Graduate Career Tracking System
University of Pécs 2015

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UNIVERSITY OF PÉCS

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FOREWORDS

Since the Graduate Career Tracking System began in 2010 we have declared it several times that improving the relation between higher education and the labour market is a major priority of the higher education development strategy. The basis of this is that strategic decisions, both at the sectoral and institutional level, are made with the help of the operation of an up-to-date information system.

The aim of this volume of studies is to provide support for higher education experts, students and researchers interested in this issue so that they can review the wider environment and get acquainted with one particular institutional model.

The studies summarize the important research of the past five years, their major areas and results while some of the issues the editors consider vital are described in detail. Our aim is the further utilization and summary of the research results in the professional and scientific life.

The studies prove that the available central and institutional databases have significant scientific potential considering both their quantity and quality. The studies highlight the most important areas, while the detailed analyses shall be carried out in the future.

The editors

LABOUR MARKET RESEARCH AND THE GRADUATE CAEREER TRACKING SYSTEM

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ABSTRACT

The purpose of the study is to introduce the operation, results, directions of development, institutional integration and further development possibilities of the Graduate Career Tracking System (GCTS) launched in 2010 in the field of higher education and at the University of Pécs.

Today, an increasing emphasis is being placed on adapting higher education to the trends of the labour market making it able to meet the expectations. One of the instruments to achieve this, which has worked in other countries, is the career tracking system of the graduates organised both at central and institutional level. In the study we summarize the activities carried out in connection with the career tracking research in the past five years briefly introducing the methods of examination, the results, the measures and the implemented activities as the different chapters of this volume detail the more important activities and results of its various fields.

Knowing the results we have determined the directions of further development on the basis of which we expanded our activities to include the examination of the employers, too. The aim of this research and development activity is to facilitate the production of satisfied employees and employers.

INTRODUCTION

In addition to maintaining its traditional and classic values the University of Pécs (UP) does its best to adjust successfully to the changing circumstances. The changes of the past few years confirmed those efforts whose aim was to place the process of developing the university, attracting its students and determining the foci of the fields of training upon the basis of a more careful,

more organised and more precise approach of being acquainted with the labour market.

The institute joined the Graduate Career Tracking System (GCTS) in 2010. On the basis of the research we can see what knowledge and competence the graduates of a certain faculty possess and how successful they have been in the world of work.

In addition to surveying the graduates tightening the relations between the corporate sector and the higher education institutions is especially important as understanding the professional expectations, opportunities and trends of the market may increase the employability of the graduates.

The aim, therefore, is to improve labour market adaptability and the institutional service development achieved on the basis of the results of the research carried out with students, teachers and employers greatly assists the achievement of strategic aims. *("Developing Institutional Services at the University of Pécs", TÁMOP-4.1.1.C-12/1/KONV-2012-0019, Feasibility Study)*

THE BACKGROUND OF THE LABOUR MARKET RESEARCH AT THE UNIVERSITY OF PÉCS

In 2004 the Marketing Department of UP, in cooperation with the Quality Management Committee, determined the main framework for the central research and the methods and instruments needed to collect market information in the framework of a project supported by a programme. Since the central marketing of the university considers the collection and analysis of information as one of its most important tasks, our aim was to establish an information system that is capable of assessing the environmental impacts and reactions regarding both the output and the input.

In 2010 the University of Pécs, supported by the TÁMOP-4.1.1-08-1/2009-0009 programme (Service Development at the University of Pécs) joined the national Graduate Career Tracking System which was made statutory in 2005 in Hungary (*Act CXXXIX of 2005 on Higher Education*) and was reinforced by the law on higher education in 2011 *(Act CCIV of 2011 on National Higher Education).*

As a result of launching the GCTS strategic thinking replaced tactical thinking in the field of marketing research. The basis of this shift was the establishment of the marketing information system. It is of vital importance for UP to know the expectations and satisfaction of its students, therefore we have created a central system to examine these fields which provides an opportunity to survey the satisfaction of not only the existing and the future students but also that of those who graduated here.

In addition to the students and the graduates in 2014 we also surveyed the teachers within the framework of the TÁMOP 4.1.1.C-12/1/KONV-2012-0019 "Developing Institutional Services at the University of Pécs" programme. To make the university suitable for educating fresh graduates who meet the demands and professional requirements of the employers we need to learn those requirements including the expectations of the market, therefore we launched the survey of the employers, too.

The following table shows the types and timing of the central labour market research of UP *(Table 1).*

Table 1: The schedule of the labour market research at UP, 2010-2017

Period	Students online	Graduates online			Graduates oral	Teachers	Employers
		graduate 1	graduate 3	graduate 5			
year 2010	1	1	1		1		
year 2011	1	1	1				
year 2012	1	1	1	1			
year 2013 Eurostudent	1	1	1	1	1		
year 2014	1	1	1	1		1	1
year 2015	1	1	1	1			
year 2016	1	1	1	1	1		
year 2017	1	1	1	1		1	1
Altogether	**8**	**8**	**8**	**6**	**3**	**2**	**2**

In addition to primary research as well as completing and preparing those, we also carried out the analysis of the secondary sources, e.g.: teacher and student statistics and labour market information.

Alongside the central research the faculties and other units also carry out assessments and satisfaction surveys, e.g.: examinations of students' opinion on how teachers work.

THE START: THE GRADUATE CAREER TRACKING SYSTEM

One of the most important conditions for the quality improvement of Hungarian higher education is the integration of the labour market expectations into the training and service portfolio of the institutions. To achieve this the relations between higher education and the labour market and also the flow of information need to be improved. One of the instruments which has worked in other countries is the career tracking of the graduates organised both at national and institutional level *(Horváth et al. 2009; Veroszta 2009; Veroszta 2011)*

In the framework of a centrally organised key project (TÁMOP 4.1.3), the national graduate career tracking system, coordinated by the Educatio

Nonprofit Ltd, was launched in 2010 in Hungary guaranteeing a service the Hungarian higher education has been missing for a long time *(Veroszta 2012)*. Career tracking had to be built from its foundations as most of the institutions did not have such systems, experts with specialized knowledge or IT centres. The financing of a methodologically perfect career tracking survey, which is supported by a appropriate professional background, presented great difficulty to many higher education institutions. The government realized this and provided help to the institutions in two years (2009 and 2011) when, through open TÁMOP programmes, it was possible to guarantee the institutional background and as a result career tracking began and has been going on for five years. The national organisation undertook the elaboration of the common set of questions to be used for the national survey, the constant correction of it on the basis of the feedback coming from the institutions, the collection of data and the communication of the results of data analysis towards the government. As a result the first pilot survey began in 2010 to which 29 institutions joined providing data about their full-time students and about those who graduated in 2007 and 2009. The surveys have to be carried out every spring within the framework of the programme applying an online questionnaire using the centrally administered survey automation software called EvaSys. This may be completed with personal or telephone interviews *(Sipos 2014).*

In addition to the questionnaire research the central databases (FIR = Higher Education Information System; NAV – National Tax and Customs Administration; OEP – National Health Insurance Fund) have been linked to one another as a result of which a we can gain more precise and up-to-date information making the labour market performance of university graduates measurable and comparable. The development can have a significant contribution to improving the quality and competitiveness of the higher education institutions concerned.

The main fields of GCTS surveys

Student motivation survey

A *student motivation survey* is carried out every year at the same time in the spring semester using a standard online questionnaire involving every full time student. In the 2011 research we included the students of the English language training programme using the questionnaire in English.

The aim of the student motivation surveys is to reveal the motivation of the students regarding the labour market and their further education, to disclose their expectations related to the training, the services and the labour market, to uncover the training and employment strategies of them and to prepare future career tracking surveys. The research results facilitate the improvement of services and the establishment of the satisfaction and

loyalty of students. A further aim of the student survey is to prepare the future career tracking surveys and determine the appropriate proportion of respondents as students get acquainted with the elements of the career tracking system the first time.

Within the framework of the research we highlighted two groups of students: the opinion of the first-year students regarding school enrolment and the career perspectives of the graduates. As we indicated the student surveys also include the satisfaction assessment of the foreign students, for them a questionnaire is prepared in English and we assess the satisfaction of the students participating in the Erasmus exchange programme every semester.

The career tracking of graduates

The survey of the graduates covers two areas: on the one hand in the spring every year the graduates are given an online questionnaire and, on the other hand, in the autumn in every third year we organise telephone interviews with graduates.

The *online assessment* covers the survey of those students who have a university leaving certificate and varied out in the years following their graduation. In 2010 and 2011-ben the surveys included everyone who graduated 1 and 3 years before that time, since 2012 we have been surveying those who graduated 1, 3 and 5 years before the time of the research. The survey mainly focuses on the success and experiences gained at the labour market, the present fields of study, the ideas of further education and the satisfaction with the institution and the courses.

In the first three years (2010–2012) the GCTS surveys targeted those involved in the initial, master and general programmes and in the traditional university, college and PhD programmes. Since 2013 the group of those who are surveyed has been enlarged to include those who take part in higher education vocational training.

The *questionnaire surveys based on personal (telephone) interviews* are carried out at a time different from that of the online survey and include an appropriate sample size consisting of people who graduated three years before the survey. The issues examined are the same as those of the online questionnaire, though the set of questions, due to the nature of the survey, is different.

Methodology

Following the first year the *Educatio Ltd* elaborated the common set of questions of the questionnaire with the help of the institutions, so the wording, order and structure of the questions to be asked at the national level have become set, however it is possible that institutions, faculties and department add their own questions, too. As the common set of questions is

well structured and span the most important fields the institutions may have only a narrow margin therefore most of the questions are closed-ended Likert-scales items with occasional open-ended questions.

Regarding the 2010 and 2011 research, according to the conditions undertaken it was required to reach at least 90% of the graduates and to receive answers from at least 15% of the respondents. We managed to achieve the required proportions by motivating the respondents giving them various prizes. In 2013, when the fields of training were expanded (higher education vocational trainings, specific trainings) we managed to achieve weaker respondent rates.

Where the sample produced by the data collection was not representative we carried out further interviews or produced a representative sample by weighting. The relatively high sample proportions and the equally high number of respondents make it possible to achieve an acceptable level of estimation therefore reliable results may be calculated on the basis of the data.

For the *oral research* we used the standardized questionnaires of CATI (Computer Assisted Telephone Interviewing). In this case the preliminary sample guarantees representativeness and there is no need to apply weighting.

In the case of both surveys the core data was supplied by the experts of the Directorate for Education and we provided the *representativeness* of the surveyed groups *and the sample units* according to year of graduation, faculty, gender and department. The processing and analysis of data is carried out with the help of the SPSS software using mathematical and statistical methods. The detailed description of the mathematical and statistical methods is included in the volume of the GCTS studies published annually.

During the research period between 2010 and 2014, we sent the online questionnaires to 98 391 students and 64 486 graduates altogether. 12 471 students and 10 655 graduates responded the questions. The distribution and proportion of respondents by year is detailed by *Table 2*. In the framework of the telephone interviews we reached 4899 graduates altogether in 2010 and 2013.

Table 2: Respondent data, 2010-2014

Target group	Year of survey	Year of university leaving certificate	Population (people)	Respondents (people)	Response rate	Methodology
Students	2010		**21 751**	**2774**	**12,75%**	Online
Graduates	2010	2007	3130	569	18,18%	Online
		2009	4862	1167	24,00%	
	Altogether		**7 792**	**1 736**	**21,72%**	

Target group	Year of survey	Year of university leaving certificate	Population (people)	Respondents (people)	Response rate	Methodology
Graduates	2010	2007	4260	639	15,00%	Oral interviews
		2008	5527	829	15,00%	
		2009	6200	930	15,00%	
	Altogether		**15 987**	**2398**	**15,00%**	
Students	2011		**21 268**	**3 406**	**16,01%**	Online standard
Graduates	2011	2008	3 796	883	23,26%	Online
		2010	5 129	1 024	19,96%	
	Altogether		**8 925**	**1 907**	**21,37%**	
Students	2012		**19 020**	**2 910**	**15,30%**	Online
Graduates	2012	2007	3 701	669	18,08%	Online
		2009	5 179	931	17,98%	
		2011	5 297	881	16,63%	
	Altogether		**14 177**	**2 481**	**17,50%**	
Students	2013		**19 376**	**1 380**	**7,12%**	Eurostudent
Graduates	2013	2008	5 779	853	14,76%	Online
		2010	6 238	827	13,26%	
		2012	6 116	1 003	16,40%	
	Altogether		**18 133**	**2 683**	**14,80%**	
Graduates	2013	2010	5 127	868	16,93%	Oral interviews
	2013	2011	5 297	838	15,82%	
	2013	2012	5 135	795	15,48%	
	Altogether		**15 559**	**2 501**	**16,07%**	
Students	2014		**16 976**	**2 001**	**11,79%**	Online
Graduates	2014	2009	5 345	625	11,69%	Online
		2011	5 038	489	9,71%	
		2013	5 076	734	14,46%	
	Altogether		**15 459**	**1 848**	**11,95%**	

On the basis of the activities and the experiences of the past five years we have set off into two different directions. On the one hand we thought it was necessary to develop the career tracking system further and to establish a research group with the purpose of harmonizing the labour market and career tracking research and, on the other hand, to facilitate the acknowledgement and application of research results within the university and, at the same time, to pilot test and launch new projects targeting institutional development.

THE NEXT STEP: LABOUR MARKET WORKGROUP

We can guarantee to enhance the ability to adapt to labour market tendencies, as a target, primarily by integrating labour market information into the institutional and service development process in a more effective way.

The team of expert to be set up to carry out the tasks of establishing and operating the labour market workgroup will have the following responsibilities.

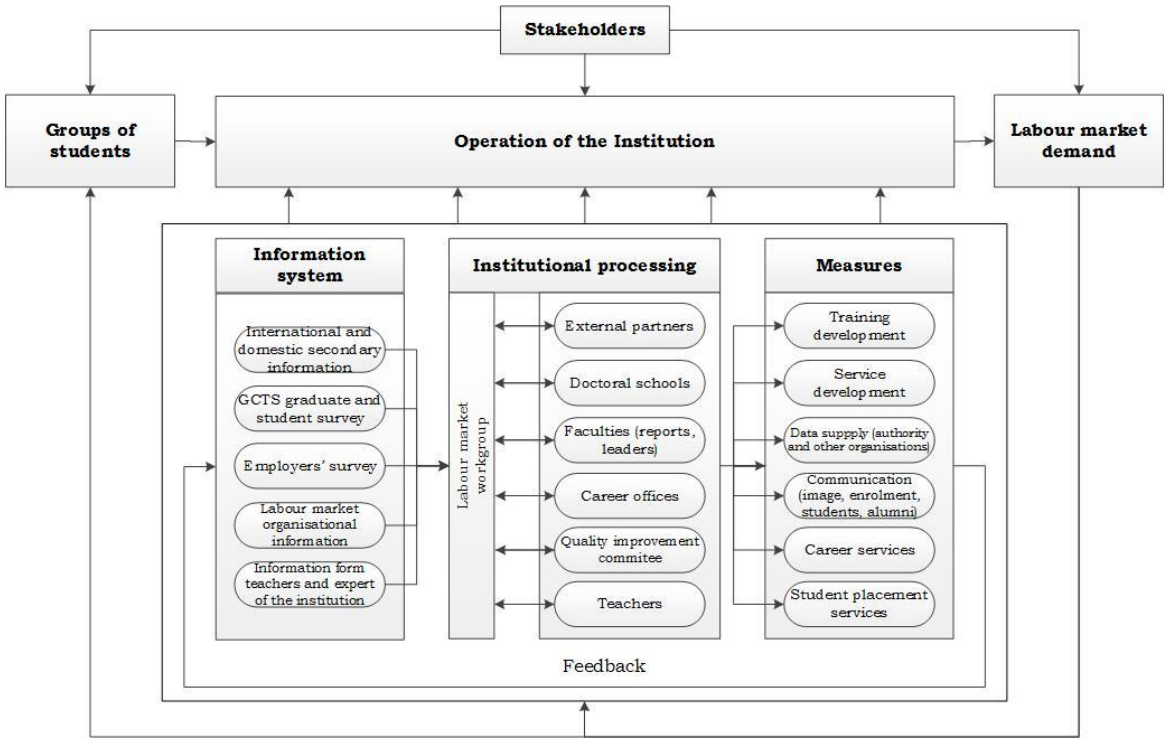
- elaborating a labour market model and methodology,
- establishing the basis for getting feedback from the labour market,
- elaborating the methodology of integrating the results of a systematic career tracking into the educational and service portfolio of the institution.

The mission of the labour market workgroup is to facilitate the implementation of the principle called “conscious preparation for the future”. Accordingly, the workgroup collects, analyses and communicates information to the players of our internal and external environment. The first step was the elaboration of a process model which determines the framework of its activities.

Institutional labour market process model

We did not want to achieve a one-time solution, instead, we intended to develop, “put into operation” and manage a system which is sustainable and functional in the long run being able to serve our fundamental purpose. *(Figure 1)*

Figure 1: the institutional labour market process model



Source: UP labour market workgroup (self-edited)

Information system

The basis of the process model is the information system and when forming it we focused on the following main fields: establishing a framework for the systematic collection of internal and external information, developing the methodology and defining the operation and preservation of data collection.

We examined the *secondary information* regarding two fields:

- Statistical analysis: compiling datasets on the basis of domestic and international statistics and surveys in relation to the labour market of highly qualified people and the introduction of trends.
- Investigating the international and domestic environment, making prognosis, supply and demand analysis.

The other pillar of the scope of activities is the *development of the GCTS*. It is the interest of the university that the labour market information gained through the career tracking research produce results that affirm and improve the operation of the institution. Therefore we have:

- reviewed the issues and points of analysis of GCTS,
- extended the research to include more groups, and
- harmonised it with the groups surveyed earlier.

In addition to the examinations inside the institution we considered it necessary *to survey the employers' and labour market organisations* too, as this can provide information about the value of the degrees, the competence of the graduates, the expectations of the labour market and the practice-oriented nature of the courses. We held 50 interviews with the representatives of those employers, entrepreneurs and organisations that employ the graduates of UP and know the labour market of the region well.

The topics examined were as follows:

- the competence of the employees as seen by the employers and businessmen,
- understanding the demands and satisfaction of employers,
- understanding the opportunities of employers,
- understanding the supply of labour and the development opportunities,
- information on the development carried out in the region and the potential future employers.

Moreover, we collected information from the *experts and the teachers* of the university through an online questionnaire sent to the educators of UP. We worked out the methodology, carried out the survey and received 301 responses. The results of the research have been shared with all the teachers.

The topics investigated are as follows:

- the ideas and information of teachers regarding the success of their former students,
- the information of teachers about the expectations of the employers,
- the assessment of the university courses.

Processing within the institution

After establishing the framework of the information system the processing phase took place and a system of cooperation was set up in the course of which the researchers contacted the relevant units of the universities, the external partners and the other researchers of the topic.

The results of the labour market research are presented and discussed with those concerned in the framework of professional forums, workshops and conferences. The experts provide the management of the university with proposals for development that, in addition to the heads and the teachers, the organisations dealing with service development can also utilise.

LABOUR MARKET RESEARCH, MEASURES, RESULTS

The key objective of the research outlined above is that the social and economic appeal of the region improves through the various developments and the number of qualified employees increases. The following table presents the possible uses of the results and their main impacts according to the target groups.

Possible uses

Table 3: The possible uses of the results and the impacts according to the target groups

1. UP managers	course development, improving institutional services, quality improvement, improving the appeal, institutional fame reinforcing contact with the players concerned institutional accreditation
2. UP teachers, researchers	curriculum development, quality improvement, reinforcing communication (alumni, students, applicants, etc.
3. UP students	improving employment opportunities, developing an attachment to the institution, developing stronger alumni systems, more conscious students in higher education

4. PTE graduate students	Improving employment opportunities, increasing attachment to the institution, development of alumni systems
5. Employers	they get a clear picture about the competence of the graduates, labour force mobility, employment motivation and regional processes.

