last factor included in the model is viability, which is determined by a sense of one's effectiveness and cultural factors found in a particular social group. The sense of one's effectiveness refers to belief that a certain undertaking is going to be successful. Sometimes it even makes an individual overestimate his/her skills, qualification, knowledge and so judge impossible actions as feasible.

Apart from the sense of one's effectiveness, the way in which social culture is perceived is of a great importance as far as shaping a positive assessment of viability of a particular action is concerned. The following factors determining social culture may be distinguished:

- value system,

- model of family and family ties,
- traditions of entrepreneurship in a particular area (Kraśnicka, 2002, p.124).

Generally speaking, value system involves religion, ethics, and tradition. Religion is understood as all the experiences and attitudes that have influence on principles reflected in the way a particular individual acts. Tradition and ethics play a crucial role in handing down these principles and rules.

Family model and family ties are another factor. Family is a social unit that shapes behavioural patterns, values, and views that an individual holds. It is also a unit thanks to which family members socialize with society. It is characterized by a specific quality, i.e. following established patterns of behaviour and functioning of a particular individual in environment.

Entrepreneurial traditions started in a particular area are another element understood as a process of handing down certain views and principles which one applies while taking entrepreneurial actions (see Grundey, 2006 on *Baltic entrepreneurship*; Zafiropoulos and Vrana, 2008 on *Greek education system*). Hence, these traditions may be viewed as a set of economic behaviours and factual knowledge necessary to carry a particular undertaking out in the area in which entrepreneur functions.

To sum up, it should be stated that every entrepreneurial action taken by a human being is determined by psychological factors, i.e. personality, perception, motivation, and also socio-cultural factors. What is of a special importance is the fact that enterprising individual holds a proper value system that is directed to taking innovative actions, and also being sure that these actions are feasible and attractive. Apart from these characteristics, an individual ought to be able to notice and recognize emerging opportunities as well as gather information.

Every human being, and particularly young people and students who graduate from universities and become an element of market game, should have the aforementioned characteristics. Therefore, it is worth making an analysis of entrepreneurial attitudes and behaviours among the youngsters in the context of integration and globalization of European society.

## 2. Methodology of Multi-Country Survey of Students' Entrepreneurship Skills

Undertaking the research requires determining research and specifying the scope of the research, i.e. stating that the research is going to be:

- complete (extensive),
- partial (not extensive).

There are several factors that influence the choice of the form of research, namely the size of population under examination (statistical community), how much time the research requires, labour intensity, costs that will have to be borne to conduct the research. Having analyzed the feasibility of carrying out such a task (taken the aforementioned criteria into account), one usually chooses partial research (Mazurek-Łopacińska, 1999, p.92-93). Such a method has been chosen in the case of the research presented.

Once a method has been chosen, the way of selecting research sample should be devised. At the beginning of this stage a particular population (statistical community) is chosen. This is a finite group about which a researcher wants to obtain certain information (Kaczmarczyk, 1999, p.70). This involves all the units that, taking the aim of the research into consideration, can be examined as they have a characteristic in which a researcher is interested. As far as operation definition is concerned, the following elements of population under examination are distinguished: the subject of the research, sample unit, countries involved and the span of time during which sample units are going to be examined (Kędzior, 1996, p.76).

In the case of the research conducted, population examined has been defined as follows:

**The subject of the research**: full-time students (specialists – economic and business study programmes; and non-specialists – non economic study programmes).

**Sample unit**: a full-time student at bachelor and master degree level.

**Countries surveyed**: Lithuania, Latvia, Poland, Russia, Ukraine, Hungary,

**The span of survey time**: May-November 2006.

**Time lag of processing data**: 2007-2008.

Procedure, used to select the sample, involved all the actions that were supposed to make research sample (that had been chosen) representative. For, the research was not aimed at determining the preferences of the group examined, but at generalizing the results with reference to general population. There are two ways of selecting the sample: random selection or non-random selection. A method that gives every individual a possibility of being included into sample, i.e. the method of random selection, has been chosen out of methods available.

The reliability of the results of representative research depends mainly on the size of the sample. In order to determine the size of the research sample, a pilot study has been conducted first which allowed for working out main statistical characteristics of a particular group and checking the questionnaire as well as making potential changes in it. *Pilot study* was carried out in Poland in January 2006 on the sample of 105 students.

