

International Survey of Collegiate Entrepreneurship, Hungary 2006 Report

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Executive summary

The economic and social importance of today's small and medium-sized enterprises (SMEs) is indisputable. However, outside narrow professional circles it is less well-known that only a small proportion of these companies, the so-called "gazelles", are responsible for the majority of economic growth and job creation. In fact, the founders and owners of "gazelle" companies are, typically, young and innovative, creative people with a university degree. Since, at the same time, the number of actual entrepreneurs with a college or university degree is also continuously increasing, it might be very important, in terms of future entrepreneurial activity, to examine the attitudes towards enterprises among university students.

This study summarises the most important conclusions of an international research project, conducted by the University of St. Gallen (Switzerland) and the German-European Business School with the title "International Survey of Collegiate Entrepreneurship 2006" in 14 countries in parallel - using data from more than 37,000 students, among them 3,346 Hungarians from eight domestic universities (the Corvinus University of Budapest, the Budapest University of Technology and Economics, Debrecen University, University of Miskolc, University of Pannonia, University of Pécs, the Széchenyi István University and University of Szeged). Besides surveying the entrepreneurial attitudes and potential of students in higher education and comparing them internationally, the survey had the further aim of assessing the actual entrepreneurial conditions provided by the universities and colleges together with the opportunities for actually teaching entrepreneurship.

The most important and interesting results of the research are summarised below:

- The performance - that is, the final results - for Hungary in terms of the career expectations of university students and their attitude to business enterprises showed no significant difference from the results obtained for other countries. Hungarian, similarly to non-Hungarian, students, have in mind a career as an employee for up to five years after graduating, whereas after five years they would prefer a career as an entrepreneur. On the other hand, there is a great number of students who have a limited idea about their future career, or who, in the absence of any such plans, are thinking only in terms of establishing a family.
- However, when we categorised for quality (in order to judge the potential strength of enterprises, such as information-collection or taking the initial steps to set up a particular enterprise) we ranked lower on the international list. Our overall position among the 12 countries involved is close to, or marginally below, the average, and, in terms of students majoring in business, our position is even worse, since, from the point of view of entrepreneurial capacity or power, we were bottom of the list.
- 2.4% of the Hungarian university students, that is, 81 students, had played a part in establishing a business. 17 (21%) of these companies no longer exist. Based on

these figures, the inclination of Hungarian students to establish an enterprise, although below average, does not differ much from that of students from other countries. Most of them aim to have a reasonably rewarding career in the tertiary (service) sector. Almost one student in three has some experience in connection with the chosen industry sector, although with specifically Hungarian students the result is below average. The university plays an important role from the point of view of potential partners: 42.4% of students tend to find their partners in founding a business in their own university peer group, with 16% preferring students from other universities. A mere 19% of students stated their intention to found an enterprise alone.

- The students consider the risk and their personal lack of capital as primary obstacles to starting a business, regardless of where they are studying. A further serious obstacle is the lack of ideas and of potential partners. However, a lack of assistance from family or friends, the lack of time or the macro-economic administrative environment do not cause specific problems in general. In the opinion of Hungarian students, a more serious obstacle is formed by the complicated regulations for starting a business - an opinion which harmonises with the assertions of the World Bank in its “Doing Business” report.
- Although, from the point of view of the general entrepreneurial atmosphere of the universities, we occupy a place somewhere towards the bottom of the ranking list of countries, we cannot detect any major difference between the universities in other countries and those in Hungary; in fact, the differences among Hungarian universities are slightly larger than those among countries.
- In most countries, universities offer entrepreneurship-related studies not only to students in economics and business-oriented fields of study, but also to students in other fields, although it is true that Hungary occupies a relatively high place on the list showing the percentage of universities which do not offer such opportunities. The domestic differences are more significant when we consider the provision of courses in entrepreneurial activity in terms of different fields of study: students of the Humanities and Natural Sciences, as well as those in Technology, have fewer opportunities to take such classes than those who study in the fields of Economics or Business. This creates a problem mainly because the expectations in terms of careers in business for students of the Humanities do not differ significantly from those of the other fields of study. In consequence, those graduates who start their own business do so less well prepared.
- We did occupy a relatively good place in terms of the extent to which students attended the classes in entrepreneurial studies provided by the universities – which, at least in part, compensated for the lower provision of such courses in Hungarian universities. If we examine individual fields of study, the students of Economics and Business attended entrepreneurship courses almost 2.5 times more frequently than did students of the Humanities (who were at bottom of the list). Attendance at these entrepreneurial studies’ courses is also important in that,

because a higher proportion of the students involved in such classes prefer to be self-employed, and therefore these university-provided courses have a positive influence on the process of becoming an entrepreneur.

- We examined the expectations of students in connection with the universities. Hungarian students differ little from those from other countries; they mainly look for courses connected to the preparatory steps in establishing a business and would like to get concrete help and counselling in founding a business. Many prefer the courses dealing with business plans and also those involving business games. A greater proportion of Hungarian students than those from other countries would like to meet young entrepreneurs. Least popular are incubators, symposia and open days - perhaps for the reason that students are not really conscious of their practical value.
- Specific university case-studies confirm, according to expert opinion, that entrepreneurial and business-related courses can really only be taken up by students of Economics and Business. In terms of teaching methods we keep up with the developed countries in that, in addition to lectures, case-studies, business plans and invitations of practising entrepreneurs are very popular, and sometimes simulation games, counselling and incubation are also used, although the integrated use of these is mainly found within the framework of a single institution. It is quite evident that universities would like to relinquish an exclusive teaching role and actively participate in the area of development of university and business connections. Students involved in non-economics- and non-business-related studies can only acquire entrepreneurial knowledge during the teaching of other business-related or management subjects. At several universities inter-faculty- or cross-teaching is not organised – one obstacle for this is the lack of human resources. The usually popular classes fill up quite quickly and teachers complain of being overloaded.

One of the weaknesses of the research base is that, among others, the United States and the United Kingdom - two prime leaders in terms of entrepreneurial studies and entrepreneurial activity - are missing from the list of countries. This, therefore, must also be taken into account when analysing the resulting data. According to other research, entrepreneurial skills and abilities and also entrepreneurial activity in Europe lag behind those in the USA, and Hungary lags behind still further when compared to the EU.

Entrepreneurial training and the broadening of entrepreneurial knowledge were taken up for the first time in the EU's Lisbon Strategy. This included the teaching of entrepreneurial skills at universities and technical educational institutions – plus reinforcing entrepreneurial competence and attitudes in science- and engineering-related studies also. However, achieving these aims, as with the other Lisbon Strategy objectives, is well behind schedule. In Hungary, even the very first steps conforming to the Bologna Concepts and relating to entrepreneurial studies have not yet been taken, and, based on the product of economics- or business-related studies, even BA courses tend to prepare students for employee status rather than for entrepreneurship and self-employment.

Entrepreneurial skills should, of course, be provided not only in relation to studies in the economics and business fields, but in all fields and at all levels.

The modest performance in terms of the entrepreneurial attitude of our domestic universities and university students should not be regarded as a poor result; likewise, at the same time, it should not be thought that our students are preparing for a quantum leap where extraordinary efforts would be needed to establish high-potential companies aiming well above the average. Naturally, the chances of high-potential companies being established cannot be ignored, even though the catchment area cannot be thought of as particularly large. On the other hand, unfortunately, given its merely average level of entrepreneurial performance, for Hungary to achieve the living standards of the EU seems unrealistic within the foreseeable future.

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.

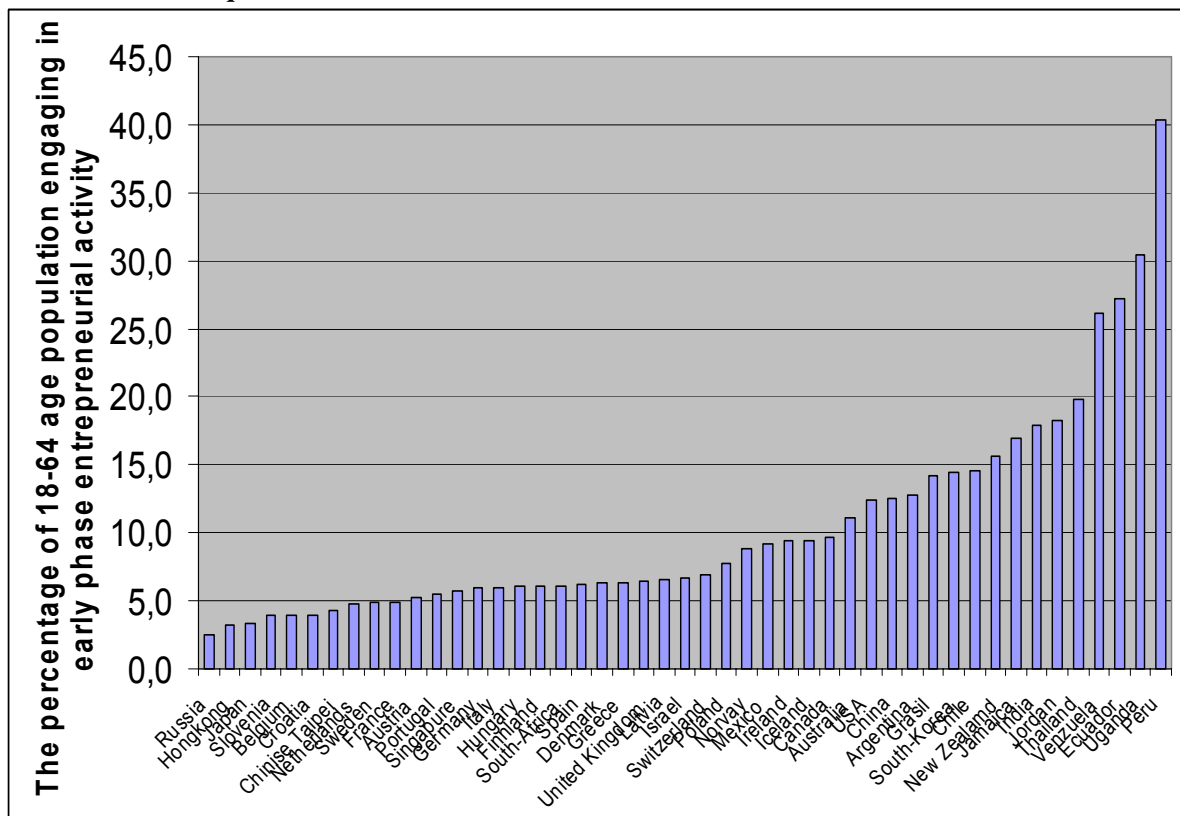
If, however, we are curious about the dynamics of job creation and economic growth, then, instead of static company size, we should analyse entrepreneurial activity. A business in terms of its content can be linked to innovation, to creativity, increased risk-taking and non-routine decision-making at individual level and also to 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 establish a company. 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 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. Another reason for exploring this is the issue of the effect which can be caused by training, and especially by higher education, on the entrepreneurial attitude of university students. As the result of an Australian survey, it was established by Peterman and Kennedy (2003) that the prestige of entrepreneurship and the intention to establish an enterprise had increased among students who had completed entrepreneurship courses.

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) indicator – which shows the percentage of the 18-64 age bracket wishing to establish a new business or with a company 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, Lithuania and Slovenia), and not far removed from the other European Union countries (Chart 1). If we also take economic development as a factor for comparison, 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 primarily importance.

Chart 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 potential for serious growth cannot to be expected. With graduates in the Technologies, however, market demand means that there is little motivation to search for opportunities, and so we should not expect too many businesses showing high potential to be set up.

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 German-European Business School embarked upon an international research project entitled “International Survey of Collegiate Entrepreneurship 2006”, which involved 14 countries, and in which more than 37,000 students, (among them 3,346 Hungarians) and 8 Hungarian universities) participated. 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. In this current report we publish the most important and most interesting results of the research.

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. Thereafter, the entrepreneurial activity of the students is evaluated, and, later, the obstacles to founding an enterprise are dealt with. In Chapter 4 we analyse what form of entrepreneurial environment the universities provide for students, what sort of courses are, and could be, taken and what sort of expectations do students have of the universities. As the information possessed by students is not always accurate, we also asked the lecturers at the participating universities to introduce their institution and describe the entrepreneurial teaching activity going on there. In Chapter 5 we summarise and assess the results.

2. Description of the data-collection and the sample

Coordinating the survey and assembling the questionnaire, together with collating the results and organising their publication as a comparative exercise, were all undertaken by the research group at the University of St Gallen, and representatives of each country participated in the research. The research leaders of the individual 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. In some countries attempts were made to increase the willingness to complete the questionnaire by awarding prizes. For example, in Hungary the Faculty of Business and Economics at University of Pécs gave 10 pen-drives as tombola prizes, and the same faculty also assumed responsibility for financing domestic research.

