

# **Entrepreneurship Education and Entrepreneurial Attitudes of Hungarian Students: An International Comparison**

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## 1. Introduction

In 2006, even in Hungary, it is unnecessary to prove the economic and social importance of small and medium-sized enterprises. According to the statistics, by 2003 SMEs already employed more than 70% of the workforce in the private sector (Román 2006), and the relative importance of the big companies in terms of employment is continuously decreasing. No less important is the contribution of the smaller-sized companies in generating GDP: 53% of the value added created in Hungary is produced by SMEs.

If, however, we are curious about the dynamics of job creation and economic growth, then, instead of static company size, we should analyse entrepreneurial activity. While the definition of entrepreneurship has been disputed amongst scholars, it is widely agreed that entrepreneurship can be linked to innovation, to creativity, increased risk-taking and non-routine decision-making at individual level and also to high growth (Szerb 2004). With entrepreneurial businesses the frequency and level of its product and technological innovation, the increase in profit and in the number of employees are, in many cases, several times greater than the same indicators for companies lacking the entrepreneurial approach. Such companies have a very important influence on the economic efficiency and productivity of the country or the region. Moreover, it can even be seen that a specific tight circle, approximately 1-4% of the young entrepreneurial businesses, the so called “gazelles”, are responsible for the critical portion of job creation and economic growth. (Autio 2005, Birch, 1987, Csapó 2006, Szerb et al 2004, Vecsenyi 2003). From the standpoint of the entire national economy, therefore, the number of these dynamically growing businesses is more important than the absolute number of companies.

What are the characteristics of the people establishing rapidly-growing businesses? According to Autio's analyses (2005), these young entrepreneurs have a high income and are university or college graduates. They are almost exclusively opportunity-motivated to start-up a business. The so-called “necessity entrepreneurs” scarcely ever feature here. Hence, the businesses to be established in future years by those who are now in their twenties and still, at least partially, involved in university studies, will define the national economic growth and influence the creation of new jobs in the years following 2010. This means that an analysis, perhaps an international comparison, of the entrepreneurial attitude and entrepreneurial characteristics of university students will enable us to estimate future entrepreneurial activity, and that, in consequence, we will also be able to extract some indirect information about our economic growth prospects. Moreover, we would like to examine the effect of entrepreneurship education more specifically that of entrepreneurship courses on the entrepreneurial attitude of university students. Some other studies have indicated that the prestige of entrepreneurship and the intention to start up an own business had increased among students who had completed entrepreneurship courses (e.g. Kuratko 2003, Peterman and Kennedy 2003).

An analysis of the entrepreneurial activity of adults (aged from 18 to 64), and the relative position of Hungary, are well-known from the Global Entrepreneurship Monitor research (Szerb et al. 2004, Szerb 2005, Szerb et al. 2006). On the basis of the Early Stage Entrepreneurial Activity (ESEA) index – which shows the percentage of the 18-64 age bracket wishing to establish a new business or having a business younger than 42 months – both the absolute and the relative position of Hungary have continuously deteriorated in the period 2001-2005. In 2001 the indicator still stood at 11.4%, but this declined to 6.6% in 2002, to 4.3% in 2004 and to 1.9% in 2005. The survey in 2005 was not successful in all respects, but, if we also take into account the surveying error, on the basis of the indicator Hungary occupies a middle-to-low position on the ranking list, although close to the other post-socialist countries (Croatia, Poland, Latvia and Slovenia), and not far removed from the other European Union countries (Chart 1). If we also take economic development into consideration, then Hungary, together with the other post-socialist countries, are located below the trend line (Szerb et al 2006). From the point of view of the future development of Hungary, the increase of low-level early phase entrepreneurial activity and with this the increase of the number of the opportunity-motivated enterprises with high potential have the primary importance.

