



Center for International
Higher Education Studies

Hungarian Higher Education 2014 Strategic Progress Report

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Introduction

The destiny of Hungarian higher education is an intriguing topic for all because – as many of us would agree – the future of Hungary depends on the present of education. At the beginning of each year when higher education applications are submitted, tens of thousands of families are in agony because they have to make a crucial decision. By then, the central budget has already earmarked the state funds to be spent on higher education in the given year. Higher education institutions are busy recruiting their students: they are organizing open days, placing in advertisements, competing at the Educatio Fair, and politicians also speak up more often on the topic at this time of the year.

The whole of society is concerned with the basic issues of higher education. Is it worth attending higher education institutions in Hungary? Do graduates have any kind of future ahead of them? In which direction is the standard of Hungarian higher education heading? Who pays the costs of education and who should be paying for them: the state, the students or the potential employers? Where do we stand in the international competition? A multitude of questions could follow, about which everybody has an opinion: some form firm and more persuasive views while others less pronounced ones. Ever since its foundation, the Center for International Higher Education Studies (NFKK-CIHES), established in 2008 at Corvinus University of Budapest (CUB), has always considered it to be its mission to take stock – at the beginning of each year in the last week of January – of the previous year and of the trends that were in focus throughout the year before. Since 2009, CIHES has been organizing its yearly conference on “Hungarian Higher Education”, where researchers, university officials, government representatives and foreign experts can share their views on higher education before a steadily growing audience.

Two years ago, CIHES decided to draft a document – in preparation for the conference – on Hungarian higher education with an analogous title. The “Strategic Progress Report” on the year of 2012 focused on six topics on sixteen pages. The authors of the documents, i.e. the leaders of CIHES, were faced with the challenge of how to write about something so briefly: many of the topics could not even be touched upon while we had the impression that academic argumentation was also injured. In harmony with the philosophy of our research centre and in order to make it available for the international public, we published our progress report for 2013 in English as well, covering topics equally relevant on the international level.

Our strategic progress report for 2014 presents higher education on as many as fifty pages, with lots of tables and graphs, and yet, it is still fragmentary. The authors of the study are all members of CUB-CIHES, but not all of them are full-time employees of the university. Since 2014, the research centre has been open to Hungarian and foreign higher education researchers as well. This gives even more variety to our study, which we recommend to all readers interested in higher education. Most likely you will not find every topic which you are interested in or which is present in public discourse. That is exactly why you should attend our conference on 28 January with the subtitle “Waiting for a Shift in Gears...” There you can obtain first-hand information from the competent state secretary about the directions of development for a performance-based higher education.

The Authors

Overview

1 The change of government in 2010 and the turn in education policy manifested in the new Higher Education Act of 2011 as well as the government decrees on the implementation thereof (the raising of the minimum admission score, the introduction of student contracts, the extension of fee-paying programmes, the extreme raising of the admission scores of the state-funded places of 16 programmes) led to a decline in the number of applications to higher education exceeding the demographic effect.

2 As it transpires from the analysis of regional divergences, the chances of admission to higher education – i.e. bachelor programmes and higher education vocational programmes – vary according to the micro-regional location of the permanent place of residence of those admitted. It is especially students coming from the most disadvantaged micro-regions whose chances declined in undergraduate-level higher education between 2002 and 2012. On the other hand, the trend in the longer run seems to justify the claim till 2010 that shorter higher education programmes can increase the chances of admission to higher education of those students who come from disadvantaged micro-regions. However, even their chances were reduced as a result of the Higher Education Act of 2011 due to the transformation of higher education vocational programmes.

3 Our analyses have shown that the educational and outcome structure of Hungarian higher education does not differ significantly from those of the developed countries. Indeed, we are somewhat behind regarding our outcomes in terms of MSE programmes, but (as a result of earlier processes), the ratio of graduates in science and engineering in the age group of 25-64-year-olds is not unfavourable at all. Thanks to the efforts of the past period, the proportion of those representing these academic fields has been growing among new entrants as well. Nonetheless, this ratio is still low in international comparison.

4 The accumulated findings of the empirical studies concerning the individual subdomains of teaching and learning indicate that while the teaching staff are affected by burnout and frustration due to their pedagogical difficulties and – in many cases – failures along with their lack of means to change the situation, they not only recognize these problems, but are also open to changes promising to improve the situation and bring innovative solutions. All of the above imply that the current climate of higher education is favourable for education policy initiatives aiming at the improvement of the quality of teaching and learning.

