



The Higher Educational Motivation of Secondary School Students and its Effects on the Hungarian Labour Market

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Abstract: As the structural unemployment is a part of the Hungarian present, it is very important to look through and understand, identify the differences between the demand and supply on the national labour market. The study aims to present the employers' needs through the literature analysis and questionnaire research to characterize the interest of high school students. Differences may occur for many reasons such as: insufficient knowledge or flow of information, employers' incorrect expectations, HR, individual, academic problems, etc.

The study endeavours to seek and highlight the educational facts and resupply of students in the background of this situation.

Keywords: labour market, demand-supply, HR, higher education, VET, economy

1 Introduction

‘Knowledge is our powerful engine of production’ (Alfred Marshall, 1890)

Although the mission of higher educational institutes (HEI) is - besides producing new knowledge via original and applied researches - to educate (young) people and equip them with knowledge, information and skills in order to increase their employment opportunities, the number and relative ratio of those unemployed despite having higher than secondary education is constantly growing in Hungary [1]. Only 42% of employers think that employees are ready for employment upon graduation and only half of the young graduates believe that their post-secondary studies have improved their employment opportunities [2]. What is more, traditional HEI are usually not designed to react to the ever-changing market where skills depreciate quickly since they cannot constantly adjust their curricula at the pace the changing industry would require them to.

In order to be able to create a knowledge-intensive, innovation based economy various things are needed, such as creation/development and deployment/commercialisation of new knowledge. In the past, the higher educational institutes have been the main driving forces of such processes via initiating and performing original and applied researches and transmitting their findings to their students, and through spin-offs to the economy and its agents. However, besides the creation and preservation of systematic knowledge through research activities, HEI are supposed to be institutions fostering their students' analytic, rational, systematic, critical, sceptical and innovative thinking, hence tools of developing competencies [3].

Since most experts agree that knowledge is to determine the future wealth and wellbeing of societies, education and especially higher than secondary education is very much promoted, encouraged and endorsed all over the world [4]. According to Teichler [5] only a large number of individuals with in-depth knowledge and profound understanding of the local and global economic and social systems (or other fields and sciences) would be able to make a substantial contribution. Along these ideas, the number of people with higher than secondary education (from now on labelled as higher education) is constantly increasing in developed countries. This phenomenon is prevalent in most Central-Eastern European countries, among others in Hungary, as well.

1.2 Overview of the European labour market needs

The changes and the needs in the global labour market differ to some extent from the European labour market. To upgrade the skills of entering workers and older workers is very important for short-range recovery and longer range productivity and growth. This is important for its capacity to adjust to change, for its jobs, justness, gender equality and social solidarity.

The economies across Europe turn to a low-carbon economy and a knowledge-economy. Especially the spread of ICT's and nanotechnologies gives a high potential to the economies for a new job creation of sustainable jobs. Among OECD countries approximately 3-4% of the employees work in the ICT sector [6]. Global migration, ageing population, urbanization and development of social structures are amongst the catalysts promoting change in skills requirement and labour market. The evolution of new abilities, skills and competencies to exploit the capability for recovery is a challenge and precedence for the EU and national public authorities, employees, students, employers, companies, for education and training providers.

Concerning the population skills profile of their populace or the distribution of employment, the situations in the member states differ massively. The skills have to match to the labour market needs. [7]. As well as the global market, the European market needs more high-skilled workers. The steady advanced training

and further education is now obligatory for older workers as for new entering employees.

The steady shift from agriculture and manufacturing jobs to services continues still the recent downturn. In 2020 three quarters of the jobs will be in the service sector. Job creation in this sector, especially in business services will be substantial up to 2020.

The primary sector will lose jobs while the construction sector has a tendency to be consistent. The manufacturing sector will also suffer, but the engineering sector will register an increase. The best chances for good job creation are expected in the following sectors: Health care and social work, business services (IT, insurances), personal services, hotels, and distribution. Furthermore, because of the low-carbon economies, the ecological services and products will rise and may be doubled in 2020. The sectors of water, waste treatment, transport industry, agriculture, energy and construction will have an important influence on the employment patterns. The next decade will have a rising demand for high-skilled and applicable workforce and for skill- dependant jobs [8].