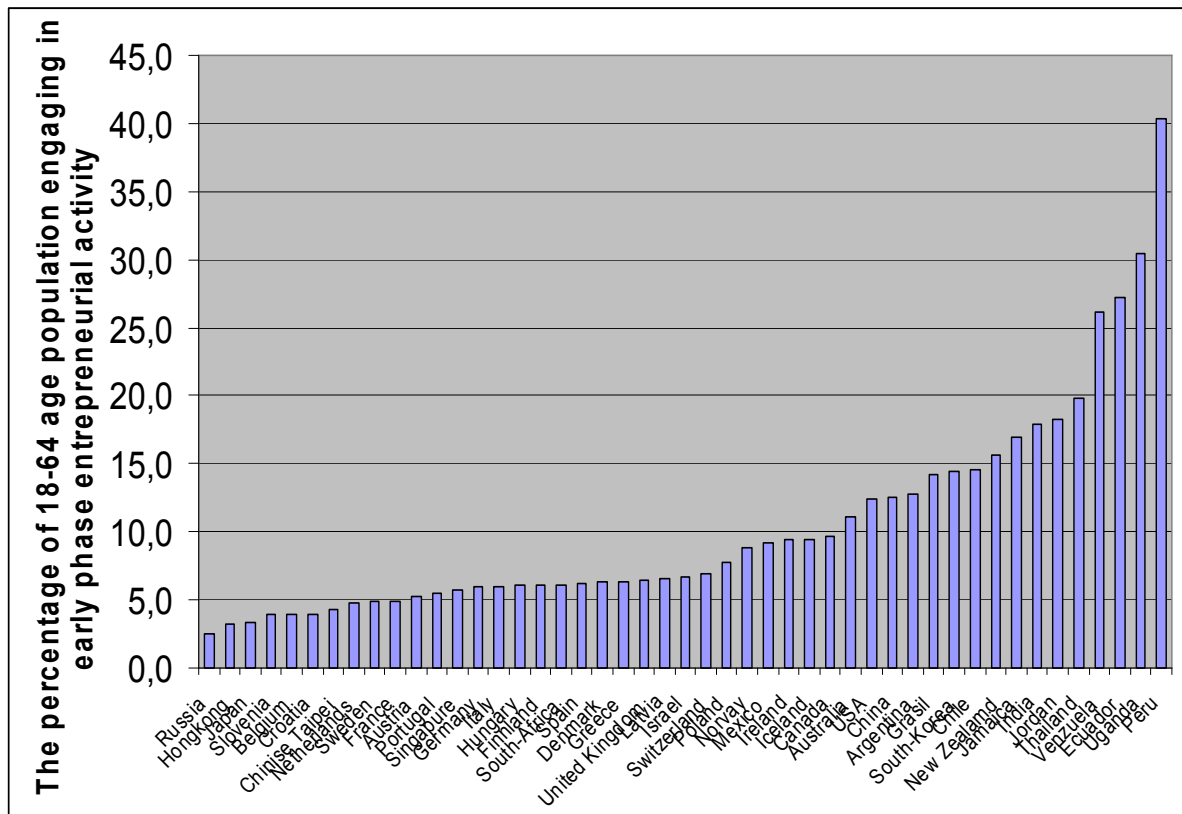


Figure 1 Early Stage Entrepreneurial Activity Indicator 2001-2005 average- international comparison

We know little of the entrepreneurial attitudes of the younger age-group (especially of those in higher education) and of their intentions to establish businesses in the future; however, in Hungary an analysis of the career expectations of those studying in higher education is especially important since, even in graduate circles, unemployment is increasing and job-finding opportunities are shrinking. Further structural problems arise from the fact that in certain fields, such as the Humanities, Law and Economics, there are clear signs of over-education, whilst, at the same time, there is a labour shortage in fields requiring graduates in Technology and the Natural Sciences (Selmeczy 2005). In this way graduates from the former group are compelled to become entrepreneurs in areas where the high growth potential businesses cannot be expected. With graduates in the Technologies, however, good job opportunities mean that there is little motivation to search for opportunities, and so we should not expect too many technology and natural science students to set up an own business.

The entrepreneurial intentions of university students have already been analysed in several countries. Studies were carried out in Australia, in the USA, in the Scandinavian countries and also in the German-speaking area comprising Austria, Switzerland and Germany (Kuratko 2003, Autio et al. 2001, Franke and Lüthje 2004, Krueger and Reilly 2000, Peterman and Kennedy 2003, Schwarz et al. 2006). Summarising experiences, mainly in the German-speaking areas, the Swiss University of St. Gallen and the European Business School (Germany) embarked upon an international research project entitled “International Survey of Collegiate Entrepreneurship 2006”, which involved 14 countries, and over 37,000 students, (among them 3,346 Hungarians and 8 Hungarian universities). In addition to surveying the entrepreneurial potential of students in higher education and assembling an international comparison, the survey aimed at investigating the entrepreneurial conditions provided by universities and colleges and at assessing opportunities for teaching such topics (Fueglistaller et al 2006).

In what follows we describe, first of all, the method of data collection, the basic characteristics of the sample and then the method of data-processing, following which we examine students' expectations regarding their future employment and career using differentiating among employee and various entrepreneurial categories. In the following part we analyse the effect of the entrepreneurship courses on students' attitudes by the multinomial logistic method (MLR). In the final part we summarise and assess the results.

## 2. Description of the data-collection and the sample

The research group at the University of St Gallen was responsible for coordinating the survey and assembling the questionnaire, together with disseminating the results and organising their publication. Research teams at each of the 14 countries were responsible for designating institutes of higher education to participate in the survey and for keeping contact with the students. The survey itself was carried out via the internet, the link to the questionnaire being given to the students by email. The questionnaire was prepared in 5 languages – English, French German, Hungarian and Finnish. Hungarian students were allowed to complete the questionnaire only in Hungarian; other language options were not given

The international (total) sample contains 37,412 completed questionnaires. The most important characteristics are presented in Table 1.