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

Table 1 Participating countries and the characteristics of the sample

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
Hungary	8	169,025	3,346	2.0	90.6	3.19	23.3	51.6	47.0
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

In respect of the international sample, it should be noted that the survey cannot be considered truly representative because of the low number of respondents from France, Ireland, Australia and Singapore -and Australia, France and South Africa were, in fact, 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. As we will see later, there are greater differences among countries and among fields of study than among universities.

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

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
University of Pannonia	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

The average response rate in Hungary lagged well behind those of Liechtenstein, Switzerland and New Zealand, but the average (2%) cannot be considered a bad result. The most active universities were Corvinus University of Budapest, Pannon and Miskolc. The response rate is also influenced by whether or not we could communicate the link indicating the questionnaire in direct e-mail form to the students, whether this could be done only by way of a general advertisement or whether oral announcements by university teachers helped to disseminate information about the survey. The combination of e-mail and teachers' announcements proved to be the most effective in this and so we would very much like to thank those colleagues - both teachers and researchers - who helped in the successful data collection. Appendix 1 contains a list of the names of those university lecturers who took part in the survey.

Although, on the basis of the questions, the particular study field of the students can be accurately identified, during our analysis of the Hungarian data we created 4 larger groups such as Economics & Business, Technology & Informatics (IT), Natural Sciences

and the Humanities. Within these we paid special attention to the Economics field. In the Hungarian sample these 4 broad fields cover 93.3% of the total sample – Economics & Business: 47.0%; Technology & IT: 14.6%; Natural Sciences: 23.8% and Humanities: 7.9%. “Others” made up the balance of 6.7%. A further dimension of the analysis of the Hungarian sample is provided by the individual universities. Naturally, we endeavour to make the data comparable with the total international sample or with those of individual countries.

3. Students' career expectations and their enterprise-related attitudes

3.1 General career expectations

Naturally, students' future job expectations do vary. It happens quite frequently that, immediately after graduation, the first job is not precisely the first 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.

Table 3 Students' job expectations in each country <5 and > 5 years after graduation

Job expectations < 5 years									
Country	SME	Large Company	Research	Civil/public service	Employee	Independent	Independent %	Starting a family	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	Independent	Independent %	Starting a family	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

From the point of view of job-expectations, we can see that immediately following graduation, the students can mainly envisage life as employees. Perhaps surprisingly, at the top of the list comes the SMEs, where approximately 1/3 of the respondents would like to have a job. Large companies, research and public service follow. Among the

activities which qualify as “independent”, we can mention in details: joining a family business, taking over either an existing company or a stake in such a company, taking a franchise, starting up or continuing to establish ones own business and, finally, self-employment. These in total represent an attractive opportunity for 12.2% of students. If we compare the ratios of those who prefer employee status or to be independent, we can see that altogether 15.4% of students opt for independence after graduation. At the same time there remain a good number of those wanting to start 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 independent, entrepreneurial job, since now more than half (50.1%) of those who have clear preferences would prefer not to work as employees. There are still a good number (13.5%) of would-be starters of a family and a further 17% who still have no firm idea, or who are hesitating.

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 within the first 5 years, 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 independently, 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. Of the 471 students who indicated starting a family as a main career focus, there is a high number of females (325) although, since this represents 69% of their number, this should not surprise us.

Indecision over the future is reflected even more in terms of the preferences after 5 years of the 28% of Hungarian students who stated a preference for starting a family and the 10.5% not yet knowing what they would like to do. We think that the relatively high rate of interest in starting a family does not necessarily accord with today’s increased interest in child-bearing but is rather related to uncertainty regarding the future and to indecision. This is supported by the fact that of the 938 students preferring to start a family, a surprisingly high proportion of men are evident: 417, or 44%, belong to the stronger sex. Basically, the high degree of preference for starting a family is the reason why, based on the international comparison, several countries have already overtaken us in terms of preferring independent status: we occupy 6th place. In respect of the proportion of independent jobs, we have just missed a place on the podium, since, after Ireland, Singapore and Belgium, we occupy 4th place only.

Table 4 compares Hungarian universities, and from this we can see 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.

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

Career plans < 5 years

	BME	Corvinus	Szent Istvan	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%
Independent	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

	BME	Corvinus	SZE	Debrecen	Miskolc	PTE	SZTE	Pannon	Egyéb
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%
Independent	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 5 shows the job preferences of Hungarian university students by field of study.

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

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%

The differences between the various fields of study are surprisingly few with perhaps only the Humanities being somewhat out of line. This can presumably be explained by the very poor job opportunities open to an employee with a Humanities background, so much so that, on graduation, 21% of students from these fields would like to have a job with independent status. 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 job opportunities after 5 years, it is again students of Technology (37%) and those of Economics (also 37%) who lead the way in terms of a preference for independence. Very slightly behind (at 36%) follow the students of the Natural Sciences, whilst those from the Humanities occupy the last place with 33%. Variations from field to field are minimal.

Changes of preference between jobs as employees or as entrepreneurs are shown in table 6.

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

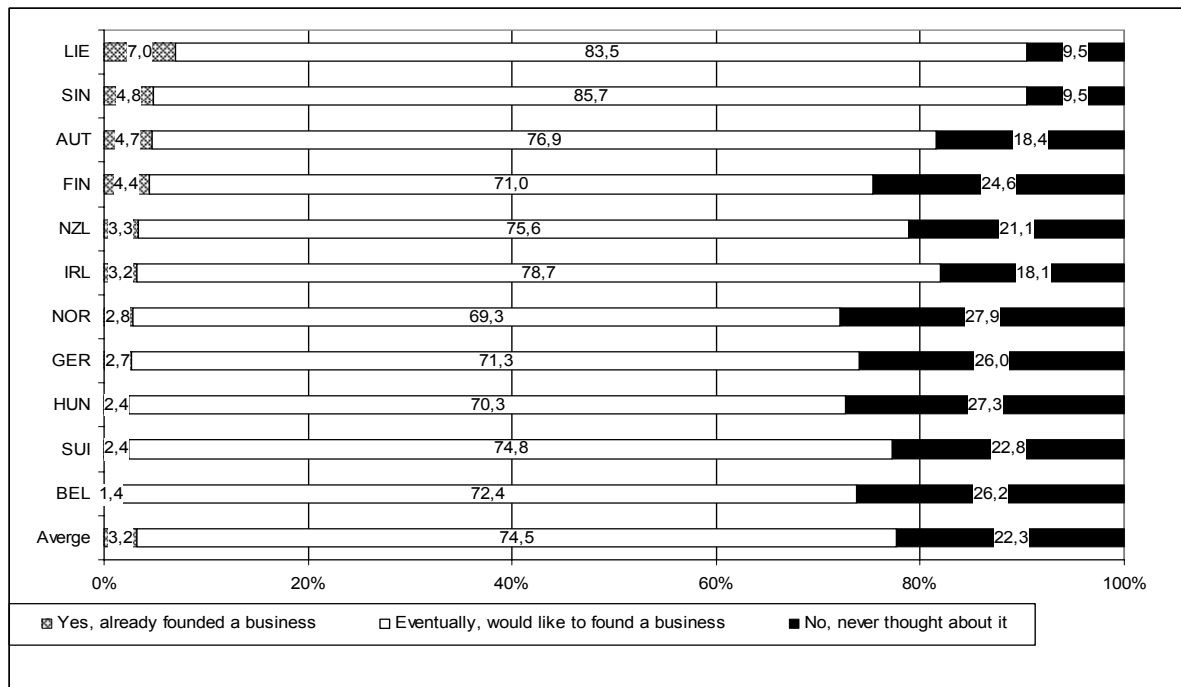
		Planned status >5 years		
		Employee	Entrepreneur	Total
Planned status > 5 years	Employee	479	767	1,446
	%	47.0%	53.0%	100%
	Total sample %	38.90%	43.90%	82.80%
	Entrepreneur	62	239	301
	%	20.60%	79.40%	100%
	Total sample %	3.50%	13.70%	17.20%
	Total	741	1,006	1,747
	%	42.20%	57.60%	100%
	Total sample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

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, 918 students (52.7%), or a little more than half of all students with clear preferences, 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 – 54% – 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%) of the total number of students now wanted to become employees. There is reason to think that these were rather “forced” entrepreneurs who would like to change at the first opportunity for a more secure career as an employee.

3.2 The current entrepreneurial activities of students

Chart 2 The chart shows the current entrepreneurial activities of students compared internationally.

Chart 2: Entrepreneurial activities and intentions of all students in individual countries



As the above chart shows, the majority of students have not yet established their own company. In Hungary, in fact, only 81 students (2.4% of the respondents) have their own enterprise – at which level we lie at the bottom of the list along with Switzerland and ahead only of Belgium. (Belgium led in terms of job preference!) The proportion (27.3%) of those who have not yet thought about establishing a business is relatively high and in this we are ahead only of Norway. At the same time, some three-quarters of the total number of students (70% in Hungary) do not exclude ultimately the possibility of forming their own company at some point during their career.

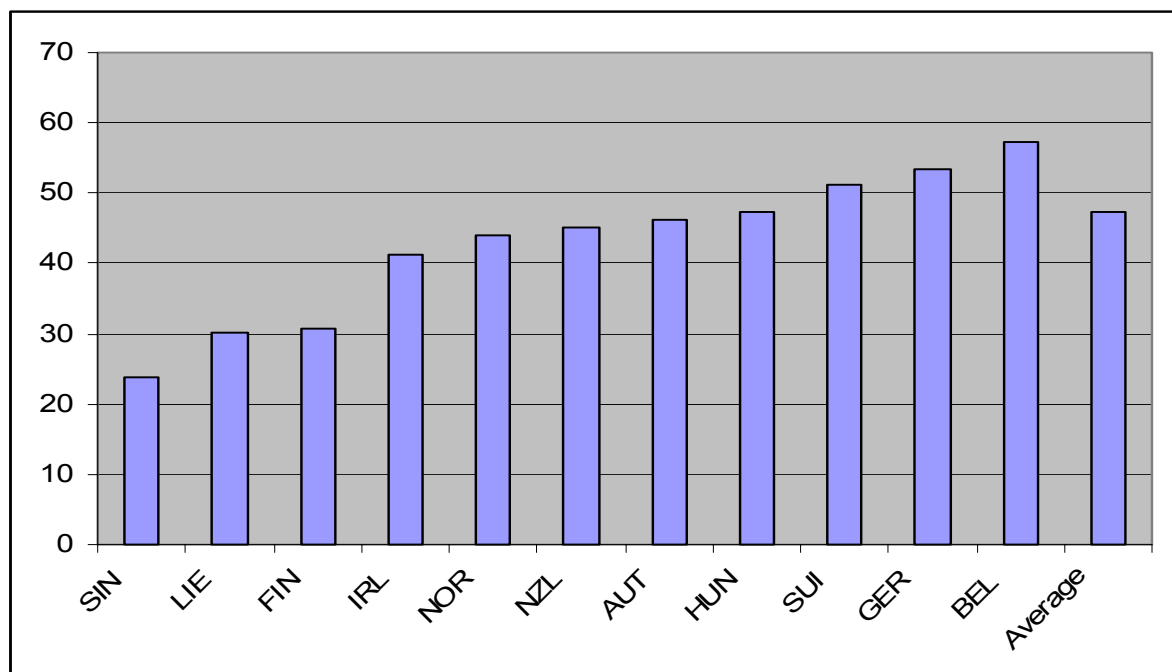
If we examine more closely this 74.5% who did not exclude establishing a business, we can also note that in reality most (45.5% of the total) do not think about it too seriously, 11.5% do, a further 7.7% have decisive ideas about their own business and 2.2% have already started the process and have taken specific steps (see Chapter 3.3). Moreover, 7.2% thought seriously about starting a business earlier but abandoned the plan.

3.3. Activities relating to establishing a business

As we saw earlier, a large number of students can be regarded as potential entrepreneurs. We can, however, learn more if we examine whether they have already taken any steps towards setting up a business. This is shown in Chart 3 below.