The study of Cedefop 2008 shows that between 2006 and 2020:

- high level education employment will rise from 25,1 % to 31,3 %
- job requiring with medium qualifications increase a slightly from 48,3% to 50,1 %
- jobs with low level of education will decline to 18,5 %.

There is an obvious tendency towards the extension of required skills for jobs in the service sector. For example, ICT professionals also need to have skills in marketing or management; service workers need also customer orientated skills and digital knowledge. This reflects the growing demand from companies and employers for comprehensive key competencies like analytical skills, self-management, problem-solving, communication skill, etc.

2 Situation on the Hungarian labour market

The figure below clearly shows the ranking of professions, working fields by average salaries according to the latest research on the Hungarian labour market. This study manifests students' mind-set oriented at the pursuance of employment opportunities towards the upper end of the spectrum- those within the highest-paying sectors. Naturally, as a consequence lower ranked employment sectors are being faced with a serious depletion in the workforce.

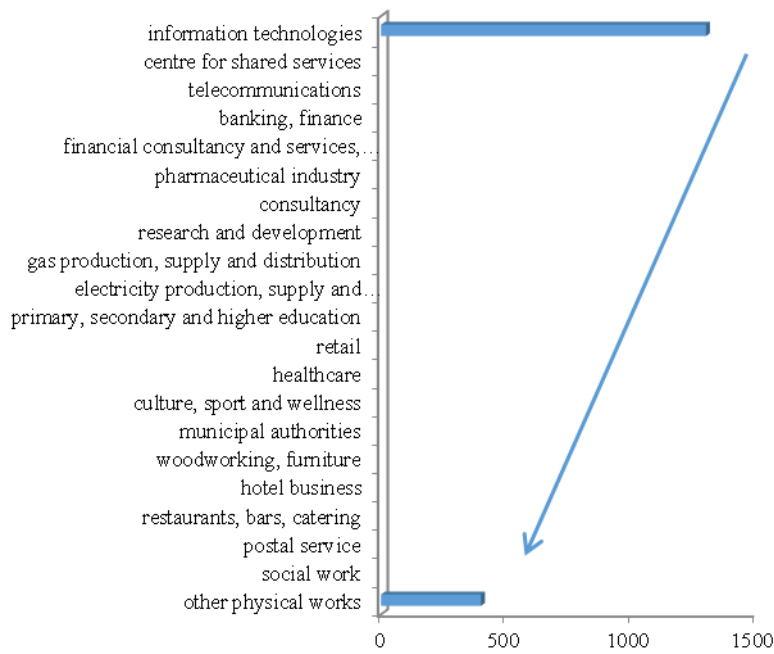


Figure 1.
Average salaries in EUR (2015) [9]

As in the past three years, the IT sphere continues to be the highest paid field in Hungary. The category of shared service centres is just closely behind on the top.

The list shows that the finance, telecommunications, energy and science areas are the most lucrative ones. The lower average salaries do not reach the average gross 600 EUR. The public sector and educational institutions, healthcare, postal services, local government bodies and the cultural institutions are on its edge, but the hospitality, tourism and social and seasonal jobs take the last places. Even though there is a high demand for skilful physical workers, they earn the lowest wages.

Worldwide, 36% of employers have difficulties to find appropriate workforce - according to the Manpower Group's research from 2014 involving 42 countries. In Hungary, 45% of the employers highlighted recruiting problems. The hardest loaded jobs in Hungary in 2014 [10]:

- | | | | | |
|----------------|-----------|---------------------|---------------------|--------------------|
| 1. Workman | 2. Driver | 3. Engineer | 4. Financial expert | 5. IT expert |
| 6. Team leader | 7. Doctor | 8. Machine operator | 8. Machine operator | 10. Catering staff |

The Manpower Group interviewed 750 Hungarian HR executives regarding the reasons of the lack of specialists and skilled workforce. The outcome of the research is represented by the following figure.