Country	No. of universities interviewed	No. of registered students	No. of completed questionnaires	Response rate (%)	Proportion of full-time students (%)	Year of study of student (average)	Age (average)	Male students (%)	Students of Business and Economics (%)
Australia	3	52,536	67	0.1	79.1	2.28	23.2	44.8	8
Austria	23	122,600	8,857	7.2	74.7	3.64	25.3	47.7	37.9
Belgium	5	21,954	1,612	7.3	92.7	2.75	23.0	51.9	38.6
South Africa	1	12,600	25	0.2	96.0	3.68	22.9	60.0	96.0
Finland	8	45,400	1,566	3.4	85.8	2.48	25.5	48.3	38.9
France	1	2,500	67	2.7	100.0	1.00	21.0	37.3	98.5
Ireland	4	37,000	248	0.7	95.6	3.11	23.8	48.0	62.9
Liechtenstein	1	570	200	35.1	65.0	2.31	26.3	71.5	75.0
<b>Hungary</b>	<b>8</b>	<b>169,025</b>	<b>3,346</b>	<b>2.0</b>	<b>90.6</b>	<b>3.19</b>	<b>23.3</b>	<b>51.6</b>	<b>47.0</b>
Germany	9	111,474	3,189	2.9	96.9	3.23	24.0	48.7	22.9
Norway	6	38,125	1,086	2.9	97.2	3.06	24.4	60.0	22.1
Switzerland	26	55,105	8,825	16.0	84.4	3.10	24.8	62.8	28.3
Singapore	1	3,500	354	10.1	98.3	2.18	22.5	49.4	75.7
New Zealand	2	27,353	7,970	29.1	93.7	2.91	22.8	46.8	17.2
Total	93	690,922	37,412	5.9	86.6	3.15	24.2	52.2	31.4

Table 1 Participating countries and the characteristics of the sample

It should be noted that the survey cannot be considered representative because of the low number of respondents from France, Ireland, Australia and Singapore. In fact, Australia, France and South Africa were largely omitted from the analysis due to the extremely low number of samples. The majority of students are full-time, typically in their later years of study, and, due to the professional background of the survey operatives, they were in most cases from the Business and Economics fields of study. The Hungarian sample does not differ essentially from those of other countries.

Table 2 shows the Hungarian sample on the basis of the participating Hungarian universities. We note that, in order to provide a homogeneous sample, we asked only universities, although we did try to provide an appropriate regional balance.

Universities participating	Total student numbers	Number of completed questionnaires	Response rate
Corvinus University of Budapest	16,511	543	3.29
Budapest University of Technology & Economics	25,553	387	1.51
Debrecen University	25,230	236	0.94
University of Miskolc	14,335	410	2.86
Pannon University	10,473	358	3.42
University of Pécs	35,326	655	1.85
Széchenyi István University	11,071	346	3.13
University of Szeged	30,526	313	1.03
Others		88	
Totals	169,025	3,346	1.98

Table 2 Hungarian universities participating in the survey and the response rate

The average response rate in Hungary (2%) lags well behind those of Liechtenstein, Switzerland and New Zealand, but it is still acceptable. The most active universities were Corvinus University of Budapest, Pannon University and University of Miskolc.

### 3. Students' career expectations

Naturally, students' future job expectations do vary. It happens quite frequently that, immediately after graduation, the first job is not exactly the preferred choice of the student. However, respecting labour market conditions, the prospect of further training and of the acquisition of new skills, some form of compromise could be rationalised. Therefore, the questionnaire separates career expectations for the first 5 years after graduation and for the years thereafter. Table 3 shows the results of the international comparison.

Immediately following graduation, students can mainly envisage life as employees. Perhaps surprisingly, SMEs are at the top of the list followed by large companies, research and public service. 12,25 of the student prefers to be entrepreneur right after graduation.<sup>1</sup> At the same time there are a number of students preferring to found a family (5.4%) and also of those who still have no firm ideas (15.4%)

5 years after graduating the balance shifts in favour of those who prefer an entrepreneurial position, since now more than half (50.1%) of those who have clear preferences would prefer not to work as an employee. At the same time there are a large number of students preferring family foundation (13.5%) and 17% who still have no firm idea, or who are hesitating.

<sup>1</sup> Entrepreneur includes joining a family business, taking over either an existing business or a stake in such a business, taking a franchise, starting up or continuing to establish own business and, self-employment.