Source: self-edited on the basis of Kuráth 2013

Measures, results

The measures defined in the process model affect mainly the education and service development. On the basis of the research results *action plans have been developed at the institutional and faculty levels* regarding the courses, the curriculum and the services.

Course development is helped by the *established method of competence assessment*, through which we can gain insight into what knowledge and competencies a student graduating from a certain faculty has and how successful she/he has been in the world of work.

The picture emerging on the basis of the Graduate Career Tracking System suggests that in the case of the future development of higher education there is a place for activities that support employment either explicitly or as a cross-curricular element especially in the fields of developing entrepreneurial skills, gaining work experience, including external places of traineeships and apprenticeships. *(Katona 2011)* Therefore, in the case of service development, in addition to the educational services we emphasize the following *fields of development: career services assisting success at the labour market; alumni services; supporting talents; entrepreneurial competencies*. We consider the work of organisations that assist job searching as of great importance, too.

Following the administration of the survey and the clarification of data we *provide the national organisations and authorities with data.*

The next step is *communication* with the partners concerned, sharing the results of the research. We communicate the research results both inside and outside the institution, we have established forms of communication and mailing lists and workshops also facilitate the flow of communication. As a result we have a website with databases and information, we have also created an online knowledge base for researchers and experts, organised seven workshops for the experts and management of the university during the past five years and published thirteen volumes of studies about the research results.

As we already stated our priorities included the facilitation of the acknowledgement and application of research results within the institution,

the simultaneous pilot testing and launching of new projects that target institutional development. Thus, on the basis of the research results we defined the *career pyramid of the UP* as an *instrument promoting the integration of the institute*. We tested and launched a *course on career coaching* in the framework of the Campus credit programme, thus, in addition to the graduates of the university, this service is also available for full-time students. On the basis of the labour market aspects of the GCTS research we have compiled a *teacher-student information base*, which advises teachers and graduating students primarily about the expectations of the employers, the projected salaries and the job seeking experiences of former graduates. We inform those interested in this new opportunity through posters, brochures and websites.

IMPLEMENTATION

The GCTS survey is carried out under the coordination of the Marketing Department which is directly subordinated to the management of the institution. Before 2012 this work was assisted by the experts of the Quality Management Committee and since 2013 by the GCTS experts appointed by the leaders of different faculties. The ten faculties of our institution have several economists and sociologists teaching and researching their respective fields who have gained experiences in higher education career tracking therefore during the implementation of the surveys we relied predominantly on the human resources of the UP.

Partners of the Marketing Department:

- Members of the Quality Management Committee / GCTS experts from the faculties
- Faculties and other organisational units
- Experts and researchers at the different faculties (economists, sociologists)
- Directorate for Education, Head Office of Education

Table 4: Participating UP experts (2010–2015)

PARTICIPATING UP EXPERTS (2010–2015)	
Central organisation: Gabriella Kuráth, Head of Research Andrea Héráné Tóth Research Manager Sipos Norbert, economist **UP experts:** Árpád Kovács, expert (Faculty of Engineering, and Information Technology) Zsolt Nemeskéri, Labour Market	**Quality Management Committee and GCTS experts at the faculties:** Gyula Zeller, Vice rector Tímea Drinóczi (Faculty of Law) László Vámhidy † (Medical School) Duga Zsófia (Medical School) Mónika Izsák (Faculty of Humanities) Júlia Nagy (Faculty of Health Sciences) Balázs Radnai (Faculty of Health

PARTICIPATING UP EXPERTS (2010–2015)	
Expert (Faculty of Adult Education and Human Resources) Zsuzsanna Vitai, Labour Market Expert (Faculty of Business and Economics) Krisztián Szűcs, Methodology Expert (Faculty of Business and Economics) Mónika Galambosné Tiszberger, Statistician (Faculty of Business and Economics)	Sciences) Judit Horváth (Faculty of Adult Education and Human Resources) Zsolt Huszti (Illyés Gyula Faculty) Ernő János Szabó (Illyés Gyula Faculty) Tibor Kiss (Faculty of Business and Economics) Jenő Gerendy (Faculty of Music and Visual Arts) Renáta Pásztó (Faculty of Music and Visual Arts) István Szvitacs (Faculty of Engineering, and Information Technology) Mariann Regdon (Faculty of Engineering, and Information Technology) János Erostyák (Faculty of Sciences)

In the periods of 2010–2012 and 2014-2015 the implementation of the project was covered through funds, while between these periods we resorted to external sources of support.

CONCLUSIONS

We have published several studies recently and our colleagues leading and managing the project have participated in many conferences presenting the expected results of our institutional development.

The utilization of research results may be interpreted at different levels (*OKM 2007; Kuráth 2009*): experts look forward to increasing the competitiveness of the education sector and improving the correspondence between market movements and education.

We have already indicated that the results may be used in the fields of labour market relations and strategic planning improving the relations of the players at the labour market as well as the efficiency of planning.

Regarding professional life, empirical research based on a large national sample may provide an appropriate basis to issue professional studies and publications. Moreover, the different institutions (may) integrate the feedback concerning the graduates into their operation related to the fields of transforming the structure of training, developing the curriculum and extending the institutional services.

It is of great importance that the faculties are also part in this programme while the centre actively participated in the analysis of the results of the career tracking research at the faculty level.

At the same time, the assessment of the graduates and the utilisation of the results may be a vital element of improving the appeal of the university which can be used effectively in the field of communication.

At our university, in addition to the extension of the service function and the fields of communication described above, there have been changes in the structure of education and the content of courses as a result of which the degrees of our graduates may have a higher value in the labour market. These developments have been based on the results of the multi-annual GCTS research. You can read a detailed description of these fields of action and also about the projects being realized in the second part of this volume which contains more practice-oriented studies.

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DEVELOPMENTS IN THE LABOUR MARKET ENVIRONMENT, WITH A SPECIAL FOCUS ON THE CIRCUMSTANCES OF YOUNG GRADUATES

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ABSTRACT

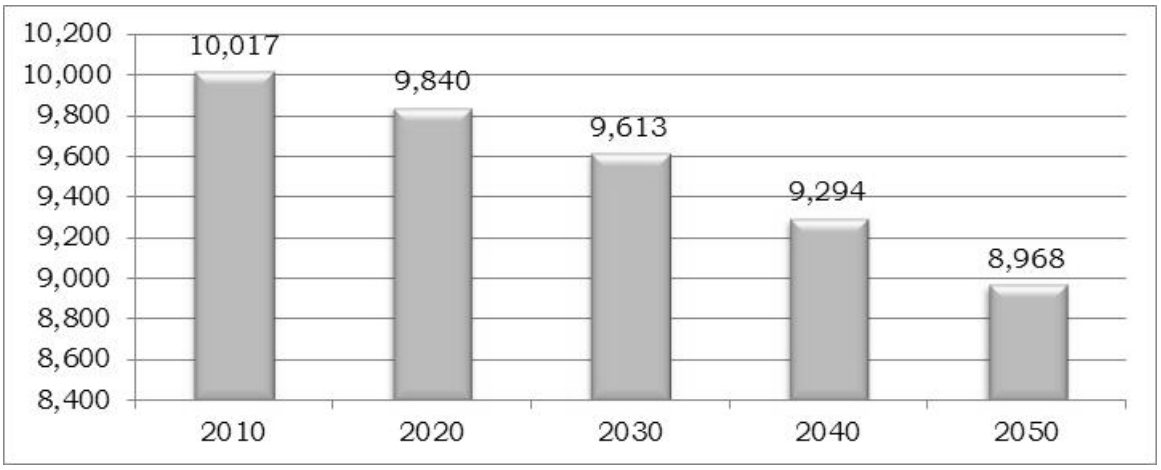
The aim of this analysis of the situation is a descriptive and tendentious presentation of the developments in the labour market environment within Hungary and the South Transdanubian region. Following this methodology, and with a view to EU measurements, we present those data that are determinantly publicised about the current labour market and have a significant influence on supply and demand. Within general trends special emphasis is given to youth unemployment and the circumstances of young graduates. A great challenge of the transforming and resegmenting labour market is migration for employment, also related to globalisation, and the increasing work force mobility. The development of mobility will be shown factually, based on the results of secondary and in part primary research, as well as the employment forecast that can characterise and influence labour market and its participants in Hungary in the long term.

DEMOGRAPHIC TRENDS

According to census returns, on 1 October 2011 the population of Hungary was 9 million 982 thousand, i.e. 2.1% less than at the previous census of 1 February 2001. During the last decade natural decrease has prevailed in all regions; the number of deaths exceeded the number of births in every county and in Budapest as well. The rate of natural decrease is increasing, in the

1990s it was 33 thousand per year on average, while after 2000 it was more than 35 thousand annually. The change in population resulted from domestic and international migration has not affected the particular regions of the country equally. The greatest winner of the migration process has been Pest County in the last decade, but Győr-Moson Sopron, Hajdú-Bihar, Fejér, Csongrád, Vas and Komárom-Esztergom counties also have acquired a positive balance. Contrarily, in Borsod-Abaúj-Zemplén, Szabolcs-Szatmár-Bereg, *Tolna,* Nógrád, *Baranya* and Veszprém counties the migratory negative also added to the loss resulting from natural decrease. Taking the basic version of the *demographic prognoses* by the Institute of Demography of KSH (Hungarian Central Statistical Office) as the basis for relation, population will be decreasing until 2020. Population will decrease by an expected 177 thousand, while until 2050 a decrease of more than 1 million can be predicted (*see Fig. 1.*) The disadvantageous quantitative process is aggravated by an adverse structural transformation; population ageing is significant. The number and rate of working-age population (between 15 and 64 years) is reducing more than the total population, their number is expected to be 6.4 million by 2020; that is a decrease of 7 percent.

Figure 1: The expected number of population (in thousands)



Source: KSH Age Pyramid, July 2011. Vol. XI. no. 2.

According to the population census of 2011, related to the previous, 2001 data, the counties of the *South Transdanubian region* figured as follows: population decreased by 4.8% in Baranya, 7.1% in Somogy, and 7.5% in Tolna. The decrease in population is mainly, three-quarter owing to natural decrease, however, outward migration is in the background of the remaining reduction. The negative balance of inland migration meant a loss of 3.5 per 1,000 residents. Migration loss affects not only the most disadvantaged micro-regions and districts (Sellye, Barcs, Csurgó), but has extended into the central areas of the counties as well. Population decrease and areal redistribution can also be seen in the age pyramid. Those regions that

attract youth primarily due to labour market and employment opportunities are able to correct the problems emerging in the areal age pyramid. At the same time, in the areas most affected by outward migration and ageing, the further constriction of the lower segment of the age pyramid can be expected, which can be a source of serious economic and social tensions even in the medium term *(Census – Regional data - 2011. Baranya, Somogy, Tolna. KSH)*

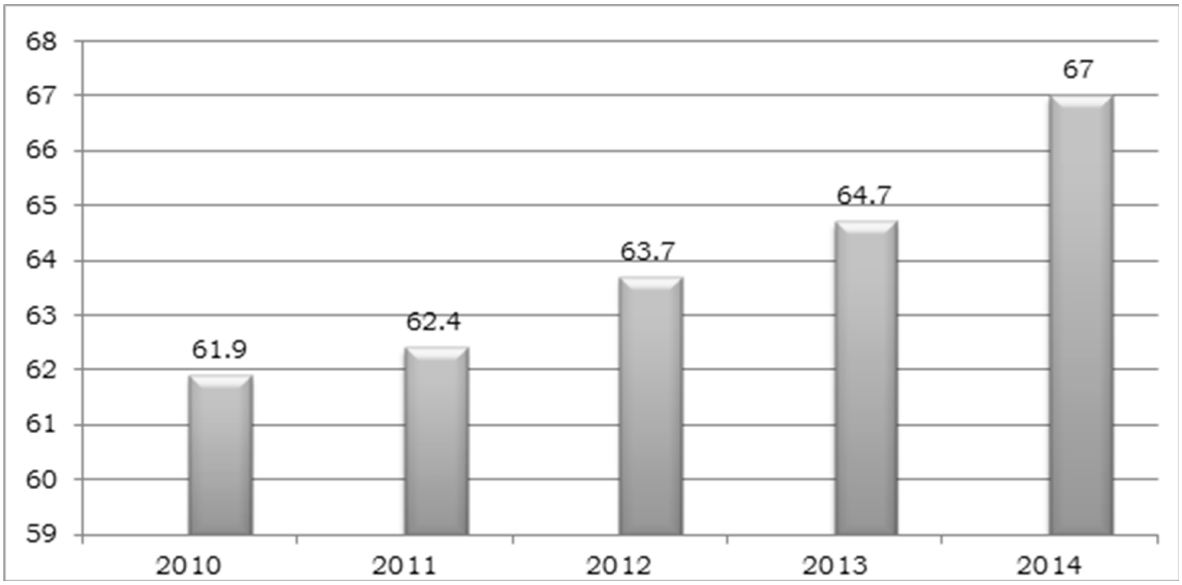
LABOUR MARKET SITUATION IN HUNGARY AND TIN THE SOUTH TRANSDANUBIAN REGION

Labour force can be segmented in various ways (global, sectoral, areal, actors in the labour market). "Unstructured labour market is mainly present among unskilled and semi-skilled labour jobs, which do not require expertise or only a low level of expertise. It is characteristic in this field that the relationship between employer and employee is the least institutionalised (odd jobs, seasonal jobs, undeclared labour market). The upper segment assumes appropriate qualification with a high level of requirements, accompanied with remarkable institutionalisation *(Csoba 2006)*. In our case over structured and global markets are important, with the remark that labour market is being transformed all over Europe.

The relationship of labour market and macro-economy is highly affected by the earlier crisis (2008-2009) and by the structural problems which can affect supply and demand processes negatively. The negative labour market demand resulting from the deceleration of economic development can be seen as a general European and partly a global process, which results in lower employment levels and increasing unemployment. Concerning macroeconomic indicators, Hungary experienced a very deep and determinant recession in 2009, therefore external and internal markets narrowed remarkably, consumption and production decreased sharply. Economic growth started again from the middle of 2010, and in the second half of the year the dynamic of the growth reached the pre-crisis level. In *2012* the decreasing of the volume of gross domestic product was below EU average (-1.7%). The production of agriculture, industry and construction decreased by 4.2% in total, while that of services by 0.5%. Domestic demand did not contribute to growth either, therefore real household consumption decreased and collaborative consumption increased only slightly. Nevertheless, *activity rate grew in 2012*; workforce expansion was experienced in the field of employment. According to the data of KSH's labour force survey somewhat less than two thirds of the population between 15 and 64 were present at the labour market as active job-seekers or employed *in Hungary in 2013*. At the same time, the activity rate of the population between 15-64 (*see Figure 2.*), in spite of the convergent

tendency, continues to be cca. 7% points lower in Hungary than the average of the 28 EU member states; and concerning the Visegrád Countries, Hungary also had the lowest figure in 2013 *(Ignits et al. 2014.)*

Figure 2: Economic activity of the population between 15 and 64 years, 2010-2014 (%)



Source: KSH mid-year labour market data 2014. (self-edited)

In the year 2012 the band of movement between quarters of *the number of employed persons* 15-64 widened to 145 thousand; while it was only 121 thousand in 2011 and 103 thousand in 2010. On average, the number of employed persons rose to 3 842.8 thousand in 2012, following a 1.7% (63.8 thousand capita) increase. *In 2014 the average number of employed* was 4 087.2 thousand, i.e. 220 thousand more than in the previous year. In the third quarter 111 thousand more were employed than in the I. one. *(see Chart 1).*

Table 1: Average number of employees 2010 – 2014

Year	Age group 15-64/thousand	Number of women/thousand
2010	3,781.2	1,773.0
2011	3,811.9	1,754.6
2012	3,877.9	1,795.5
2013	3,892.8	1,990.8
2014	4,087.2	2,041.9

Source: KSH mid-year labour market data 2014. (self-edited)

Upon further analysis of employment rates significant lagging can be experienced in the employment situation of certain labour market-groups. For instance, compared to EU28 data, in 2013 a 13.1% fallback can be seen

in the 15-24 age group, and 13.2% in the undereducated group (*see Chart 2.*).

Table 2: Employment rates in 2013: EU28 and Hungary

Age group	EU28/%	Hungary/%	Difference/%-points
15-24 years old	48.0	34.9	-13.1
25-54 years old	76.8	75.5	-2.7
55-64 years old	50.3	38.5	-12.00
Education			
Primary level	51.4	38.2	-13.2
Secondary level	69.3	64.9	-4.4
Higher level	81.7	78.9	-2.8
Sex rates			
Women	62.6	57.0	-6.0
Men	74.4	69.7	-4.5

Source: Hungary, 2013. Labour market KSH 2014

The amount of economically active population has not changed significantly in the *South Transdanubian* region. Besides the decrease in population only a 1.6% increase could be counted by. In 2013 in Southern Transdanubia 382 thousand people were working or job-seeking, their number was stagnating at the level of the previous year due to the slight increase in employment and a somewhat more considerable decrease in unemployment.[1] 53% of the 15-74 age group (and 62% of the 15-64 years old) belonged to the economically active population, while the nationwide economically active rate was 57% (62% of the 15-64 age group). *(Dél-Dunántúli Statisztikai Tükör [South-Transdanubian Statistics]2013/12. KSH)*

It is also a peculiarity of the domestic employment situation that there are huge differences in employment based on the level of education. The disadvantage of those with a low level of qualification is considerable, their employment rate of 37.5 is nearly 15 percentage points less than in the EU. Meanwhile the domestic degree of employment of 20-64 years old graduates (78.7%) shows much less difference from the EU average (81.9%). *(EUROSTAT europa.eu/eurostat/statistics-explained/index.php/Employment_statistics/hu)*

The rise in employment mainly involved graduates with college or university degrees, an increase of more than 4% has been experienced in their cases

1 Southern Transdanubia belongs to the less developed regions, both nationally and internationally. In the second half of the nineties, i.e. during the phase of accelerated economic growth, it *was not able to keep up with the other regions.* The causes can be found partly in the unfavourable infrastructural features, partly in the insecurity of the borderline areas and in the inherited poor industrialization.

within the last few years. Recordable rise also has emerged among those with secondary education; the number of those with apprentice or vocational school increased by 0.3%, while that of those with GCSE by 0.9% by the end of 2013. As for the rates of sectors in the national economy, it can be said that the number of employees rose mainly in the sectors of water supply, waste-water collection and management. It has to be remarked, though, that in these sectors there is considerable public employment, and although there are no particular data on this issue, it can be presumed that the number of employed has risen so significantly *due to the national public employment programmes. (Ignits et al. 2014.)*

Table 3: Number of employed based on qualification between 2010-2014. (in thousands)

Year	Primary 8 grades or less	Vocational	Secondary	College, university
2010	426.6	1,115.7	1,267.6	905.9
2011	420.5	1,100.1	1,271.2	967.2
2012	414.3	1,100.9	1,299.5	1,013.5
2013	411.1	1,132.0	1,311.9	1,037.8
2014	460.8	1,160.9	1,388.5	1,090.7

Source: KSH mid-year labour market data 2014. (self-edited)

In the year 2014 a rise by 80 thousand can be seen in the group of those with primary or vocational education due to the above mentioned public employment, at the same time data show employers' appreciation for higher qualification. *A 18% rise occurred among graduates compared to the year 2010.*

Another important participant of the labour market is the unemployed (job-seeker). The *average number* registered in the system of the National employment Service (Nemzeti Foglalkoztatási Szolgálat) *on the closing date* of 2013 was 527.6 thousand; that is, 31.8 less than in 2012 (*see Chart 4.*).

Table 4: Average number of the unemployed between 2009 and 2013[2]

Year	15-64 age group / thousand	Number of women / thousand
2010	582.6	277.6
2011	582.9	285.7
2012	559.1	283.3
2013	527.6	259.9

Source: Ignits et al. 2014.