The following formula has been used to calculate a minimum size of research sample (Steczkowski 1983, p.113):

$$n_p = \frac{u_\alpha^2 \cdot p \cdot q}{d^2}$$

where:
$u_\alpha$ statistics value taken from a table of distribuant of a normal distribution for 1-$\alpha$,
d - maximum acceptable statistical error,
p - the proportion of the population that has the characteristic distinguished,
q - the percentage of the population that does not have the characteristic distinguished.

1. Maximum acceptable statistical error was +/- 4%.
2. A range of confidence/trust was assumed that amounted to 95,44% (the figure taken from the table of cumulative distribution function of a normal distribution for 1-$\alpha$=0,95 is 1,96).
3. The proportions of answers received during pilot study to the following questions bearing on the merits of the matter were taken into account. The aim of the research was taken into consideration.

- **question 1**. Do you think you are entrepreneurial? (variants: no, yes)
- **question 2**. After graduation, I am planning? (variants: to get a job in the state institution/company, to get a job in the private company, to set up my own company)
- **question 3**. Do you have any ideas for establishing your own company (start a business activity)? (variants: no, yes)

The results of calculations are collated in *Table 1* below.

**Table 1. The results of calculations made to estimate a minimum sample size, 2006**

| question | p (%) | q (%) | mss |
|---|---|---|---|
| question 1 | 21.3 | 78.7 | 402 |
| question 2 | 66.8 | 33.2 | 532 |
| question 3 | 54.8 | 45.2 | 594 |

Source: own compilation

Therefore, a minimum size of research sample will amount to 594 students in each country involved in the research.

Once a minimum size of research sample had been calculated, the process of data collection began. Qualitative information necessary for the research was gathered by means of a questionnaire survey. This questionnaire was the main measuring tool. In the end, there was the following return:

- in Lithuania - 601 questionnaires,
- in Latvia - 602 questionnaires,
- in Poland - 603 questionnaires,
- in Russia - 600 questionnaires,
- in Ukraine - 601 questionnaires,
- in Hungary - 602 questionnaires.

The survey was anonymous and included thirty-eight questions arranged in accordance with four thematic blocks:

- Attitudes towards the enterprise.
- Enterprising behaviour.
- The assessment of the labour market and climate for entrepreneurship.
- Education system vs. the development of pro-enterprising attitudes.

The first part of the survey included general information, i.e. the following eight questions:

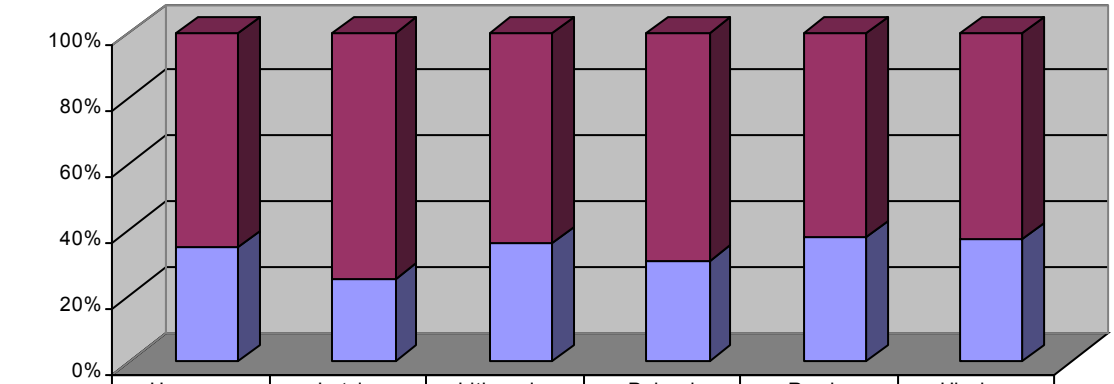
- gender (variants: male, female),
- level of studies (variants: bachelor's degree, master's degree),
- specialization (variants: business and economics, non-economic),
- stage of studies (variants: beginning, middle, end),
- intended place of residence/work after graduation (variants: town with <50 000 inhabitants, town with > 50 000 inhabitants),
- the extent to which one is financially dependent on parents (variants: entirely dependent, partly dependent, entirely independent),
- parents' experiences in the scope of self-employment (variants: they are still self-employed, they have self-employment experiences but are currently not self-employed, Neither of them has had self-employment experiences),
- which description fits you the best? (I am a gambler, I have both feet on the ground, I am a dreamer).

Materials obtained have been worked out by means of different methods. Computer method was used to calculate the results of the research. Answers, coded on the basis of choices made by respondents, were transferred to Microsoft Excel spreadsheet. Measures of size and structure were given for each variant of answer both from a global perspective and from the perspective of chosen criteria connected with what respondents declared in Part A, i.e. general information as well as in questions 1 and 2 that were bearing on the merits of the matter.