5 The revision of qualifications and the reformation of teaching are both quite timely, indeed: the figures indicate that the system of qualifications of Hungarian higher education has been frozen since 2010/2011, that is, the introduction of the two-cycle structure in a phasing-out system: barely any outdated qualifications have been abolished or new ones created ever since. Thus it is not only the quantity and the regional distribution of qualifications that have become “ossified”, but the internal structure as well, with very different – and in some cases, distorted – proportions in each region.

6 Based on the analysis of the total revenues side, the funding conditions of Hungarian higher education have been quite rhapsodic in the past five years. The diminution of the proportion of state support has been conspicuous, which is disturbing, especially in international comparison. A similarly steady decrease can be detected in the ratio of the total expenditure on higher education as a percentage of the total expenditure of the state budget. After the peak year of 2011, the figures of institutional revenues and expenditures deteriorated. Based on the figures of budget reports, it is clear that a growing proportion of the expenditure on higher education is funded from the institutions’ own revenues. In 2013, this made up for nearly two thirds of the total expenditure. At the same time, the proportion of transfers from non-budgetary sources (i.e. directly from

companies, organizations, international organizations) within the total revenues stagnated steadily and merely around 3.5-4%. This is an extremely modest sum, and as such, it is one of the major weaknesses of the funding of Hungarian higher education.

7 The normative state support for higher education has been basically terminated, to be replaced by a kind of mixed system of historic budgeting and earmarked state support, which is heavily hand-operated: it is non-transparent for the institutions and cannot be foreseen in the long run. Although the higher education strategic draft proposal issued in 2013 was yet calling for the restoration of normative state support, the 2014 document affirms that “the funding of the programmes relies on cost calculations determined along identical principles, and its sum will be differentiated by institution, adjusted on the basis of predetermined performance indicators”. It is too early to form an opinion about the latter system yet, but this would require the substantial transformation of cost recording (even in the simplified form of cost calculation) and the identification of proportionate and fix costs.

8 The strategic plan for higher education devised in 2013 proposed that “within a reasonable time frame, Hungarian higher education should reach the level customary in OECD countries, i.e. a budgetary expenditure of 1-1.2 percentage points of GDP”. However, the new higher education strategy issued in autumn 2014 declares that “the direct state support cannot be substantially increased in the upcoming years, and in light of the robustness of the system, it is not even advisable to be so exposed to a single source of revenue”. If we take this fact and the objective to improve the quality of education and research together, the only likely scenario in the medium run seems to be the considerable polarization of the stakeholders of higher education.

9 Since 2011, the organizational and managing autonomy of higher education institutions has been reduced dramatically. Just to cite a few examples: the appointment of rectors and Chief Financial Officers by the Minister, the appearance of budgetary supervisors, the restriction on the establishment of companies and the introduction of centralized payroll. It should be added, however, that the current higher education strategy envisages the expansion of management rights (asset management, founding companies). The year 2014 saw the introduction of an additional element, the chancellor system – along with the restoration of the university’s right to elect its rector –, which was carried out most of all with reference to the practice in Germany. However, the Hungarian implementation diverges significantly from the logic of the German practice on two points: on the one hand, there are no built-in mechanisms to resolve conflicts between the chancellor and the academic leadership (rector), and on the other, the chancellor’s internal and external legitimacy is uncertain, not to mention the strong tendencies inherent to the system to erode his internal legitimacy. Although the chancellor system could be suitable for driving the efficiency of the use of resources, the introduction of the chancellor system on the whole tends to preserve the low-level organizational and managing autonomy of the institutions, especially because it reduces their ability and possibility to take responsibility.

10 International rankings and country analyses indicate that all in all, Hungary’s higher education is in line with its level of economic development, and in general, we are among the middle ranks. Thus the current situation does not seem too bad. However, it is regrettable that we have attained this position as a result of losing significant advantages. In the middle of the 2000’s, Hungarian higher education “outperformed” the country’s level of economic development in many respects; it was usually at the top of the East-Central European region, about to catch up with the EU average. In the past 10 years, however, we have fallen behind in nearly all the rankings. Since these analyses rely on the official figures provided by the Hungarian government via its international reporting obligations, certain ranks and methodological solutions can be disputed, but the overall picture is a realistic one. It would be worthwhile to analyse in detail whether we are dealing with long-term

trends and to what extent some of the evaluations can be put down to the impact of the economic crisis, to turns in economic policy or to the return to normality. The recommendations of external observers keep talking about the increase of state support for Hungarian higher education, the expansion of certain components of autonomy, the improvement of admission and outcome rates and the enhancement of mobility.