Job expectations < 5 years									
Country	SME	Large Company	Research	Civil/public service	Employee	Entrepreneur	Entrepreneur %	Family Foundation	Do not know
Austria	33.8	15.8	9.3	5.9	64.8	14.2	18.0	5.4	15.6
Belgium	27.0	15.0	11.4	8.9	62.2	16.6	21.1	5.0	16.2
Finland	44.0	14.3	1.7	4.3	64.4	9.8	13.3	11.6	14.2
Ireland	27.0	18.5	4.4	6.0	56.0	15.7	21.9	4.0	24.2
Liechtenstein	34.5	30.0	4.0	2.5	71.0	13.0	15.5	3.0	13.0
Hungary	27.1	19.3	6.9	6.9	60.2	16.0	20.9	11.1	12.8
Germany	27.8	21.2	14.9	8.1	72.0	8.0	10.0	6.9	13.1
Norway	39.4	21.5	3.7	2.7	67.2	12.2	15.3	4.2	16.4
Switzerland	35.4	22.0	10.8	6.4	74.7	9.5	11.3	3.2	12.7
Singapore	24.3	43.2	1.7	4.2	73.4	12.4	14.5	4.0	10.2
New Zealand	34.1	12.5	6.9	9.5	62.9	12.6	16.7	4.0	20.4
Average	33.3	17.8	8.9	7.0	66.9	12.2	15.4	5.4	15.4
Job expectations >5 years									
Country	SME	Large Company	Research	Civil/public service	Employee	Entrepreneur	Entrepreneur %	Family Foundation	Do not know
Austria	10.8	11.5	5.4	5.3	33.0	35.5	51.8	13.7	17.8
Belgium	10.3	9.9	3.8	6.9	31.0	44.7	59.1	8.6	15.8
Finland	17.3	12.6	1.3	3.6	34.7	29.2	45.7	18.8	17.3
Ireland	10.1	7.7	2.4	4.4	24.6	44.8	64.5	9.7	21.0
Liechtenstein	10.5	17.0	2.5	2.0	32.0	37.5	54.0	14.5	16.0
Hungary	8.7	10.5	2.7	3.9	25.8	35.7	58.0	28.0	10.5
Germany	12.3	15.5	7.9	7.5	43.3	26.8	38.3	13.3	16.6
Norway	21.9	12.1	3.3	2.2	39.5	34.0	46.2	8.4	18.1
Switzerland	17.0	11.9	4.7	5.3	38.9	32.5	45.6	11.2	17.3
Singapore	5.4	16.1	3.1	4.5	29.1	46.9	61.7	8.2	15.8
New-Zealand	13.9	8.9	4.9	5.3	32.9	37.4	53.2	10.8	18.9
Average	13.4	11.4	4.7	5.2	34.7	34.8	50.1	13.5	17.0

Table 3 Students' job expectations after graduation on the country level

From the international comparison it is evident that, from the standpoint of entrepreneurial activity, the relative position of Hungary is not bad. In fact, 16% of students would like to work independently as entrepreneurs right after graduation, which means that we rank second after Belgium in comparative terms, even ahead of the traditionally more entrepreneurial Ireland. On the basis of the ratio of those preferring to work as entrepreneurs as compared to employment position, we occupy 3rd place among 11 – that is, behind Belgium and Ireland, although we should assess the number of those who wish to start a family (11.1%) as a negative factor, which is substantially above the international average, as well as those (12.8 %) who have no clear ideas.

Indecision over the future is reflected even more in terms of the preferences after 5 years: 28% of Hungarian students would like to establish a family and another 10.5% has not yet had an idea. Basically, the high degree of preference for starting a family is the reason why Hungary has dropped to the 6th place in terms of entrepreneurship position.

Table 4 compares Hungarian universities. It can be seen that the differences among domestic universities are clearly smaller than among individual countries.

The proportion of those who would prefer an independent job within 5 years extends from 12% at University of Szeged (SZTE) to 20% at Debrecen. Slight differences can be detected in terms of entrepreneurial preference after 5 years: the upper and lower limits being set by the Budapest University of Technology and Economics (BME) and Pécs (PTE), at 34%, up to the 38% recorded for the Széchenyi István University (SZE). What is perhaps not at all surprising in the context of the restructuring activities of 2006 is the relative devaluation of the civil or public service category: very few think that, for the long term, the state sector will be the proper place for their career. However, what is perhaps surprising is that BME students almost totally omitted research as a career option after 5 years.

Career plans < 5 years

	BME	Corvinus	Széchenyi	Debrecen	Miskolc	PTE	Szeged	Pannon	Other
SME	31%	24%	31%	23%	23%	28%	25%	29%	27%
Large Co.	24%	28%	21%	17%	19%	15%	14%	15%	11%
Research	6%	5%	5%	12%	5%	7%	12%	7%	6%
Civil/public s'vice	2%	7%	3%	5%	9%	10%	9%	6%	11%
Employee	63%	64%	61%	56%	56%	60%	61%	58%	55%
Entrepreneur	15%	13%	17%	20%	18%	16%	12%	18%	20%
Starting a family	10%	9%	8%	13%	14%	11%	13%	11%	13%
Do not know	12%	13%	14%	10%	12%	13%	14%	13%	11%

Career plans > 5 years

SME	10%	10%	6%	5%	8%	9%	12%	6%	12%
Large Co.	16%	10%	10%	11%	11%	9%	10%	10%	6%
Research	0%	3%	1%	5%	3%	4%	4%	2%	1%
Civil/public s'vice	2%	5%	1%	6%	4%	6%	3%	3%	4%
Employee	28%	27%	19%	28%	25%	27%	30%	22%	24%
Entrepreneur	34%	37%	38%	37%	36%	34%	35%	37%	28%
Starting a family	29%	27%	32%	23%	28%	28%	24%	30%	36%
Do not know	9%	10%	11%	12%	11%	11%	11%	11%	12%

Table 4 Hungarian university students' job expectations < 5 years and > 5 years after graduation

Table 5 shows the job preferences of Hungarian university students by field of study.