The structure of the sample was analyzed. The analysis took criteria of population split included in general information into account. With respect to respondents' gender (*Figure 2*), women constituted from 62.4% to 74.7%, depending on a particular country (see also Grundey and Sarvutyte, 2007). The highest proportion (62.4%) was found in Russia, whereas the lowest one (74.7%) in Latvia. Men represented from 25.3% to 37.6% of the sample respectively.

Level of studies (*Figure 3*) was another criterion of population split. From 64.9% to 92.2% of students who were included in research sample (in states involved in the research) attended undergraduate courses leading to a bachelor's degree. The smallest share was

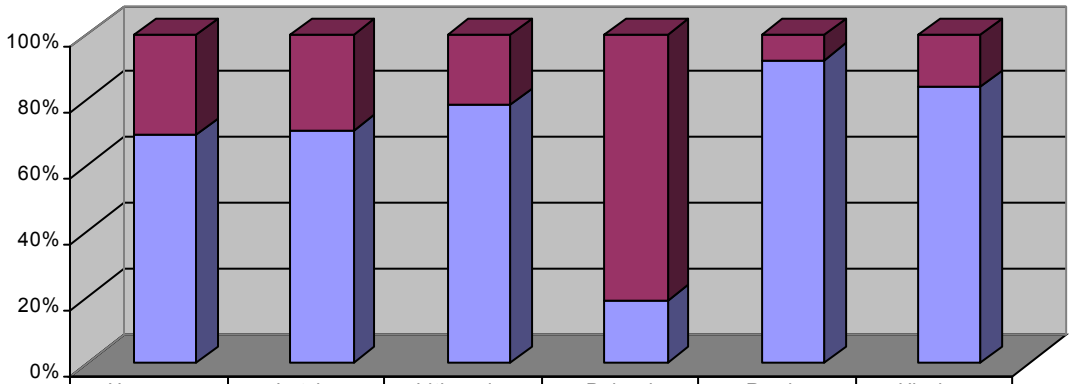
reported in Hungary, while the greatest one in Russia. Students who attended undergraduate courses leading to a master's degree constituted from 7.8% to 30.6% of respondents respectively.




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| female | 65,1 | 74,7 | 64,1 | 69,5 | 62,4 | 62,6 |
| male | 34,9 | 25,3 | 35,9 | 30,5 | 37,6 | 37,4 |

*Source*: own compilation based on the results of the research.

*Figure 2*. **Criterion of population's split in surveyed post-socialist countries: gender, 2006**




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| master's degree | 30,6 | 29,4 | 21,4 | 81,2 | 7,8 | 15,9 |
| bachelor's degree | 69,4 | 70,6 | 78,6 | 18,8 | 92,2 | 84,1 |

*Source*: own compilation based on the results of the research.

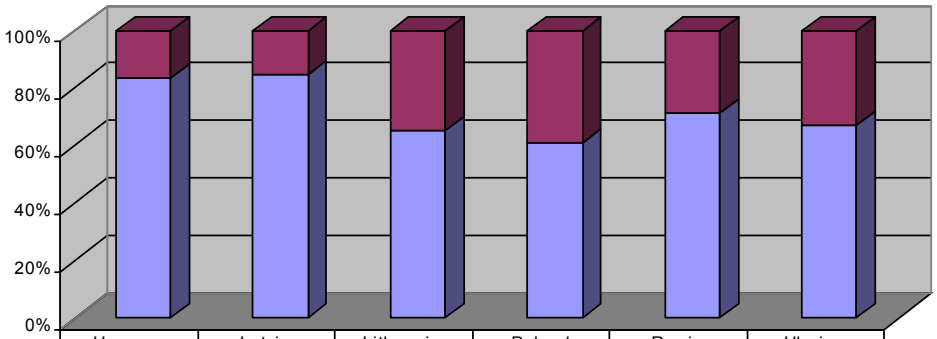
*Figure 3.* **Criterion of population's split in surveyed post-socialist countries: level of studies, 2006**

Poland was excluded from the analysis as the structure of Polish students representing the aforementioned levels differed from structures found in other countries considerably. However, this fact reflected a real situation in this country (Poland has recently begun to implement changes in higher education system resulting from Bolognese Process).