11 If we analyse the ranks of the institutions in the past three years, we can see that those Hungarian institutions which regularly (ELTE, SZTE, DE) and occasionally (BCE, BME, PTE) appear in these rankings are typically ranked somewhere between 400 and 700, and with that, they come right after the international elite. Taking into consideration the further ranks, Hungary has a relatively high number of good-quality institutions in the aggregated rankings of excellence per number of inhabitants compared to its neighbouring countries – institutions that exhibit a high-standard and well-balanced performance on the whole. In terms of research rankings, Austria and Slovenia stand out in the region while Hungary, the Czech Republic and Poland perform on a similar level, falling behind the former two.

12 The export market orientation of higher education conceals major inequalities both with respect to fields of study and higher education institutions, which is also true for the convergence region. In 2001, Hungary was still in the lead among the Visegrád countries in terms of the absolute number of degree seeking foreign students, with only Austria being ahead of it in the region. By 2012, however, compared to Hungary's somewhat more than 1.5-times increase, Austria nearly doubled the number of its foreign students, Poland tripled this figure, and the Czech Republic and Slovakia achieved a fivefold increase.

13 Concerning the number of European exchange students and non-European students doing part-time studies in Hungary, we can look to Tempus Public Foundation, the Campus Hungary initiative and a country-specific programme of the Hungarian Rectors' Conference for a breakthrough. The Brazilian government is sending 100 thousand university students to foreign countries for at least one semester. In the global ranking of host countries, Hungary has attained the exquisite 10th place, while the University of Technology holds the impressive 5th rank among universities. Thanks to the various exchange programmes, part-time studies and study trips abroad, it is not only Hungarian students and instructors who could profit from this favourable opportunity: the international receptiveness of the entire Hungarian higher education has also improved. For the moment, however, the motivation of officials, the international marketing capacity and the pressure from proprietors or the government all seem to be missing – factors which could possibly turn the tide in the export revenues of Hungarian higher education.

On the whole, the situation of Hungarian higher education does not differ significantly from that of the other social and economic areas of the country. Its legal regulations have undergone numerous and significant modifications in every respect and this process is still in course. The three Higher Education Acts approved since the political changeover have been amended nearly 100 times till 2015, with a yearly average of 6-7 modifications in the past 10 years, occasionally along radically new lines of direction in education policy. The higher education strategy currently under preparation will bring a major change in education policy again, and it foreshadows non-negligible amendments in legislation. It remains to be seen to what extent the organic development of Hungarian higher education and its "shift in gears" will be affected by such "jerks of the steering wheel".

1. Entrance to higher education and student numbers

The change of government in 2010 and the turn in education policy manifested in the new Higher Education Act of 2011 as well as the government decrees on the implementation thereof (the raising of the minimum admission score, the introduction of student contracts, the extension of fee-paying programmes, the extreme raising of the admission scores of the state-funded places of 16 programmes) led to a decline in the number of applications to higher education exceeding the demographic effect.

It transpires from the analysis of regional divergences that the chances of admission to higher education – i.e. bachelor programmes and higher education vocational programmes – differ according to the micro-regional location of the permanent place of residence of those admitted. We can observe a significant inequality of chances, especially among students coming from the most disadvantaged micro-regions: their chances declined in undergraduate-level higher education between 2002 and 2012. On the other hand, the trend in the longer run seems to justify the claim till 2010 that shorter higher education programmes can increase the chances of admission to higher education for those students who come from disadvantaged micro-regions. However, even their chances were reduced as a result of the Higher Education Act of 2011 due to the transformation of higher education vocational programmes.

It is a frequently recurring issue that there are few students in science and engineering and that few students apply to such programmes. Our analyses show that the educational and outcome structure of Hungarian higher education does not differ significantly from those of the developed countries. Indeed, we are somewhat behind regarding our outcomes in terms of programmes in science and engineering but (as a result of earlier processes) the ratio of MSE graduates in the age group of 25-64-year-olds is not unfavourable at all. Thanks to the efforts of the past period, the proportion of those representing these academic fields has been growing among new entrants as well. Nonetheless, this ratio is still low in international comparison.