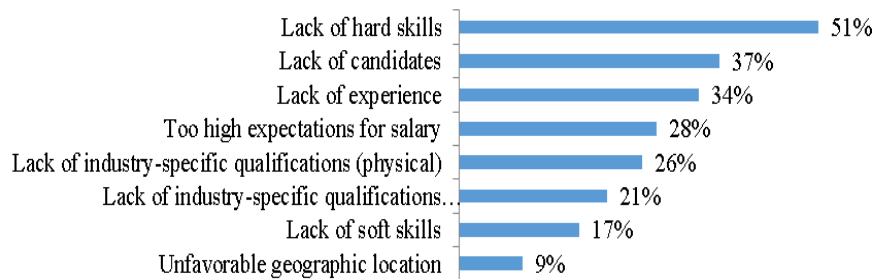


Figure 2.
Hindering factors to job positions [11]

As HR executives reported, in most cases the lack of hard skills (technical competencies) stands in the background of the talent shortage. Secondly, the lack of (experienced) candidates also prevents good employee-job matching. Approximately, one quarter of applicants have extremely high salary expectations or are missing the appropriate qualifications. The 17% lack the workplace competencies, soft skills, and 9% are not satisfied with the geographic conditions.

After the employers' report about recruiting problems, it is interesting to see the motivating factors for employees.

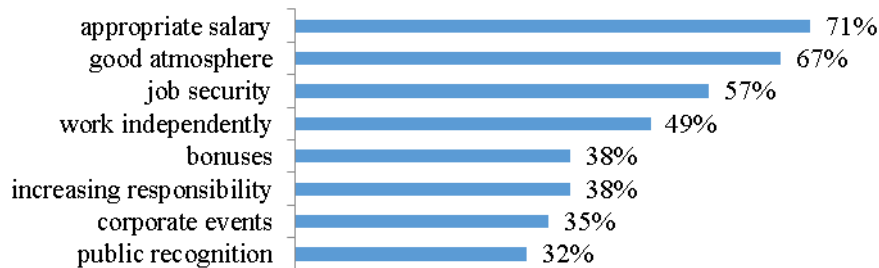


Figure 3.
Motivating factors for Hungarian workers [12]

According to one of the biggest Hungarian HR specialist company's findings, Hungarian employees are mostly salary-driven, but the good working atmosphere is almost as important as the payment. The job security is highly respected and required; it allows us to conclude, that most of the employees have long-term plans regarding their job positions. Approximately half of them wish to work independently and the bonuses come at an equal stand with the increasing responsibility. The two lowest ranked factors are the opportunities of corporate events participation and to get public recognition as a reward, but still approximately every third person thinks about these positively and respectfully. Remarkable that the structure of findings outlined Maslow's hierarchy of needs.

2.1 Overview of the Hungarian education system

The Ministry of Education which holds political responsibility for Hungary's entire education system primarily carries out policy-related tasks and produces legislation. The Ministry of Education shares the responsibilities for professional education with the ministries that are responsible for professional qualifications.

The language of instruction is Hungarian. Compulsory education in Hungary starts at the age of 5, and lasts until the end of the year in which pupils turn 16. The academic year runs from September until June.

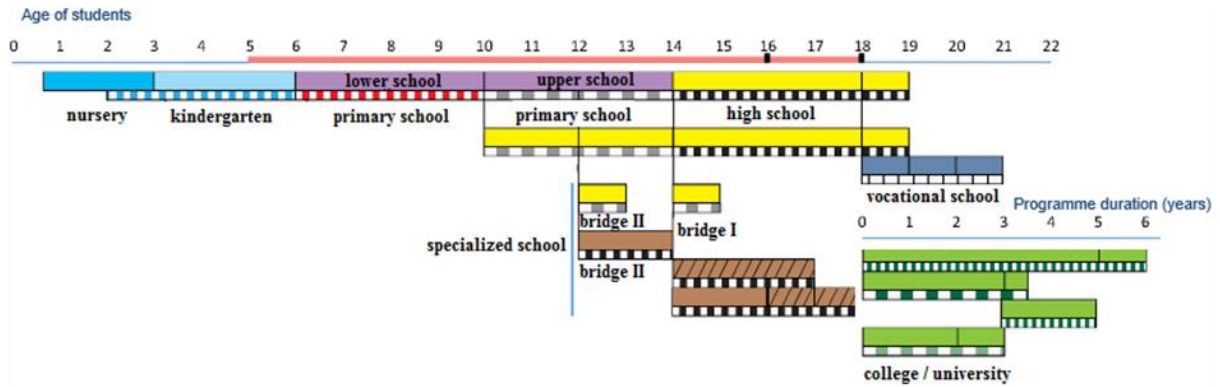


Figure 4.
The Hungarian education system

Primary and junior secondary education each last for 4 years; the first stage is for children aged 6-10, and the second for children aged 10-14. Primary education is provided at elementary schools.