Specialization (*Figure 4*) (major/specialization) was another criterion population and sample split. The majority of respondents (from 84.8% in Latvia to 60.8% in Poland) represented economic specialization. From 16.5% to 39.2% of respondents have chosen fields of study not connected with economics.

The stage of studies (*Figure 5*) was also analyzed through distinguishing the elements of population structure. Three stages of studies were distinguished, namely beginning, middle,

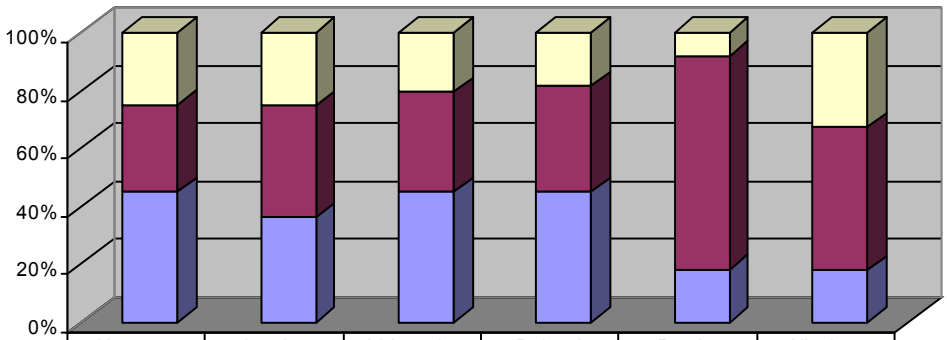
and end. Such a perspective allowed for identifying how opinions, held by respondents, changed as they entered another stages of studies. On the other hand, taking differences in education systems functioning in particular states into consideration, this perspective allowed for data comparison.




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| non-economic | 16,5 | 15,2 | 34,9 | 39,2 | 28,8 | 33,1 |
| business and economics | 83,5 | 84,8 | 65,1 | 60,8 | 71,2 | 66,9 |

*Source*: own compilation based on the results of the research.

*Figure 4*. **Criterion of population's split in surveyed post-socialist countries: specialization, 2006**




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| finish | 25,0 | 25,4 | 20,4 | 18,3 | 8,0 | 32,7 |
| centre | 30,0 | 38,4 | 34,6 | 36,8 | 73,7 | 49,3 |
| begin | 45,0 | 36,2 | 45,1 | 44,8 | 18,3 | 18,0 |

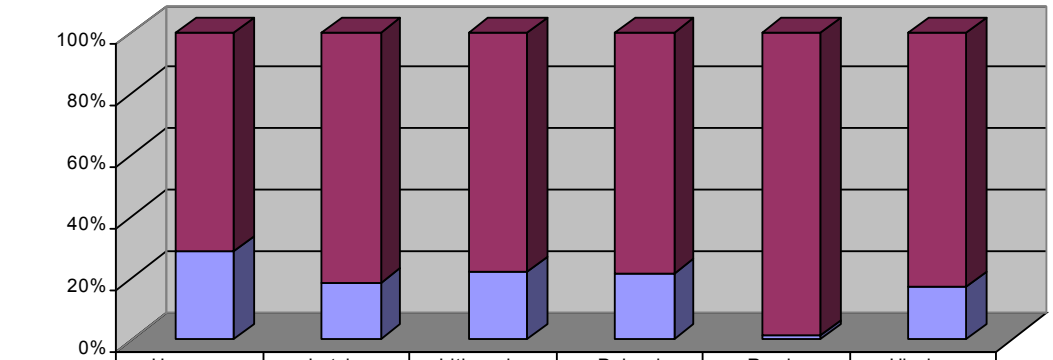
*Source*: own compilation based on the results of the research.

*Figure 5*. **Criterion of population's split in surveyed post-socialist countries: stage of studies, 2006**

Respondents who just began to study at the university represented from 18% (Ukraine) to 45.1% (Latvia) of the sample (median 40.5%). Students who represented the middle stage of studies constituted from 30% (Hungary) to 73.7% (Russia). Median of structure index in this group amounted to 37.6%. Students, who represented the last stage of studies, constituted from 8% (Russia) to 32.7% (Ukraine) of the population. In this group, median of structure index in this group amounted to 22.7%.

The structure of the sample might also be examined in the context of intended place of residence/work after graduation (*Figure 6*). Respondents were divided into people who intended to live in a town with < 500 000 inhabitants and people who were going to live in a town with > 500 000 inhabitants. With respect to the first mentioned group, respondents constituted from 1.7% (Russia) to 28.6% (Hungary). The majority of respondents planned for

the future in large cities. C.a. 80% of respondents declared they would like to live in such a way.