1.1 Admission trends and the situation in 2014

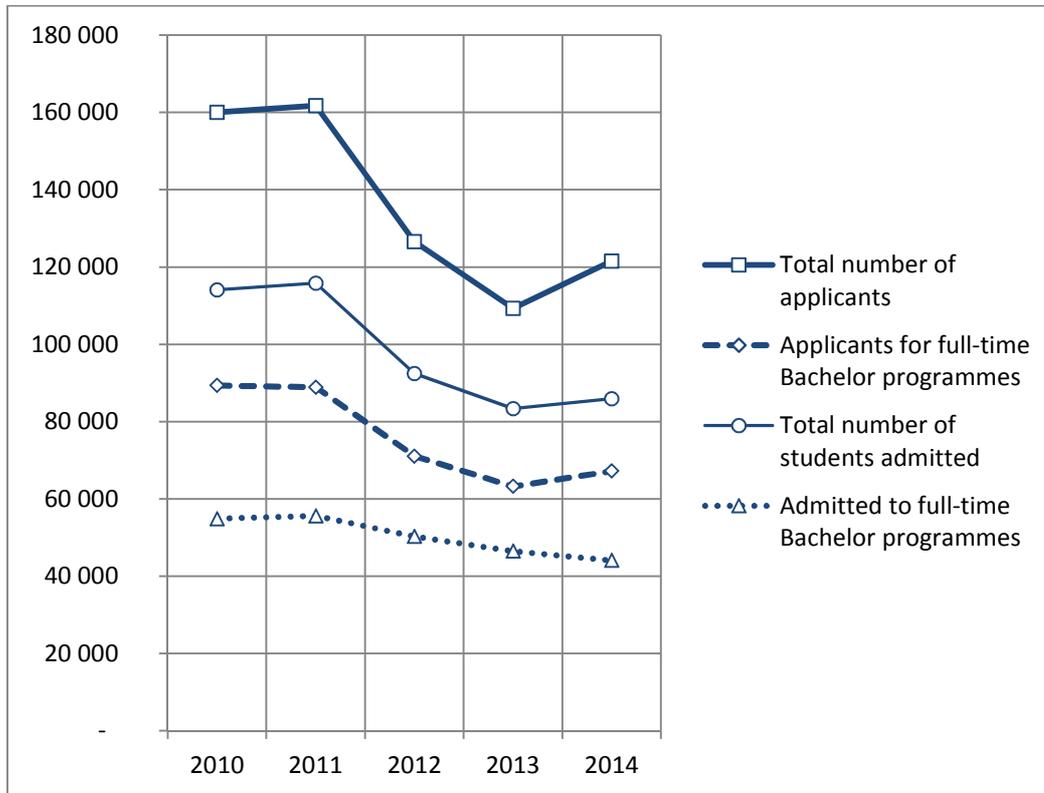
Due to the reduction of the admission quotas, the total number of students was more than 10% lower for the academic year of 2013/2014 than for the academic year of 2010/2011 (within that, the number of students in full-time programmes dropped by 7% and that of part-time programmes by 20%). In international comparison, Hungary is one of the few OECD countries where the number of students went down in the past four years (besides Slovenia, Poland, Italy, New-Zealand and Estonia). After the uncertainties concerning further education following 2011 and the subsequent decline in the number of applicants, the situation seems to have consolidated by 2014 and the number of applicants to higher education saw a slow increase, as did the number of those admitted (to some extent).

Nevertheless, the number of those admitted to full-time programmes continued to diminish, even if to a lesser extent than in the previous years, i.e. only by 2%. In 2014, the number of students admitted to full-time higher education was smaller by nearly one fourth (23%) than in 2011. The proportion of those admitted to part-time programmes out of the total number of students admitted was 32.7% in 2010 and 26.7% in 2013. The year of 2014 saw a minor upswing in this area as well: in absolute figures, their number grew from more than 83 000 to almost 86 000, attaining a 30% ratio.

It is evident that the drop in full-time programmes cannot be put down to demography, or at least, not exclusively, since the age group of 20-24-year-olds shrank only by 3% between 2010 and 2013.

However, even the diminution of the number of students having obtained a secondary school leaving certificate remained below 10-12%.

Figure 1. Number of applicants and number of students admitted to higher education, 2010-2014



Source: based on data from http://www.felvi.hu/felveteli/ponthatarok_rangsorok/elmult_evek and http://www.felvi.hu/felveteli/ponthatarok_rangsorok/friss_statistikak

In 2014, the number of applicants for each level of education was higher than in the previous year. The number of applicants to tertiary vocational programmes, bachelor programmes, master programmes and integrated programmes was 52%, 8%, 11% and 17% higher (as first-place application) than in the previous year, respectively.