The differences amongst the various fields of study are surprisingly low with perhaps only the Humanities being somewhat out of line. This can presumably be explained by the very poor job opportunities. As a consequence, 21% of students from these fields would like to have an entrepreneurial job. The equivalent figures are 15% for both the students of Economics and of Natural Sciences and 16% for students of the Technologies. In terms of entrepreneurial job expectations after 5 years, it is again students of Technology (37%) and those of Economics (also 37%) are the leaders followed by students of the Natural Sciences (36%), whilst those from the Humanities occupy the last place with 33%. Variations from field to field are minimal.

Career plans < 5 years					
	Economics	Technology	Natural sciences	Humanities	Other
SME	30%	30%	26%	16%	16%
Large Co.	23%	22%	16%	10%	8%
Research	5%	3%	13%	7%	9%
Civil/public s'vice	6%	2%	4%	15%	21%
Employee	64%	58%	60%	47%	54%
Independent	15%	16%	15%	21%	21%
Starting a family	10%	11%	12%	16%	12%
Do not know	11%	16%	13%	16%	13%

Career plans > 5 years					
	Economics	Technology	Natural Sciences	Humanities	Other
SME	10%	9%	8%	6%	6%
Large Co.	11%	12%	12%	5%	5%
Research	2%	1%	4%	5%	5%
Civil/public s'vice	4%	2%	2%	8%	11%
Employee	26%	23%	26%	24%	27%
Independent	37%	37%	36%	33%	30%
Starting a family	27%	30%	26%	33%	32%
Do not know	10%	10%	12%	10%	11%

Table 5 Hungarian university students' job expectations < 5 years and > 5 years after graduation by field of study

Changes of preference in carriers over time are presented in table 6.

		Planned status >5 years		
		Employee	Entrepreneur	Total
Planned status > 5 years	Employee	479	767	1,446
	%	47.0%	53.0%	100%
	Total sample %	38.90%	43.90%	82.80%
	Entrepreneur	62	239	301
	%	20.60%	79.40%	100%
	Total sample %	3.50%	13.70%	17.20%
	Total	741	1,006	1,747
	%	42.20%	57.60%	100%
	Total sample %	42.40%	57.60%	100%

Table 6 Changes in the career preferences of Hungarian students immediately on graduation (<5 years) and 5 years after graduation (>5 years)

In this respect we have information available concerning 1,747 students who have declared clear preferences, such as choosing between the employee or entrepreneur categories for their first 5 working years following graduation and for the following period. As can be seen, 718 students (41.1%), are not intending to change their career status. Among those who would like to change, the majority wish to exchange their employed status for an entrepreneurial career. Of the 1,446 students who were still thinking in terms of employee status for the first 5 years 767 (43.9%) thought that later they would like to choose an entrepreneurial career. However, within 5 years of graduation, of 301 students planning an entrepreneurial career, 62 (3.5%) wants to become an employee. It seems that these students selected entrepreneurship

position right after graduation because of necessity and would like to change at the first opportunity for a more secure career as an employee.

#### **4. The role of entrepreneurship courses on students' carrier expectations**

There is a wide range of studies examining the why and how people become entrepreneurs. Some experts emphasize the personal characteristics of the individual including McClelland' (1961) idea about the need for achievement and Rotter' (1990) locus of control. The personal entrepreneurial traits like risk taking, creativity, innovativeness, quick decision making are well-known entrepreneurial traits and integral part of entrepreneurship and small business textbooks. The longer and shorter list of entrepreneurial traits can be found in many publications (Herbert and Link 1989, Timmons 1999, Chell et al 1991, Hisrich et al 2005, Szerb 2000, 2004). The demographic characteristics of entrepreneurs like age, gender, level of education or family background are also widely investigated. According to the GEM studies, a typical person who starts his own business is a middle aged (35-45) male, generally possessing a college or a university degree. The Hungarian typology fits to this general picture. (Reynolds et al 2001, Reynolds et al 2004, Szerb et al 2004, Szerb 2005).

From the beginning of the 1990s the focus of analysis from entrepreneurial traits has moved to investigate entrepreneurial attitudes. While attitudes are less stable than traits, it is assumed that a learnt attitude is the basis of adoption to changing conditions that can change over time (Schwarz et al 2006). Learning and education play a key role in the adoption process. Of course, positive entrepreneurial attitudes do not necessary mean that the individual is really starts his/her own business. However, several studies has reported a positive correlation between positive entrepreneurial attitudes and actual entrepreneurship (Autio et al 2001, Krueger an Reilly 2000).

By examining the influential factors of entrepreneurial attitudes, it is agreed that besides personal traits environmental factors are also important. However, empirical studies have presented contradictory results (Schwartz 2006). Cultural embeddings, believes, values, institutions, family as well as education influences the entrepreneurial attitudes (Morrison 2000). The recently developed configurational theory examines the entrepreneurial traits as a result of several dimensions such as resources, environment and start-ups (Korunka et al 2003). One of the most important obstacle of own business start up is the limited amount of resources, mostly the lack of capital. (Blanchflower és Oswald 1998). Social factors, family background, previous entrepreneurial experiences can influence the timing of start-up in the carrier of an individual (Carrol és Mosakowski 1987).