Secondary education is divided into general and vocational education, and is provided by schools for general secondary education or institutions for secondary vocational education. There are many schools that provide both vocational and general education. Admission to secondary education in Hungary requires an entrance examination.

An important reform of vocational education and training (VET) entered into force in 2013. The curriculum in vocational training schools was shortened from four to three years and the focus on practical training increased, both in vocational training schools and in (less practical) vocational secondary schools. On average, the share of practical training should reach about 70% in vocational training schools, from about 50% before the reform. Practical training will also start earlier, in the first year of vocational school (9th grade), instead of respectively 10th grade in vocational training schools and 12th-13th grade in vocational secondary schools. The reform also increases involvement of private companies in VET. It gives a bigger role to chambers of commerce to influence the content of training with the aim to better attune it to labour market needs. It also aims to expand the elements of dual training (apprenticeship systems), notably through additional EU financing. New professional and examination requirements aim to follow labour market needs more closely. To promote studies in potential skill shortage areas, vocational students in lists of “shortage occupations” (defined at the county level on the basis of job vacancies and surveys among companies) can be offered scholarship grants.

Higher education entrance examinations were abolished in 2005. The secondary school certificate now provides admission to higher education. Programmes in music and the arts can also set interviews or competency tests as additional entrance requirements. Since 2005, admission to higher education has been based on pupils' final examination results. An 'advanced level' is required for foreign languages, and students with advanced level passes will be given preference for popular programmes.

The Hungarian Higher Education Act defines universities as higher education institutions that are able to organize education in more than one academic discipline, as well as multiple specific programmes within one academic discipline. Universities must also conduct research, offer accredited PhD programmes, and all of the teaching staff must have a doctorate.

University programmes last from 3 to 6 years, depending on the specialization.

After completing all compulsory subjects, writing and defending a final paper and sitting a final exam, students are awarded the university degree.

2.2 Possibilities of students with higher education

According to OECD, the educational attainment matters greatly in Hungary's labour market: Tertiary education makes the difference between employment and unemployment and also between good and low payment. The OECD statistic 'Education at a glance 2014' shows a lot of interesting figures and facts. It shows that people with lower educational abilities have a higher risk to be unemployed. 28% of young people with below upper secondary education are unemployed, while only 5.7% of young people with tertiary education are without job [13]. The difference between these 2 groups is the third highest among the OECD countries.

The main challenge for the Hungarian government and its executives is to bridge in the gap between secondary and tertiary acquirements.

3 Measure and method

The study is supported by primary and secondary data. Primary research part has a targeted a data-collection method; participants were recruited via internet: across high schools' Facebook groups, direct e-mails to students and through teachers who shared with their students. Data was collected anonymously from Hungarian students from secondary education level. The questionnaire included open-ended questions that should be analysed with a qualitative approach which were categorised to be able to produce quantifiable data. The questionnaire approximately took 5 minutes to complete. Besides demographic variables, the

questionnaire collected information about academic motivation, profession, career and life goal related issues.

Total number of responds is 436 from Budapest metropolitan area.

4 Results and discussion

The present research among secondary school students (the next generation of applicants) is intended to estimate the future of the above- outlined situation on the Hungarian labour market.

The number of applicants to tertiary education has declined by around 30% over 2011-13 and the number of admitted students by more than 25%, in contrast with the stated aim to promote participation. This reflected to some extent demographic factors, but also much lower quotas of state finance positions in 2012 and uncertainty around the important reforms taking effect in 2013.