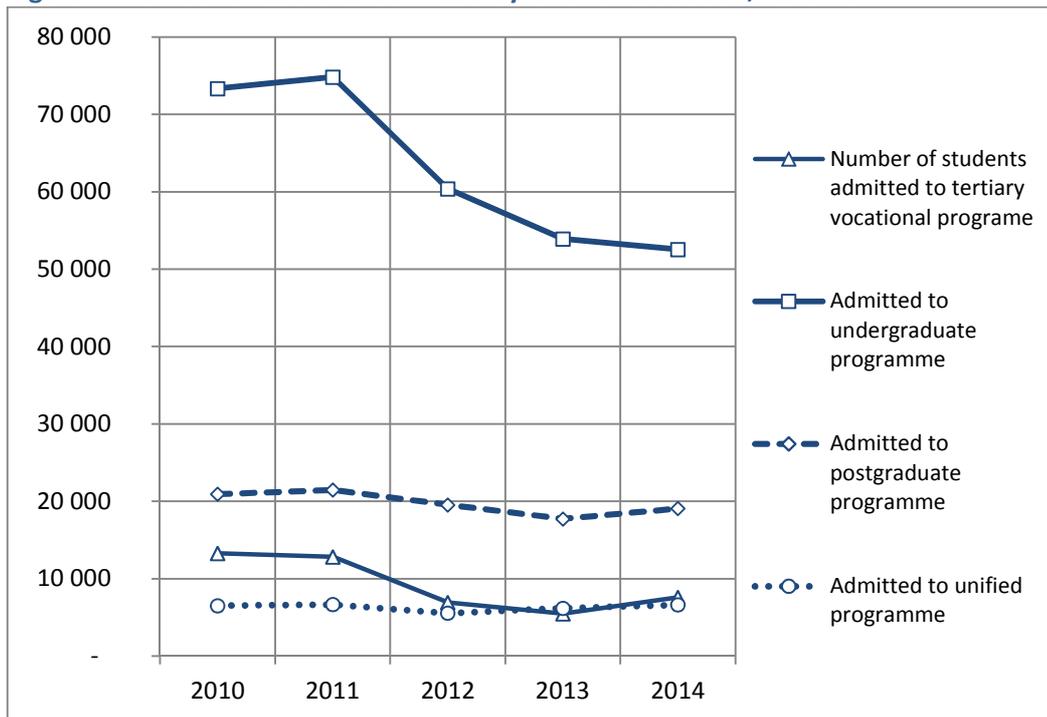
Table 1. Number of applicants by level of education, 2010-2014

	2010	2011	2012	2013	2014
Higher education vocational programmes	9 978	11 435	9 008	4 719	7 188
Bachelor programmes	108 314	106 883	80 352	71 120	76 684
Master programmes	30 194	32 378	28 292	24 621	27 321
Integrated programmes	11 547	11 035	8 922	8 799	10 316

Source: based on data from http://www.felvi.hu/felveteli/ponthatarok_rangsorok/elmult_evek and http://www.felvi.hu/felveteli/ponthatarok_rangsorok/friss_statistikak

Almost 40% more students were admitted to tertiary vocational programmes than in the previous year, but this figure is still only 59% of the number of those admitted in 2011. A little more than 7% more applicants were admitted to both master programmes and integrated programmes than in 2013. In the case of integrated programmes, the number of students admitted is identical to the 2011 figure, but the figure for master programmes is more than 10% inferior to that year. 3% less students were admitted to bachelor programmes than in the previous year, and this figure amounts to less than 60% of the 2011 data.