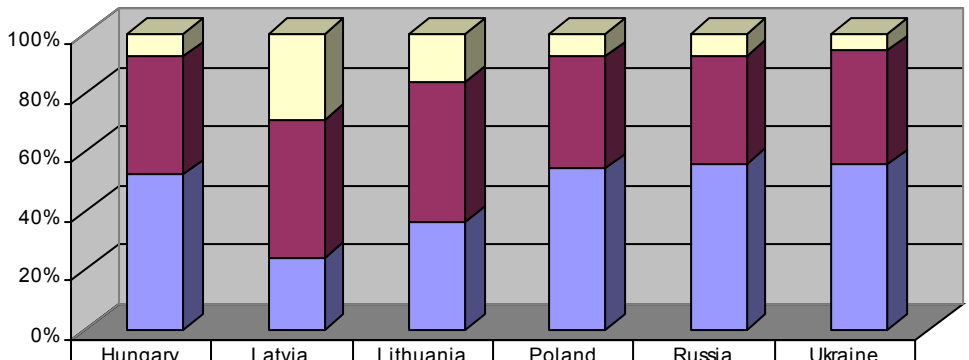



| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| > 50 000 | 71,4 | 81,8 | 77,9 | 78,4 | 98,3 | 82,8 |
| < 50 000 | 28,6 | 18,2 | 22,1 | 21,6 | 1,7 | 17,2 |

Source: own compilation based on the results of the research.

*Figure 6*. **Criterion of population's split in surveyed post-socialist countries: planned place of work after graduation, 2006**

Respondents were also divided into groups according to the extent to which they were financially independent (*Figure 7*). There were three possible variants of answer, i.e. entirely independent, partly dependent, and entirely independent (from parents). The highest percentage of entirely independent and partly dependent respondents (75.8%) was reported in Latvia. Similar situation was found in Lithuania where such persons constituted 63.5% of respondents. As far as the remaining four countries were concerned, index suggested a lower, yet stable, level, namely from 43.8% to 47.5%.




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| entirely independent | 7,7 | 29,1 | 16,1 | 7,8 | 7,3 | 5,5 |
| partly dependent | 39,8 | 46,7 | 47,4 | 37,7 | 36,5 | 38,9 |
| entirely dependent | 52,5 | 24,2 | 36,5 | 54,5 | 56,2 | 55,6 |

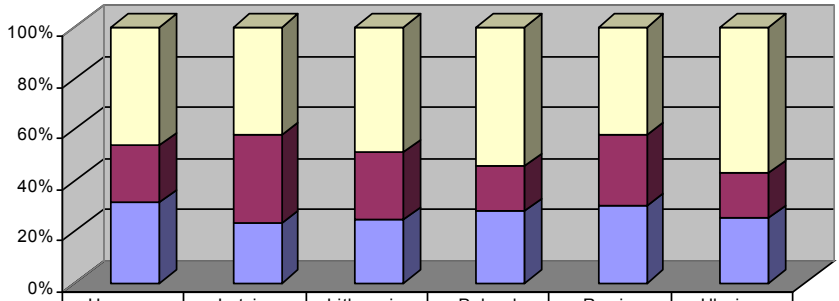
*Source*: own compilation based on the results of the research.

*Figure 7*. **Criterion of population's split in the surveyed post-socialist countries: financial independence, 2006**

Diversifying the sample according to the criteria of split, experience that the families of respondents had in the scope of undertaking their own business activity (*Figure 8*) was analyzed as well. The following three options were given:

- Neither of them has had self-employment experiences,
- They have self-employment experiences but currently are not self-employed,
- They are still self-employed.

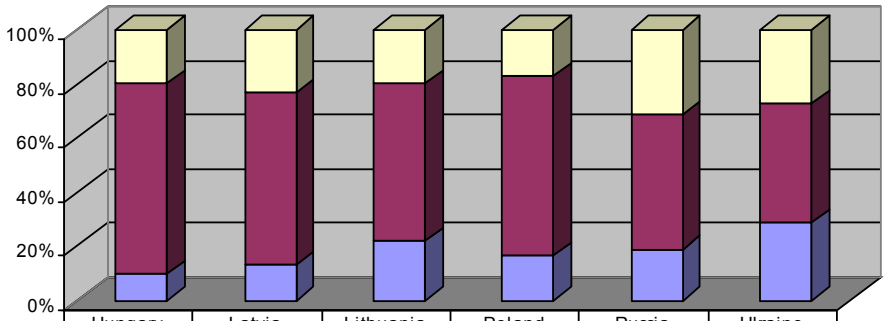
Respondents whose parents have not had any self-employment experiences constituted from 42% (Latvia) to 57.2% (Ukraine), and similar levels were found in the majority of states examined. The greatest diversification was observed in the case of students whose families had self-employment experiences but did not run their own business at that moment. These students represented from 17.6% (Poland) to 34.8% (Latvia). Respondents whose parents were still self-employed constituted from 23.2% (Latvia) to 31.6% (Hungary).