2 The *average statistics for 2014* has not been published by NFSZ at the time of the writing of this study.

On the closing date of December 2014 391 thousand job-seekers were registered by the National Employment Service. The number of male job-seekers was 198.6 thousand, 51.5% of the total number of job-seekers. Regarding education and qualification, the number of those with higher education was 20.2 thousand. In the *Southern Transdanubian region* the number of registered job-seekers exceeded 48 thousand in 2013, which number decreased – considering the labour force dotation, remarkably – to 47.1 thousand by December 2014. *(Ignits et al. 2014)*

YOUTH IN THE LABOUR MARKET

The smooth transition *from school to the world of work* is one of the most important conditions of social adaptation. It can determine the social and labour-market position of the individual in the long term, therefore it is both socially and economically important for youngsters coming out of schools to emerge in the labour market as professionally prepared, and their knowledge and skills acquired at school must be in correspondence with technological requirements; they must possess adequate qualifications at the appropriate levels and convertible knowledge. The opportunity for the exploitation of expanded social security services – in contrast with older participants of the labour market – did not serve as a solution for their unemployment. *The opportunity for a smooth entrance into the labour force for the youth*, the promotion of that, and the number of young unemployed are some of the most important issues of employment politics. The developments and changes of youth unemployment directly reflect the tensions in the labour market *(Szellő 2014.b)*.

The study of the 0-14 age group in the demographic processes is also important because it makes the number of those entering secondary and higher education calculable. In the distribution of the population the highest degree of decrease can be seen here. The national rate of population decrease in comparison with the 2001 census data is 14.9%. It is even higher in the Southern Transdanubian region, nearly 16%. Several studies have examined the employment of early-stage employees, however, such domestic employment data cannot be measured accurately, because most recently graduated professionals do not enter into employment immediately, and neither have themselves registered at the employment service centres. Many are illegally employed or work abroad and thus are left out from the national statistical system. According to pointedly representative and also estimation-based surveys at most 10 to 20% of recently graduated skilled labourers are employed in their trade in Hungary, while in the western areas of the European Union this number is 40-50%. Considering the particular regions, it can be stated that the more developed a region, the higher these rates are *(Szellő 2014. b)*.

In the *2011/2012 school year* 567 thousand entered into secondary education in Hungary, nearly 11 thousand less than in the previous year. Roughly the same number of students (139 thousand) attended vocational institutions which do not provide a "matura" (GCSE) as in the preceding year, but their rate in secondary education rose from 24% to 25%. At the national level a drop emerged in secondary schools: 233 thousand (41%) entered vocational or trade schools, while 195 thousand enrolled for secondary (grammar) schools. *(Oktatási Hivatal [Educational Authority]).* Following from demographic trends, *in the 2013/2014 school year* 502 thousand students attend regular, full-time secondary education, that is, 38 thousand – or 7% - less than a year before. The reduction was the lowest in the number of secondary (grammar) school students (2.2%), and the highest in the number of vocational students (10.4%) *(KSH Statisztikai Tükör. Educational data 2011/2012)*

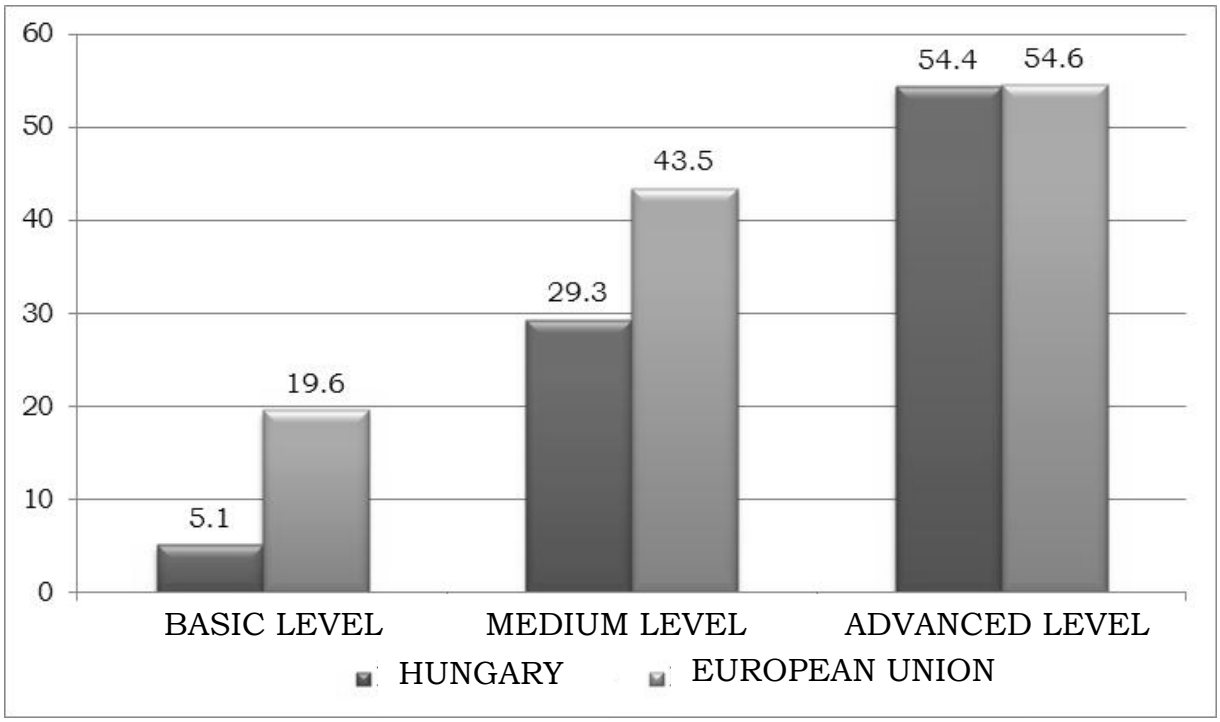
Youth unemployment has lessened in most EU countries, nevertheless, it is still high. Their situation is the worst in Greece and Spain where out of 10 youngsters nearly 6 are unemployed, but the rate is high in Cyprus, Italy and Portugal as well (nearly 40%). Austrian and German youth are the least exposed to unemployment; their rate is 8-9%. The domestic indicator ranks in the middle within the European Union; and is similar to the Irish and the Polish rates *(Magyarország, 2013. Munkaerőpiac KSH 2014).*

The number of registered young job-seekers in December 2012 was 66,841 (28.1% of the total number of registered job-seekers). 33% of registered young job-seekers had 8 grades of primary education or less; 20.7% had vocational education; 39.7% had secondary education; while *graduates made up 6.6%. In the same period of 2013* 66,025 were registered young job-seekers, which was reduced to 48,716 by December of 2014. The number of registered young job-seekers *in the South-Transdanubian region* in 2013 was 8,166; 16.8% of all registered job-seekers in the region. The rate of graduate youth was 5.5%, one percentage score higher than the national average.

The occupational choice stage of careers has extended, since the education required for later employment has become longer. It is an important factor, too, that *preparation for the career* has become significantly more complex than before. Education has been a field of several reforms during the last one and a half decades, however, the changes in the structure of secondary and higher level education has only partially met employers' demands. The cooperation between actors interested in education and employment has not improved, conflicts of interest have not moderated; and as a result the tensions between the supply and the demand sides have been persistently maintained and have surfaced with varying intensity. Measures contributing to youth employment should be aimed at strengthening connections between education/vocational training and the world of work, thus facilitating the

entrance into the labour market and the adaptation to the changing workforce requirements for young people leaving various levels of education and training. In experience, the acquisition of qualifications is proportional to employment rate; equal opportunities indicators become higher. The comparison in *Figure 3.* shows that the employment rate of youngsters with tertiary attainment approximates the European average.

Figure 3: Youth employment rates based on educational attainment in 2012



Source: EUROSTAT http://ec.europa.eu/eurostat/statistics-explained/index.php/Employment_statistics/hu

The 2013 data show that those with a university degree earn saliently more than employees with lower level of attainment, that is, labour market remunerates tertiary attainment. The average salary of those with a university degree (600 thousand HUF/month in the private, 335 thousand / month in the public sector) was nearly 1.5 times higher than the salary of those with a college degree; 2.5-3 times higher than of those with secondary attainment, and almost 4 times higher than those with primary attainment. *(KSH Statisztikai tükör 2014/19. Munkaerő-piaci folyamatok 2013)*

53 thousand *persons applied for – regular, full-time – higher education in the 2013/2014 school year*, 78% of whom were accepted (their rate was higher only in 2008 with 81%). 22 thousand applied for master training and 16 thousand were granted entry (70%). The expansion which started at the beginning of the 1990s in higher education decelerated in 2004, and the number of students decreased from the second half of the decade. In non-regular education this decrease could be experienced as early as 2005, in

regular education from 2009, which temporarily stagnated in the latter form in 2011, then decreased again. In 2013 the total number of tertiary students was 320 thousand, and 70% attended regular, full-time education. Educational fields also have gone through significant changes. The emphasis on teacher training and social studies had a fallback, while the rate of technological studies, health and social care, and to a lesser extent sciences, economy and management and services grew. Invariably, engineering had the highest rate in the educational structure in the 2013/2014 school term with 21%; economy and management came second with 17% *(see Chart 5.).*

Table 5: Distribution of students in tertiary bachelor and master training in educational fields (%)

Field	2005/2006	2013/2014
Teacher training, education	11.8	5.4
Arts	2.2	3.2
Humanities	9.6	7.5
Social studies	13.8	9.2
Economy and management	14.9	16.6
Law	4.5	3.6
Sciences	3.2	5.1
IT	4.4	3.6
Engineering	16.8	20.9
Agriculture	3.1	2.5
Health and social care	8.9	12.4
Service	6.6	7.9
Not classable	0.0	2.1
Total	100	100

Source: KSH Statistical Mirror 2014/39. Educational data 2013/2014

The *number of young graduate job-seekers* showed a decrease from 2005 (the beneficial effect of the introduction of the "START" card could be experienced in this), but after the break-out of the crisis it started growing again. The increasing trend from 2008 broke again in 2011, it turned into decreasing, followed by a slight rising in 2012. As for the annual average of 2012, in May 4.1 thousand young graduate persons were registered as job-seekers, 54% of whom with college, 46% with university degrees. It must not be forgotten when considering the labour-market situation of young graduates that the labour market can only absorb a part of freshly graduated youth in a way that they are forced to take such jobs that are not adequate for their attainment, thus pushing out those with a lower level of attainment but qualifying for the given jobs. The facts also refer to this, if we examine the jobs searched for by freshly graduated persons and their qualifications. In 2012 the most searched for job was general office worker. Next come teacher, primary school teacher and economist as the *most searched for* jobs

among them, in 2012 workforce demands for *4,051 graduate job-seekers* were registered *(see Chart 6.)*.

Table 6: Most demanded jobs and qualifications in demanding graduate youth in 2012

Demands for first-time job-seekers for specific jobs (FEOR 08); yearly average in 2012 (TOP 10)	Number	Demands for first-time job-seekers based on their qualifications; yearly average in 2012 (TOP 10)	Number
General office worker	312	Economics and management	204
Lower and upper primary school teacher	186	Law	100
Secondary school teacher	138	Communication	83
Economy analyser	132	Geographer	82
Environmental advisor	121	Environmental engineering	82
Agricultural engineer	121	Primary school teacher	81
Lawyer, solicitor	101	Cultural management	72
Market researcher, marketing	86	Biology	61
Travel organiser, advisor	83	Social pedagogy	59
Other office and management jobs	77	Bachelor Economist	55

Source: Ignits – Nagy 2013.

In 2013 the number of graduate entrants was 4,218. The composition of the jobs registered for them did not change essentially. The average job-seeking time for the freshly graduated is 3.4 months. This average varies in correspondence with the given fields: it is the shortest in the field of medicine (3 months) and the longest in the field of agriculture (3.9 months). Of course, besides the field, job-seeking period is also determined by geographical regions, the usability of the language acquired, work experience and competence.

EMPLOYMENT MOBILITY

The more developed European states gradually became migration target countries, while in the case of the newly joined member states a strong bidirectional workforce-movement can be seen at present. Regarding the Union as a whole, the forecast for 2010-2060 presumes a migrational excess of 60 million. In case of Hungary the forecast until 2060 estimates net migration numbers for about 12% of the population. The migration potential measured in 2012 (including the cumulative ratio of the three kinds of migration plan, which is 19% in 2012) shows the highest figure ever, thus every fifth Hungarian adult person plans to move abroad for a short or longer time (*for regional distribution see Table 7.*). Among the social groups contemplating a migration plan it must be emphasised that every second

adult person under the age of 30, that is, half of the 18-29 age group has such thoughts *(TÁRKI Monitor és Omnibusz felvételek, 1993-2012. március).*

Table 7: The weight of particular regions in employment migration 1999-2012

Region	Period			
	Before accession	After accession	During the crisis	Drop phase
	1999 Q1-2004 Q2	2004 Q3-2007 Q4	2008 Q1-2010 Q4	2011 Q1-2012 Q1
Central Hungary	9%	17%	12%	12%
Central Transdanubia	17%	13%	11%	13%
Western Transdanubia	46%	36%	32%	26%
Southern Transdanubia	7%	8%	12%	15%
Northern Hungary	11%	17%	13%	13%
Northern Plains	5%	3%	14%	12%
Southern Plains	4%	6%	8%	8%
Regions total	100%	100%	100%	100%

Source: Hárs 2012

According to the statistical survey by KSH cca. 350 thousand people work abroad. According to MNB (Hungarian National Bank) estimations this number is nearly 400 thousand *(Bodnár – Szabó 2014).* Comparing this number with the rates developed at the drop phase, presumably 50-55 thousand people are involved in employment migration in the Southern Transdanubian region *(see Table 8.)*.

Table 8: Attainment rates of Southern Transdanubian migrants 1999-2012

Period	Attainment				
	Max. primary/%	Apprentice/%	Grammar school/%	Vocational and trade school/%	University, college/%
Before accession 1999 Q1-2004 Q2	22	33	26	15	4
After accession 2004 Q3-2007 Q4	39	16	18	16	11
Crisis 2008 Q1-2010 Q4	37	20	19	10	14
Dropout phase 2011 Q1-2012 Q1	26	24	18	9	23

Source: Hárs 2012 (self-edited)

Examining the educational attainment of those involved in migration for employment, a rising tendency can be seen among those with tertiary attainment, while the rate of those with maximum primary education is relatively high. At the same time it also can be seen that recently (2011-2012) vocational rate has also risen. The rate of unskilled and skilled

persons changed from 2004-2007's 39-61 percent to 26-74 percent, which might also have included the fact that a part of unskilled persons did not find their accounts and returned to their residence. Regarding the *number of commuters*, according to the data of KSH for the first nine months of 2013, 97.5 thousand people worked abroad, 23.5% more than in the same period of the preceding year; the number increased by 18.3 thousand within a year. These were the persons who had not worked abroad for a year, and a relative in a Hungarian household gave account for them. According to MNB (similarly to KSH's data) the number of commuters was approximately 100 thousand, and the Southern Transdanubian represents 16% of this number, that is, besides employment migrants about 16 thousand cross-border commuters can be taken into account *(Szellő 2014.a).*

EMPLOYMENT FORECASTS

According to the preliminary calculations of the Economic Research Institute (Gazdaságkutató Intézet) *employment between 2011 and 2015* would rise by cca. 3.2% in Hungary, which means a 0.6% annual increase on average.[3] The number of employed might rise by 125-130 thousand. Each manufacturing sectors will lose numbers because of the technological improvements and the crowding-out effect of the increasing capacity requirements. The economisation of workforce resulting from the technological shift exceeds every other influences. It is not realistic to count on the spreading part-time area in this field. Industrial, economic service, entertainment, culture and sport sectors will play an even more important part in the *increase of workforce* numbers than in the previous period. A favourable influence of the increasingly strict regulation and supervision can be counted on in this period as well.

The increase in workforce number in the economic service sector is fed by the relative cheapness of highly qualified intellectual labour in comparison with more developed countries. Its inherent advantages expectedly will come to surface then. In the financial and insurance sectors the tendencies of the previous period may continue, that is, there will be certain redundancies due to technological and IT development. Within public services the numbers of administration and enforcement will decrease due to the government reform and the transformation of the regional administration and border management. Capacity building in education – despite the decrease in the number of children – might occur due to the spreading adult education, however, a further recession process may hamper it. There are a lot of tasks in the continuous skill maintenance of employees and there will be even

3 It must be remarked that this growth partly has been realized, but its evaluation in content and segments is not the task of this study (authors).

more in relation with the rising of pensionable age, which will need larger capacities than now. Further increase in the number of labour force will be necessary in the health and social care sectors because of the unsatisfying health conditions of the population and of the care of the ageing population *(Adler 2008)*.

In terms of staff number employees employed in 1-9 person companies will continue to establish the largest group, but their weight will somewhat decrease. The earlier functions of employment in this category will remain. In this category the rate of economic services, commerce and catering will grow further. The total employment rate of small and medium sized enterprises employing 10-49 people together will not change, but an internal redistribution will happen between them: the rate of 10-19 enterprises will decrease, while the rate of 20-49-person enterprises will increase. Their employment capacity may somewhat improve due to financial support, but they will not have a determining position in employment. The employment weight of the enterprises employing 20-249 or more than 250 people will increase further, though only slightly, and these two categories will be determinant from the aspect of employment. Most probably there exists a "critical mass" in employment, too, above which the advantages resulting from various forms of support, social division of labour and other aspects (adaptation to the market, optimisation of costs, etc.) can be made good use of *(Adler 2012)*.

According to the surveys of *3k CONSENS Iroda* substantial internal changes in the professional structure will happen by 2015, due to developments in labour organisation and technology. These changes will affect more than 300 thousand employees in total. In 90-95% of the cases it would mean that those who are still working-age by the end of the period must get into one qualification level higher in a way that the same number of people with a lower level of qualification will lose their jobs. 40% of employees who are forced to change their professional level due to the changes in work organisation and technological changes will get from white- or grey-collar jobs to jobs requiring tertiary attainment. 60% will face another requirement: unskilled employees or employees not having adequate skills will need to acquire the necessary qualifications *(Dávid 2007)*.

According to *surveys on demand in sectors* the balance of positive or negative demand resulting from conjuncture/downturn, i.e. the increase in the number of the employed by 2015 is 185 thousand. These assumptions predict an absolute increase of 185 thousand with a growth in work force demand of 275 thousand and a loss of 90 thousand.

In the examined period we must count with a demand for 1.3 million entrants and for a further 100 thousand to be retrained; and with

approximately 100 thousand working-age "new" unemployed. The calculation is based on the assumption that only 50% the workforce made redundant due to the *change in the professional structure* and in the conjuncture-sectors will be able to get employed by retraining or otherwise. As for the demand for additional labour force (new entrants) making up 33% of the total number of the currently employed, i.e. 1.3 million people, on average 28 percentage points come from demographic processes and 5 percentage points from the predicted sectoral conjuncture

The current 42-58 percent rate of intellectual and physical workers will not essentially change by 2015. Expectedly the rate of those with tertiary attainment will increase by 1 percentage point and the rate of intellectual workers with secondary attainment will decrease by 1 percentage point. The rate of skilled physical workers will increase by two percentage points, basically to the detriment of machine operators.

The already mentioned *areal precalculations* proceed from the assumption that population will sharply decrease during the next 10 years. However, it does not question the employment level that seems to be achievable now, moreover, it will contribute to the realisation of a high employment rate. According to the basic presumptions this level of employment can be maintained until 2021. The more significant problems are expected after that date, since population may shrink to 7.5-8.5 million by 2050, and the numbers in the age groups most frequented from the point of employment will have a sharp drop as well. According to forecasts employment rate can increase by 100-200 thousand from the 4.4 million in 2006 during the next 10 years, in spite of a 300 thousand decrease in the 15-64 age group. By this the national employment rate could be 68-70% by 2016. Areal forecasts for the period of 2006-2016 has been prepared in three varieties.