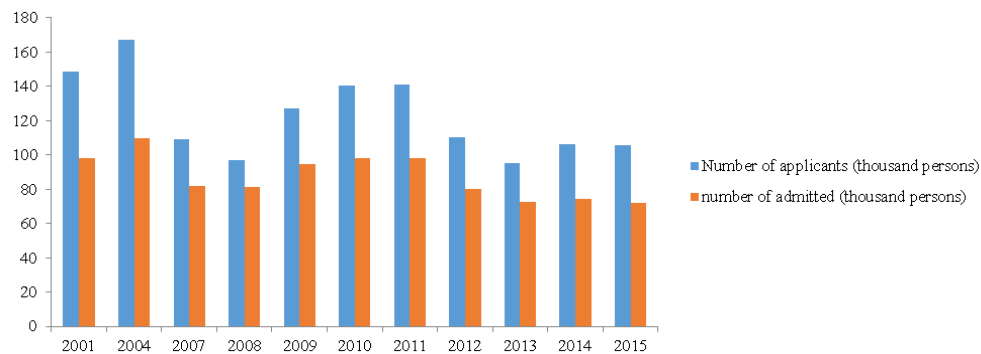


Figure 5.
Applications and admissions to tertiary education [14]

Even though the governmental (financial) support and the number of admission places have declined in the higher education, the interest is still high and during the last years it tends to be increasing. According to the last application period's statistics (in 2015), 105600 students applied to higher education institutions, and 72200 have been accepted, 2000 less than in the previous year. In terms of percentage, since the first year of the reforms (2013) 76, 21% of admissions have been accepted, in 2014 69, 93% and in 2015 it decreased to 68, 37%.

Unsuccessful applicants can choose between several vocational trainings offered almost in every study field and financially fully covered by the state. From 2015 even the second vocational training can be completed for free, it also shows the educational reorientation towards the more practical professions.

On the following figure we can see the actual popularity and application/admission numbers, ratios of each study fields in the higher education.

Among the Hungarian secondary school graduates, the economic area is still the most attractive, but only the ~56% of them have been accepted. Because of the relatively high salary expectations and continuous demand, the technical sciences are the second most popular with ~53, 3% admission rate. The rise in popularity of pedagogical programs might be explained with the increased salaries for teachers' during the recent years. Human and social sciences are under the 15000 applications-limit in the 4th and 5th place. The medical/health and IT sciences count almost equal interest, but within the IT field, higher number of applicants succeed.

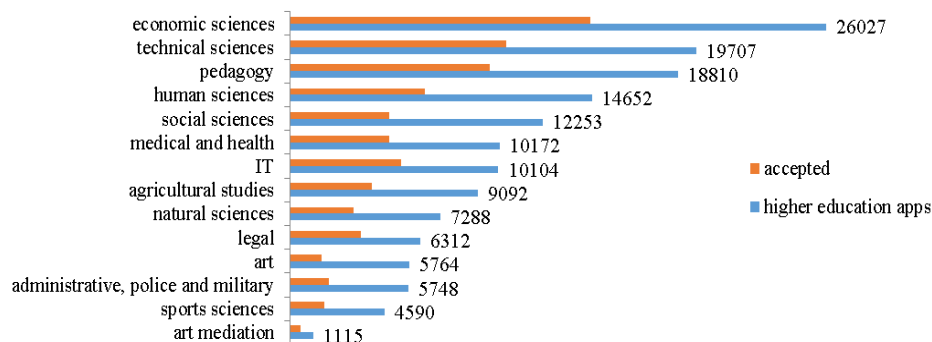


Figure 6.

Distribution of candidates - according to their application to the higher education in 2015 [15]

For agricultural and natural studies less than 10000 students applied all over the county. Legal studies became lower ranked compared to the previous years with its 10th place. In the present year it was quite difficult to get into art oriented higher education institutions with ~26, 3% admitted ratio, this is the lowest in 2015. The administrative, police and military field is very close to the art field, while the sport sciences and the art mediation took the last two places in the rank.

The distribution of the most popular vocational training programmes might lead us to the conclusion that most of the students who did not apply or have not been admitted to any higher education institution, selected the tourism and catering area for further education. As only the ~56% of economic students and ~53,3% of the technical students have been accepted at universities or collages, the remaining

group most probably stayed in the same area, but started on vocational level, as these fields count the most of the students in the VET system. The health care area also has a high rank on both study level, its students probably committed to the field.