In this study, we are focusing to examine the role of entrepreneurship education in forming students' entrepreneurial attitudes. The entrepreneurship courses themselves, acquiring entrepreneurial skills and fostering new business start-ups are important not merely for students in Economics and Business related fields, but in recent decades we have experienced a boom in the growth of entrepreneurial-related courses in the USA (Kuratko, 2003). Even though, at the same time, Europe and other parts of the world did not follow this trend. The "Collegiate Entrepreneurship 2006" survey reinforces this finding as can be seen in Figure 2.

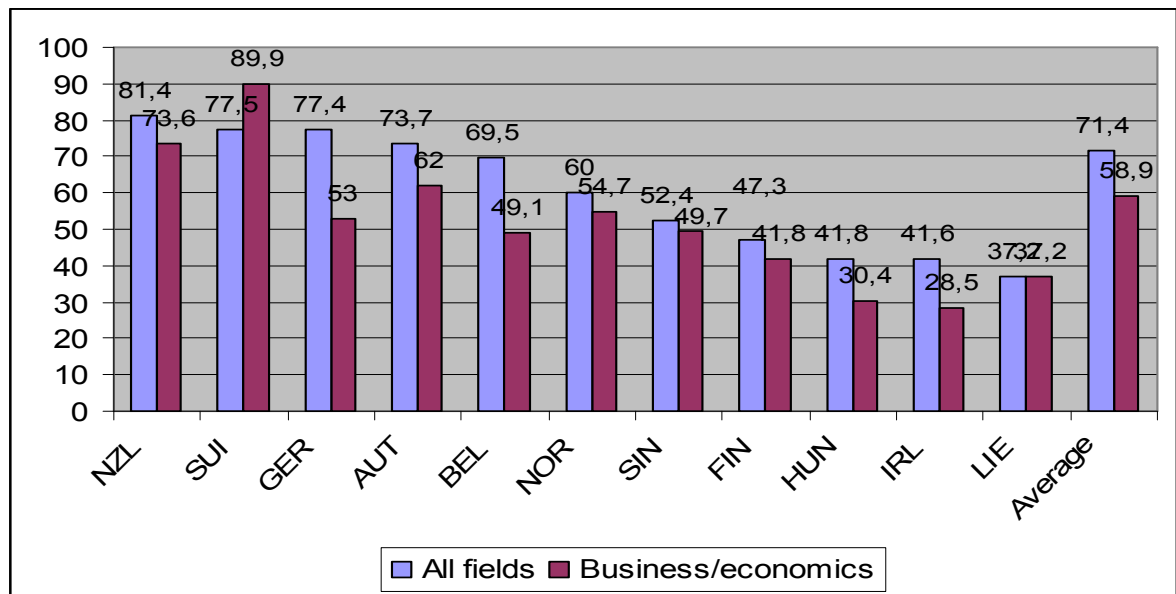


Figure 2: The percentage of students not taking entrepreneurship courses

In general, more than 70% of all, and around 60% of business and economics major students are not taking entrepreneurship related course even if it is offered by the universities. In this respect, Hungary's position is not bad: Majority of the students are taking entrepreneurship courses. However, this finding covers the fact that most studies in the field entrepreneurship are provided within Business economics and related subjects, not as independent courses (Román 2006).

Nevertheless, major differences appear in connection with taking entrepreneurship courses in domestic universities (Figure 3). The least active are BME (the Budapest University of Technology and Economics) with 31.8%. The performance of the University of Pécs, the Pannon University and the University of Miskolc is around the average; while the University of Szeged, the Corvinus University of Budapest and Debrecen University students are below the average. The largest proportion (18.8 %) who said that they could not, in any case, have taken such a course can be found in Debrecen University.

In connection with the Hungarian sample we looked for a correlation between the choice of entrepreneurial status and taking an entrepreneurship-related course. For a period of up to 5 years after making the choice, the correlation is positive but not decisive. However, after the 5 year period there is also a positive correlation between the choice of independence and taking an entrepreneurship course, but this correlation has a better than 5% significance level. This means that, of those who have not taken an entrepreneurship course within 5 years after graduation, 53% preferred entrepreneur status, while of those who attended such classes, the number of respondents choosing entrepreneurship increased to 61%. Naturally, students might take a course when they are already preparing for entrepreneur status, but from whatever point of view, the entrepreneurship courses provided by universities have a positive effect on the process of becoming an entrepreneur.