- The so-called "0" version considers how the demographic and attainment structure of the population changes the composition of the economic activity types of the population, with leaving earlier correlations unchanged.
- The second version asserted social preferences. This proceeded from two assumptions. One of these was that the differences between today's employment rates based on educational attainment etc. will decrease. The second one integrated the expected effects of the changes in pensionable age into the prognosis.
- The third one was based on already prepared demand surveys. According to these approaches 65.5% was predicted for 2011, 66.8% for 2016; while according to social expectations these numbers were respectively 66.5% and 70%; and the indicators of demand analyses counted for 64.8 and 68.4 percentage scores respectively.

The labour force survey sizes up the greatest part of actual employment indeed, but the volume of hidden economy, and particularly of *black, i.e. undeclared* employment can only be deduced by collating various kinds of information. Researchers estimate the rate of undeclared employment at 18%, which means approximately 660 thousand employed. The rate of males is bigger than on average.

According to *the forecast of EUROSTAT prepared for the expected changes in employment* the increase in employment at EU-level will slow down between 2010 and 2020 in comparison with the previous decade that can be characterised by conjuncture. The averagely only about 0.3% increase is only a third of the annual employment-growth rate between the millennium and the beginning of the global crisis. The number of employed is expected to reach its peak at EU-level in 2022, then it will decrease by 15-16 million until 2060. According to the EUROSTAT precalculation *the number of the employed in Hungary can reach its peak in 2027* with 4 million. Subsequently a 23% reduction is forecasted by 2060. This progress is obviously connected to the population decrease and does not directly affect the development of the employment rate, which is increasing in the whole forecast period. According to Union calculations domestic employment rate can increase to 65% by 2020 and to 67-68% by 2060.

STRATEGIES WITH A SPECIAL REGARD TO YOUTH AND GRADUATE EMPLOYMENT

The purpose of the *European employment strategy* is the increasing and improving employment within the Union. Europe 2020 programme has three priorities in view mutually reinforcing one another, here the aims related to employment and education are presented:

- Intelligent growth: the creation of an economy based on knowledge and innovation.
- Sustainable growth: a more resource efficient, environmentally friendly and competitive economy.[4]
- Inclusive growth: promoting an economy delivering high employment rate and social and territorial cohesion.

4 Sustainable growth is not aimed directly at employment and education purposes. This priority includes the utilization of Europe's leading role in the competition for new processes and, among other things, the development of environmentally friendly technologies, the acceleration of intelligent networks using ICT, the utilization of European networks, and the reinforcement of the competitive advantage of our enterprises, primarily in manufacturing and among SMEs and by making consumers appreciate resource efficiency. This approach facilitates for the EU to prosper in a low carbon emission and limited-resource world and to prevent environmental damages, the reduction of biodiversity and unsustainable use of resources, as well as to strengthen economic, social and territorial cohesion.

Within the framework of *intelligent growth* the employment rate of persons aged 20-64 must be increased from 69% to at least 75% by an increased employment for women and older employees and by the increased integration of migrants in the labour market. Regarding educational attainments a goal needs to be set which – by reducing the number of drop-outs from 15% to 10% - is able to handle the problem of school drop-outs, and *increases the rate of persons with tertiary attainment from 31 to at least 40% by 2020*. It is important to ensure that enough youth acquire mathematics, engineering and other scientific degrees, and that creativity, innovation and enterprise be in the core of school curricula

One of the pivots of intelligent growth is the *"Youth on the move"* programme. The aim of this initiative is to improve the capacity of Europe's higher education institutions and the standards of training and education at every level all over Europe, and the employment opportunities for the youth by combining capital and excellence and promoting the student and intern mobility.

Inclusive growth means empowering people by means of high employment rates, investment into improvement of skills, overcoming poverty, modernisation of the labour market and through educational and social protective systems to be able to estimate and handle changes and to create a more cohesive society. It is also a remarkably important point that the advantages of economic growth should reach the whole territory of the European union, including the outermost areas, thus strengthening territorial cohesion. This growth also means that each citizen must be able to access opportunities in all their lives. Europe must completely utilise its labour force potential in order to be able to face the challenges set by the ageing population and the increasing global competition.

A prioritised initiative of inclusive growth is the programme called *"Agenda for new skills and jobs"*. The goal of this initiative is the modernisation of the labour market in order to raise employment levels, social security, labour-market flexibility and productivity, and to reduce unemployment. Its tasks include: increasing flexibility and security; meeting the demands of new health and safety risks at work; aligning labour force supply and demand and the new migration policy; strengthening co-operation between labour market institutions, including the national employment services of the member states. It is a priority to make primary, secondary, adult, vocational and higher education ensure the acquisition of the skills necessary for further education and participation in the labour market, and to elaborate on the common language and means of education, the European framework of skills, competences and occupations (ESCO).

Hungary's employment strategy for 2014-2020 is in accordance with the European directives, while having several specifics. The ex ante conditions of the execution of this strategy are the following:

- The National Employment Service must be enabled to provide personalised, active and preventive labour-market tools and services even for the most endangered groups.
- Strategic policy framework for facilitating employment for the youth: laying the foundations for the introduction of the Youth Guarantee programme.
- Development of the strategy for life-long learning, including the improvement of the quality and efficiency of the vocational education system.

When determining goals and priorities in employment policy, the strategy regards the target-priority structure of the decree on the European Social Fund after 2014, and its regulations on the utilisation of resources. Based on these, *the priorities of the employment and education policy* for the 2014-2020 programming period are the following:

- *Facilitation of entering the labour market*, with a primary focus on the disadvantaged unemployed and inactive persons. Development of active labour-force market tools aimed at their employability, the improvement of the structure and labour-market services of the National Employment Service realising the latter aims, and ensuring employment benefits aimed at facilitating entrance into the labour market will be realised.
- *Improvement of the labour-market integration for the youth* can be promoted by Youth Guarantee programme, which includes a number of support and service forms, e.g. active labour-market tools and services for the youth, internship programmes, supporting entrepreneur training, programmes of non-profit organisations supporting youth employment.
- In the framework of *encouraging life-long learning by supporting and improving vocational and adult training* the planned improvements are aimed at the support of dual training, the improvement of the standards of vocational training, the support of adult training programmes – especially in order to improve the employability of persons with a low level of attainment and in public employment – and the improvement of the system of adult education.
- The planned improvements aimed at *improving labour-market adaptation of employed persons and enterprises* target at encouraging flexibility of jobs, fighting against undeclared employment, improving healthcare and safety at work, and supporting the programmes of social partners.

— Within *the improvement of social economy,* employment policy focuses on the improvement of social enterprises and transit employment programmes, also with a plan of supporting complex employment programmes of NGOs.

In relation to the requirements of Europe 2020's intelligent, sustainable and inclusive growth, the national employment policy strategy defined the employment rate for persons aged 20-64 as 75 percent, the reduction of the number of early school drop-outs to 10%, and *the rate of tertiary attainment* in the 30-34 age group as *30.3%*.

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THE EFFECTS OF GOVERNMENTAL PREFERENCES FOR THE CAREER CHOICES OF APPLICANTS TO HIGHER EDUCATION

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ABSTRACT

The aim of this study is to examine the choices of youth entering higher education in Hungary. Within this fairly complex decision problem the focus of the study is to point out the effects of governmental provisions on career choices. The analysis shows with the help of 13 years of data where the effects of governmental measures manifest in the choices of applicants. Due to the nature of the topic and the quantity and quality of the available data the analysis mainly is based on descriptive statistical methodology. The foremost finding of the study is that although the amount of fees have risen significantly, the government is not able to have a significant influence on the choice of academic fields in the short term by means of financing varying in each major.

The analysis is based on the data by the Graduate Career Tracking System of the University of Pécs, and the statistical database on applicants of Oktatási Hivatal (Hungarian Educational Authority).

INTRODUCTION

Are secondary school students able to estimate the opportunities to choose from in a reasonable way? Are they able to decide which academic field is the most appropriate for them in every respect on their own? If not, who is supposed to support them, to lead them in their decisions? Their teachers, their parents, or probably the local government? It can be presumed that while the former know the individuals, their aptitudes and talents, the latter has a more correct insight into the current state and future development of the labour-market. Which is the most appropriate agent for supporting the decision of the student entering higher education?

Research in decision-making and human ethology with various approaches have increasingly emphasised the anomalies in our decisions during the last decades. A series of laboratory experiments confirm the intuitive assumption that certain decisions, or the consequences of these decisions often have utterly negative influence of our well-being in the long term *(e. g. Thaler – Sunstein 2008)*. Such a decision is for instance when a student chooses a university programme led by their momentary emotions, without any reason and justification. It is easy to imagine that such an emotional decision is detrimental to their well-being, for example they will have hardships in finding a job later, or a lower career income will be realised. If we accept the fact that we are not necessarily able to represent our preferences adequately, it is a logical conclusion that significant improvement can be realised in our well-being with the help of a third party agent. This type of thinking brought the new, libertarian paternalism to the fore, which mainly can be connected to *Cass R. Sunstein* and *Richard H. Thaler*. The notion of "libertarian paternalism" refers to the fact that this external, helping agent tries to steer the person in a way that while he respects and leaves the freedom of choice, he tries to ensure the choice of the best outcome, which is the most beneficial for the well-being of the individual. The question in the focus of this study is whether in a specific case, namely the application of students to higher education, the influence of some outside provision made by the government can be seen in the decision of the choice-makers. I will present how the governmental preference[5] to be enforced by means of financing can be manifest in the choice of individuals.

LITERATURE REVIEW IN THE FIELD OF THE EXAMINATION OF STUDENTS' CHOICES AND THE EFFECTS OF GOVERNMENTAL INTENTION ON DECISIONS

Although the presence of government in higher education and the decisions made by students are issues dealt with from several approaches, the aim of this study is to spot the specific diverting influence of the governmental intention in individual decisions. The relevant literature typically approaches the issue from public economics on the one hand, which examine the effects on changes in central financing on the participation in higher education, and on the other hand it analyses students' choices. Within the latter category there are aggregate analyses, such as articles dealing with higher education

5 In accordance with the terminology applied in (libertarian) paternalism, by governmental preference or governmental intention I mean the directives and value-commitment communicated explicitly and represented implicitly in the provisions by the central administrative body of a state.

rankings, and studies describing the decision processes of those who wish to enter tertiary education.

The basic ideological approaches supporting the role and importance of the state in higher education are traditionally built on arguments denoted as *left- and right-wing (e.g. Doyle 2007; Dar 2012 etc.)*. Left-wing reasoning emphasizes the significant role of the state in financing, since it is the support for the groups in need, with a social-economic status underrepresented among students, that would create bigger equality. The right argues controversially, in favour of the increased involvement of private and other market resources in financing, since the financing of higher education actually means a disproportionate resource transfer from the great part of the population to that group which has access to tertiary education services[6]. Besides redistribution, the other theoretical dimension along which education can be characterised is to what extent the financed attainment can be regarded as public or as private good. Generally it can be said that liberal ideology rather argues for the public good nature (economic development, skilled workforce, better social indicators, etc.) of higher education, and consequently for public financing, while conservative agents emphasise private good features improving individual well-being (higher salaries, personal health, better conditions of life, etc.). Confirming these ideological debates, empirical studies examining the role of the state in higher education have found that strategies on tertiary education are rather determined by political than by economic processes *(Dar 2012; Doyle 2007).* Diverging from the ideological aspect there are results of micro-economic approaches as well *(e.g. Peltzman 1973)*, which focus on the effects of state financing or monetary support of equivalent value on consumption.

The main difference between the above listed researches and this study is that while the former ones observe the presence of the sate in tertiary education and the factors determining it, here we focus on tracing the influences of the preferences of the government towards certain academic fields and the changes in financing for this purpose on students' choices. In this respect the literature studying student decisions is closer to the topic. These are researches aimed at the aggregate analysis of students' choices represented in hierarchy rankings, and at revealing the factors affecting students' choices by means of questionnaires.

During the last years a shift could be observed in the – primarily domestic – studies analysing hierarchic rankings. These rankings as the representations of students' choices can be regarded as fundamentally

6 Peltzman (1973) draws attention to the fact that state-subsidized education as a gratuitous service stands for a higher degree of private consumption than monetary support of identical value, e.g. grants – and in the long run it reduces consumption.

problematic in their methodology, since they are primarily based on input data. The number of applications has a significant role in ranking, however, applicants themselves are those that utilise these rankings when creating their own application preferences *(Török 2006; Török 2008).* This is why *Kosztyán et al. (2013)* attempt to map up the actual ranking preference of students with a different approach. Their aim is to reveal the intentions of applicants as completely as possible by using the tools of the graph theory. By applying various methods they are able to create much more complex picture of the individuals choosing various fields than only a summary of applications. Ranking is not able – and it is not its goal – to present the changes in governmental preferences. They are able to indicate changes in the relations of different universities and academic fields, but shifts in and between these fields require further analyses. The research moving towards the focus of individual decisions, the analysis observing university choices with a methodology similar to the above and utilising graph theory, in which the authors *(Telcs et al. 2013)* come to the conclusion that while the first choice is made carefully, considering a variety of aspects, students do not make so much effort in case of further choices.

The literature providing a more thorough analysis of the decisions connected to tertiary education searches for the answer to question what aspects are those on which students' choices are made and how this choice is formed. The most frequently applied model differentiates between a number of stages in decision-making. The complete process of decision is divided into three stages: forming of preferences (1), acquiring information and exclusion (2), actual decision (3) *(e.g. DesJardins et al. 2006; James et al. 1999; Jackson, 1982). James et al. (1999)* attempted to survey the driving forces in the third stage with questionnaires. In their descriptive analysis they excellently summarize both the factors affecting the youth facing higher education choices in this extremely complex decision-making situation, and the decision-making process itself. By means of questionnaires they identify influencing factors regarding both for universities and for particular majors. As for universities, such are the appreciation of the institution, the offered programme, and the fitting of the individual into the system. When choosing courses, programmes, it is important for students to compare the expected difficulties with their own abilities (i.e. how likely it is that they can accomplish the programme), the perceived quality of the education, and advice by outside persons. As an interesting, but not completely obvious result, the authors find that the motivations occurring in the choice of the courses or programmes are stronger than those related to the choice of the university. This result also supports the assumption that the study of the changes in filed choices and the factors affecting them is relevant. *James et al. (1999)* highlight that students can be regarded as under-informed in their

choice, they form their opinions mostly based on information spreading from mouth to mouth among their peers. So their decisions indeed can lead to such sub-optimal outcomes which can be evaded by them along the principles of libertarian paternalism if an outside influence leads them towards a more appropriate choice.

It can be assumed that we automatically esteem secondary school-leaving students as less competent decision-makers, we regard the role of their environment (e.g. parents) as obvious in their decisions, even beyond the issues (e.g. financing) affecting them directly. However, among the studies on adolescents' decision-making we find results which show that not only *cognitive values* such as the perception and evaluation of options and information finding improve together with age *(Klaczynski et al. 2001)*, but according to *Jacobs and Narloch's* findings *(2001)* the degree of *cognitive distortion* also increases. This result also confirms that adolescents cannot be obviously seen as less competent decision-makers than young adults.

The analysis in the next chapter presents trends primarily by higher education programmes based on the number of applications, seeking an answer for the question whether the explicitly communicated preference and the preferences motivated through financing has an influence on applicants. Then, with the help of the Graduate Career Tracking System of the University of Pécs, we can see in an even more differentiated way whether the changes of the factors playing a part in making the decisions correspond to the development of governmental intentions.

ANALYSIS OF STUDENT'S CHOICES

As the fundamental background of every analysis concerning higher education, before focusing on the actual research point, it is necessary to mention the general tendencies characterising the sector *(Barakonyi 2010)*. Hungary is characterised by a decreasing number of births and an ageing society, and these will be placing an increasing pressure on the participants of tertiary education. After 1990 dynamic increase was experienced in the number of entrants into higher education, the maximum number of participants was 424,000 in 2005, however, since then a continuous decrease has occurred corresponding to the demographic trend *(KSH 2014).*

In this general decreasing trend the government wishes to reach a structural shift, in which it intends to raise the number of those completing education in the fields of engineering, medicine and sciences, and it wishes to improve the standards of these fields. The main question raised with respect to this study is the presentation of a practical application of libertarian paternalism. This approach primarily suggests *light* means to steer decision-makers towards the options that improve their well-being the most in the long term,

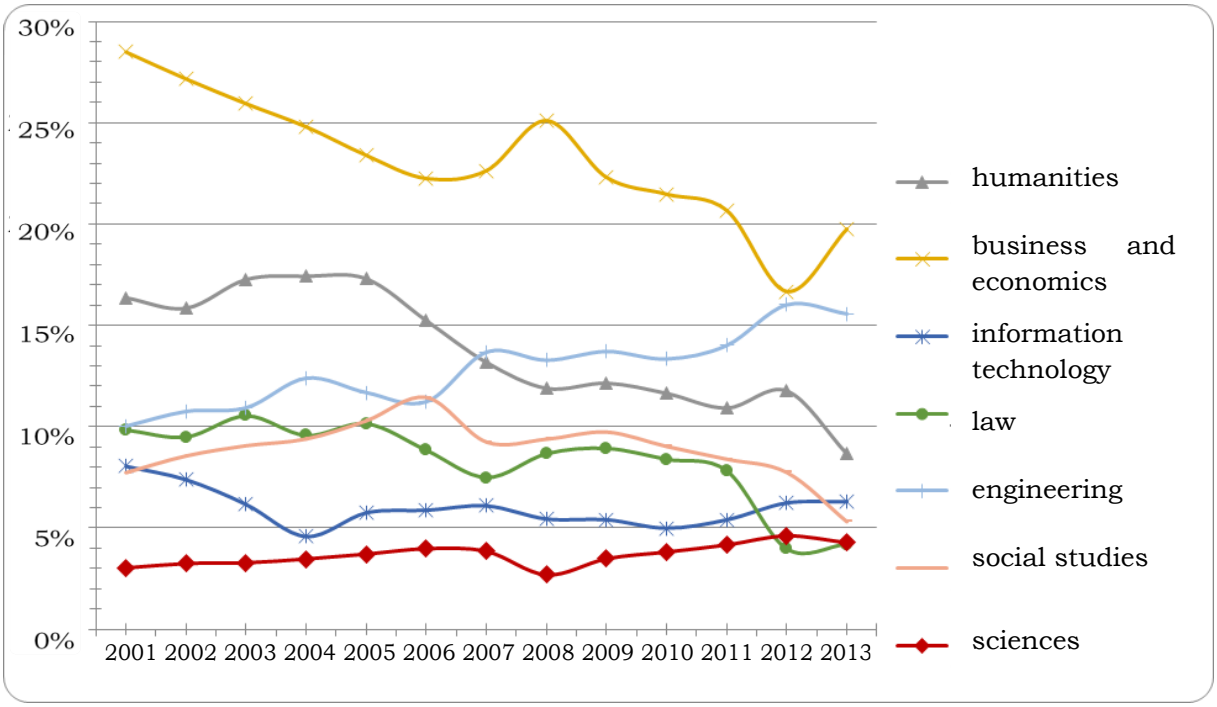
which ensure the freedom of choice to the highest possible degree, while at the same time provide protection against decision anomalies *(summary in Hungarian e.g. by Szabó, 2009)*. Such tools can be for example the paternalist information telling *(e.g. Jolls et al. 1998)* or the conscious default planning *(e.g. Thaler – Sunstein 2003)*, but harder tools also can occur, such as the financial incentives discouraging the consumption of harmful things (*sin taxes – Gruber – Kőszegi 2001)*. The changes introduced in financing and in fixing quotas belong to the latter, hard means in the system of libertarian paternalism.

Below I will present a table serving as a preliminary analysis on how the government is able to enforce its preferences for defined academic fields regarding the decisions of applicants. Although it is a fact stated in law that the definition of quotas[7] is the task of the government, in order for this fact and other tools (regulation, support, promotion, etc.) to be examined for efficiency, first it has to be shown if governmental intention is able to affect individual decisions at all.