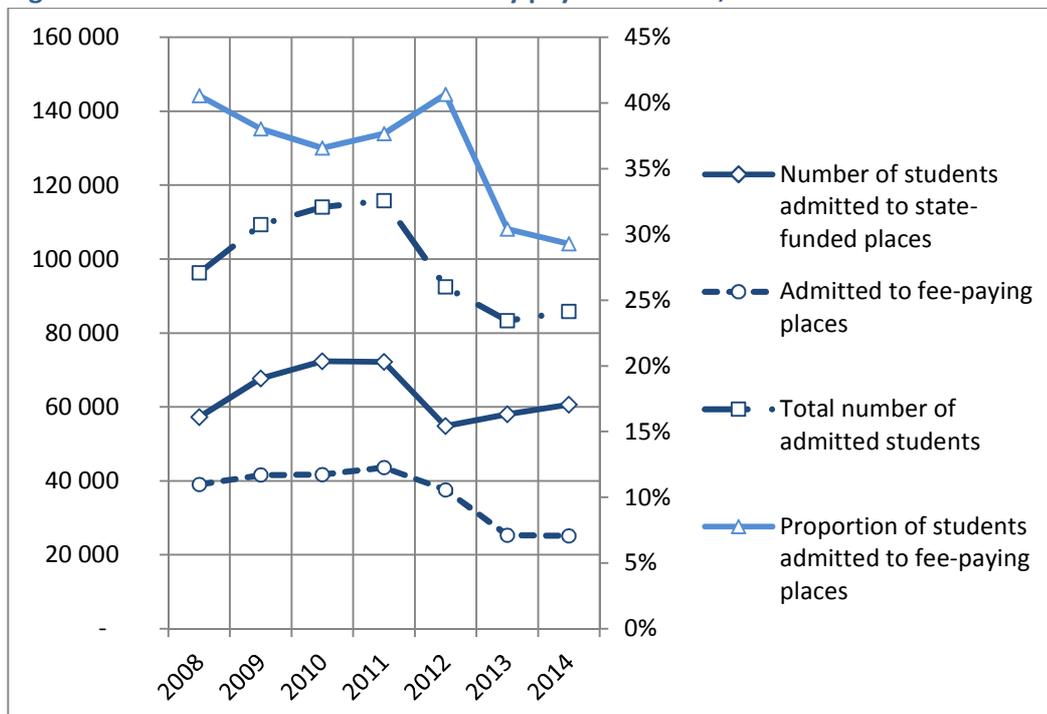
Figure 2. Number of students admitted by level of education, 2010-2014



Source: based on data from http://www.felvi.hu/felveteli/ponthatarok_rangsorok/elmult_evek and http://www.felvi.hu/felveteli/ponthatarok_rangsorok/friss_statistikak

The number of students admitted to state-funded places was 5% higher than in the previous year, but despite this increase, it was still 16% lower than the number of students admitted with such payment status in 2011. 6% less students were admitted to fee-paying places than the year before (obviously as a result of the raising of the minimum admission scores and the requirement of advanced level secondary school leaving examination).

Figure 3. Number of students admitted by payment status, 2008-2014



Source: based on data from http://www.felvi.hu/felveteli/ponthatarok_rangsorok/elmult_evek and http://www.felvi.hu/felveteli/ponthatarok_rangsorok/friss_statistikak

Besides the quality of applicants, it is the distribution of the number of students admitted by institution that reflects the education policy intervention the most (especially in the case of the number of students in part-time programmes). It is clear that the increase in the number of students admitted to state-funded part-time programmes at the Colleges of Baja, Szolnok and Nyíregyháza, or at King Sigismund Business School and at the University of Applied Sciences compared to the previous year is a sign of the education policy intervention. Similarly, the decline at Wesley College or Károly Róbert University College is also an indication of that. For in the case of universities, it is manifest that the outstandingly higher growth in the number of state-funded students admitted at Károli Gáspár University of the Reformed Church in Hungary and at Pázmány Péter Catholic University as well as the significantly higher growth thereof compared to the previous year has been induced by the preferences of education policy, just like the radical fallback in the number of state-funded places at the University of Theatre and Film Arts.

1.2 Regional inequality of opportunities in admission to higher education

With the help of higher education admission databases, we can explore whether the chances of admission to higher education (undergraduate and tertiary vocational programmes) vary according to the micro-regional location of the permanent place of residence of those admitted or not. As we will see, a significant difference can be observed in opportunities at the expense of the disadvantaged.

By arranging the more than 170 micro-regions on the basis of the so-called complex indicator describing their level of development, we can identify the 30 least developed micro-regions (LD30) and the 30 most developed ones (MD30). It transpires from the regional statistical data on education that based on the participation rates in secondary education, those living in the LD30 micro-regions set off for further education with smaller chances already than those living in the MD30 micro-regions, since more than 10% of the students in the LD30 attend schools that do not give a secondary school leaving certificate. We would like to express our gratitude to the former leaders and employees of Educatio Kht. for having provided us with (naturally, anonymous) admission data for the period of 2002-2010 free of charge. The figures for 2012 come from the higher education admission statistical database of the Educational Authority obtained for a certain fee.

We calculated the admission rates on the basis of the above two sources, i.e. how the average secondary school participation of the LD30 micro-regions and the MD30 micro-regions relate to the average rate of admission to full-time undergraduate programmes and tertiary vocational programmes from the given group of micro-regions. The difference between these indicators for the two groups of micro-regions shows the difference in their typical admission chances.