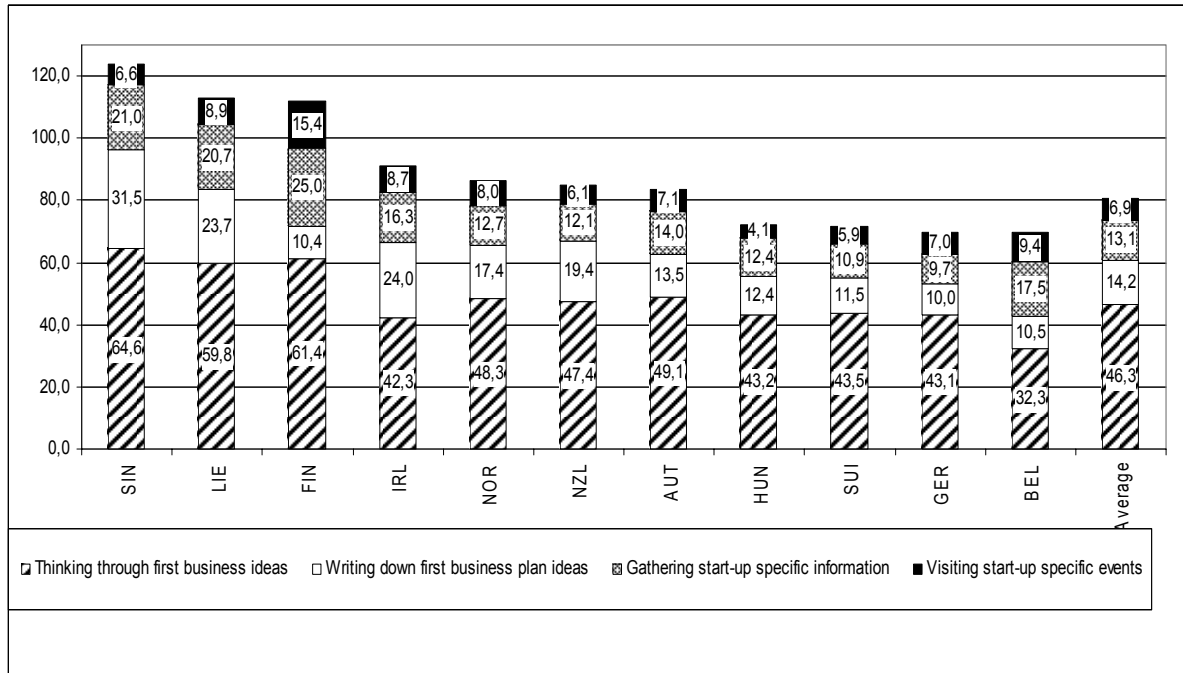
As shown, 47.2% of all students have done nothing towards starting some enterprise. The students from Singapore, Liechtenstein and Finland think most seriously about one, whilst in another group – Ireland, Norway, New Zealand, Austria and Hungary – a majority of students (53%-58%) have already started out on the rough road to forming a company – at least to the extent of giving it some serious thought. Over 50% of students in 3 countries, Belgium, Switzerland and Germany have as yet done practically nothing.

Chart 3. Percentage of the students taking no specific steps to establish a business



In starting a business, concrete steps are needed in addition to making the basic decision. The steps involved in information-gathering are shown in Chart 4 in respect of each country. The majority of those students who would, perhaps, like to establish a business simply think over the basic idea, approximately 14% have its idea in written form and roughly the same number have gathered information about company formation. The ratio of those who have already made personal visits to collect information is fractionally below 7%, but Hungarian students perform below average in terms of taking serious steps towards gathering information.

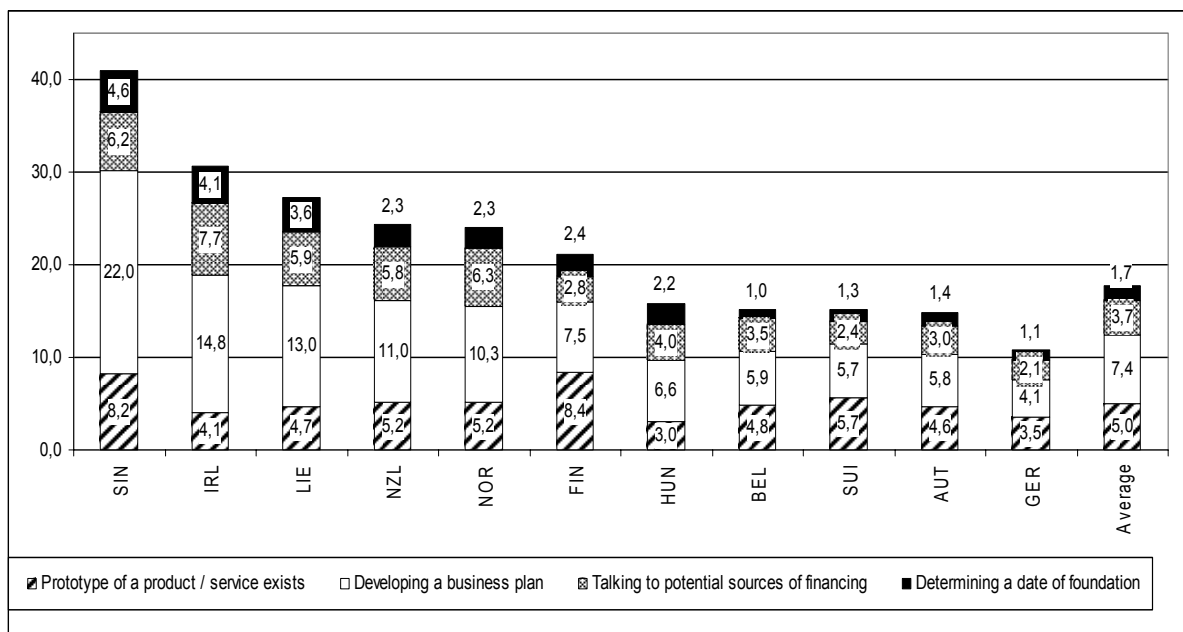
Chart 4: Information-gathering for establishing a business*



* Several replies were possible and so the ratio might exceed 100%

Those taking specific steps are even fewer in number as Chart 5 shows.

Chart 5 Preparatory steps for establishing a business

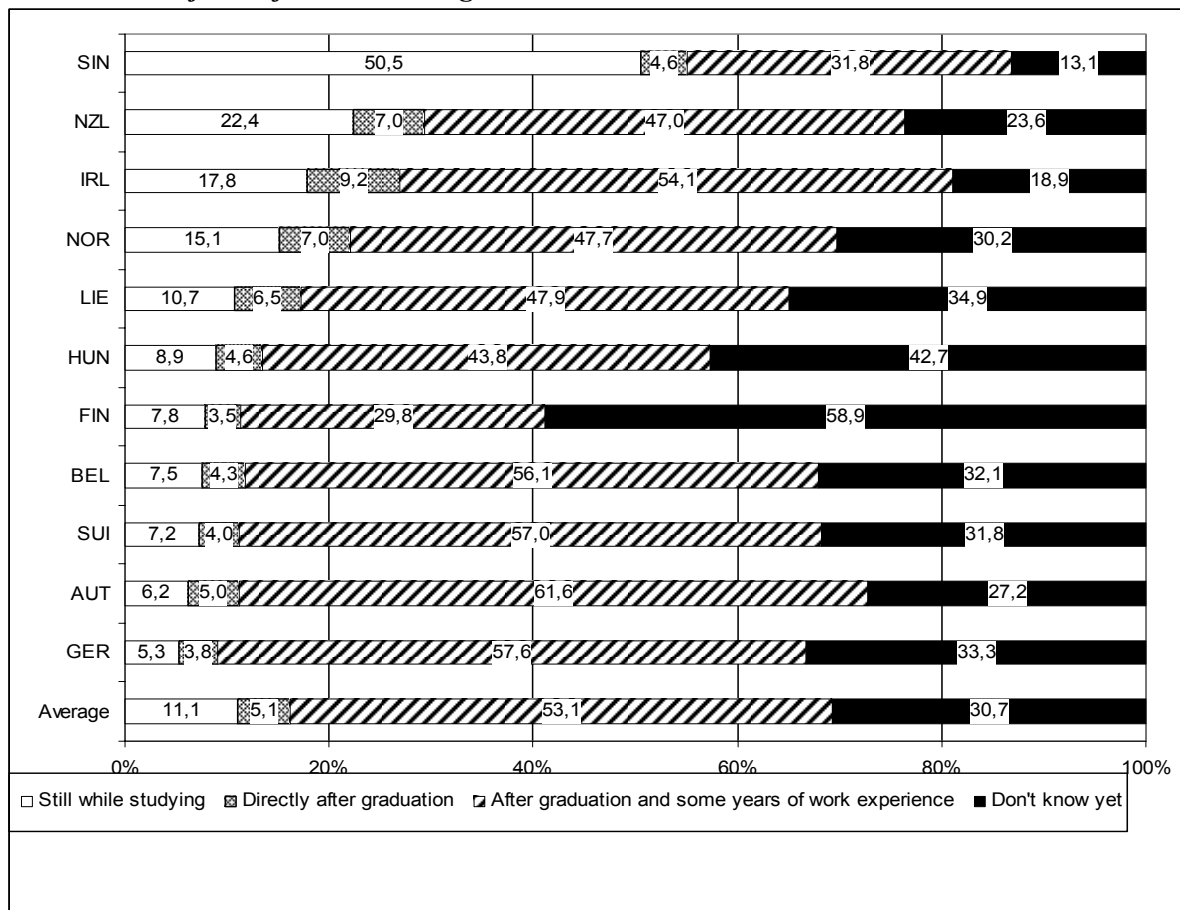


Students are the most active (7.4%) in developing a business plan, 3.7% have already discussed potential sources of finance, roughly 5% have a prototype or service idea

ready, but only 1.7% have already decided upon a start-up date. The position of Hungary from this point of view is average but the country does lag behind the leaders such as Singapore, Ireland, Liechtenstein, New Zealand, Norway and even Finland to a very considerable extent.

What might also indicate the level of seriousness of entrepreneurial intent is the time when students want to start an enterprise (Chart 6). In total, some 10–11% of students want to establish a business during their studies, although, in fact, more than half only wish to do so some years after graduation, when they will already have some appropriate experience. Hungary comes second – after Finland – from the point of view that a good proportion of students, almost 43%, have no idea of when they will start their business. Perhaps one special relevant factor is the current uncertainty in respect of future macroeconomic conditions.

Chart 6: Time-frame for establishing a business



3.4 Students' existing and potential (planned) business enterprises

Table 7 below shows some characteristic features of current students' business establishments. We would, however, note that due to the low number of responses these data should be treated with great caution.

Table 7 Characteristic features of businesses established by students

Country	No. of businesses	As % of students*	Age of company (years)	No. of employees	No. of founders	Founders' average age
Liechtenstein	14	7.0 (7.0)	4.2	2.5	2.8	31.9
Singapore	17	4.8 (5.0)	2.5	2.4	2.3	24.1
Austria	424	4.7 (6.3)	5.0	4.1	1.6	30.8
Finland	68	4.4 (4.5)	5.2	1.8	1.6	29.1
New Zealand	260	3.3 (3.6)	5.3	4.1	1.8	30.6
Ireland	8	3.2 (2.9)	8.2	1.3	2.4	35.3
Norway	31	2.8 (5.6)	4.4	2.0	1.8	28.9
Germany	84	2.7 (4.3)	3.3	1.9	1.8	26.0
Hungary	81	2.4 (2.7)	3.6	3.5	2.0	27.9
Switzerland	210	2.4 (3.2)	4.4	4.1	2.3	28.2
Belgium	22	1.4 (1.8)	7.1	4.3	2.1	29.8
Total	1,224 **	3.2 (4.2)	4.8	3.7	1.9	29.6

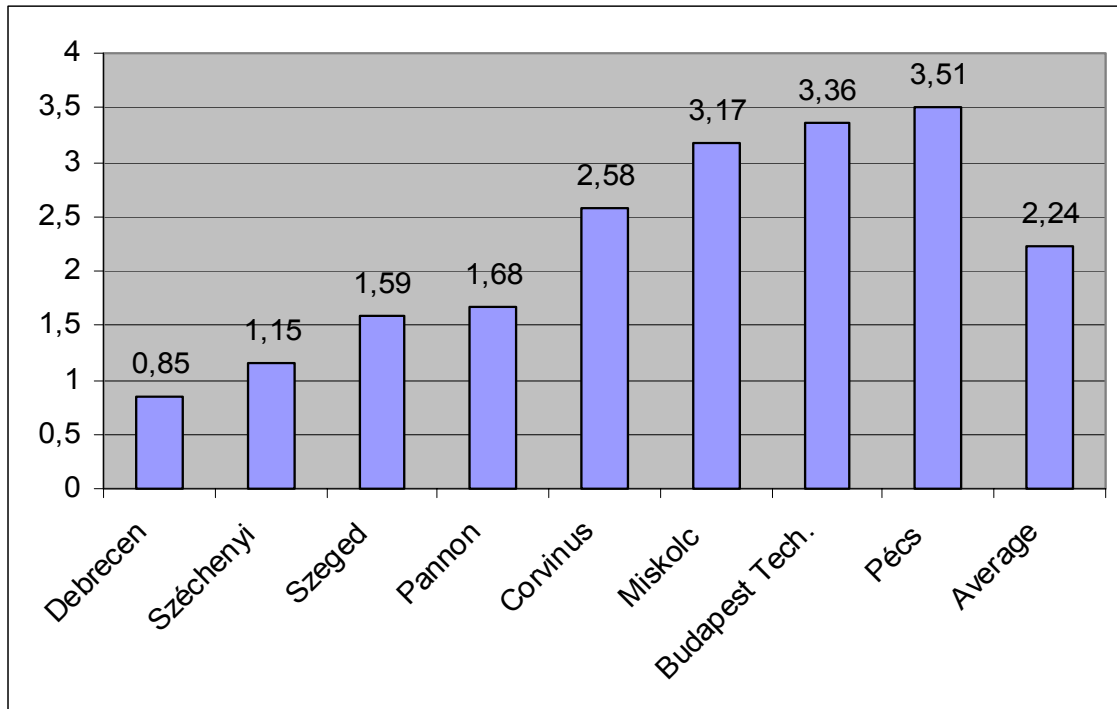
*1st figure shows % of ALL students; figure in brackets shows % of students in Business and Economics

As table 7 shows, the average age of companies established by students is 4.8 years. The average age of the founders is 29.6, which is considerably higher than the average age of the students in general. Not surprisingly, on the basis of employee numbers, these enterprises belong to the micro-business sector, and the number of founders or founding-partners is, on average, under 2. From our questions, it also turned out that about 55% of owner-partnerships developed from the personal relationships of the student, more or less one third from student friends studying at the same university and 14% from students at other universities. One in five was originated from close family ties and 25% of these businesses were founded by one student as a sole proprietor.