The source of the data was the database of Felvi [the centralised Hungarian application system], since this database offers such a detailed breakdown that makes analysis according to academic fields and application ranking possible, among other things. The consideration of first-place applications is justified by the fact that this category is the most likely to map up the most preferred student choices. It is the most relevant variable also because after the finalisation of the application the higher education information system executes automatic collocation, it assigns the applicant to the first choice meeting the requirements listed in the Act on Higher Education, and does not allow for the other, also available options. Consequently, applicants rank the course first which leads their preference list.

7 "The Government shall set the quota for newly admitted students annually, the year before the due year, for each field of training and according to the training schedule of the programme. Such decision of the Government shall be made with a view to the involvement of labour market players as defined in this Act, and in accordance with labour market forecasts, the data of the career monitoring system, and the assessment of the number of unemployed professionals…" (Act CXXXIX of 2005 on Higher Education)

Figure 1: Distribution of fields in first-place application choices



Source: Self-edited, based on Felvi data

On the website of Felvi data have been available since 2001, and also in breakdown according to cross-semester, regular and subsequent applications since 2008. *The first table* shows the distribution of students applying for the fields in the first place. There is a visible decrease in the fields of economics, humanities, social studies and law between 2002 and 2006. This continuous decrease can root in the structural change that until 2002 a big part of the applicants came from an older age group that had completed secondary school earlier. Besides, the expansion of institutional capacity enabled the admission of earlier unsuccessful students, but with the disappearance of the puffer the base of those wishing to get into higher education necessarily started to decrease.

The educational structure also changed in the observed period, and the enumeration of applicants was not completely consequent, however, it could not be seen in the available data. The increase from 2008 can be explained by the fact that applicants to multi-level education emerged. Since e.g. economic studies benefited from the change in terms of numbers, it is not obvious if this increase is real or only the result of the fact that students in MA/MSc programmes counted as applicants twice. Besides, while it is difficult or even impossible to enter master courses of other programmes without a specialised basic training, certain fields of economics can be open for anyone with a different bachelor training. Thus, from this aspect, the leap in the data in 2008 can be regarded as an artificial boost. Data processing also adds to this, since Felvi started to differentiate between

applications to cross-semesters and subsequent applications from regular ones in that year. That is, one of the big jumps can be explained by the adoption of dual higher education.

However, the year of 2012 shows another significant drop in the field of economics, and in this case it seems obvious that the modification of the act on higher education restricted the number of state-funded students, and this fact affected applications. Some of the fields in *Fig.1.* were significantly affected by this intervention. It is not expedient to examine the structural break due to the short dimension of time. However, in spite of the seeming leaps and fall-backs the trends are solid, no significant deviation can be observed in the examined period.

In 2012 the rate of economic studies dropped by 4%, as well as the field of law. Engineering (2%) and sciences (0.4%) increased in accordance with the expectations, however, the rate of humanities also moved upwards slightly. In the background of the latter there can be the fact that the specialisation of secondary school studies does not allow for instant response and changes in the plans, even if applicants were willing for it. Therefore they can align their application to their already existing knowledge base. In case of the faculties of humanities there is often no more requirement than those subjects which are otherwise compulsory for the school-leaving exam. In this respect it is important to examine the distribution rates of all applications, however, this study will not present it due to lack of space. If it can be supposed that students cannot change their field upon hearing such news, they still can choose the strategy of applying to programmes promising easier admission, which at least partly fit in their special areas.

After the changes of application in 2012, the number of applications started to decrease in the fields of engineering and sciences in the 2013-2014 school year, while at the same time it increased in the fields of law and economics. There are a number of explanations for this phenomenon. For example it is possible that governmental provisions shocked households only in the short term, and the number of applications return to the long-term trend. The studies examining students' individual decisions *(Jackson 1982; James et al. 1999)* indicate that from the students' point of view the formation of preferences and the exclusion of certain options happen earlier. The finding of the study by James et al. (1999) is that the choice of courses or academic fields is the most decided and least hesitant area of decision. However, the return of 2013 can also be explained by the fact that some supplementary amount of applicants also got into the system, that is, individuals that were not admitted to the given fields in 2012 (or wished to attend state-funded education exclusively). Their presence can increase the number of applicants in particular fields significantly.

Towards a more differentiated approach of students' choices

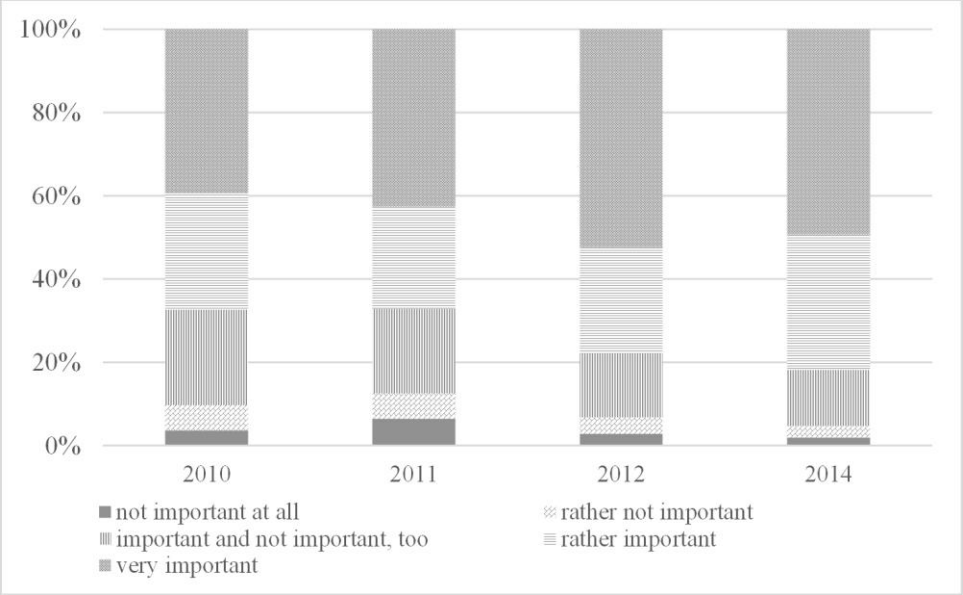
The deeper analysis of students' choices is based on the data recorded by the Graduate Career Tracking System of the University of Pécs. The relevant items of the questionnaires are available for two-five years[8] for the period between 2010 and 2014. This period is optimal for the study of the effects of the changes in financing.

The number of respondents fluctuated between 1,390 (2013) and 3,278 (2011); 11,337 responses are available for the five years in total. To confirm how much the University of Pécs can be regarded as the most preferred choice among the respondents, I approached with the data available for 2011 and 2012: in these two years 83% of the 5,004 respondents applied to the UP in the first place. So the analysis of the questionnaire can be considered adequate on the basis of arguments in favour for the earlier mentioned analysis of first-place applications from the aspect of qualitative analysis of application choices.

It is important to highlight that the distribution of applicants according to funding did not change significantly; 70-73% attended state-funded education, and only 27-30% were fee-paying students. Nevertheless, *fig.2.* shows a definite increase in the judgement of the significance of the amount of the tuition fee between 2010 and 2014. If the two top categories ("very important" and "rather important") are merged, this tendency is even more definite: the rate of those regarding the amount of fees as important rose from 67 to 82%. The responses to the question whether students "have financial difficulties" in the 2013 data collection of Eurostudent show significant difference in case of state-funded and fee-paying students. Those attending fee-paying programmes report having financial problems significantly more. This increase is obviously the result of the rise in financing burdens. The level of living costs and the significance of the number of state-funded places is available only for 2012 among the responses. In the case of the similar question for 2011 and 2012 ("To what extent did low costs and high grants play a part in the choice?) only 14-16% answered that this item "played an important or rather important part" in their decisions. At the same time, in 2012 35% of applicants found low costs of living very important, and the number of state-funded places played a very important or rather important part in the decision of 56%. This high rate refers to the fact that although the measures of the government did not change the choices of academic fields significantly, it was far from being ineffective – it is likely that the significance of the position and the lobbying power for winning quotas of universities.

8 The changes occurred due to the changes in the structure of the questionnaire.

Figure 2: The importance of the level of fees



Source: Self-edited; based on GCTS data

It is worth to digress from ex post analyses somewhat, and to approach the means of intervention of the government from the persons and means used for acquiring information, implying ex ante propositions by identifying the most frequented information channels. Table 1. shows the sources applicants use for obtaining information. No stable conclusions can be drawn as for how well-founded the decisions regarding application are on the basis of these responses. As it can be suspected from the table, and becomes obvious from the particular answers, 90% of the applicants used more than one sources of information. The finding of James and colleagues (1999), namely that the main basis of orientation is the information coming from friends and acquaintances can also be seen here, since it has a high ranking. At the same time, the fact that certain sources were marked as having larger while others as smaller weight can be caused by the abstention from non-conform answers and the backlash of the order of the items in the questionnaire. The clear dominance of Felvi.hu may incite the bodies wishing to steer decisions to share relevant information in this forum.

Table 1: Information sources of applicants

Means of information	**Response rate**	**How often did they used this means?**				
		Never	**Few times**	**Several times**	**Often**	**Very often**
Felvi.hu	37.8%	11%	9%	14%	20%	46%
pte.hu, faculty websites	37.7%	12%	10%	19%	27%	31%
Friends, acquaintances	37.6%	19%	11%	24%	27%	19%
Secondary school presentations	37.4%	41%	9%	17%	18%	15%
Parents and family members	37.5%	34%	13%	21%	18%	14%

Means of information	Response rate	How often did they used this means?				
		Never	Few times	Several times	Often	Very often
felveteli.pte.hu	29.6%	48%	14%	17%	11%	10%
Other websites	36.8%	46%	16%	20%	11%	7%
Educatio exhibition	37.4%	77%	9%	6%	4%	3%
UP online student recruiting game	37.4%	84%	6%	5%	2%	2%
Other	35.0%	90%	3%	4%	1%	1%

Source: self-edited; based on GCTS data

These few figures and table are only applicable to answer some questions arbitrarily considered relevant, and in certain cases within a limited scope. Thus the analysis is rather applicable for supporting an individual point than for outlining a complete situational picture.

CONCLUSIONS AND PROSPECTS

The present analysis can only be regarded as a preliminary examination. The aim of the study, on the one hand, is the testing of a new theoretical approach, namely (libertarian) paternalism, empirically; and on the other hand, a deeper analysis of students' decision in order to spot the effects of governmental intentions.

Basically, regarding the main trends, even the curtailing of financial support, which counts a s a “hard” incentive, was not able to influence the decisions of entrants concerning academic fields. As Polónyi (2013) put it: “… despite all the efforts made by the government – pushing forward productive fields – the structure of admitted applicants barely have changed, which shows that the preferences of the persons wishing to enter higher education are extremely stable.” Nevertheless, the volume of financial burdens is an important item among the factors affecting decisions on application. In view of this it can be worth to revise the successfulness of the means applied to reach the goals (e.g. to increase the number of students attending training in engineering and sciences).

Of course it also needs to be taken into consideration that reaction to governmental steps is slow, if there is any at all, and it is especially problematic in identifying influence that during this period several other influences can affect the individuals making their decisions. Besides, the bulk of these influences cannot be quantified. Another important problem is whether the regulation can still be effective in light of the controversial and fairly inconsistent measures experienced in the last few years. This can make applicants resistant to governmental provisions not only directly but also indirectly, through the particular institutions. The thorough analysis of the decisions made at institutional level goes beyond the focus of this study, however, a brief outlook to the explanation of this problem is necessary.

Berde and Ványolós (2006) found in their study of institutional-level decision-making that the boom in the student number after the regime changed was accompanied with a process of continuous institutional changes, which occurred primarily due to the emergence of the economic and ideological changes of the regime change in the education; and also because of the gradual adaptation to the directives of the European Union. Due to the changes in the environment the decisions of the institutions are not consistent either, they are equipped to permanent accommodation in order to exploit the access to governmental resources. In this way they do not necessarily exert consequent influence on students.

Regarding governmental provisions, the problem of purpose emerges in general as well, since – as it can be seen from the analysis – the government practically did not change trends but probably only accelerated them.

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TEACHERS AND LABOUR MARKET

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ABSTRACT

The study introduces some of the elements of the relationship between teachers and labour market on the basis of an empirical research. The aim of the online questionnaire survey carried out in 2014 was to reveal the relevant knowledge, attitudes and activities of teachers. This was an integral part of the GCTS research which has been going on at the University of Pécs for years. The tables shown in this study cover the expectations of the labour market, the various walks of life, the career services of the institute, the areas of cooperation with the employers' organisations, the opportunities for professional practice, the assessment of the former students' professional skills and the evaluation of the competitiveness of the university education. The data is completed with an unfortunately limited analysis supplemented with some concluding remarks. Our data prove the preliminary hypothesis of us that teachers do not live in an ivory tower and have real knowledge about the topics in many cases.

INTRODUCTION

The University of Pécs joined the research of the national Graduate Career Tracking System and carry out motivation research regarding its full time students annually and career tracking investigations in the case of those who graduated one, three and five years ago. Our university considers it necessary to survey the labour market organisations, too as this way we can get further information regarding the value of degrees, the professional skills of the experts, the expectations of the employers and the extent to which our courses are practice-oriented. To launch the programme to survey the employers is made possible by the TÁMOP-4.1.1.C-12/1/KONV-2012-0019 "Developing Institutional Services at the University of Pécs" programme.

In the programme our university has undertaken the task of establishing a labour market research group with the help of which we can learn the regional forecasts, preferences and needs which makes us able to inform the

institutions and the individuals about the rapidly changing labour market needs and requirements.

We plan to publish the results we got on the basis of surveying the employees and the employers in the form of analyses and studies. On the basis of the results we shall elaborate an action plan in relation to our courses, curriculum and services. Moreover, last year we made an attempt to approach the topic from another angle, from the perspective of the knowledge and attitudes of our teachers. It is worth talking about this despite the fact that the research did not fully live up to our preliminary expectations as at time only a few teachers thought it important to respond and most of the variables did not show significant differences.

METHODOLOGY AND SAMPLE

In the spring of 2014 the labour market research group surveyed the teachers of the university along some issues of the labour market employing their students. Using the responses we can create a picture about what ideas and knowledge our teachers have regarding the success of their former students, the expectations of the employers and their assessment of the related courses of the university. The result may be a starting points for a development that can improve the competitiveness of the university.

The survey used an online questionnaire, which was compiled in cooperation with experts working at the university. Most of the questions are closed and use a Likert-scale while, in some cases, there are open-ended questions.

On the basis of the list we received from the Office of Human Services and the Directorate for Education we sent an e-mail containing the request and the link of the online questionnaire to 1470 teachers.

Within the deadline 301 valid questionnaires were sent back producing a 20.5% feedback rate. The data were analysed using the EvaSys survey automation software and the SPSS programme.

In the course of the analysis we wanted to examine the data according to gender, time spent working at the university and faculty. Along the lines of gender and time spent working at the university we did not find significant differences and in the case of some faculties the number of responses is very low *(Table 1)*, therefore we did not include the analyses of them into the study.

Table 1: The distribution of the sample by faculties

Faculty	Sample	Respondents	Proportion
Faculty of Law	81	16	19.8%
Medical School	229	60	26.2%
Faculty of Humanities	275	31	11.3%
Faculty of Health Sciences	72	13	18.1%
Faculty of Adult Education and Human Resources Development	49	18	36.7%
Illyés Gyula Faculty	47	14	29.8%
Faculty of Business and Economics	69	15	21.7%
Faculty of Music and Visual Arts	50	7	14.0%
Faculty of Engineering and Information Technology	132	13	9.8%
Faculty of Sciences	162	21	13.0%
Altogether	1,470	208	14.1%
No Faculty inidcated		93	
Altogether	1,470	301	20.5%

Source: self-edited

ASSESSMENT OF DATA

Table 2: Do you have any information on the expectations of the labour market sector employing your student (N=276)

	percentage
none	8.3
some	10.9
quite a bit	23.6
a lot	39.1
all	18.1
Altogether	100.0

Source: self-edited

Mean: 3.5; median: 4; variance: 1.2.

More than half of the teachers think they have all or a lot of information , while 8.3% of them said they have no information at all about the expectations of the labour market employing their students. The latter value cannot be considered high, no indifference or reclusion may be assumed regarding this issue. The relatively low variance suggests a uniform opinion *(Table 2).*

Table 3: Do you have information on the life / career of the graduates? (N7278)

	percentage
none	6.8
some	25.2
quite a bit	38.2
a lot	26.6
all	3.2
Altogether	100.0

Source: self-edited

Mean: 2.9; median: 3; variance: 0.9.

The knowledge concerning the life/career of the graduates is much less general, the mean is 2,9 and the median is also a point lower than at the previous question. Most typical is having an average level of information (38.2%), the proportion of the ’none” responses is also low here, but the state of being completely informed decreased by one-sixth compared to the previous question. Variance is low here, too. We find the difference natural as the end of the connection may be explained by several reasons from both sides *(Table 3).*

Table 4: To what extent do you use labour market information in your work as a teacher? (N=289)

	percentage
never	17.6
rarely	14.5
sometimes	22.9
most of the time	28.4
Always	16.6
Altogether	100.0

Source: self-edited

Mean: 3.1; median: 3; variance: 1.3.

The average level of using labour market information in teaching is 3,1 which is 0,4 point lower than the responses given to having information about it *(Table 2).* More than twice as many people do not use this information when teaching than those who possess such knowledge. This is not necessarily a problem as in the case of several (mainly theoretical) subjects universities have to precede the actual expectations rather than simply serving them *(Table 4).*

Table 5: Do you have information on the career services of the UP? (N=279)

	university (%)	faculty (%)
none	39.4	34.2
some	32.6	26.3
quite a bit	19.7	20.5
a lot	6.1	10.8
all	2.2	8.2
Altogether	100.0	100.0

Source: self-edited

Mean of the university: 1.9; median: 2; variance: 1.0.

Teachers have a low level of knowledge about the central career services of the university. Approximately 40% of them have no information at all. The proportion of those who have a lot, and all the information remains below 10%. Accordingly the mean does not reach 2.0 while the median remains the same and the variance is similar to that of the previous questions. Of course we cannot state categorically that a teacher should feel themselves at home in this field or that they have to take part in this activity *(Table 5).*

The level interest professed towards the career services offered by the faculties can also be regarded very low. One-third of the respondents do not have any information at all, while the mean is 0.4 points higher compared to the central services (Mean: 2.3; median: 2; variance: 1.3).

Table 6: Did your former students ask you anything?

	N	yes (%)	no (%)	Altogether
information about labour market requirements	300	55.3	44.7	100.0
assistance to find a job	300	56.3	43.7	100.0
recommendation	298	69.5	30.5	100.0
concrete job offer	299	32.8	67.2	100.0
other help to find employment	298	58.0	42.0	100.0

Source: self-edited

Students mainly asked for recommendations to assist their job search, but there was a significant demand for help in the job search and to get access to information on the expectations of the labour market. Moreover, one-third of their students would have imagined a concrete offer *(Table 6).*

Table 7: Would you increase the length of the on-the-job training? (N=287)

	percentage
yes	55.7
no	34.5
do not know	9.8
Altogether	100.0

Source: self-edited

More than half of the respondents would increase the length of traineeship required by the training which could greatly improve the ability to apply theoretical knowledge when working. This corresponds with the current more general endeavours, however, it is unfortunate that we cannot say anything about the differences by profession though this could significantly refine the picture we got *(Table 7).*

Table 8: Do you think it would be worth to have a six-month traineeship? (N=298)

	percentage
yes	32.6
no	24.8
a six-month professional practice is required by the faculty	33.5
do not know	9.1
Altogether	100.00

Source: self-edited

One-third of the teachers indicated that there was a six-month traineeship at their faculty and about the same number of people think it is worth realizing. Introducing a longer professional practice could be an important step in enhancing the practice-oriented nature of our training, however, not in the case of every course. The possibility to analyse the data by faculties is greatly missed here, too *(Table 8).*

The organization and management of professional practice is the main field of cooperation (29.5%) between the faculties and the labour market, followed by the common professional events (21.3%). The next category is represented by the research and development assignments (15.3%) and the joint applications and projects (14.4%). Regarding the other fields common work is trivial. Determining the necessary developments may fall into the competence of the university and the faculties *(Table 9).*

Table 9: What cooperation has been developed with the players of labour market at your faculty? (It is possible to give more answers) (N=727)

	percentage
joint application, project	14.4
common training, guest teacher	7.6
professional practice	29.5
common event, performance	21.3
common institution, body	4.3
research and development assignment	15.3
other	1.0
do not know	6.6
Altogether	100.0

Source: self-edited

Table 10: In case you teach in a two-stage training programme do you think that those who besides a BSc also possess an MA have more success in the labour market? (Scale 1 – 5, where 1= not at all and 5 = much more) (N=188)

	percentage
1	3.2
2	10.1
3	13.8
4	33.5
5	39.4
Altogether	100.0

Source: self-edited

Mean: 3.9; median: 4; variance: 1.0.