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| neither self-employed | 46,3 | 42,0 | 48,8 | 54,5 | 42,3 | 57,2 |
| experienced but not self-employed | 22,1 | 34,8 | 26,7 | 17,6 | 27,8 | 17,7 |
| still self-employed | 31,6 | 23,2 | 24,5 | 27,9 | 29,8 | 25,2 |

*Source*: own compilation based on the results of the research.

*Figure 8.* **Criterion of population's split in the surveyed post-socialist countries: experience that parents have in the scope of running their own company**




| | Hungary | Latvia | Lithuania | Poland | Russia | Ukraine |
|---|---|---|---|---|---|---|
| dreamer | 19,9 | 23,2 | 19,7 | 17,2 | 31,6 | 27,5 |
| realist | 70,3 | 63,6 | 58,2 | 66,2 | 49,6 | 44,0 |
| gambler | 9,8 | 13,2 | 22,1 | 16,7 | 18,9 | 28,5 |

*Source*: own compilation based on the results of the research.

*Figure 9.* **Criterion of population's split in the surveyed post-socialist countries: personal description, 2006**

As far as general information was concerned, students were asked to choose a description that suited them best (*Figure 9*). There were three variants given, namely

1. I am a gambler (= cluster of 'gamblers').
2. I have both feet on the ground (= cluster of 'realists').
3. I am a dreamer (= cluster of 'dreamers').

Taking the median of structure indexes that was given for all the countries into consideration, the population under examination consisted of the following groups: 60.9% declared they were 'realists', 21.5% 'dreamers', and 17.8% 'gamblers'. The largest percentage of 'gamblers' was reported in Ukraine (28.5%), whereas the smallest one in Hungary (9.8%). Taken extreme cases into account, 'realists' declared something strikingly different. In this case, the highest proportion was found in Hungary (70.3%), while the lowest one in Ukraine (44%). The largest percentage of 'dreamers' was reported in Russia (31.6%), whereas the smallest in Poland (17.2%).

Apart from commonly used methods of deduction and induction, chosen qualitative, quantitative, and mixed methods were employed in the research. With respect to quantitative methods, the following methods may be included: statistical, econometric, and taxonomic. Out of a great number of quantitative methods, several methods of statistical analysis were selected from the following thematic scopes:

- Description of distribution.
- The analysis of structure.
- The analysis of phenomena coexistence.

## 3. Entrepreneurship Index

Entrepreneurship index was created with the use of multidimensional comparative analysis (MCA) tools. MCA is a scientific discipline dealing with comparing the object by means of many diagnostic features, so it analyzes complex phenomena described with the use of two or more variables. Objects are units of research (e.g. enterprises, products, consumers), while diagnostic features are characteristics of units from the set examined that are looked into from the perspective of a phenomenon that is a criterion for comparing the objects. Methods of multidimensional comparative analysis are used to transform a multidimensional space of diagnostic variables into a uni-dimensional space of a synthetic variable, which allows for arranging the objects according to the level of a phenomenon examined (Grundey, 2009a).

As far as MCA methods are concerned, so-called taxonomic methods are distinguished that enable one to address the following matters:

- the examination of similarity between objects in the scope of the level of complex phenomenon (grouping methods),
- arranging the objects according to the level of complex phenomenon (linear arrangement methods).

Further procedures chosen from the second group of issues are going to be presented. Regardless of synthetic measure adopted, it is necessary to distinguish diagnostic features in a set, i.e. stimulants, destimulants, and nominants. Stimulants are variables which, if growing, show that the level of phenomenon under examination increases. Destimulants are variables which, if decreasing, prove that the level of phenomenon under analysis improves. Finally, nominants are variables a particular level (e.g. in a certain bracket) of which proves that the value of phenomenon under consideration is high, while lower and higher values show that the level of this phenomenon is lower (Jajuga, 1999, p.37). If a set of diagnostic features includes destimulants and nominants, they should be converted into stimulants (see Kukuła, 2000; Kowalewski, 2002; Batóg, 2003).