The trends in business foundation of Hungarian university students do not differ essentially from those of other countries. Of the 81 companies founded by students, 17 (21%) do not exist today. We might think that those students who establish a company are, in most cases, students on part-time courses, but this is not the case since, of these 81 companies a mere 27 (33%) are linked to non-full-time students. It is even untrue that, in most cases, it is the older students who are courageous enough to establish a business. The average age of our respondents is 23.3, whilst that of the full-time students who actually set up a company is 24.9. However, at the time when the company was founded they were no more than 22.4. The average age of the part-time course students who have a business is 34.1, but when the company was formed they were only 27.3.

Chart 7 shows the ratio of students with an established business at the Hungarian universities.

Chart 7: Percentage of students with established businesses at the Hungarian universities



As we can see, there are considerable differences among domestic universities. There are 2 entrepreneurs at Debrecen University (0.85%) whilst Pécs has 3.51%. More active than the average are the Budapest University of Technology and Economics, the Corvinus University of Budapest and the University of Miskolc. We would, however, draw attention to the fact that, due to the low number of respondents, we cannot arrive at any well-founded conclusions from this data. For this purpose, continuous research would be needed to provide an adequate degree of representativeness.

Table 8 shows the characteristic features of the businesses planned by those students who potentially intend to set up a business in the different countries.

Table 8 Businesses planned by students

Country	Number	Primary Sector %*	Secondary Sector % *	Tertiary Sector % *	Professional experience %	Founders Average No...
Liechtenstein	167	1.2 (1.2)	15.6 (15.6)	83.2 (83.2)	0.0	2.1
Singapore	303	0.7 (4.1)	18.8 (19.4)	80.5 (76.5)	13.2	2.5
Austria	6,800	1.5 (1.5)	19.5 (19.5)	79.0 (79.0)	34.0	2.0
Finland	1,112	1.9 (1.5)	30.5 (20.5)	67.6 (77.9)	49.5	2.0
New Zealand	6,028	4.1 (2.6)	19.4 (21.4)	76.5 (76.0)	26.5	2.1
Ireland	195	1.5 (3.5)	20.5 (18.5)	77.9 (77.9)	46.8	2.1
Norway	752	7.5 (1.9)	42.7 (30.5)	49.8 (67.6)	23.2	2.2
Germany	2,277	1.3 (1.3)	25.4 (25.4)	73.2 (73.2)	23.8	2.1
Hungary	2,352	2.6 (7.5)	21.4 (42.7)	76.0 (49.8)	23.5	2.4
Switzerland	6,601	1.4 (1.4)	24.3 (24.3)	74.3 (74.3)	36.0	2.3
Belgium	1,167	3.5 (3.5)	18.5 (18.5)	78.0 (78.0)	29.8	2.1
Average	72,885	1.4 (1.7)	22.3 (18.8)	75.4 (79.5)	30.7	2.2

* Within the brackets are shown the data relating to Business and Economics students

With regard to the business sectors preferred, it is not surprising that most students look for career satisfaction in the tertiary (services) sector. Very few indeed think of starting a business in agriculture or other areas of the primary sector, and the proportion of those who prefer industry or an industry-related sector is only slightly over 20%. Internationally, the similarity among countries is quite striking. Norwegian students involved in non-business-related studies and Hungarian students in business studies seem to be the exceptions. We know very little about the reasons for this. Approximately one student in three already has some form of experience in the chosen area, although, with Hungarians, this value is below the average, in that only 23.5% stated that they had professional knowledge or skills in respect of their preferred sector. The number of founders is very similar to that of the businesses already established, although it is, in fact, slightly higher. The Hungarian students are above average in terms of the number of founders with a value of 2.4, which is 0.5 higher than for businesses already established by students. Students expect that the majority of their potential partners (58%) would come from their personal circle of friends, 42.4% from their university, 6% from students of other universities and 18% from their immediate family. A mere 19% indicated their intention to establish a business alone.¹

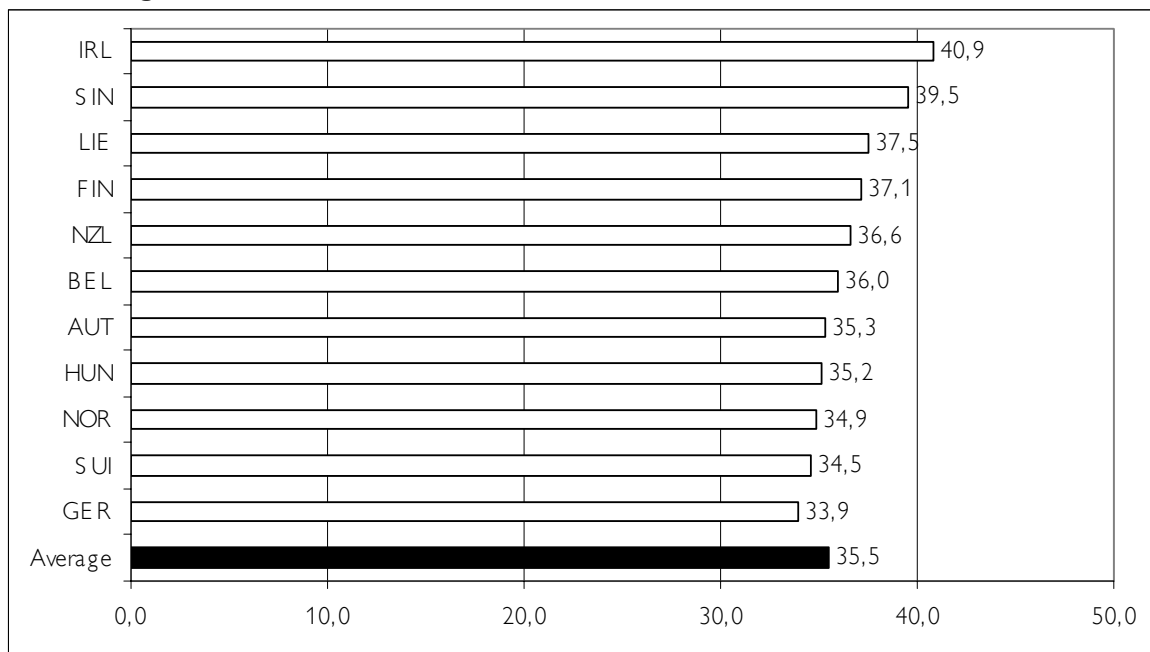
3.5 International comparison of entrepreneurial power

As we saw above, considerable differences exist among countries in terms of the students' entrepreneurial potential. For the sake of comparison, we calculated a complex index which takes into account the factors previously analysed: firstly, how many students have already created a business? Secondly, of those who propose to establish a business, how many have already taken some specific steps? The minimum score awarded was 1 – given to a student who had no interest in establishing a business; the

¹ More than one reply was possible and so the answers total more than 100%..

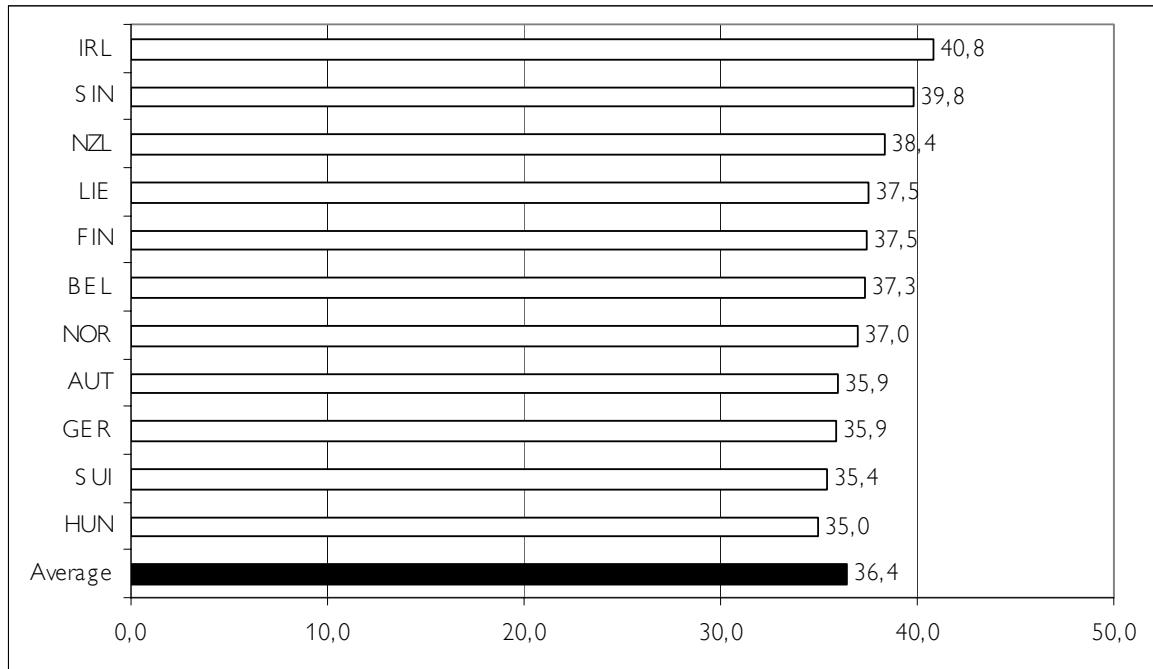
maximum was 10 – given to someone who already had a functioning business. We made a comparison amongst countries in percentage terms, with 100% being the maximum available score. We examined separately the students involved in non-economics- or business-related studies and those students specialising in business (Charts 8a and 8b). As shown in Chart 8, Hungary occupies the 8th place – in the lower part of the list. In terms of willingness to create a business, we performed better than the average but in the area of concrete steps made, we lagged behind. This is the reason for the modest performance. In total, however, the differences among countries are much smaller when we use the composite rather than the separate index.

Chart 8a: An international comparison of the entrepreneurial power of students undertaking non-business-related studies



In respect of students involved in business-related studies, we lagged much further behind, occupying last position on the list. The entrepreneurial potential of the economics and business-related students – to our great surprise – is weaker than that of the non-business-related students.