According to the opinion of the respondents, professionals who also have an MA/MSc degree have better chances to achieve success in the labour market. The results of the GCTS research[9] (concerning graduates) of the past few years do not confirm this supposition on this scale, and the research we carried out in the past years mainly in the field of technology comparing engineers with BSc and MSc also did not support this *(Table 10).*

9 See: www.pte.hu/Tények/adatok/Felmérések: DPR pályakövetés 2010, 2011, 2012, 2013, 2014

Table 11: Do you think graduates who had better academic performance at the university have better chances to achieve success at the labour market? (Scale 1 – 5, where 1= not at all and 5 = much more) (N= 279)

	percentage
1	5.7
2	16.8
3	32.3
4	33.0
5	12.2
Altogether	100.0

Source: self-edited

Mean: 3.2; median: 3; variance: 1.0.

The connection between good academic performance and professional career is less significant than the connection between the type of degree and career. The mean is the lowest here (3.2) and the value of the number 5 meaning a much higher chance for success is reduced significantly (from the previous 39.4% to 12.2%). The significant advantage of academic excellence was not proved by former GCTS research[10]. *(Table 11)*

Table 12: How do you think fresh graduates get their first job (more answers is possible) (N=956)

	percentage
Job advertisement	17.5
Applied personally at the employer	13.4
Job fair	9.2
Started as a private entrepreneur	1.9
Got employment at the place of their traineeship	14.6
Through teacher's recommendation	5.1
Through a former working relationship	10.5
Through personal relationships	23.4
By a labour market organisation	3.0
do not know	1.4
Altogether	100.0

Source: self-edited

10 See: www.pte.hu/Tények/adatok/Felmérések: DPR pályakövetés 2010, 2011, 2012, 2013, 2014

According to the respondents the best way to find employment is through personal relationships followed by via job advertisements. The second largest group with a proportion more than 10% includes being employed at the place of your traineeship, applying personally at the employer and having a former working relationship. Few of the teachers think that their students may count on them when finding a job and even fewer of them reckon that starting one's career as an entrepreneur would be a realistic alternative. These tendencies somewhat differ from the results of the GCTS research. The graduates also think, in the same proportion as the teachers, that having a personal relationship is the greatest help. According to their opinion it is more difficult to remain at the place of one's traineeship, while they get support from their teachers and begin an enterprise twice as frequently, however they were significantly less successful at the job fair. *(Table 12)*

Table 13: What do you think about the fresh graduates' level of competence necessary to carry out their work? (Scale 1 – 5 where 1 = not adequate at all, 5 = completely adequate) (N=290)

	percentage
1	1.4
2	11.4
3	44.5
4	38.6
5	4.1
Altogether	100.0

Source: self-edited

Mean: 3.2; median 3; variance: 0.8.

Teachers regarded the graduates' competence necessary to carry out their work as being fair with little variance. Most of the respondents (44.5% and 38.6%) assessed their competence as average or good the proportion of the two extremes being very low. *(Table 13)*

Table 14: The means of the assessment of the university courses from a variety of perspectives in descending order (scale 1 – 5, where 1 = not adequate at all and 5 = completely adequate)

	N	Mean	Median	Variance
Timeliness of the expertise taught	284	4.0	4	0.7
Willingness of the teachers to assist studies	287	3.9	4	0.8
The quality of education	286	3.8	4	0.8
The applicability of the expertise taught	284	3.7	4	0.8
The everyday practical examples for in the professional field	284	3.7	4	0.9
The presence of recognized representatives of the professional field in education	289	3.6	4	0.9
The students' opportunities to participate in professional forums	273	3.6	4	1.0
The students' opportunities to join research	285	3.6	4	1.0
The quality of practical traineeship	255	3.4	3	0.9
Relations with organisations operating in the professional field	245	3.0	3	1.0
Information on the requirements of the labour market	247	2.9	3	1.0
Assistance in finding employment after graduation	244	2.8	2	0.9
Providing opportunities to work during university years	253	2.5	2	1.0

Source: self-edited

The means of the responses given to each of the different perspectives are below the value of appropriate (4.0). The assessment of the perspectives related to the labour market is the worst, but the quality of professional practice and maintaining relations with external organisations also belong to the fields needing improvement *(Table 14).*

Table 15: What do think about the competitiveness of the courses at our university? (N=279) (scale 1-5, where 1 = weak, 5 = excellent)

	percentage
1	1.4
2	8.2
3	38.4
4	42.7
5	9.3
Altogether	100.0

Source: self-edited

Mean: 3.5; median 4; variance: 0.8.

The mean value of the assessment regarding the competitiveness of the university is 3.5. Most of the respondents consider it good and almost 10% of the respondents thought it was excellent. *(Table 15)*

Table 16: What do think about the competitiveness of the courses at your faculty? (N=294) (Scale 1- 5, where 1 = weak, 5 = excellent)

	percentage
1	0.7
2	7.1
3	27.9
4	42.9
5	21.4
Altogether	100.0

Source: self-edited

Mean: 3.7; median 4; variance: 0.9.

On the basis of the assessment of the teachers their own faculty's competitiveness exceeds that of the university, though the difference is not significant (0.2). However, the proportion of respondents giving the category excellent is twice as large as in the case of the university *(Table 16).*

SOME CONLCUDING REMARKS

1. On the basis of the answers, more than half of the respondents possess *information regarding the expectations of the labour market* and use this information in their teaching on an average level (mean: 3,1).
2. Students ask for the help of their teachers mainly related to professional recommendations (69.5%), they approach more than half of the teachers to help them find employment and get information about the expectations of the labour market.
3. The knowledge of the fields of *cooperation between the external organizations and* the faculty is also typical, however 6.6% of the respondents do not know what cooperation has been established at the faculty with the players of the labour market.
4. The major field of cooperation between the faculties and the labour market is the organization of professional practice and common professional events.
5. Regarding the *career paths* 68% of the teachers know, at least on an average level, how their former students have found employment.
6. The knowledge of the career services provided by the university and the faculties is very low.
7. The assessment of the *competitiveness of the university and the faculties* can be regarded as good.

8. More than half of the teachers would increase the length of traineeship obligatory during the university years.
9. When assessing the training of the university its teachers think that providing students with labour market related knowledge (information on the expectations of the labour market, employment opportunities, assistance in finding employment) is the least appropriate field.

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WHAT DO EMPLOYERS WANT?

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ABSTRACT

This article introduces the conclusions drawn from the in-depth interviews held with employers carried out in the framework of the TÁMOP-4.1.1.C-12/1/KONV-2012-0019 "Developing Institutional Services at the University of Pécs" programme and on the basis of the statements of the employers. The paper compares the information received on the basis of the theory and practice of human resources.

In 2013 the University of Pécs established a labour market research group with the purpose of getting to know the demands of the regional and national labour market and the changes of this market that have a significant impact on the employment opportunities of the graduates of the university. One of the results of this two-year work was the information we received from the 50 interviews held with employers. This study analyses the data provided by the employers from different angles. The aim of the paper is to examine, on the basis of the employers' responses, whether the mission of our university, as an institution of higher education, is realized in training graduates, whether they are able to live up to the expectation of the world of work. The study also intends to analyse the needs of the employers assessing them from the perspective of the university.

The structure of the paper is the following: the introduction is about the task of the university, followed by a section that speaks about the methods of recruitment and selection in general. The third part will analyse the information provided in the interviews to be followed by the conclusions.

THE FUNCTION OF THE UNIVERSITY IN EDUCATION

When talking about the relationship between the universities and the environment surrounding them, we are inevitably faced with the highly disputed question of what exactly the function of the university is. It is not

the purpose of this study to analyse this in detail, rather, we shall examine the issues regarding how this task is related to the future role of the university's students at the labour market.

In his greeting on the official website the Rector of the University of Pécs welcomes his reader on the website by emphasizing one of the tasks of the university: transferring knowledge and positive view of life to the young generation. The graduates of UP should get an in-depth knowledge in the scientific field of their choice and be able to practice that on a high level *(Bódis 2015)*. *Drew Gilpin Faust*, chairman of Harvard University, stated that besides acquiring knowledge solving the problems of society and facilitating economic development are also important issues together with developing a resourceful mind which is able cultivate science in a creative way *(Faust 2010)*. The role of the universities is to educate students who are able to use the knowledge they acquired, to improve and, once employed, do their work in order to achieve the aims set by their employers. These were the tasks that employers demanded graduates to carry out and provided their opinion on what level they did it in the course of the research.

THE ROLE OF HUMAN RESOURCE MANAGEMENT IN ENSURING THE APPROPRIATE WORKFORCE BOTH IN QUALTIY AND QUANTITY

The process of human resources management cannot be viewed as a linear process having a starting and an end point, rather, it is better to see it as infinite circular process, a model used by *Mathis et al. (2014)*.

Figure 1: The cycle of human resources management

Source: On the basis of Mathis et al. 2014, 12

In organisations the HR processes are present continuously and simultaneously and if we really want to find a starting point, it would have to be the establishment of the human resources strategy. If the HR strategy becomes a part of the overall strategy of the organisation, human resources may have a particular role in establishing the competitive edge *(Rees – Smith 2014)*. At the beginning of the 1990s a new school of human resources management began to develop strategic human resources management which is built on the resource-based view of the organisation *(Resource-based view of the firm, Barney 1991; 2001)*. The basic principle of strategic HRM is that it is the resources *within* the organisation which produce the competitive edge in contrast with the traditional approach where a combination of production factors create value *(Kramar – Syed 2012*). It is within this framework that the individuals, the employees of the organisation may be regarded as a resource which offers the competitive edge, because they:

- are *valuable*: the employees of the organisation produce the products and services that the organisation uses to satisfy consumer demands.
- are *rare*: it is not easy to find an employee who fits into the organisation, is able to meet the requirement to perform their work at an appropriate level and who is a pleasant person to be with.
- *cannot be replicated or imitated*: if we intend to replicate a good HR system found at our rival or at a famous firm, we would need to know who those employees that produce the competitive edge are and in what system they work. In case this is not confidential information (though with many firms it is) but we would need to employ individuals who posses the same skills, experiences and personalities and set up the same systems that can be found at our rival.
- *have no good substitutes*: if we recruit the right individuals, take care of their training, give them good pay and establish a pleasant atmosphere at the workplace they will be motivated, get good experience, develop their skills and become committed towards the organisation. We get a unique resource which would be difficult to substitute with anything else *(Noe et al. 2004)*.

On the basis of the above it is apparent that the process through which we guarantee this resource for our firm is of key importance. Recruitment and selection are the two stages in the HR process where we can take steps to employ individuals who are able to create value for our firm in the way described above.

Recruitment and selection

Recruitment according to *Mathis and Jackson*:

"Process of generating a pool of qualified applicants for organizational jobs." *(Mathis et al. 2014)*. The literature warns us that like every HR process this would (should) also be handled in a strategic way in connection with the overall strategy of the company. The number and quality of those who apply for the job are influenced by the chosen recruitment method, the message found in the advertisement, the qualification and experience required by the position and the administrative processes applied through the recruitment process *(Mathis et al. 2014)*. Employers may have two basic sources to recruit from: inside the organisation and outside the organization *(Redman – Wilkinson 2001)*.

Following the successful recruitment employers have to select the applicants to find those who are the most suitable to fill the position because they have adequate qualifications, possess personal features and experiences the organisation considers important *(Mathis et al. 2014)*. It is important that the employees fit the organisation and that the work they carry out fit their qualifications and experiences. If these conditions do not exist, neither the organisation, nor the employee will be able to add value and the employment will end sooner than would be desirable.

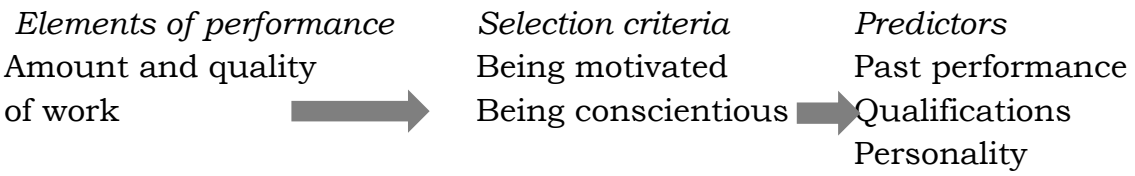
The textbooks and the world of science determine certain ideal processes while the legal system provides regulations stipulating how personnel should be guaranteed. In the framework of the TÁMOP project we gained empirical data concerning how certain employers interpret these processes and what demands fresh graduates should meet. In the following we shall compare the theory and the methods used in practice including the experiences of the organisations.

CONCLUSIONS FROM THE INTERVIEWS

About the demands of the employers

Regarding the different professions there are quite different personal qualities that can truly predict how successful an individual will be in carrying out their job. The general principle of the selection process is that measurable indicators of the selection criteria need to be collected and make a rational decision on the basis of those *(Mathis et al. 2014)*.

Figure 2: some connections between work performance, selection criteria ad predictors (the measurable indicators of criteria)



Source: On the basis of Mathis et al. 2014, 222

In the following we shall provide a general analysis on the basis of the interviews.

Table 1: Distribution of the respondents according to employers

	people	***%***
companies	15	30
health care institutions	11	22
public administration, jurisdiction	8	16
educational institutions	16	32
altogether	**50**	**100.0%**

Source: Szociográf: Surveying the experts of employers and professional organisations in the framework of the TÁMOP-4.1.1.C-12/1/KONV-2012-0019 "Intézményi Szolgáltatások Fejlesztése a Pécsi Tudományegyetemen" programme.

Structured interviews were carried out where each respondent gave answers to the same or very similar questions making them comparable.

Each respondent identified a similar ideal employee independently from both the economic sector and the age of the employee. They look for the following personality features:

- good academic performance
- motivation
- good working ability
- exceptional communication skills both in writing and speaking
- creativity and innovation skills
- skills and aptitude to be an excellent team player
- flexibility and organisation
- independence and entrepreneurial mindset.

It is typical of the public sector (schools and courts) especially that the qualification of the certificate does matter and it is important to have a good grade point average. The importance of professional knowledge was mentioned by everybody, though it is not tested by every employer who usually decide based on the job interview and the provided documents. There were employers that did not consider this that important, but the majority is interested in the qualification of the certificate.

The responses concerning foreign language knowledge present a colourful picture. The standard is that if the job requires good foreign language knowledge than it is regarded important, otherwise employers consider this as an irrelevant factor. Several respondents mentioned that having a language exam does not equal with language knowledge and there was one employer where the lack of such knowledge was a criterion for exclusion. The respondents in this sample regard foreign language mastery as a knowledge which is necessary only if one's everyday work requires it and do not consider it as part of general education. The medical profession stands out as an interesting case where the respondents from Budapest mentioned the importance of language knowledge however it was not deemed important by the hospitals in the country.

The employers from the fields of public administration, health care and education frequently mentioned the need to have a sense of mission and to adjust to the atmosphere of the workplace fast. The private sector emphasized this less and on the basis of the job interviews they took it for granted that an employee is able to do this.

Each of the employers mentioned that young people lack practice and many added that they would be happy to employ a fresh graduate who had their professional practice at them or worked for them as a student.

There appeared a general need to require the following skills:

- teamwork
- interpersonal skills
- good conflict management
- quick problem solving.

The assessment of these skills greatly varied. There were employers who were very satisfied with the young workforce while others were quite dissatisfied with them. No differences between the sectors can be identified here, the picture is highly complex. The sample is also not representative therefore we cannot use more elaborate statistical methods. What can be said about this is that although there are satisfied employers, they would generally require employees who, in addition to their professional competence, are more highly qualified in the fields of communication, interpersonal skills and solving emerging problems.

Assessment of employers' needs

The employers' needs appearing in the sample are partly similar and partly related to the requirements of the individual professions. The requirements set for young people create the picture of an employee who suits a certain ideal picture, however it turns out from the responses that they adapt themselves to the supply according to the existing opportunities. The

responses also show that although there is a buyers' market (with the exception of health care), the number of employees is much higher than that of the job vacancies, finding appropriate workforce is just as difficult as in the case of a sellers' market, where there are more vacancies. Employers are generally satisfied with the knowledge of young people, the fields where they would expect improvement are experience, communication and interpersonal skills.

Here one should think about to what extent it is the task of the university to improve practical skills and to what extent it is possible within the present framework of education. Is it realistic to require from the university that in addition to high quality theoretical knowledge it should also provide high level practical knowledge? To what extent can practice be built into theory in a way that the scientific quality of the university remains the same? Are those innovative education methods available with the help of which practice, as required by the employers, may be built into the university courses? If yes, are the necessary resources, infrastructure, financial and human resources available? Answering these questions goes beyond the framework of this study we can only raise these questions here. In the case of certain professions the employer does not expect the career entrants to have experience as this is not a realistic requirement (e.g.: in the case of medical doctors). But how realistic is it in the case of an economist or teacher? If instead of studying they gain experience, or reduce the time spent on studying to give way to acquiring practical knowledge than how well does the university prepare them to solve problems expected to emerge in the future? The theoretical knowledge taught at the university does not only include academic knowledge but it is also about the perspectives related to the profession, a way of thinking, a scientific perspective and an intellectual attitude. These courses help young people in solving practical problems if they acquire what teachers intend to teach them and are willing to apply this knowledge, too. With the development of educational methodology universities also develop and the innovative educational methods make it possible to hand over a greater amount of practical knowledge, however where the emphasis should be put is the challenge of the future.

ABOUT THE METHODS USED AND STRATEGY

Regarding recruitment employers use a great variety of methods in addition to what is stipulated by the law. On the basis of their answers it can be concluded that these are methods that they found useful in the past. Only two respondents worked at the highest level of HR therefore we do not know whether the others used the selected methods on the basis of a recommendation or that they themselves considered the chosen methods suitable. Among the respondents of the companies there were HR experts

while in other sectors directors and senior managers, not trained in the field of HR, who provided the answers.

Questions were asked about the following recruitment methods:

- Private data bank
- Newspaper advertisement
- Online advertisement
- Through employment offices
- Relations with educational institutions
- Internal recommendation
- Head-hunters/consultancies
- Application
- Selecting from apprenticeship or scholarship programmes.

In all cases applicants were selected on the basis of a single or multiple interviews, while in some cases, companies used the "assessment centre'-type of selection or administered aptitude tests.

Though it was decidedly not part of the survey, the examination of the HR strategy issues is unavoidable. None of the respondents, not even the HR managers mentioned deliberate strategy use or human resources planning. This proves, on the one hand, that even if there is a strategy it is the task of the top management of companies, hospitals or public sector and, on the other hand, that this vital human resources function works on the basis of supply and demand rather than according to deliberate planning. None of the respondents mentioned recruitment assessment methods or certain percentages on the basis of which they would employ young people. Nevertheless the organizations surveyed do operate and carry out their duties so the statement that in the field of HR many organisations function applying the method of "muddling through" is true. This means that they follow familiar and tested methods modifying them if necessary. *(Wood – Kispál-Vitai 2014)*

CONCLUSIONS

In each interview employers were asked about their opinion regarding the graduates of UP, whether there is any difference between the competence of its students and that of other universities' students. Not every employer was able to answer this question completely, but those who were, expressed positive views about the university and its graduates. They highlighted teamwork, flexibility, establishing relations and independence in their assessment where, interestingly, foreign language knowledge was also valued high. They mentioned a need for development in the fields of practical knowledge, communication and interpersonal skills, however they expressed

this need not only regarding the graduates of UP but also in the case of the graduates of other universities.