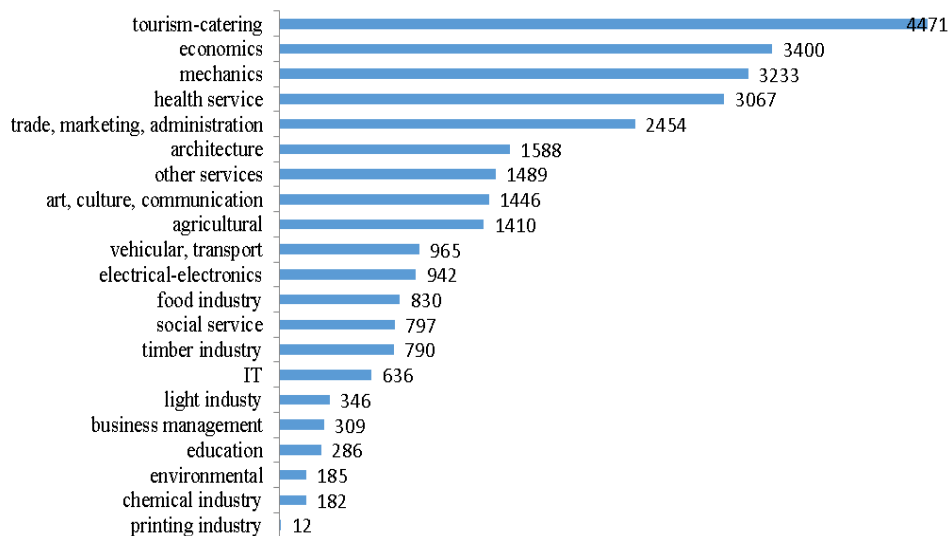


Figure 7.

Distribution of active vocational students in 2015 [16]

The trade, marketing and administrative training programmes are also very popular, in fact these sectors register a peak demand among students when compared to the following. The architecture, art-culture-communication, agricultural and other services-foursome collects approximately 1500 students/field in second section of the rank. The third section's programmes have less than 1000 students: vehicular-transportation, electrical, food industry, social service, timber industry and IT. Six programmes belong to the last section with less than 400 participants on each field: light industry, business management, education, environmental, chemical and printing industries.

The total number of active (applied for exams) students in the VET system in 2015 is 28838, while 33400 students had an unsuccessful application to the higher education. It means that 4562 students did not enrol to any vocational training, even if they had a gap year before they tried to apply again.

After the summarization of statistics on the students' orientation in the present year and having the national HR research results and reports, we can identify that the half of the hardest loaded jobs could be covered by employees with vocational education. The highest demand on the list is for workmen with versatile practical knowledge, which can be gained only through vocational trainings. Higher

education does not offer any training for professional drivers or machine operators, or practical knowledge for future shop assistants, sales persons or catering staff. These professions can be practiced only after special training in the selected field. Of course these lower ranked jobs are not that attractive for students, who expect higher salaries than these positions could provide. On the other hand, higher education graduates would not accept such conditions as highly skilled entry level workforce, even if the labour market caters for such a demand.

According to the VET statistics in 2015, most of its graduates are the future employees of the tourism and catering area, which is ranked in the 10th place between the most wanted positions. The resupply cannot be effective enough in this business as its workers have the highest migration numbers from Hungary to western or northern countries for higher salaries and social benefits. In case of engineers, financial experts, team leaders or senior managers the explanation is given by the HR executives through the lack of experience and the most important skills. Further reason of labour mismatches is that many people occupy a position not directly related to their field of study. The lack of talent management programs should be taken into account also, most of the companies do not have any strategy or system to support recruitment processes effectively.

Even though from 10 hard loaded jobs, 5 require a vocationally and practically trained worker, approximately triple the amount of students have been accepted to the higher education than the whole number of active VET students in the beginning of the academic year 2015/16.