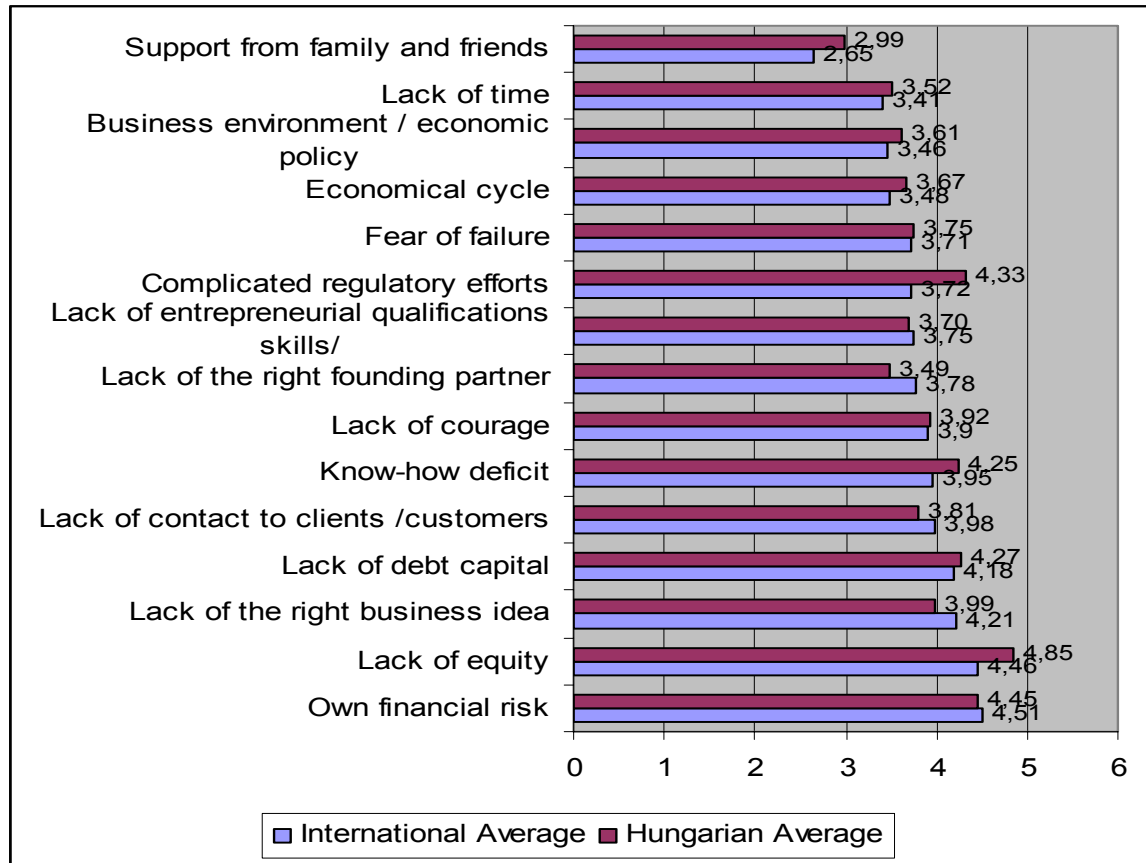
Chart 8b: An international comparison of the entrepreneurial power of students undertaking business-related studies



3.6 Obstacles to establishing a business

It is natural that there should be a number of external and internal obstacles to establishing a business – which is why we asked students to evaluate on a scale from 1 to 6 the difficulties which they face. Chart 9 shows the responses, with the Hungarian and international results viewed separately. Clearly, students consider the financial risk (4.51) and the lack of initial capital (4.46) as their most serious problems with the lack of credit occupying the 4th place (4.18). This, however, is in accordance with the results of other studies analysing self-employment preferences (Román 2004). A weak negative correlation between the financial resources and the ability of students to set up a business is evident, and so we may assume that whoever considers the financial risk as important is likely to start an enterprise of more modest potential.

Chart 9: Obstacles to establishing a business abroad and in Hungary as a percentage of students



The lack of suitable business ideas (4.21) and the lack of contacts with clients (3.98) must be linked to the relatively limited practical and professional experience of students. The lack of a suitable founding partner (3.78) and complicated regulations (3.95) were considered less important obstacles by students in most countries. The lack of personal entrepreneurial skills (3.75) and the fear of failure (3.71) were given almost equal points (slightly above average). At the same time, the business environment (3.46), the lack of time (3.41) and the lack of support from family and friends (2.65) belong to the category of less critical obstacles.

Comparing the Hungarian results with international experience, the general picture is very similar: Hungarian students also consider that financial problems have prime importance, scoring these even more highly than their foreign peers. Complicated regulations (4.33) and the lack of know-how in relation to a business start-up (4.25), however, go well beyond the international average, and this result seems to underpin the data from the World Bank when analysing and comparing the entrepreneurial environment, on the basis of the “Doing Business Index”. In terms of the effects on business of the regulatory environment in Hungary, the country slipped 6 places (to 66th out of 175 countries) in one year. From the point of view of starting up a business, the

position is even more unfavourable, in that we occupy 87th place; whilst, in respect of obtaining licences, we are 143rd on the list. The clear warning sign is not only the basic fact of our lower evaluation, but the fact that all other countries in the region overtook us (World Bank down-rated Hungary, 2006).

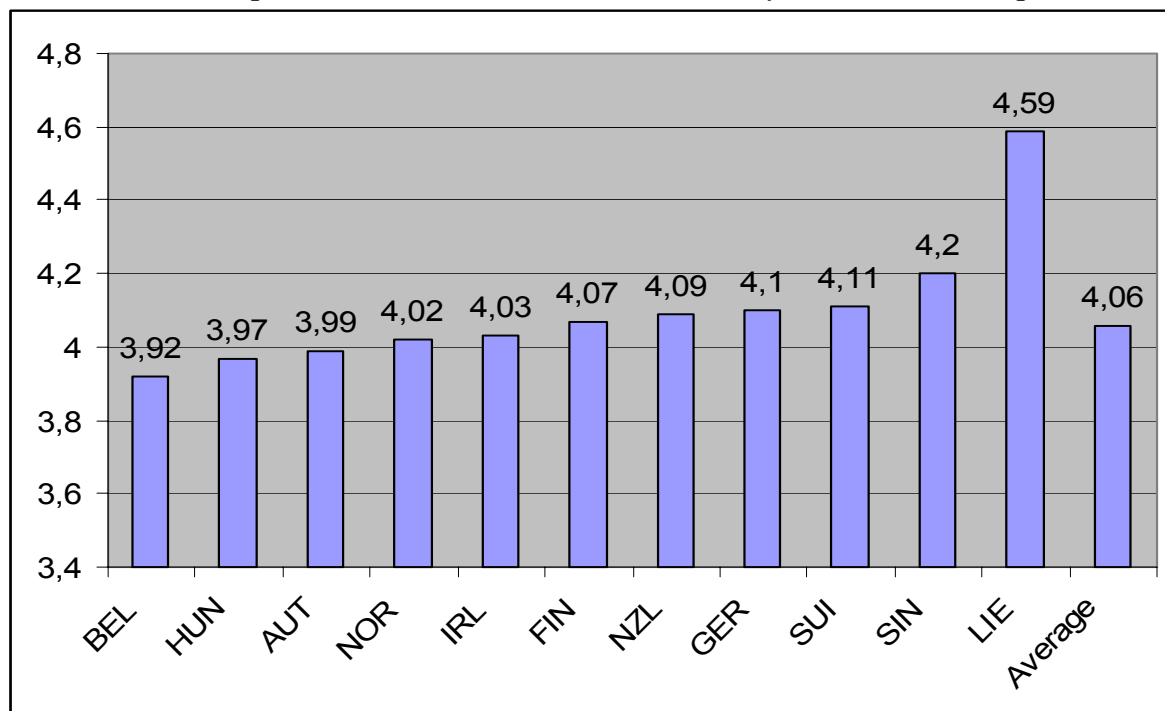
4. Conditions and environment for starting a business at university

In addition to the analysis the entrepreneurial attitudes of students, it is also worth analysing what conditions are provided by the universities for students to start a business. Nowadays, it is already expected from universities that, besides providing traditional education, they should foster students to become entrepreneurs in various ways. This, however, is a two-sided affair in that it is not merely a matter of what opportunities are offered by universities; the students should be able to make use of them. We should highlight the analysis made by Roman 2006 among the domestic analyses relating to entrepreneurial education, and in this work we offer a comparison of the entrepreneurial conditions offered by means of courses and other facilities by universities – not only at the international level but also among Hungarian universities.

4.1 The Entrepreneurial environment

There were several questions in the questionnaire attempting to examine how students considered the opportunities offered by the universities and the general atmosphere – from the standpoint of becoming a successful entrepreneur. To the question of how the student considers the atmosphere in his/her institute and the conditions for starting up a business enterprise, it was possible to reply by using the 6-grade Likert scale where values range from 1 = “very bad” to 6 = “very good”. (Chart 10)

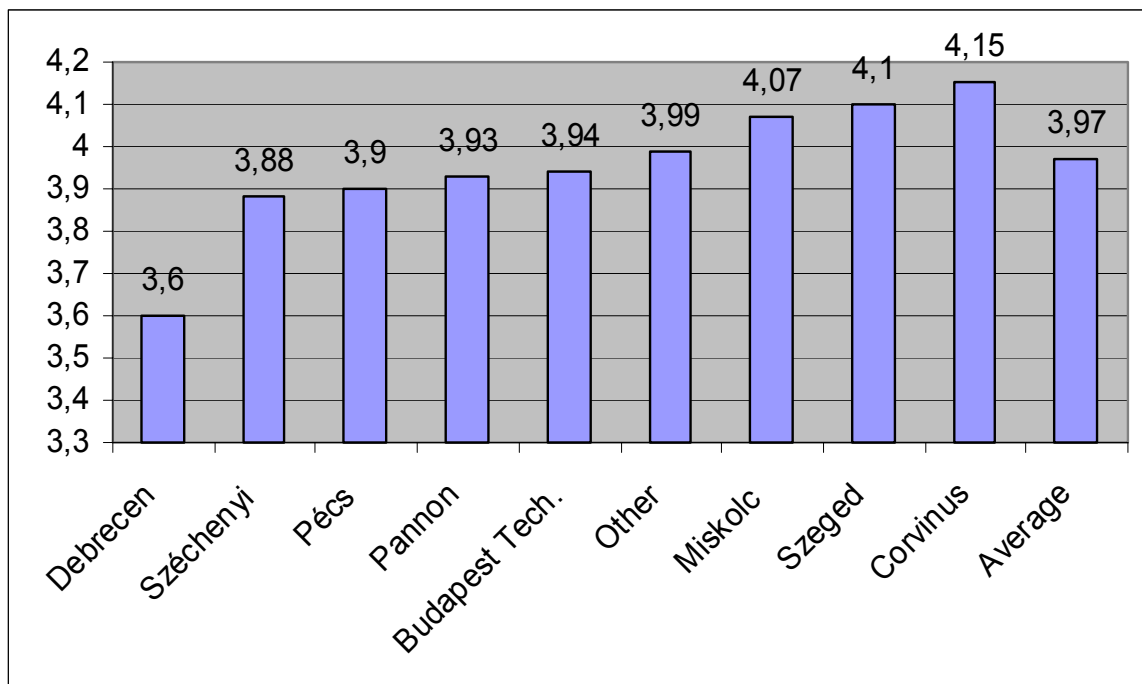
Chart 10: The entrepreneurial environment at universities by international comparison



The entrepreneurial conditions provided by the universities are “quite good” overall in the view of students. The differences among individual countries are relatively small, only Liechtenstein (the top of the list) having an outstandingly high value (4.59). The average of the others varies from 3.92 to 4.20. A further interesting fact to be mentioned is that the correlation between entrepreneurial potential and the entrepreneurial environment is very small – not significant.

Examining the entrepreneurial environment in those of our domestic universities which took part in the survey, we can see larger differences than at the international level (Table 11). The two extreme values (“very good” and “very bad”) represent a very small proportion, on average 3.6% and 1.7%, respectively, in each institution. The biggest proportion is represented by other alternative replies: “rather good”, “relatively good” or “rather bad”. On the basis of this, we can say that most students participating in the survey do not consider the university atmosphere as being bad in overall terms. The highest assessment was given to the Corvinus University of Budapest(4.15), whilst the worst was awarded to Debrecen University (3.60). Slightly below the average we find the Széchenyi István University (Győr), the University of Pécs, the University of Pannonia (Veszprém) and the Budapest University of Technology and Economics, whilst above the average come the University of Miskolc and the University of Szeged.

Chart 11: The ranking of the entrepreneurial environment at Hungarian universities



If we examine university environmental factors from the point of view of the four major academic fields, then what is clear is that the replies from the Economics field were much more optimistic (4.15) than the overall average. Those from the students involved in the other academic fields the replies are relatively uniform. The average assessment for

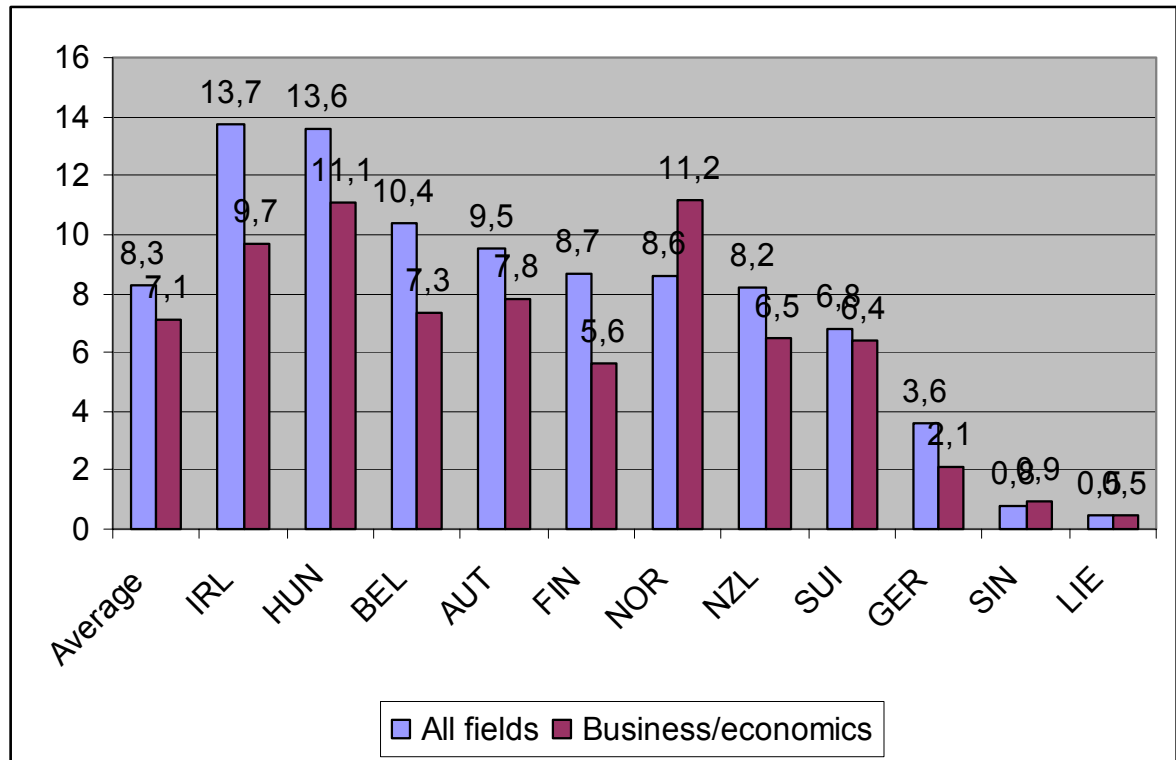
Natural Sciences was 3.80, for Technology 3.74 and for the Humanities 3.73. The outstanding position of Economics can be explained by the fact that, in this area, subjects involving the teaching of business planning and other relevant entrepreneurial knowledge are given much greater emphasis than in other academic fields, and students are, therefore, more familiar with the related issues.