As a final conclusion we can say that the university should be a place of constant learning and development and should adapt to the institutional environment where it sends its graduates. The task of the university, however, is not only adaptation, the women and men of science must meet the needs that employers require from them and educate graduates who are ready to face the challenges not yet formulated, to think in a creative and logical way and are able to create value under uncertain conditions.

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RESEARCH EXAMINING STUDENT COMPETENCE AT THE UNIVERSITY OF PÉCS

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ABSTRACT

The purpose of the study is to examine the competence students in higher education are expected to possess. Within this field the research of the University of Pécs focuses on studies that were based upon the comparison of competence vocabularies, specifications and expectations applied in Hungary and Europe.

As it is not sufficient to review the examination of the development and improvement of competence from one angle, the differences in the answers given by the various agents (teachers, students, graduates, employers) are introduced along the same categories. The statistical foundation of the research is provided by an independent samples T-test of the means of the same scale (1-5). The result of the research shows that using a 360 degree evaluation we can identify those fields that need to be paid greater attention to when considering and developing the training courses of the university to make its performance better.

THE ROLE OF COMPETENCE IN HIGHER EDUCATION

The notions of competence, knowledge, skill and ability are blurred in our everyday language and used as synonyms. Knowledge and competence can be developed into a skill through learning, while ability is an inherited or genetically coded „aptitude" to perform an action. It is not our intention to take a stand on the models that build on genetics and that are based on the possibilities of development *(Csíkszetnmihályi et al. 2010; Mönks – Peters 1994; Renzulli 1978; Terman 1986)*, where a longstanding conflict has been developed in the past. Regarding competence we apply the following definition: „competence is the structured and collective system of personal resource formations developed as a result of learning (experience, practice) which makes it possible for the individual to apply the knowledge and

personal features he/she acquired in a concrete intellectual and/or physical field successfully and constructively […] Competence includes not only the application of knowledge but also the use of personal features in action." *(Henczi – Zöllei 2007, 16-17)*

A decisive tendency in the higher education of the 20th and particularly the 21st century is that the feedback received concerning the competence of the graduates is included in the

concept of quality and also greatly determines it. Higher education has developed a closer relationship with the labour market therefore the value of the degrees has to be attested showing how successfully fresh graduates can find employment using their knowledge *(Barakonyi 2010, Curaj et al. 2012; Deardorff et al. 2012; Garcia-Aracil – Van der Velden 2008; Hrubos 2012)*. This is their task as competence can also be acquired outside the frames of formal education, so the competition among the institutions has increased not only because of the tendencies observable in the past decades but also due to the spread of alternative training opportunities *(Berács et al. 2015).*

It is already difficult to define the concept of competence and further difficulties can be encountered when examining it. The problem is bifold: on the one hand, what competence vocabulary should we use, that is, what scope of competence should we investigate. This becomes a matter of consideration because the possibility to draft competence may produce an almost infinite set of combinations not only regarding their occurrences but also the personal perceptions of the respondent. Innovation may have a totally different meaning for a Turkish, a Hungarian and a German person, not to mention the spatial, cultural and socio-demographic background factors inside the given country. On the other hand, the research methodology may also have an impact on the results as it is not the same in what order we ask the questions to be evaluated, what instrument we use (scale, yes-no questions, open-ended questions) and regarding what time period (at the moment of filling in the questionnaire, at the beginning of higher education studies, in the sixth month after graduation) we analyse the results. We may be inclined, as an attribution error, to overrate our own performance and relate our failure to the unfortunate constellation of the circumstances. As a result, being students studying in higher education we might think that we are capable of leading others, however in a real situation it turns out that we need further training in the field of leadership skills. It is not only apparent in the case of those entering the labour market , however, employers may also think that fresh graduates have little experiences in the working world and this produces a preconception that they have a lower level of competence. Subjectivity is mixed with objectivity and what is inevitable is that because each factor is related to people, a certain degree of distortion will always appear in the evaluations made from different

perspectives, however, the size of the differences tend to indicate the points of necessary intervention.

During the past decades we experienced significant changes in the labour market, too. As the number of people with degrees has substantially increased, jobs that formerly required secondary education only are also taken by people with degrees. What is more, the system has produced a hidden professional over qualification. The research of *Chevalier (2003)* have pointed out that examining the relationship between the qualification and the skill level required by the position is essential, because if, on the one hand, the existing skills are not utilized, the employer may lose the benefits offered by those skills and, on the other hand, the employee may develop a constantly decreasing motivation spiral. The graduates are categorized into three groups:

- those who match: the qualification is appropriate for the position,
- quasi overqualified: having a degree in higher education but working in a position requiring mediocre skills,
- actually overqualified: the opportunities offered by them are not utilized.

Using regression analysis he revealed that those who are actually overqualified earn significantly less money that those who match meaning that there is a difference between the agents not only from the soft but also from the hard side.

At the European level, the primary goal is not the examination of the level of matching and the measures aimed at eliminating the related disparities but rather the determination of the directions and the development along those lines. To define competence the European Parliament and the Council of Europe have elaborated a document that records the eight key competence on the basis of which the national education programmes should be developed. The eight key competence:

1. Communication in the mother tongue;
2. communication in foreign languages**,;**
3. mathematical competence and basic competences in science and technology**;**
4. digital competence**;**
5. learning to learn**;**
6. social and civic competences**;**
7. sense of initiative and entrepreneurship , and
8. cultural awareness and expression**.** (*Official Journal L 394.13.2006)*

These serve as fundamental guidelines and on the basis of the principle of subsidiary and taking the local conditions into account such national

education plans should be developed though which synergic development may be achieved at the European level. We have already mentioned that respondents may interpret competence individually, however political decision makers also have a great liability regarding how they interpret the various lines conceptually. We may regard communication in the mother tongue as more objective, however, examining it further it turns out that this also has several layers (oral communication, written communication, style, presentation, nonverbal communication, etc.), but initiative and entrepreneurial competence are more abstract notions. The next section will introduce the development of competence assessment realized in the University of Pécs (UP).

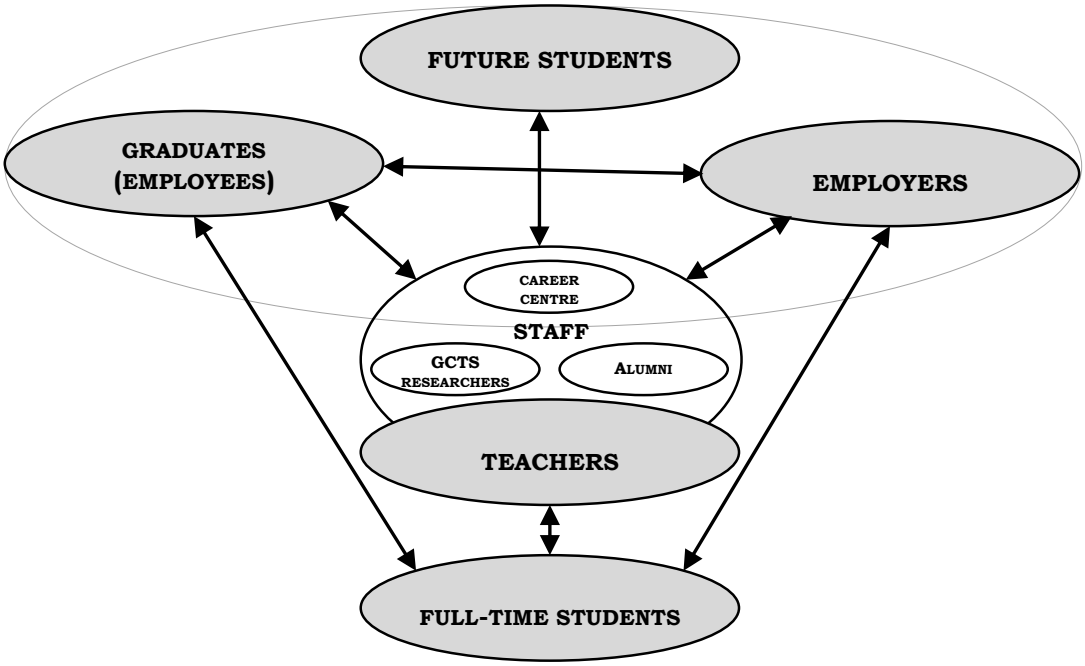
COMPETENCE ASSESSMENT AT THE UNIVERSITY OF PÉCS

The assessment of competence development provided by higher education institutions has a decades-long tradition abroad, however in Hungary it goes back to slightly longer than a decade. Most higher education institutions began to build competence assessment into its practice through the TÁMOP 4.1.1.-08 Programmes. As a result and as the requirement of the developing student services we had to establish the Graduate Career Tracking System (GCTS) which also offered an ideal platform to meet the needs of the institution.

The model applied in Pécs, however, goes back to a former example, to the model called "Dialogue in language of competence" developed in King Sigismund College. This model became widely acknowledged in the field of higher education in Hungary and was later closely connected to the GCTS research (*Figure 1).* They narrowed the 36 competence applied in the CHEERS study to 20, however as these turned out to be insufficient, it was later made into 30. This is the basis of today's research. The system was already tested in the 2006/2007 school-year, then it was modified and developed into its present form in the framework of the TÁMOP Programme. This model, including five players, outlines the dialogue between the actual students, the graduates, the employers, the teachers and the future students regarding what processes may enhance a higher education system that can accommodate itself to the needs of the labour market by mutually influencing it and having a constant interaction with it.

The name of the model suggests that it intends to target a change of paradigm that is to establish a real dialogue between the various players, a scene where everybody has the chance to state their opinion – preferably not in an emotional way – and where it is possible to eliminate the emerging differences *(Kabai et al. 2012).*

Figure 1: The logical structure of the "dialogue model" (the "players" and the system of relations)



Source: Kabai et al. 2012, 23

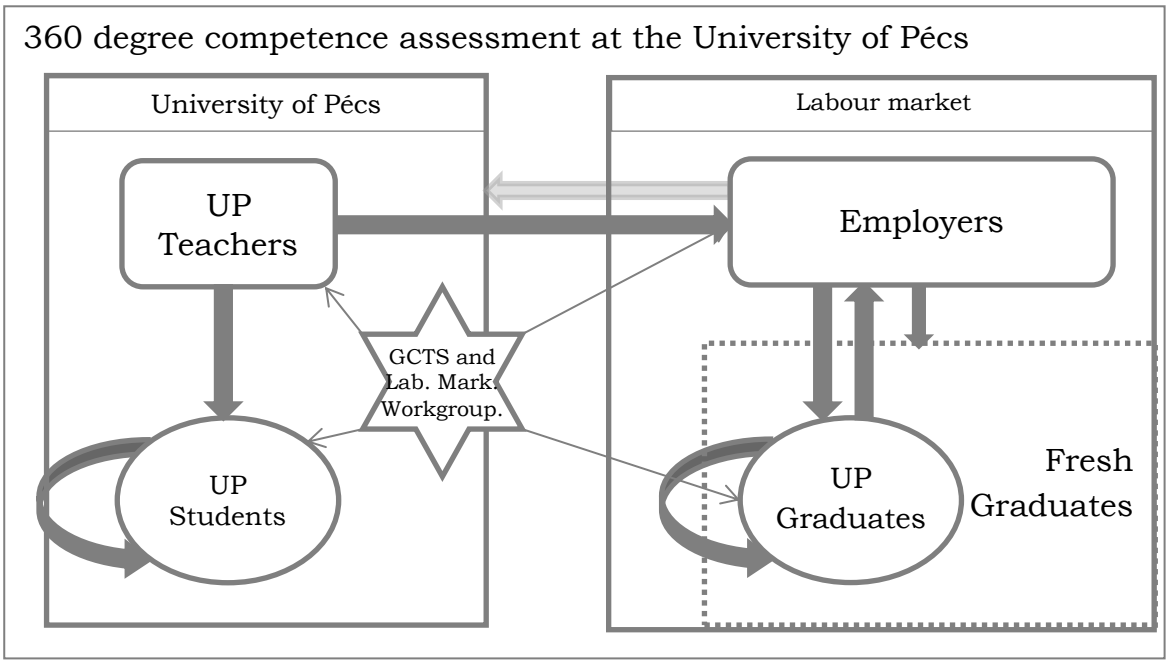
Owing to the extreme complexity of the model targeting and reconciling several players it is difficult to adapt completely and we also need to emphasize that it is not necessarily the aim of another higher education institute such as the University of Pécs. This comes not only from its systemic nature but also from the fact that the traditions, profile and size of the two institutions are different. The competence assessment of the graduates has been part of the research carried out within the Graduate Career Tracking System of the University of Pécs since its piloting period (2010 assessment). When elaborating the competence at UP the 30 elements of Kabai's model was the starting point. Using the experiences of *Kiss (2010) és Schomburg (2010)* and having analysed the pilot research carried out at the Faculty of Economics we have established the competence vocabulary we use today. The factor analysis we carried out regarding the answers given to the 30 competence at the faculty, we were able to identify the 16 variables that we have asked questions about – with minor changes in the wording – since 2010 *(Kuráth – Németh 2011;, 2011b, Kuráth 2013; Kuráth et al. 2014a; Kuráth et al. 2014b; Sipos et al. 2013)*. Having established the organisational, professional and infrastructural conditions of the GCTS it became possible to formalize the need that, considering the line of assessments, the university have access to more information. We have been assessing the competence necessary to work and carry out the tasks related to one's position since 2010, however, this does not make it possible to analyse the

student status (before and after graduation) and the employee status using the 360 degree approach. A structural improvement was needed which was achieved in the following way:

1. In the 2013 research, besides the competence necessary for employment, a set of questions focusing on the assessment of the actual level of those competence also appeared.
2. In the 2014 research on students and graduates we applied the section assessing the actual level of competence in an integrated way.
3. In 2014 we asked the teachers the first time to assess the competence under two aspects: (1) how important they are for the labour market, and (2) to what extent their students possess those.
4. In 2014 the employers were asked the first time (with the mandate of the Szociográf Market Research and Opinion Polling Company using in-depth interviews) when respondents had to assess the competence regarding two groups: first the graduates in general then the graduates of UP specifically.

Figure 3 introduces the model developed as a result of these improvements and the lines of assessment regarding the players:

Figure 2: The model of the 360 degree competence assessment developed at the University of Pécs



Source: self-edited

The approach can be divided into two large sections: UP and labour market. On the one hand the University of Pécs forms a separate entity which, regarding its fundamental function (education), is not part of the labour market, however because of its teachers and other personnel it qualifies as a

major employer in the region. On the other hand graduates enter the labour market (partly including the existing students, however during the competence assessment we consider those who do not yet work). The task of the individual players:

- Teachers of the UP (301 respondents): they can primarily assess what competence their own students possess. To achieve this lectures are not really suitable, however, the seminars, extracurricular activities and workshops are completely appropriate occasions. Teachers can develop a picture about what levels of competence the consumers of education have. Their role is important because although employment received through the recommendation of teachers is rare (2.35%), the proportion of personal relations is outstanding (26.85%) and employers are keen to approach the players of education to get access to talented students *(Kuráth et al. 2014a, 65).*

  At the same time they assess the labour market because, on the basis of their insights and experiences they know what skills a fresh graduate needs in order to find employment. Their opinion is fundamentally subjective as they do not have a comprehensive view over the labour market, however, owing to their labour market experiences (in case they have a job in the private sector) and relations with their students they are considered a reliable source of information concerning their field.

- UP students (1297 people): in the past years it has become a feature of higher education and the labour market that 38.6% of the students are actively engaged at work *(Kuráth et al. 2014b, 53).* This proportion is naturally much higher in the case of correspondent students (85.9%) than with full time students. As a result and in order to get a more complete picture we applied a restriction and took those out from the 2001 respondents who have a job decreasing the number of respondents to 1297 people. On the basis of their assessment we can get a picture about the available competence unbiased by the labour market and this way we can detect temporal development, too.
- UP graduate students (679 people): there is no group of graduates available whose members also responded regarding the actual level of competence when they were active students, however, the answers of those who just graduated provide important feedback for the university (through their self-assessment) and also for the labour market (by assessing the necessary competence). The members of the group closest in time to the 360 degree assessment are those who graduated one year ago and have a job. Of the 1848 respondents in 2014 we filtered out those who had never worked and also those who

got their university leaving certificate more than a year ago, leaving us with 679 people.

- Labour market (50 in-depth interviews): the final assessment of competence is carried out by the employers that is they decide whether the graduates meet the demands of their field. To do this the employees have to be divided into two groups: the group including all the fresh graduates who give their assessment and opinion in general, and – if they can really be separated – a group consisting of the UP graduates so we can gain useful information regarding the university. The assessment of the graduates clearly qualifies, though not directly (faded line) only indirectly, the education at the university and the UP itself, too.
- The Graduate Career Tracking System and the labour market workgroup: in the model we indicated this element with a distinct shape as it plays a fundamentally different role. It does not carry out direct assessment but mediates between the individual players, connects the various studies, interprets the results and communicates with the other players of the model accordingly. It is located within the organisational structure of UP but stretches beyond the university searching for contact with the players of the labour market.

It is important to highlight that in 2014 we carried out a methodology control concerning the scope of competence and using paired sample T-test and factor analysis examined the internal interfaces regarding the data from the previous years. We also took other professional aspects into consideration. The labour market workgroup, whose establishment was coordinated by the Marketing Department of the Rector's Office, evaluated the individual components that were also related to the fields of competence applied by the CHEERS research. On the basis of this we decided that a structural correction was needed. The purpose of the change is to make the inquiry of the questionnaire as complex as possible. As we did not want to extend the length of the final list, the competence assessed since 2014 can be connected to the players in our initial survey only on four occasions *(Figure 1).*

As a result of this change we asked questions from each of the competence groups established within the CHEERS research investigated by *Garcia-Aracil és Van der Velden* and by doing this we complied with the guidelines found in the expectations of the European Union *(Figure 2).* The specialized field of knowledge has the smallest number of evaluation criteria because teaching field-specific knowledge is a basic principle in higher education. Besides we paid attention to asking at least two questions about each further field. The group having the greatest number of questions is the social-emotional because this includes those skills and field of competence

through which a higher level of adaptation becomes possible which means more flexible graduates.

Figure 2: The distribution of the variables in the competence vocabulary along competence groups

Competence – category	
Organisational	3
Specialized	1
Methodology	3
General	2
Participational	2
Social-emotional	5

Source: self-edited

The new competence dictionary made it possible to finish the 360 degree assessment of the UP students that is introduced in the results section.