The issues of education concern the basic processes of social reproduction and closely related to the functioning of the labour market. That is why it is important to research and understand the intentions of high school students comprehensively, to be able to determine its long term influences.

The following figures show the post-secondary education motivation of the next generation of applicants.

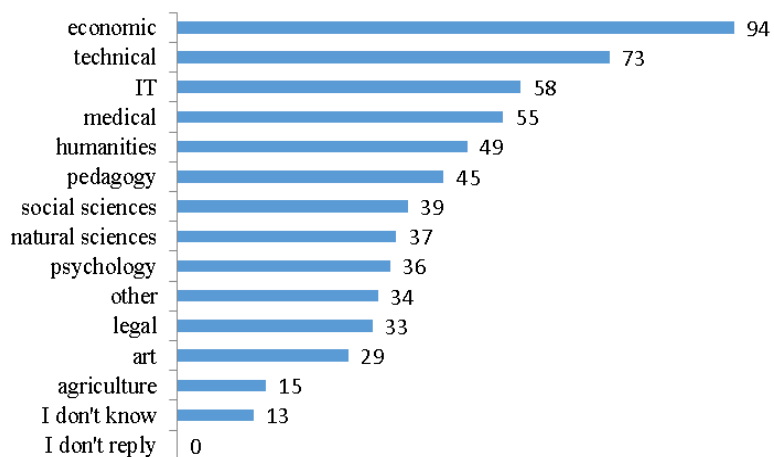


Figure 8.
Distribution of further education areas
Source: own data

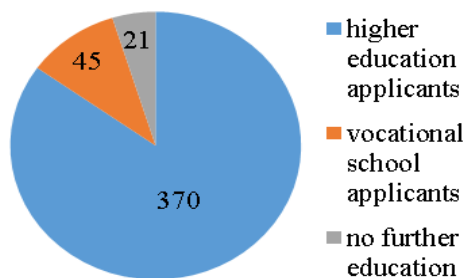


Figure 9.
Distribution of further education intent

Total number of responses is 436 from Budapest metropolitan area. The ratio of male and female are nearly equal (224 male and 212 female).

From the 66 students who do not wish to continue their studies in the higher education, the majority (45 people) would like to enrol to a vocational school and get an accredited profession. The data shows that 93% of female and 89% of male students are planning to continue their education.

From the total 436 students, 36 (~8%) plan to apply to foreign institutions. Important to notice that the number of Hungarian workforce in Austria, Germany and in the United Kingdom is extremely high and continuously growing. Research shows that remarkable percentage of high school students have plans towards these directions already. The most popular destination countries are the UK, Austria, Denmark and Germany to continue their studies. According to the national statistics, these countries register about 500 Hungarian full-time Bachelor students per year, and the number is continuously growing. Attractive factors include the possibility for tuition fee exemption in several countries, language proficiency, strong point in the CV, etc.

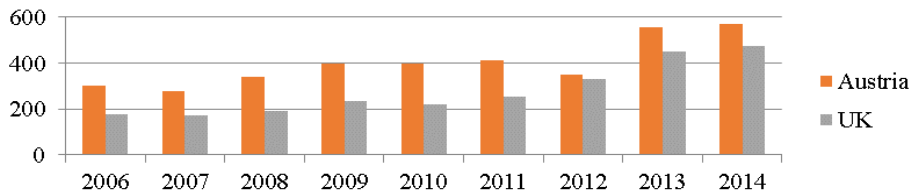


Figure 10.
Number of Hungarian BA students in Austria and the UK. [17]; [18]

The vast majority of high school students (95%) learned English as a foreign language. The 53% of them have studied or can speak in German, 11% in French, 7% in Italian and 5% in Spanish. In Russian only 4% speaks, 5% replied other language (eg. Slovakian, Japanese, Arabic)

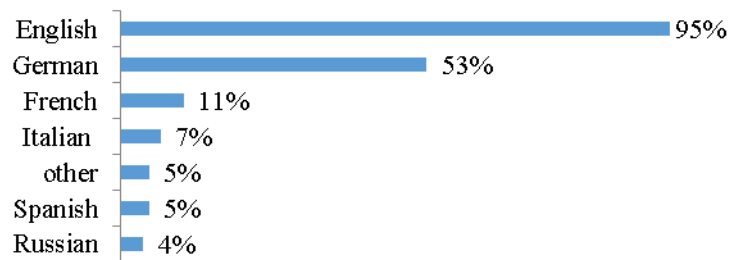


Figure 11.
Distribution of high-school students according to language knowledge
Source: own data

The next generation is still economic minded, the technical field keeps its second place. The IT field changes its position for the third place. The interest for pedagogic studies decreases among secondary school students in the capital; this is the sixth most popular, however on national level it assumes the third place. Medical sciences are also gaining popularity, increasing from sixth to fourth place.