4.2. The role of entrepreneurship courses

The entrepreneurship courses themselves, acquiring entrepreneurial skills and fostering new business start-ups are important not merely for students in fields related to Economics and Business, 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. We should not forget that, under the influence of entrepreneurship courses, the number considering self-employment as an alternative to the employed status may well grow.

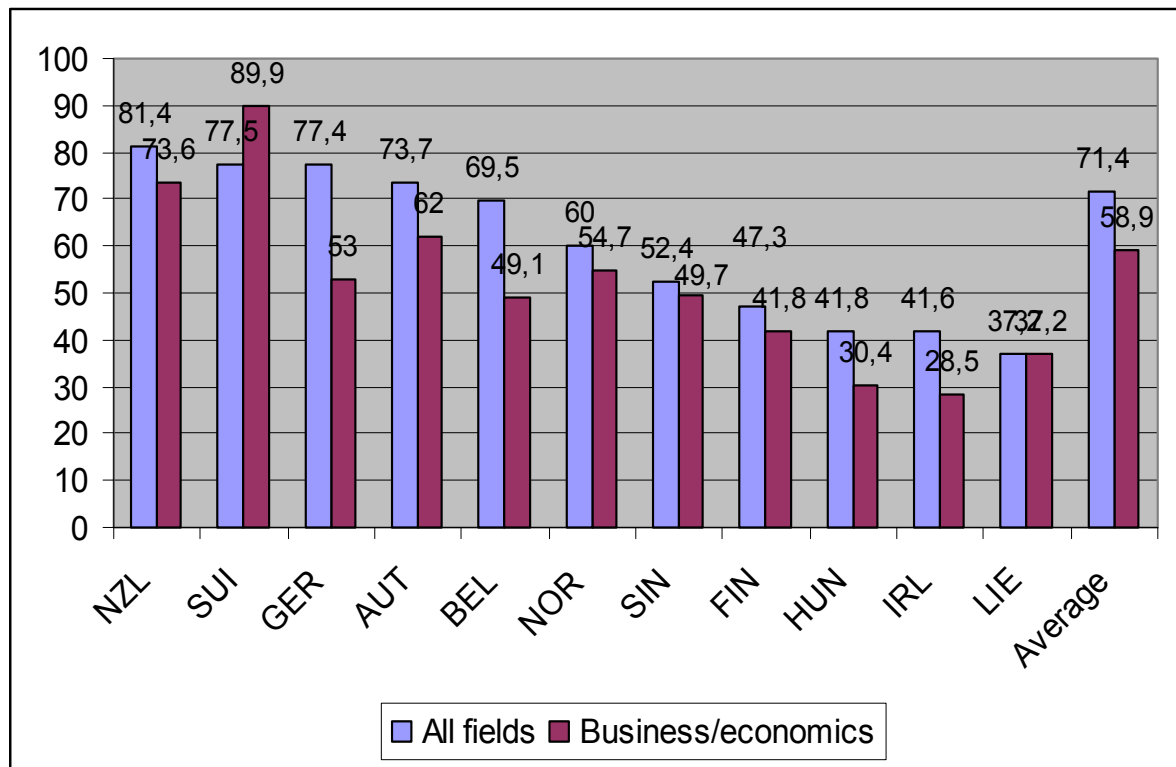
It is possible that the excellent entrepreneurial environment of Liechtenstein can be explained by the fact that university entrepreneurship courses are offered only here (Table 12). On average, in the non-Economics field 8.3% do not offer entrepreneurship courses and it is even the case that 7.1% of the Business/Economics fields lack these, at least according to the students. Hungary is in the 2nd place on this particular list with 13.6% of the universities in the non-Economics areas and 11.1% in the Economics-related fields of study where there is no opportunity to take an entrepreneurship course. We must, however, admit that the reply “no opportunity to take an entrepreneurial course” does not necessarily mean that there is no such course, but merely that the student does not know about it. Germany is a good example of a situation where the entrepreneurial career and the university environment do not necessarily have a close connection, since almost each field of study has an opportunity to take an entrepreneurship course, even though the entrepreneurial potential is relatively low.

Chart 12: “There are no business-related classes available” (% of respondents)



Besides analysing potential opportunities, what is also worth a closer examination is the activity shown by students in taking an entrepreneurship course. The international comparison is provided by Chart 13.

Chart 13: The percentage of students not taking entrepreneurship courses

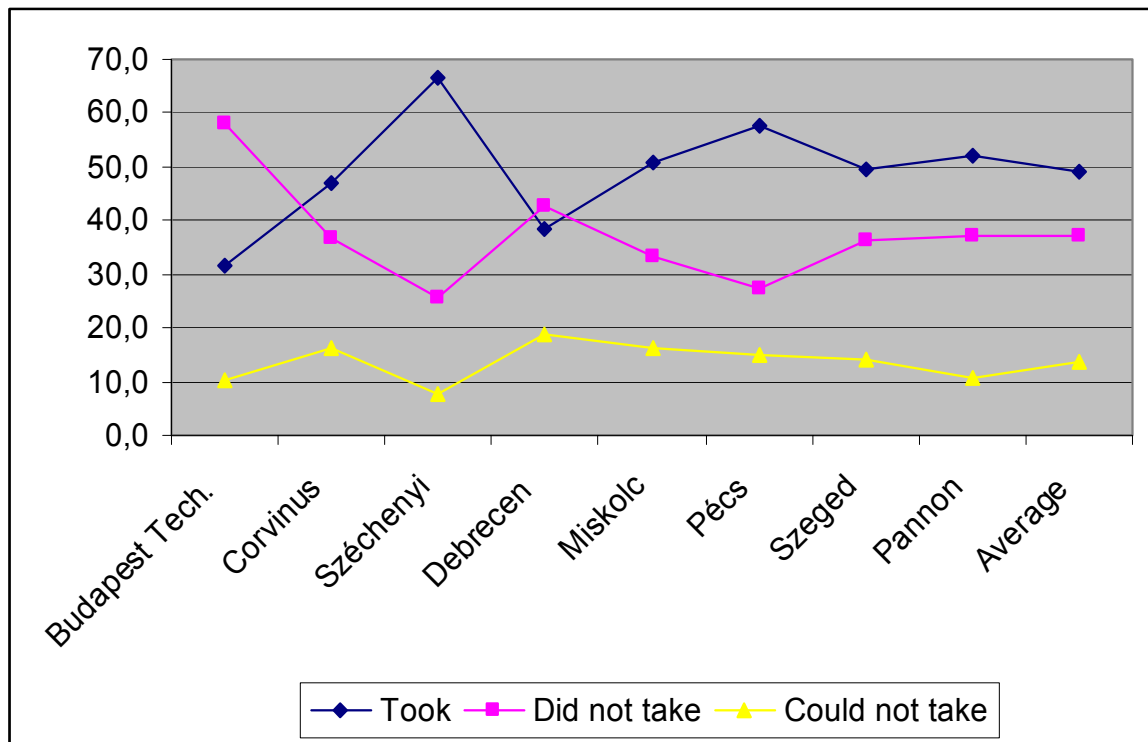


Hungary’s position is not bad respecting that opportunities provided to take courses in entrepreneurship were used most effectively by the Hungarian students, after, of course, those from Liechtenstein and Ireland. Our situation is even better in respect of students involved in Business/Economics studies where we hold the 2nd place. Both surprising and, at the same time, incomprehensible, is the extent to which the entrepreneurship courses offered by universities in New Zealand and in the German-speaking countries (Switzerland, Austria and Germany) are unused.

Nevertheless, major differences appear in connection with taking entrepreneurship courses in domestic universities (Chart 14). The least active are BME (the Budapest University of Technology and Economics) with 31.8%. At the same time, almost 2/3 (66.4%) of students use the offered opportunities. The performance of the University of Pécs, the University of Pannonia 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. We see the largest proportion (18.8 %) who said that they could not, in any case, have taken such a course in Debrecen University although, based on different types of surveys, Roman (2006), concerning the opportunities for students in non-Business and non-Economics fields to take courses, conform more fully with the findings of the “Collegiate Entrepreneurship 2006” research project.

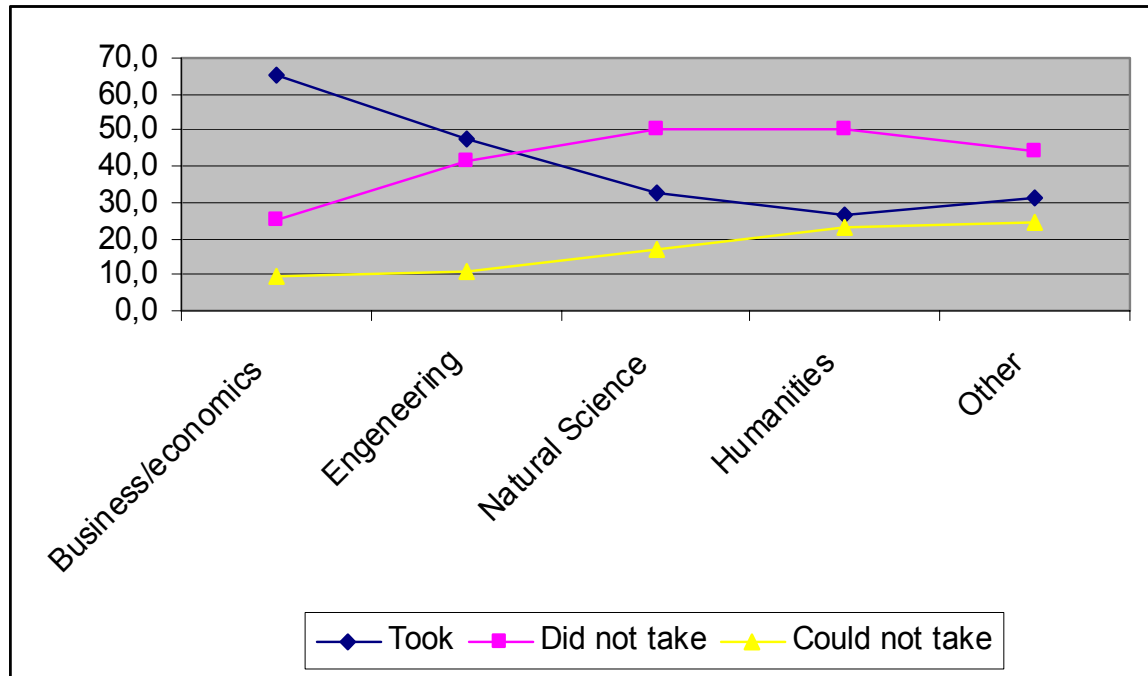
In connection with the Hungarian sample we looked for a correlation between the choice of entrepreneurial status and taking an entrepreneurship-related course. For a period of up to 5 years after making the choice, the correlation is positive but not decisive. However, after the 5 year period there is 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.

Chart 14: Attendance at entrepreneurship courses at Hungarian universities, percentage of students



Similar differences can be seen if we compare different fields of study (Chart 15).