Table 1: The change in the competence vocabulary used in the questionnaire

GCTS graduate questionnaire till 2013	**CHEERS competence**	**Guiding competence of the European Parliament and the Council of**	**GCTS student, teacher, employer questionnaire 2014.**	K
Application of professional knowledge in practice	Knowledge of field-specific methods		Applying theoretical knowledge in practice	2
Language knowledge	Foreign language knowledge	Communication in a foreign language	Foreign language knowledge	3
Innovative skill	Learning skills Initiative	Initiative and entrepreneurial competence Acquiring learning	Ability to innovate and discover new things	3
Writing skill	Written communication skills	Communication in one's mother tongues and in a foreign language	Writing skill	4
Good presentation skill	Oral communication skills	Communication in one's mother tongues and in a foreign language	Good presentation skill	4
	Initiative	Social and civic competence	Interpersonal and communication skill	6
Conflict management skills	Tolerance, assessing different perspectives	Social and civic competence	Conflict management skills	6
Outstanding endurance at work, persistence	Work under pressure; Precision, attention to details	Social and civic competence	Outstanding endurance at work, persistence	1
Cooperating in a team	Group work	Social and civic competence	Team work	6
Self determination	Independent work; taking responsibility and decision-making ability	Acquiring learning Initiative and entrepreneurial competence	Independence	1
Managing others	Leadership abilities	Social and civic competence	Leadership skills	5
Flexibility	Adaptability	Acquiring learning Initiative and entrepreneurial competence	Flexibility	6
Good organisation of work and time management	Time management	Acquiring learning Initiative and entrepreneurial competence	Good time management	1
	Planning, coordination, organization; analytical competence Understanding complex organisational, social and technical systems	Mathematical competence and basic competence in the sciences and technology	Ability to analyse and synthesize	3

GCTS graduate questionnaire till 2013	CHEERS competence	Guiding competence of the European Parliament and the Council of	GCTS student, teacher, employer questionnaire 2014.	K
	Planning, coordination, organization	Initiative and entrepreneurial competence	Organisation skill	5
	taking responsibility and decision-making ability; assertiveness, decision-making ability, persistence; initiative	Initiative and entrepreneurial competence	Entrepreneurial mindset	6
Theoretical knowledge	Field-specific theoretical knowledge			
Literary skill	Written communication skills	Communication in one's mother tongues and in a foreign language		
IT knowledge	IT knowledge	Digital competence		
Monotony endurance	Learning skills; concentration	Acquiring learning		

Source: self-edited on the basis of the labour market workgroup, the Official Journal L 394 2006 and Garcia-Aracil – Van der Velden 2008

Key:

1: Organisational; 2: Specialized; 3: Methodology; 4: General; 5: Participational; 6: Social-emotional

THE RESULTS OF COMPETENCE ASSESSMENT

To get a full picture first we introduce the different assessments in a system *(Table 3),* then present the differences related to the mean of the answers given to the competence assessment *(Figure 3)* and finally investigate the significant differences between the individual factors (on the basis of Levene's test, Welch's test and ANOVA and indicate them using a grey background colour) *(Table 4).*

Table 3: Results of the 360 degree competence assessment carried out at the UP according to the means deemed necessary by each group in descending order (scale 1-5)

UP competency vocabulary / 360 degree competency assessment	Kat	OKT R		OKT Sz		MA Friss V		MA PTE V		PTE Végz R		PTE Végz Sz		PTE Hallg R		Mean
		n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	
Establishing connections, communication skills	6	296	3.48	293	4.68	48	3.90	34	4.00	604	4.32	629	4.55	1,286	3.96	**4.54**
Outstanding endurance at work, persistence	1	295	3.00	295	4.54	47	3.94	33	4.03	606	4.41	627	4.48	1,287	4.19	**4.46**
Independence	1	292	3.05	291	4.49	48	3.58	34	3.91	605	4.42	630	4.54	1,284	4.24	**4.46**
Conflict management skills	6	269	3.05	295	4.47	47	3.30	33	3.45	600	4.05	628	4.45	1,287	3.86	**4.37**
Good time management	1	276	2.75	293	4.44	48	3.65	33	3.79	600	4.01	628	4.32	1,287	3.45	**4.31**
Flexibility	6	281	3.31	295	4.26	48	4.27	34	4.15	603	4.25	629	4.31	1,287	4.13	**4.29**
Team work	6	282	3.33	295	4.37	48	4.17	34	4.35	607	4.38	629	4.20	1,287	4.07	**4.25**
Ability to analyse and synthesize	3	290	2.95	293	4.41	46	3.57	31	3.84	600	4.07	629	4.04	1,288	3.93	**4.12**
Ability to innovate and discover new things	3	291	3.29	296	4.42	45	3.89	32	4.19	602	4.05	640	3.94	1,283	3.93	**4.09**
Writing skills	4	290	3.09	296	4.20	44	3.57	33	3.82	603	4.42	629	4.06	1,281	4.23	**4.07**
Applying theoretical knowledge in practice	2	290	3.30	297	4.39	47	3.91	35	3.74	609	3.91	631	3.87	1,171	3.48	**4.02**
Organisational skills	5	270	3.27	290	4.12	47	3.70	32	3.97	604	4.09	632	3.96	1,287	3.94	**3.99**
Good presentation skills	4	294	3.37	294	4.35	45	3.87	33	3.85	605	3.94	634	3.78	1,285	3.72	**3.95**
Entrepreneurial mindset	6	270	3.17	289	3.99	48	3.77	33	4.03	597	3.68	628	3.46	1,289	3.73	**3.65**
Foreign language knowledge	3	294	3.36	296	4.58	43	3.86	34	3.94	601	3.53	642	3.12	1,283	3.47	**3.60**
Leadership skills	5	251	2.68	291	3.42	28	2.96	21	3.38	600	3.43	634	3.15	1,285	3.59	**3.23**

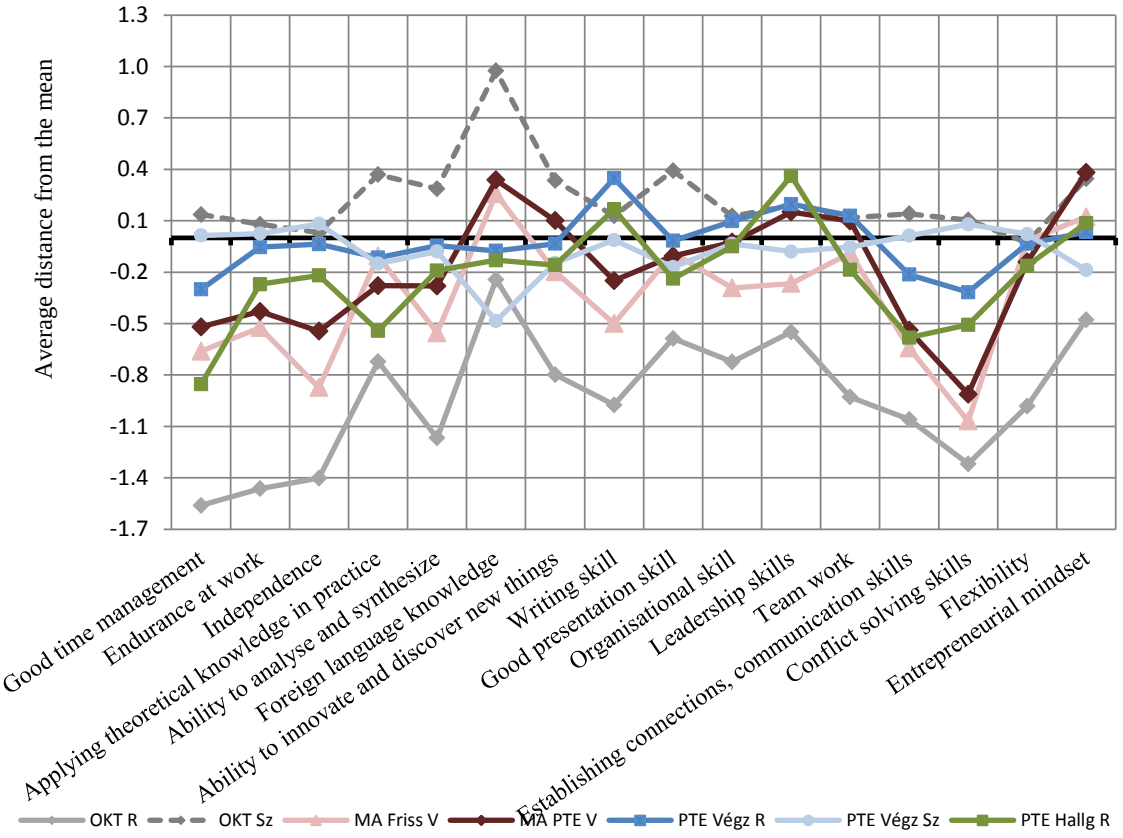
Key:
OKT R In the opinion of the teachers to what extent students posses these
OKT Sz In the opinion of the teachers to what extent it is important to posses this on the labour market
MA Friss V Employers' feedback – Fresh graduate
MA PTE V Employers' feedback – UP graduates
PTE Végz R UP graduates, posses
PTE Végz Sz UP graduates, necessary
PTE Hallg R UP students, posses

Source: self-edited on the basis of the results of the 360 degree competence assessment

It is clearly visible that it was the teachers who consistently produced the highest means regarding the labour market requirements and the lowest means concerning to what extent students possessed the necessary skills. The are some exceptions, however: "foreign language knowledge" where,

according to the graduates, the necessity level is lower, "Application of professional knowledge in practice" and "Teamwork" where, according to the graduates, the labour market needs a higher level and "writing skill" where graduates possess a higher level and finally, "leadership skills" where students produced the highest means. The substantial difference in the case of the teachers can probably be traced back to the fact that on the basis of their scientific approach they have higher expectations towards the labour market and, on the other hand, assess their students regularly and this had a crucial influence on the mean they produced. On the basis of this it is understandable that there is a significant difference in their opinion on the existence of the students' competence and the level of those competence as required by the labour market.

Figure 3: The difference of the 360 degree competence assessment models established at the University of Pécs from the mean deemed necessary by each group (scale 1-5)



Source: self-edited on the basis of the data of the 360 degree competence assessment

We are faced with a lower number of answers in the case of the employers' assessment, none of the tests of independence showed significant difference regarding the individual factors. They typically gave a better assessment to the graduates of UP (those who could separate the fresh graduates according

to the place of their graduation) with the exception of "Application of theoretical knowledge in practice" and "flexibility", but only to a smaller extent. They normally occupy the second and third position in the assessing groups that is the points they give are only a little different from those given by the students and the graduates.

Table 3: The mean of the GAP examination of the 360 degree competence assessment at UP in descending order (scale 1-5)

UP competency vocabulary / 360 degree competency assessment	OKT	MA	PTE Végz	Mean
Establishing connections, communication skills	-1.20	0.10	-0.23	**4.31**
Independence	-1.43	0.33	-0.12	**4.23**
Outstanding endurance at work, persistence	-1.54	0.09	-0.08	**4.22**
Teamwork	-1.05	0.19	0.18	**4.16**
Flexibility	-0.95	-0.12	-0.06	**4.13**
Conlfict management skills	-1.42	0.16	-0.40	**4.08**
Writing skill	-1.10	0.25	0.36	**4.03**
Good time management	-1.70	0.14	-0.31	**3.98**
Ability to innovate and discover new things	-1.13	0.30	0.11	**3.95**
Ability to analyse and synthesize	-1.45	0.27	0.03	**3.93**
Organisational skill	-0.85	0.27	0.13	**3.92**
Applying theoretical knowledge in practice	-1.09	-0.17	0.03	**3.88**
Good presentation skills	-0.98	-0.02	0.15	**3.86**
Entrepreneurial mindset	-0.82	0.26	0.22	**3.59**
Foreign language knowledge	-1.22	0.08	0.41	**3.54**
Leadership skills	-0.74	0.42	0.28	**3.22**

Source: self-edited on the basis of the data of the 360 degree competence assessment

Regarding the graduates there are only five cases where there is no difference between the necessary and the existing competence, otherwise the picture is miscellaneous. In seven cases they think they have a significantly higher knowledge than what is needed, while in four cases they think they underachieve. This suggests a complex perspective as they do not state that they are better in everything that is necessary for the job. On the whole it is them who regard the factors of "Self-determination" and "Flexibility", which is autonomous work and high level of flexibility the most necessary producing a mean which is higher than that of the teachers. In the case of "Writing skill" and "Teamwork" they think that the existing level is much higher then what is expected.

In the case of each factor we are able to examine the opinion of the students and the teachers regarding the existing competence. On the basis of Games-Howell's Post Hoc test *(Field 2013)* it is only "Foreign language knowledge" where there is no significant difference between the opinion of the students, graduates and teachers. In addition, the assessment of each player shows significant differences. It is interesting to observe that it was the graduates who typically produced the highest means while in the case of "Leadership skills" the students think they have a higher level of it. This suggests that it is worth creating groups even during a seminar so they can test themselves is such situations.

Table 4: The GAP examination of the 360 degree competence assessment carried out at the UP on the basis of the means of the assessment of the employers (shown in descending order)

UP competency vocabulary / 360 degree competency assessment	OKT R	OKT Sz	PTE Végz R	PTE Végz Sz	PTE Hallg R	Mean
Teamwork	-0,92	0,13	0,14	-0,04	-0,17	**4,24**
Flexibility	-0,91	0,42	0,03	0,09	-0,09	**4,22**
Ability to innovate and discover new things	-0,72	0,41	0,04	-0,07	-0,08	**4,01**
Outstanding endurance at work, persistence	-0,98	0,56	0,43	0,51	0,21	**3,98**
Establishing connections, communication skills	-0,46	0,74	0,39	0,61	0,02	**3,94**
Foreign language knowledge	-0,54	0,68	-0,37	-0,78	-0,42	**3,90**
Entrepreneurial mindset	-0,71	0,12	-0,19	-0,42	-0,14	**3,88**
Good presentation skill	-0,49	0,49	0,08	-0,08	-0,14	**3,86**
Applying theoretical knowledge in practice	-0,54	0,55	0,06	0,03	-0,36	**3,84**
Organisational skills	-0,54	0,31	0,28	0,15	0,13	**3,81**
Independence	-0,66	0,77	0,70	0,82	0,52	**3,72**
Good time management	-0,96	0,74	0,30	0,62	-0,26	**3,70**
Ability to analyse and synthesize	-0,72	0,73	0,40	0,36	0,25	**3,68**
Writing skill	-0,58	0,52	0,74	0,38	0,56	**3,68**
Conflict management skill	-0,31	1,11	0,69	1,08	0,50	**3,36**
Leadership skills	-0,46	0,28	0,28	0,01	0,45	**3,14**

Source: self-edited on the basis of the data of the 360 degree competence assessment

Now we are creating a mean using the values given by the employers (taking both aspects into consideration as the difference is not significant) and examine the size of the differences compared to this from the perspective of the other players. We put them into the centre as they may probably be regarded the most objective and the purpose of higher education is to make the graduates able to find their opportunities at the labour market either as

an employee or as an entrepreneur. Owing to the survey we have no received answers regarding the expectations, it rather shows to what extent the assessment of the other groups differs from what they sense.

In the table *(Table 4)* we used grey background to indicate the statistically detectable difference compared to the values given by the employers on the basis of a one-sample t-test. Almost without exception, the difference is significant. The former tendency remained but we get new information through the interpretation of the data. When assessing the level of general necessity they emphasized the following variables the most: "Outstanding endurance at work, persistence", Self-determination" and "Conflict management skill" while the least emphasized variables are as follows: "Leadership skills", "Foreign language knowledge" and Entrepreneurial mindset". Therefore, according to the expectations of our modern age a complex graduate is needed who can be employed in various fields, is able to cooperate with others while the innovative mindset and the leadership roles are becoming less important. *(Table 3)*. However, if we focus on the employers only *(Table 4)* then, interestingly, we can reveal a significant difference, a change in the order of certain factors. The number of variables valued high is fundamentally lower and the lower part of the scale is shifted further down. The most important factor clearly is "Teamwork" closely followed by "Flexibility" then comes a factor "Ability to innovate and discover new things" which is undervalued by the teachers. This shows that the graduates of UP do possess these skills. The factors regarding communication and outstanding endurance at work can be found only after this and they also think that leadership skills are the least dominant and, although they are good team players, they are not successful in managing conflicts.

Students remarkably overrate themselves in the fields of self-determination, analytical skills and leadership competence, while in the case of the other factors they have a relatively realistic picture of themselves. Graduates think that they are much better regarding presentation techniques, the practical usability of their knowledge, managing conflicts and leadership skills.

CONCLUSIONS

2015 is the fifth year when he research of the Graduate Career Tracking System is carried out that have developed and been completed according to a complex approach during the past years. Thanks to the 360 degree competence assessment we receive information with the help of which we can provide effective assistance to our students to adjust themselves to the labour market. The model that has been developed is built on the opinion of the students, graduates and employers, students and graduates carry out self-reflection while the other players provide external assessment.

Generally, teachers set a low value on the actual performance of their students and a high value on what is expected by the labour market. Graduates and students give an assessment that suits the perspective of the employers, however, they think that they are more communicative, more suitable to hold a leading position and carry out responsible work on their own. Interestingly, graduates underestimate their own qualities in the fields of creativity and innovation.

We plan to continue this research in the future completed with what the employers expect from a fresh graduate. This will make the picture complete as besides the teachers (for whom it is not even necessary) every player voices an opinion on their performance and expectations.

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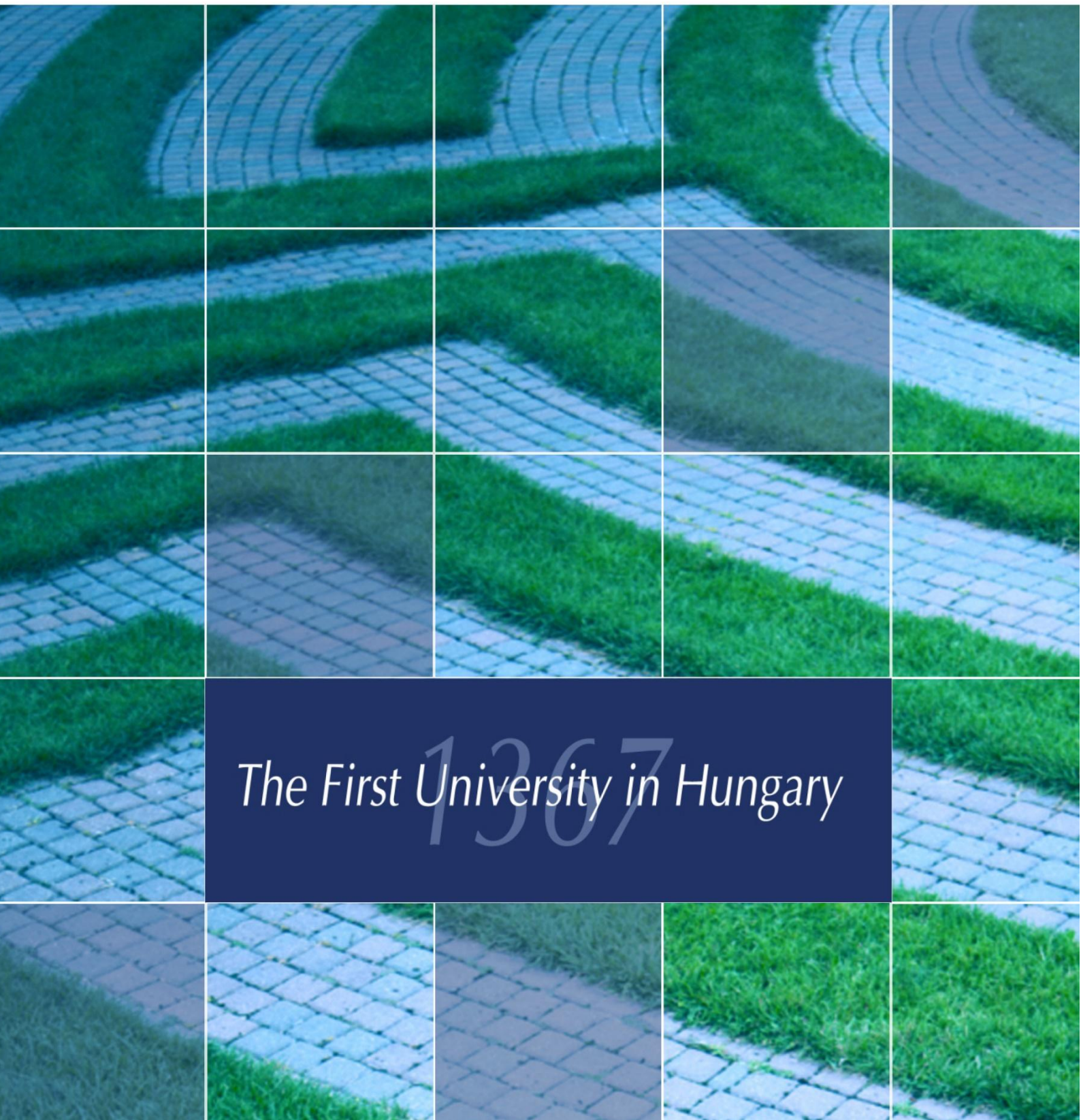

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