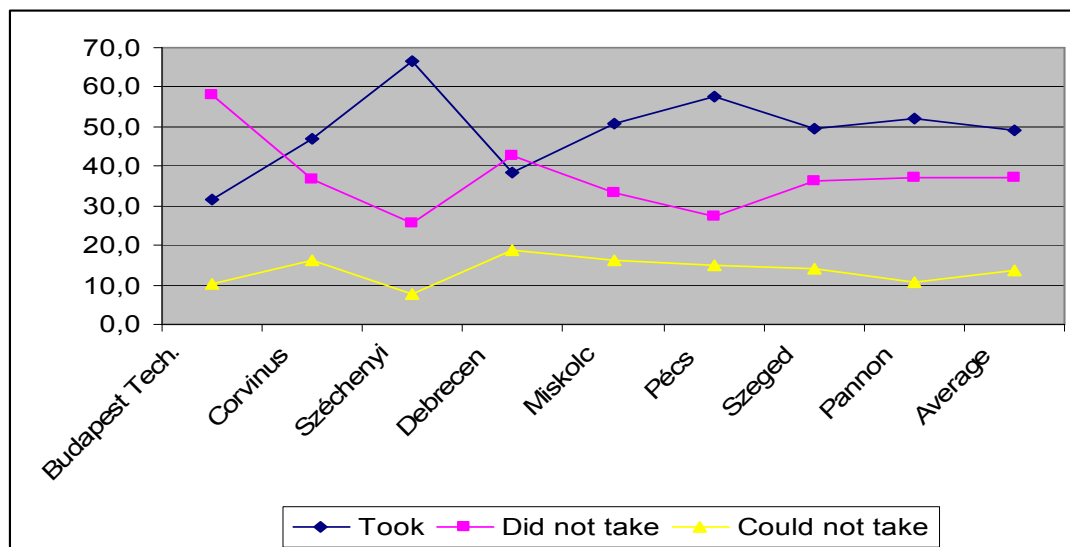


Figure 3: Attendance at entrepreneurship courses at Hungarian universities, percentage of students

While the correlation analysis is suitable to present the strength and sign of the connection between two variables, it is inappropriate to show the direction of the causality. In this case we would like to know whether students are taking entrepreneurship courses because of having strong entrepreneurial attitudes or the taking of entrepreneurship courses increases the entrepreneurial attitudes. In order to analyze this effect we apply the multinomial logistic regression method (MLR). For constructing the dependent variables, we rely on future career expectations based on Table 6. According to that, we create a categorical variable that has three values: (1) does not want to be an entrepreneur at all (1371 students), (2) wants to be an entrepreneur either right after graduation or five years after graduation (1249 students) and (3) wants to be an entrepreneur right after graduation and five years after graduation (239 students).

Out of the selected six independent variables, we are interested in the effect of the binomial variable, taken entrepreneurship course (ENTCOURSE). This variable is 0 if the student has not taken any entrepreneurship course and 1 if the student has already taken this type of course. Out of the control variables there are the gender of the student (GENDER) valuing 0 on the case of males and 1 in the case of females; the entrepreneur in the family (ENTFAM) valuing 1 if there has been no entrepreneur in the family, 2. it is used to be an entrepreneur but it does not exist for more than 5 years 3. it is used to be an entrepreneur but it does not exist for less than 5 years 4. there is an entrepreneur in the family right now. Out of the entrepreneurial traits we have selected three factors as the lack of courage (COURAGE), the fear of failure (FEARFAIL) and not having entrepreneurial skills (ENTSKILL). All of these three variables are measured on a six-level Likert scale that answers to the question: "What do you associate with your working life / career after your studies? Please evaluate the aspects according to their importance".

For our analysis, it is necessary to rely on the MLR method, since the dependent variables are not normally distributed (Green 2000, Rappai 2001). Moreover, we are assuming that students who would like to be entrepreneurs right after graduation and five years after graduation have stronger preferences than those who prefer entrepreneurship carrier only after graduation or five years after graduation, the binomial regression is not applicable. In our case, the MLR examines the probability (1) that someone wants to be an entrepreneur either right after graduation or five years after graduation as compared to does not want to be an entrepreneur at all and (2) that someone wants to be an entrepreneur right after graduation and five years after graduation as compared to does not want to be an entrepreneur at all. We are expecting that entrepreneurship course taking has smaller effect in the group of students having stronger entrepreneurial preferences while students selecting entrepreneurial carrier in one of their life spans, make the decision partially because of the influence of entrepreneurship courses.

According to the above reasoning we set up two hypothesis:

*Hypothesis 1: The entrepreneurial attitudes are higher among those students who have already picked up entrepreneurship related courses as compared to those who have not taken this course.*

*Hypothesis 2: The effect of taken entrepreneurship course is higher among those student who prefer an entrepreneurial carrier right after graduation or five years after graduation as compared to those who would like to be an entrepreneur right after graduation and five years after graduation, both.*

For the MLR regression, the SPSS statistical program package version 11. is used. The results are presented in the following Table 7.