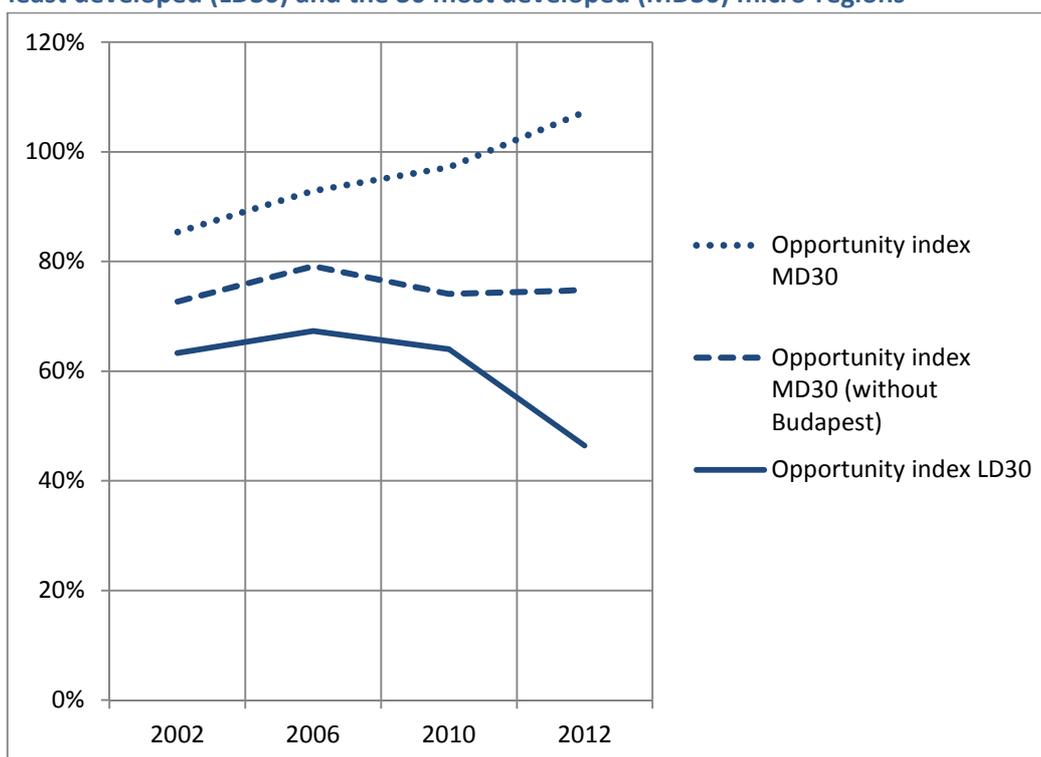
Table 2. Admission rates from the 30 least developed (LD30) and the 30 most developed (MD30) micro-regions in full-time bachelor programmes

	2002	2006	2010	2012
Admission rate from the LD30 micro-regions in full-time bachelor programmes	3.8%	3.5%	3.2%	3.2%
Admission rate from the MD30 micro-regions in full-time bachelor programmes*	39.8% (15.7%)	41.9% (16.7%)	44.4% (16.3%)	45.6% (16.3%)

Source: based on the admission statistics of each specific year

*Percentages in brackets show the admission rates without Budapest

Figure 4. Opportunity index* (in %) in bachelor programmes for students from the 30 least developed (LD30) and the 30 most developed (MD30) micro-regions



Source: based on the admission statistics of each specific year

*Opportunity index: the average secondary education participation rate from a given group of micro-regions compared to the average admission rate to full-time bachelor programmes from the same group of micro-regions

It is clearly visible that the further education chances of students coming from the least developed micro-regions deteriorated between 2002 and 2012: according to Figure 4, the gap widened from 22% to 61% (from 9.5% to 28.5% without Budapest).

However, as shown by Figure 5, in the case of tertiary vocational programmes, the chances were on the rise till 2010 (they were nearly equalized, the difference being around 4.5%), but then the chances of students of the least developed micro-regions decreased here as well (in 2012, 47% again, or 29% without Budapest) as a result of the transformation of tertiary vocational education set forth by the Higher Education Act of 2011.