Chart 15: Percentage of students taking entrepreneurship courses at Hungarian universities at the different fields of study

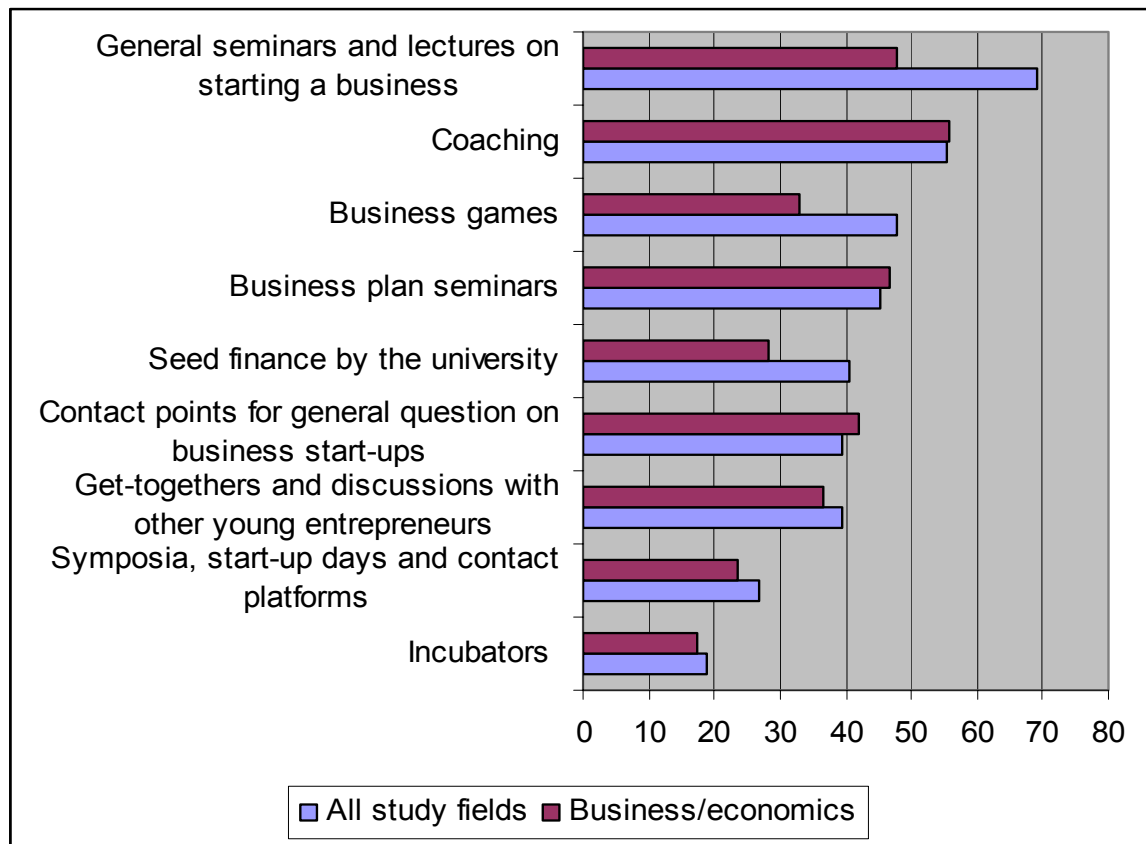


As expected, the most active in taking these courses were the students of Economics and the least active were those of the Humanities. It is true that the latter had fewer opportunities than the others, although, using the Kruskal-Wallis Test, we can assert with a 5% significance level that the opportunities in each field differ significantly. If we highlight the economics field in the list, in any case we can already assert, with a 5% significance level, that in the remaining fields of study the opportunities to take entrepreneurship courses do not differ significantly.

4.3 Activities which students would like to see offered at universities

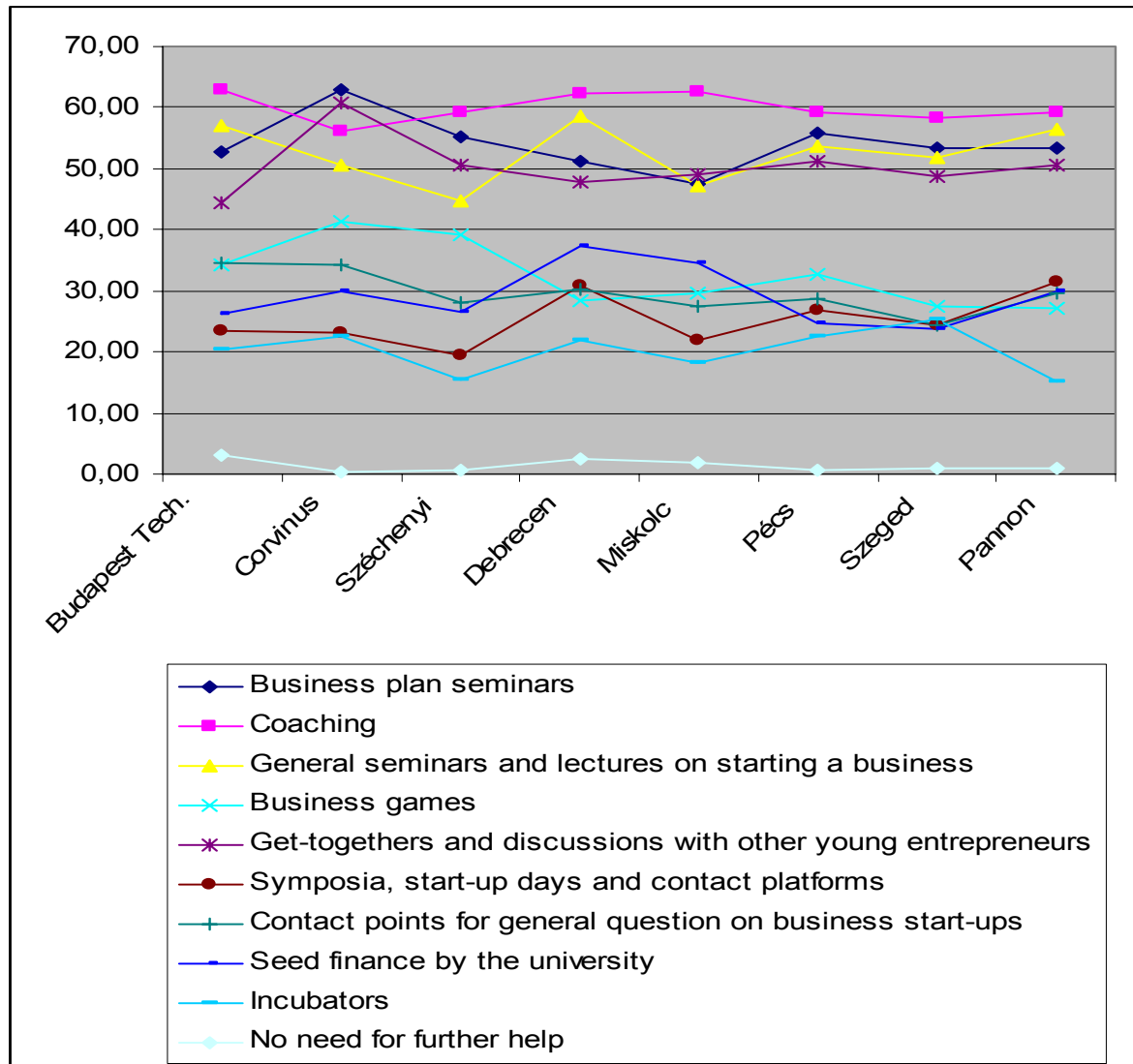
One aspect of the issue is, of course what the universities actually offer, but it is also important to take into account what students believe that they need. Chart 16 shows these student preferences in relation to all fields of study and, separately, to the fields of Business and Economics.

Chart 16: Supports students would like to see offered at university - international comparison by percentage of respondents



The lowest demand from students is for the last 2 categories – Incubator Services, and Symposia, Start-up Days and Contact Platforms. On the other hand, the most popular are the General Seminars and Lectures on the topic of Starting a Business and on Coaching (again, to start a business). Business Games and Business Plan Seminars are also highly evaluated, although there is less respect for the Forums, for Meetings with Other Young Entrepreneurs. Some 40% of students think that Seed Finance should be available from universities, but with students of Economics, this expectation applies to only 28.1%. There is no significant difference in the demands of Hungarian students and those from other countries, but the Hungarians like Business Games less and Meeting Other Young Entrepreneurs rather more. In connection with the domestic situation, we show those activities which students would like to see offered at the universities in Chart 17.

Chart 17: Supports students would like to see offered at university at the different universities (as a % of respondents within the given category)



With a simple visual presentation it can be easily shown, but the cluster analysis also proves that there are 3 well-differentiated groups of needs. The first is the most obvious: 0.2-3.1% of students require no more help. In the second group 15-41% of students need business games on starting a business; symposia, start-up days, forums for general questions, consultation points; seed finance from universities or colleges; and incubator services. In the third group 44-63% of students need a business planning course, a preparatory course for individual business start-up, general seminars on starting a business and meetings with young entrepreneurs.

4.4 Entrepreneurship education and training in the universities surveyed

The basic task of the survey on “Collegiate Entrepreneurship 2006” was to examine those personal and environmental factors which might have an effect on any inclination towards entrepreneurialism which students might have, with special regard to the effects of the university.

In the course of analysing the information, a problem arose as to whether university students have enough information about this topic, especially in respect of the courses offered by the university, although among other possibilities. For that reason we asked our colleagues who work in Hungarian universities and who took part in this programme to evaluate the findings of this survey.

In the following paragraphs, we describe the opinions and evaluations of these findings from six of the eight participating universities (the Corvinus University of Budapest, the Debrecen University, the University of Miskolc, the University of Pécs, the Széchenyi István University and the University of Szeged).

To have a clear view of the state of education in entrepreneurship, it is worthwhile dividing the courses provided by the universities into two categories. The first contains the entrepreneurial subjects which in fact provide knowledge and develop skills regarding starting a business and running a business. They include such topics as Starting a Business, Business Studies, the Economics of Small Enterprises, Small Enterprise Management and Business Planning courses. Business-related knowledge courses belong to the second category and relate to particular disciplines such as Management, Economic Studies, Marketing, Organisation and Financial Affairs.

Obviously, the latter courses may contain entrepreneurship-related knowledge also, but the main focus is on other issues. On the basis of Roman (2006), Hungarian university students most significantly acquired their knowledge of entrepreneurship matters within the framework of the Corporate Economics Studies course. However, this course – which is obligatory within Economics and Business Administration programmes – concentrates heavily on the problems of major companies, and classical entrepreneurship features only rarely in the topics. Nevertheless, it seems certain that this fact has caused some misunderstanding among students (when responding to our questionnaire) in terms of taking an entrepreneurship course. There were some students who thought specifically of those courses belonging to the first category, whilst others also had in mind others belonging to the second. In fact, only courses from the first category are “entrepreneurship-related” as defined by this survey.

Corvinus University of Budapest (BCE)

BCE is the category leader in the Business Studies category amongst Hungarian universities. This is due to several factors. On one hand, as a result of its size, the university can provide the widest range of business-economics subjects in Hungary, and, on the other hand, it has consistently employed eminent academics, with well-known

economics specialists being frequent participants in our programmes, thanks to strong business relationships. Student organisations prepare those who attend in terms of entrepreneurship, and the flexible timetable permits extra-curricular activities such as business.

Although 47.15% of students responded regarding admission to entrepreneurship courses, 16.02% said that they had had no opportunity for this. Every student of the Faculty of Economics acquires some knowledge of enterprises within the obligatory subject “Corporate Economics Studies” which provides mainly general knowledge about large companies. However, the situation is different with the special entrepreneurship courses. The highly popular *Starting-up and running small enterprises* is the optional subject in the second year for those attending BCE’s former Faculty of Business and Economics. 320 students take the course annually. Since 2005 it has been taught in English for foreign students. The specialisation “Small Enterprises” is chosen by 40 students annually and, within this, 5 subjects (Financing Small Businesses, Business Planning, Management, Innovation and IT knowledge, Basic Theories of Economics) help to deepen their knowledge of entrepreneurship.

Corvinus would like to be in the vanguard in establishing new courses in Hungary about business enterprise and new methods for teaching them. For instance, an International Business Planning course has been announced in which Hungarian students and students of Pennsylvania State University undertake a variety of projects together. Students can acquire experience within the “Pro-Enterprise University – Able Student-Entrepreneurs” programme where the students who create the most convincing business ideas are given initial finance and consulting assistance to launch and manage their enterprises for a year. During lectures and the so-called “Entrepreneur Club” meetings, students can get to know young entrepreneurs and can discuss issues with them.