If the national level will follow these changes, the distribution of future graduates could cover the demand of labour market more effectively.

Comparing the above described data, the table shows, that the primary demands are not covered by the supply. Economics students are not willing to change orientation, shortage professions. The technical and health fields have the most balanced demand-supply positions, but these sectors have different kind unsolved HR problems.

	Labour market needs in 2015	HEI apps. in 2015	Enrolled VET students in 2015	Expected HEI apps. in 2016/17 (Budapest area)
1.	Workman	Economics	Tourism and Catering	Economics
2.	Driver	Technical Sciences	Economics	Technical Sciences
3.	Engineer	Pedagogy	Mechanics	IT
4.	Financial expert	Human Sciences	Medical and Health	Medical
5.	IT expert	Social Sciences	Trade, Marketing, Admin	Human Sciences
6.	Team leader	Medical	Architecture	Pedagogy
7.	Doctor	IT	Art, Culture, Communication	Social Sciences
8.	Machine operator	Agricultural	Transportation, Vehicles	Natural Sciences
9.	Shop assistant /sales/	Natural Sciences	Electrics	Psychology
10.	Catering staff	Legal	Food Industry	"other"

Table 1.
Summary of labour market needs and educational resupply
Source: own data

5 Conclusion and recommendations

Connecting the given and described data, it is obvious that there won't be any significant change in the educational support and supply during the following years.

Students don't consider the domestic labour market conditions before they make their decisions. The most important gaps, the shortage of workforce and the education system's resupply and support, are seem to be imbalanced until the next generation. Despite the fact that the most requested and sought after jobs require a vocational education, for example the primary source for training, this form of education is still disfavoured until now.

Economic Sciences are the most demanded degree courses in the students' interest due to high salary expectations. But mostly it leads to administrative positions, absolutely different kind of jobs or unemployment.

Technical and medical studies are also quite popular. They have the potential of an adequate supply for domestic demand. Nonetheless, the migration of highly skilled employees (engineers, doctors, physiotherapists, nurses) to western countries, as well as the lack of talent management, recruiting programmes outweigh this development. The result is an employee shortage within these areas.

The most sought profession within the following years will be the IT security analyst and data specialist. The data collection instruments overflow the daily life. Decoding the locked information into data will grow into the largest capital of businesses- this is called the Big Data explosion. There are a couple of new professions which reduce the training places and also the amount of professors teaching the new technologies and processes.

On the one hand, not only the Hungarian, but even the EU and global situation, raises several topics of research, discuss and development as well as the importance of career guidance, talent management programmes and the responsibility of universities.

On the other hand, in spite of the labour market conditions, outstanding employees are still in short supply. Official reformations about the education system and human resources strategies could have a positive impact on the labour market:

- Vocational and secondary training has to be adapted to reskill mid-career employees and to offer job-specific skills to young people who will not attend the university.
- In developing economies as well as in advanced economies, governments have to find ways to develop not alone high-skilled workers.

Denouements include improving the value-added chain in developing economies and finding possibilities for workers without university education to take part in fast-growing fields in advanced economies.

- Businesses attend, on these skills-scarce sections, to find talent pools for the needed workers and skills. They need buildup strategies for recruiting, keeping and training these employees who will help them to get a competitive advantage.
- Advanced economies have the possibilities to create new jobs for low-skilled and middle-skills workers in the sectors of service, as well as in the fast-growing health-care, child-care and elder-care.
- Developing economies can bring a higher demand for low-educated workers by promoting the labour-intensive sector expansion. They can create it by raising the value chain.

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