Exit variables collected are usually expressed in different units of measurement. They also have different spaces of variability, so it is not possible to perform any mathematical operations on them or compare them. Performing the normalization of variables eliminates formal limitations and interpretative difficulties. In practice, the following procedures are used: standardization, unitarization, and quotient transformations (Bąk, 1999, p. 52).

The choice of aggregating formula depends on the means of normalization. Procedures used to determine synthetic measure might be divided into two groups, namely

- non-standard methods,
- standard methods.

In the case of the former, average values of sets describing particular features are calculated in order to obtain synthetic measure. Measures obtained assume values from 0 to 1. The results may be interpreted as an average value of optimal values achieved by every object. Thus, the higher the synthetic measure, the higher the position of an object in the ranking.

As far as the latter are concerned, it is assumed that so-called "model object" (representing the best, i.e. maximum values for each variable) exists. Subsequently, the distance of particular objects from the model of development is determined. Index does not assume values from 0 to 1. Therefore, a relative measure of development must be created. The closer the values of synthetic measure calculated to 1, the more different a particular object from the model of development is (see Nowak, 1990; Tarczyński, 1994; Tarczyński, 2001).

Employing the methods of multidimensional comparative analysis, countries under examination were arranged in a linear fashion according to their pro-enterprising potential (on the basis of the aforementioned procedure).

**Table 2. List of diagnostic variables, 2006**

| $X_x$ | *diagnostic feature (question)* | *option* | *the nature of a variable* | *values desired* |
|---|---|---|---|---|
| **I. Attitudes towards the enterprise** | | | | |
| $x_1$ | Do you think that you have entrepreneurial spirit?) (B.2) | yes | stimulant | max |
| $x_2$ | Did you work/are you still working during study? (B.3) | yes | stimulant | max |
| $x_3$ | Are you active beyond academic studies at university? (B.4) | yes | stimulant | max |
| **II. Enterprising behaviour** | | | | |
| $x_4$ | Do you have any idea for establishing your own company (start a business)? (C.1) | yes | stimulant | max |
| $x_5$ | Are you searching for ideas for business activities? (C.1.7) | yes | stimulant | max |
| $x_6$ | After graduation, I am planning…? (C.2a) | to set up my own company | stimulant | max |
| $x_7$ | When would you like to start your own business? (C.2.1) | I already have my own enterprise | stimulant | max |
| III. **Institutional system vs. climate for entrepreneurship** | | | | |
| $x_8$ | Is there sufficient public & private support for the development of new enterprises (self-employment)? (D.2) | yes | stimulant | max |
| $x_9$ | Do you think that the current labour market situation encourages one to undertake his/her own business activity? (D.3) | yes | stimulant | max |
| $x_{10}$ | In your opinion, does the education system have a positive effect on developing enterprising teenagers/students? (E.1) | yes | stimulant | max |

*Source*: own compilation.

Diagnostic variables, which were adopted in the research, reflected shares of options in the structure of answers given by respondents to particular (the most significant as far as the aim of the research was concerned) questions. Out of the questions included in the questionnaire to create entrepreneurship index, ten questions from three groups were selected, namely

- Attitudes towards the enterprise,
- Enterprising behaviour,
- Institutional system vs. climate for entrepreneurship.

Questions were chosen by means of expert method.

*Table 2* shows questions selected together with options taken into account in analyses. Values desired and the nature of variables were also presented (the division into stimulants, destimulants, and nominants). One should pay attention to the fact that all the variables are stimulants in nature, so no actions have been taken to convert destimulants and nominants into stimulants.

**Table 3. Values of diagnostic variables, 2006**

| *Variable* | *Lithuania* | *Latvia* | *Poland* | *Russia* | *Ukraine* | *Hungary* |
|---|---|---|---|---|---|---|
| $x_1$ | 64.6 | 75 | 73.2 | 60.2 | 79 | 67.3 |
| $x_2$ | 45.4 | 70.1 | 51.5 | 44 | 43.9 | 43.9 |
| $x_3$ | 46.7 | 49.7 | 58.7 | 66.3 | 54 | 44.1 |
| $x_4$ | 54.5 | 60.2 | 42.3 | 52.8 | 51.6 | 47.4 |
| $x_5$ | 55.8 | 57.6 | 62 | 50.5 | 61.2 | 46.7 |
| $x_6$ | 24.7 | 26.3 | 26.9 | 14 | 40.4 | 20.3 |
| $x_7$ | 7.9 | 9.9 | 3.4 | 12.3 | 7.6 | 8 |
| $x_8$ | 54.4 | 52.1 | 21.7 | 39.4 | 27.6 | 10.8 |
| $x_9$ | 51.3 | 60.8 | 36.8 | 51.6 | 41.5 | 32.3 |
| $x_{10}$ | 69.6 | 76.5 | 51.7 | 77.1 | 78.7 | 46.6 |

Source: own compilation based on the results of the research.