Debrecen University

Though the Debrecen University has 29,000 students and 16 faculties, and is one of the largest universities with one of the widest spectrums in the country, the training of students of economics started only as late as 1993, at the former Kossuth Lajos University. A variety of general management and special entrepreneurship courses appears in almost every field of the diverse range of studies that Debrecen University offers. However, these courses are often offered in connection with specific majors, which means that, to be eligible to participate in these courses is either impossible or requires a huge effort. The exception, in addition to the Faculty of Economics and Business Administration is the Faculty of Informatics, where students are also able to acquire entrepreneurial knowledge. In the Business Management specialisation, within the frameworks of the Business Major, special emphasis is put on the transfer of knowledge regarding establishing and running a business (legal, taxation, finance and management knowledge). In addition to this, there is a special course called “Management of Small and Medium-Sized Enterprises” which helps those interested to deepen their knowledge and develop their skills.

The Faculty of Economics and Business Administration also strives for providing training and development for entrepreneurs of the region in the framework of different projects. It established a training centre within the confines of an earlier TEMPUS programme and offers training programmes of various lengths for the managers of small and medium-sized enterprises of the area, adapting to their needs. As a result of a Leonardo project, which terminated in 2005, the university developed special educational modules in cooperation with its Finnish, Portuguese, Polish and Belgian partners for innovative small and medium-sized businesses, helping them to protect their intellectual property in a more effective way. Executives from 12 successful businesses share their experiences, also as a part of this project, in order to show the way for other enterprises.

University of Miskolc

The University of Miskolc is one of the universities which have the widest range of departments in Hungary. In addition to the classical Engineering faculties (such as Materials Engineering, the former Metallurgical Engineering, Geological Engineering, the former Mining Engineering and Mechanical Engineering), it offers Law, Economics, Arts and Music and Health Care studies for more than 14,000 students in one campus. Students live in student hostels lined up alongside each other and they study in the same auditoria. They can study subjects offered by any other faculty. According to research, the University of Miskolc ensures a good entrepreneurial environment. Providing this entrepreneurial environment and building up close relationships concerning R&D, Consulting and Economics are important objectives in the development plan of the university. Entrepreneurial knowledge is traditionally offered by the Faculty of Economics where students are able to choose the Entrepreneurial specialisation among the 5 others. It tries to develop skills which are essential to start or manage a business. The theoretical training is supplemented by diverse practical training: case-studies, field-trips and company visits, and presentations by successful entrepreneurs. Students can also establish and lead model entrepreneurships by tender.

The Student Union, the local organisation of AIESEC, the local organisation of the Hungarian Economics Association and the “Valéta Commission” provide good opportunities to develop organisational, communicational and problem-solving skills. Those students who are active in any of these organisations are not always the best students, but they have a stronger urge for self-realisation. Students observing the traditions of the university probably do not even realise how important competences are developed by working for the community.

The University of Pécs

The University of Pécs is, in terms of student numbers, the largest university in the country, with more than 35,000 students. The reason why the University holds only a modest place nationally in respect of the entrepreneurial environment is to be found in the somewhat differing conditions of its 10 faculties. In most of these there is no specific entrepreneurial education, although all faculties are offered the possibility to take some kind of business courses, often on a compulsory basis. Students showing an interest in

entrepreneurship can gain deeper knowledge of this in 3 faculties: the Faculty of Business and Economics, the Pollack Mihály Faculty of Engineering and the Faculty of Adult Education and Human Resources Development. Traditionally, entrepreneurial education is most comprehensive in the Faculty of Business and Economics. Yearly some 40-60 students of Finance and Accounting participate in the “Economics of Small Enterprises” and “Finance of Small Enterprises” courses. All students of Economics can take courses in “Business Planning”, “Management of Small Enterprises”, “Research Practice” and “Consulting Practice in Small Enterprises” courses, which are very popular. “Management of Small Enterprises” and “Consulting Practice in Small Enterprises” can also be taken in English. Unfortunately, the cross-teaching of entrepreneurship between faculties is not even experiencing growing pains, since it is, in effect, not working at all.

Entrepreneurial education is quite diversified and takes a practical view of matters. In addition to developing entrepreneurial abilities we emphasise teamwork and case-studies also. Practising entrepreneurs and experts of enterprise-improvement are frequent visitors to the classes. Specialities include the “Research Practice” course, where students can learn the problems of research by taking examples from small businesses. The “Small Businesses Consulting” project, designed on the basis of an American course, covers consulting services given by students, with some assistance from the teacher, for existing enterprises. Those completing the course successfully also obtain the Certificate of Ohio University. The latest developments include a joint project of Ohio University and the Faculty of Business and Economics, financed by Charles Simonyi, in which American and Hungarian students not attending business studies course, work together on small business projects. Further plans include an establishment for students which would help them to start up a career on the basis of their own business.

Széchenyi István University

The university has a wide-spread field of education. Students of technology and economics undertake studies related to business-entrepreneurial activity. Corporate economics, management knowledge, and marketing courses comprise the essential studies supplemented by several specialised management courses. We offer numerous courses and complementary programmes to acquire special knowledge beyond traditional lecture-practice oriented education. We especially prefer case-study-based education through courses such as “Solving case-studies” and “Entrepreneurial case-studies”. Guest-entrepreneur presentations are held regularly and documented on every occasion. Under our new system we shall also develop our business-planning activities.

Since February 2005 the business-game software (Business Simulation Challenge/BSC 1.0) supports the education of business-entrepreneurial knowledge and the improvement of business-entrepreneurial skills. During four semesters almost 200 students of Economics in Győr have experienced – although virtually – the conditions of market operation and have launched an enterprise with the help of BSC software. Business-entrepreneurship courses available at the Kautz Gyula Faculty of Economics should be mentioned separately. To date students have been able to take part in “Corporate

Management and Controlling”, “Corporate Research” and “Corporate Management in Practice” courses there.

The University of Szeged

Education in (narrowly defined) “entrepreneurial knowledge” at the University of Szeged is still very much in its infancy. This is a serious problem since research in recent years has shown that a certain proportion of students could envisage a career as an entrepreneur, and knowledge connected to this field could assist them very considerably. There are ample data to show that students involved in scientific education have practically no courses providing economic and management knowledge during their studies.

There are fairly serious deficiencies in respect of courses giving specifically entrepreneurial knowledge, as well, since, in practice, only the students with an economics education in the Faculty of Economics and in the Faculty of the Food Industry attend compulsory lectures in this field. The “business-related” training (providing general economics education) is available for more and more students at the University. On the one hand, with specialist training in, for example, labour relations, the law and various scientific fields, such subjects are an organic and obligatory part of education. On the other hand, the Faculty of Economics offers some subjects of this type to students, and, although these subjects are optional, experience to date shows that there is a fairly high interest in these courses.

Precisely as a result of such a demand we are to establish a “Centre for Enterprise Development”, based on broad cooperation among the long-term aims, although currently this is only conceptual. Its purpose would mainly be to encourage business start-ups. Within this framework, one of the most important directions would be teaching specialised entrepreneurial knowledge to students in various fields.

5. Summary, conclusions

In this study we presented the most important results of the international research project “International Survey on Collegiate Entrepreneurship 2006”. A total of 14 countries took part in the research, and from these we could use 12 countries’ results in the comparisons. In those cases which we considered to be the most important, we additionally analysed and compared the data from the eight Hungarian universities who participated.

All in all, Hungary did not differ from other countries’ performance from the point of view of university students’ career expectations and business-related attitudes. Our undergraduates, 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. When we applied the quality categories to measure the actual potential of companies such as information-gathering or concrete “how to start a business” steps, we were ranked lower in the order of countries. Our final position among the 12 countries can be said to be close to, or rather, slightly below the average. However, to obtain a clearer picture, it is true that the most entrepreneurial countries – except for Ireland and New Zealand – were not included in this survey, and, for this reason, our international standing is better described as mediocre, and, therefore, similar to our average position in the GEM (Global Entrepreneurship Monitor) Research, which examines entrepreneurial activity in the whole of society. Our position is even worse in respect of business students; since, in terms of “entrepreneurial power”, we can be found at the bottom of the list.

Independent of the country in which they study, undergraduates placed the factors of “Personal financial risk” and “Lack of credit” at the top of the list, which hampers a company start-up. A further serious obstacle is the lack of ideas and of potential partners. At the same time, assistance from family or friends, the lack of time or the regulation of the macro-economic environment do not really cause problems. In practice, there is one factor which is considered by Hungarian students as a substantially higher barrier: the complicated regulations involved in starting a business. One example showing that this is not only the subjective opinion of the Hungarian students may be the World Bank’s “Doing Business” Index. Measuring the regulatory environment for companies, Hungary is in the 66th place (out of 175 countries). In terms of starting a company, we hold the 87th place but, based on the complexity of the regulation, we are in the 143rd position.

The fourth chapter of the study deals with the role and evaluation of universities in the fields of entrepreneurship and entrepreneurial training. In terms of the general atmosphere of universities, we are among the last in the ranking of countries, but there are no major differences between Hungarian universities and those in other countries. Disparities among Hungarian universities are slightly larger than among countries. It is worth mentioning that the score of the Corvinus University of Budapest for its entrepreneurial environment is roughly on a par with those of the Swiss and German universities.

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 Corporate Economics. However, it is also conceivable that Hungarian students are less aware of this field. 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.

In terms of the extent to which undergraduates take advantage of offers of entrepreneurship courses, we ranked more highly; this compensates, at least in part, for the relatively low number of courses offered. However, there are significant differences among Hungarian universities in the number of students taking entrepreneurship courses, and, surprisingly, the students of the Széchenyi István University proved to be the most active. Examining the individual fields, the students of Business and Economics took two-and-a-half times more entrepreneurship courses than the students of the Humanities, who came last. Attending entrepreneurship courses is also important since students taking such courses strongly prefer self-employment. In other words, entrepreneurship courses have a positive effect on becoming an entrepreneur.

We also examined students' expectations concerning universities. Hungarian undergraduates do not differ so much from the students of other countries who took part in the survey: primarily, they demand courses and concrete help and coaching related to business start-ups. Many prefer business-plan and business-simulation courses. Hungarian students would like to meet more young entrepreneurs than their counterparts from other countries. Incubators, symposia and open days appeared as the least favoured, perhaps since students might not be fully aware of their practical use.

Each university case-study, on the basis of expert opinions, confirms that courses related to entrepreneurship can only be taken by students of economics. Around one half of the Hungarian universities investigated have entrepreneurship as a separate specialisation, although we rival the developed countries of the world in educational methods. Besides lectures, it is case-studies, business-planning and visits by real-life entrepreneurs which are the most popular; simulation games, consulting and incubators also feature. Universities evidently wish to step out of their exclusively teaching role, and they wish to play an active part in the development of university-business relationships. However, students of non-business-related fields can only have entrepreneurial tuition in courses related to economics or management. At other universities even cross-teaching is not possible. The main barrier to cross-teaching and many entrepreneurship courses is the lack of human resources. Entrepreneurship courses, which are generally popular, fill up quickly and lecturers are already complaining of overwork.

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 entirely 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, referring to the Lisbon Strategy based on new foundations in 2005, emphasises how large role SMEs play in economic growth, employment and self-

realisation. (The Community... 2006). Education has a significant part to play in developing the characteristic features, skills and business know-how which are the basis of an enterprise. 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, establishing departments of enterprise, the better utilisation of interactive educational opportunities and also in the field of PhD and MBA programmes, in terms of which even most EU countries lag behind. In Hungary, however, measures in line with the Bologna principles have not yet been taken in all 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 “Establishing an Enterprise” 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 output of Bologna education – not even at Bachelor level. It is also the case that in small-sized companies, training definitely prepares students for being an employee (László 2006). It also goes without saying that business knowledge should not be given exclusively to students majoring in Business and Economics...

In relation to the other countries surveyed, the middling performance in relation to the entrepreneurial attitudes of domestic universities and university students is not bad. At the same time, the results do not suggest that our students will attempt to set up companies with significantly more than average potential – this would be the summit of their dreams. Certainly the possibility of a high potential company being born cannot be excluded, but the number of students with an entrepreneurial spirit is not particularly high. Unfortunately, given an average entrepreneurial performance, attaining the living standards of the EU does not appear to be realistic for the foreseeable future. Finally, we should overlook neither the major differences between the USA and the EU, nor the fact that China and India are breathing down our neck.

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Appendix 1: List of university academics participating in the survey

We would like to thank all colleagues and administrators who have participated in the successful execution of this survey. We list below with pleasure the names of the university scholars participating in the survey:

Corvinus University of Budapest	Dr. Péter Szirmai, Associate Professor
	Dr. Attila Bokor, Associate Professor
	Krisztián Csapó, PhD student
Budapest University of Technology and Economics	Dr. József Veress, Professor
Debrecen University	Dr. Mária Ujhelyi, Associate Professor
University of Miskolc	Dr. Gyula Fülöp, Associate Professor
	Dr. Edit Lukács, Assistant Professor
University of Pécs	Dr. László Szerb, Associate Professor, Research Leader
	Gábor Márkus, PhD student
Széchenyi István University	Dr. Szilveszter Farkas, Associate Professor
University of Szeged	Dr. Szabolcs Imreh, Assistant Professor
	Zoltán Bajmócy, Assistant