		Parameter	Std. dev	Significance	Marginal effect
Entrepreneurial carrier after graduation or 5 years after graduation	Intercept	1,0394	0,1745	0,0000	
	GENDER	-0,2292	0,0812	0,0048	0,7952
	ENTCOURSE	0,1715	0,0801	0,0322	1,1871
	ENTFAM	0,1408	0,0304	0,0000	0,8687
	COURAGE	-0,0828	0,0334	0,0132	0,9205
	FEARFAIL	-0,0281	0,0326	0,3876	0,9722
	ENTSKILL	-0,0676	0,0290	0,0195	0,9346
Entrepreneurial carrier right after graduation and 5 years after graduation	Intercept	0,2308	0,2875	0,4220	
	GENDER	-0,4243	0,1480	0,0042	0,6542
	ENTCOURSE	0,1217	0,1435	0,3964	1,1294
	ENTFAM	0,2163	0,0520	0,0000	0,8055
	COURAGE	-0,0761	0,0592	0,1982	0,9267
	FEARFAIL	-0,1786	0,0586	0,0023	0,8365
	ENTSKILL	-0,0730	0,0521	0,1608	0,9296
	Nagelkerke R square	0,0434			
Maximum likelihood:	3338,7				

Table 7: The influential factors of students entrepreneurial carrier choice based on the MLR regression

As it can be seen from Table 7, that both of our hypothesis proved to be true: Taking of entrepreneurship course has a positive effect on entrepreneurial carrier choice (hypothesis 1) and the effect is significant only if the student want to be an entrepreneur right after graduation or five years after graduation (hypothesis 2). The influence of the control variables are them same as we have expected previously. An entrepreneur in the family increases the chance of the student's entrepreneurial carrier choice, and the lack of entrepreneurial courage, skills, and fear of failure has a negative effect on entrepreneurial attitudes. In the first case, the marginality effect is the strongest in terms of taking entrepreneurship courses highlighting the importance of entrepreneurship education at the universities. However, the explanatory power of the whole model is very low (Nagalkerke R square 0,043), therefore it would be inappropriate to overvalue the influence of the entrepreneurship courses.

## 5. Summary, conclusions

In this study we compared the entrepreneurial attitudes of Hungarian students from eight Hungarian universities to 13 other countries who have participated in the "International Survey on Collegiate Entrepreneurship 2006" research project. Altogether, Hungary does not differ from other countries' performance from the point of view of university students' career expectations and entrepreneurship related attitudes. Our students, similarly to those in other countries, think of being an employee within 5 years after graduation, whilst later they would envisage an entrepreneurial career. On the other hand, we can find a

great number of people who either have no idea about their future career, or, lacking any other ideas, plan to start a family.

In most countries universities offer courses linked to entrepreneurship to students of economics and business, although Hungary is high on the list of countries in terms of the percentage of universities which do not offer such opportunities. Though not every university can offer independent courses, at least the students of Economics can acquire entrepreneurial knowledge within the scope of other related courses such as Business economics. In Hungary, the differences among faculties are more significant if we consider their offered courses related to entrepreneurship: students of the Humanities, Natural Sciences and Technology have fewer opportunities to take courses connected with entrepreneurship than students of Economics or Business. This is a problem mainly because the students of Humanities' expectations of entrepreneurship do not differ significantly from those of other students, and, this way, these graduates are less prepared for starting their own enterprise.

Attending entrepreneurship courses is also important since students taking such courses strongly prefer entrepreneurship position. By relying on the MLR regression method, it proved to be that entrepreneurship courses have a positive effect on entrepreneurial carrier choice. Moreover, the influence is significant in the group of students who wish to be entrepreneur only right after graduation or five years after graduation while the effect is positive an insignificant in the cease where student have a strong preference for entrepreneurial carrier by preferring to be an entrepreneur both after graduation and five years after graduation.

The performance of the Hungarian universities which took part in the survey is relatively good, but, nevertheless, it should be said that the average higher education picture is certainly worse than that, whilst students' expectations are possibly similar. It has to be noted that in education other than Higher Education mainly lacks any training in entrepreneurship, which probably contributes to our backwardness, internationally speaking, in terms of entrepreneurial skills and abilities. Moreover, Europe lags behind the United States, a fact recorded in several documents of the European Union. It was expressed for the first time in the Lisbon Strategy of 2000, that the education of entrepreneurs and the broadening of entrepreneurial education are among the most important goals to be achieved. A recently published report on the implementation of the EU's Lisbon Programme emphasises the importance of SMEs in economic growth, employment and self-realisation. (The Community... 2006). Education has a significant role to play in developing the entrepreneurial skills and knowledge which are the basis of the successful start-up process. The document lays down two commitments in terms of universities:

- “Universities and Polytechnics have to build the teaching of entrepreneurial knowledge into various subjects in their curricula, and the courses should be either compulsory or recommended.
- The entrepreneurial way of thinking, competence and excellence have to be combined in academic and technological studies so that students and research workers can turn their concepts and developed technologies into cash.” (The Community...2006, page 9).

The document sets out other recommendations in the fields of spin-off companies, , the better utilisation of interactive educational opportunities and also in the field of PhD and MBA programmes. In Hungary, however, measures in line with the Bologna principles have not yet been taken in many cases, neither in the area of teaching entrepreneurship nor in the field of economic and business education. Sadly, it may even be the case that entrepreneurship will not be added to the specialisations of the planned MSc Programme. The elements of starting a business and self-employment simply do not appear in the Bologna education documentations – not even at Bachelor level. Bachelor level education only prepares students for an employee carrier (László 2006).

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