*Table 3* shows values of diagnostic features adopted for the states under examination.

The procedure of unitarization has been used for statistical normalization of variables. As a result of certain transformations, unnamed normalized values of indexes, amounting to from 0 to -1, have been obtained. Furthermore, diverse variance of characteristics have been kept. Then, data were arranged by means of a non-standard method (in accordance with the aforementioned procedure). Adopting the computational procedure, the ranking of subjects under examination was created. The criterion applied was a decreasing value of synthetic measure (entrepreneurship index) that had been shown in *Table 4*.

**Table 4. Entrepreneurship index of Selected Post-Socialist Countries, 2006**

| *Item number* | *Country* | *Entrepreneurship Index* |
|---|---|---|
| 1. | Latvia | 0.902 |
| 2. | Ukraine | 0.809 |
| 3. | Russia | 0.798 |
| 4. | Lithuania | 0.796 |
| 5. | Poland | 0.686 |
| 6. | Hungary | 0.616 |

Source: own compilation based on the results of the research.

*Synthetic index* reflects tendencies that have already been observed and described. In many cases, the population examined was divided into two groups. The first one included

Polish and Hungarian students (opinions held by them and assessment they made had a negative tinge). The other one consisted of students from the remaining countries (it is worth paying attention to the fact that before the era of system transformation, all these countries belonged to the USSR (Grundey, 2009b)).

Taking the students from the first group into account, ***synthetic index*** shows that the lowest value of entrepreneurship index (i.e. 0.368) was reported among *Hungarian* students. *Polish* ones occupied the fifth position in the ranking (entrepreneurship index 0.428). Values of indexes prove that there is a considerable distance between these two countries and the remaining ones.

Countries from the second mentioned group occupied the first, second, third, and fourth positions in the ranking created on the basis of entrepreneurship index calculated. As it turned out from the research, *Latvia* appeared to be the country with the greatest pro-enterprising potential (entrepreneurship index 0.538). *Ukraine* was placed second in the hierarchy (entrepreneurship index 0.485). Taking the level of phenomenon examined into account, a small distance was observed between Ukraine and countries occupying other positions in the ranking, i.e. *Lithuania* (the third position; entrepreneurship index 0.475) and *Russia* (the fourth position; entrepreneurship index 0.468).

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## STUDENTŲ ANTREPRENERYSTĖS ĮGŪDŽIŲ TYRIMAS POSOCIALISTINĖSE ŠALYSE: TARPTAUTINIS TYRIMAS (*1 DALIS*)

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### SANTRAUKA

Straipsnyje pateikiama pirmoji tyrimo dalis, kurioje autoriai aptaria tarptautinės studentų antreprenerystės įgūdžių studijos, atliktos 2006 metais esminius parametrus: a) teorinius antreprenerystės pagrindus; b) tyrimo metodologiją; c) šešių tirtų posovietinių valstybių (Lietuvos, Latvijos, Lenkijos, Ukrainos, Rusijos ir Vengrijos) antreprenerystės indeksą. Tarptautinio tyrimo rezultatai buvo apdorojami tikslinėse valstybėse per 2007-2008 metus, o 2009 metais pasirodė ir išsami studija, kurią publikavo Lenkijos Ščecino universitetas. Antroje straipsnio dalyje, kuri bus publikuojama šiame mokslo leidinyje vėliau, bus pateikti išsamūs tirtų valstybių studentų (specialybinių ir nespecialybinių studijų programų) atsakymai ir nuomonės apie antreprenerystę ir verslo kūrimo pagrindus. Šiame straipsnyje akcentuojama, jog tyrimas parodė aukštą universitetų studentų antreprenerystės savivoką Latvijoje, tuo tarpu šis indeksas yra žemiausias Vengrijoje.

*REIKŠMINIAI ŽODŽIAI:* antreprenerystė, antreprenerystės indeksas, švietimas ir mokymai, posocialistinės šalys, Lenkija, Latvija, Lietuva, Ukraina, Rusija, Vengrija.