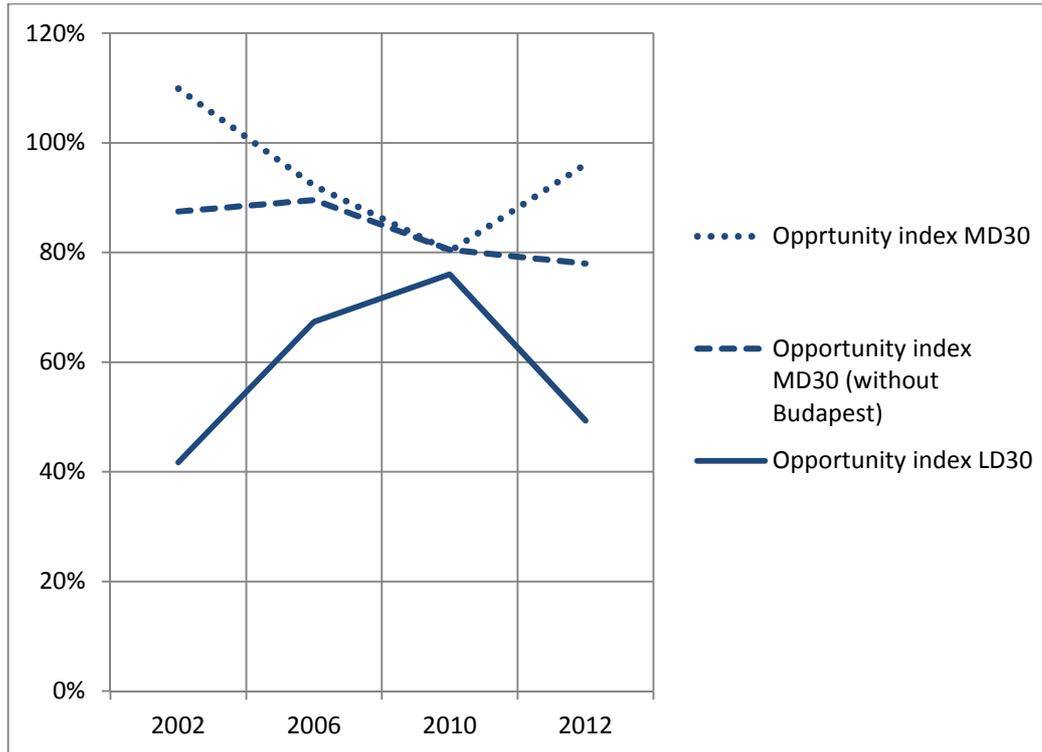
Table 3. Admission rates from the 30 least developed (LD30) and the 30 most developed (MD30) micro-regions in higher education vocational programmes

	2002	2006	2010	2012
Admission rate from the LD30 micro-regions in higher education vocational programmes	2.5%	3.5%	3.8%	3.4%
Admission rate from the MD30 micro-regions in higher education vocational programmes	51.2% (18.9%)	41.6% (18.9%)	36.7% (17.7%)	38.2% (17.4%)

Source: based on the admission statistics of each specific year

*Percentages in brackets show the admission rates without Budapest

Figure 5. Opportunity index* (in %) in higher education vocational programmes for students from the 30 least developed (LD30) and from the 30 most developed (MD30) micro-regions



Source: based on the admission statistics of each specific year

*Opportunity index: the average secondary education participation rate from a given group of micro-regions compared to the average admission rate to higher education vocational programmes from the same group of micro-regions

The longer-term trend till 2010 justifies the claim that shorter higher education programmes such as tertiary vocational programmes can increase the admission chances of disadvantaged groups (and within that, of students of disadvantaged micro-regions) to higher education.

At the same time, we witness the deterioration of the chances of disadvantaged micro-regions in 2012 both with respect to undergraduate programmes and tertiary vocational programmes (especially the latter). In the case of tertiary vocational programmes, the obvious reason for that is that higher education vocational programmes were radically transformed by the Higher Education Act of 2011 and they stopped to offer qualifications registered in the National Qualifications Register (NQR). In other words, they were deprived of their specificity which used to offer a sense of security for those in a more disadvantaged position: that of offering a useful qualification in the job market after the completion of the tertiary vocational programme (even if no further education followed). Concerning the undergraduate programmes, the deterioration of the chances of disadvantaged students could be put down to the impact of several education policy measures entering into force from 2011 (student contracts, the requirement of an advanced level secondary school leaving examination in an increasing number of programmes, fee-paying students paying full tuition, etc.)

The widening of the already existing gap in undergraduate programmes and the opening of the gap in tertiary vocational programmes in comparison to the previously improving situation is demonstrated by the data of Tables 2 and 3 presented by Figures 4 and 5.

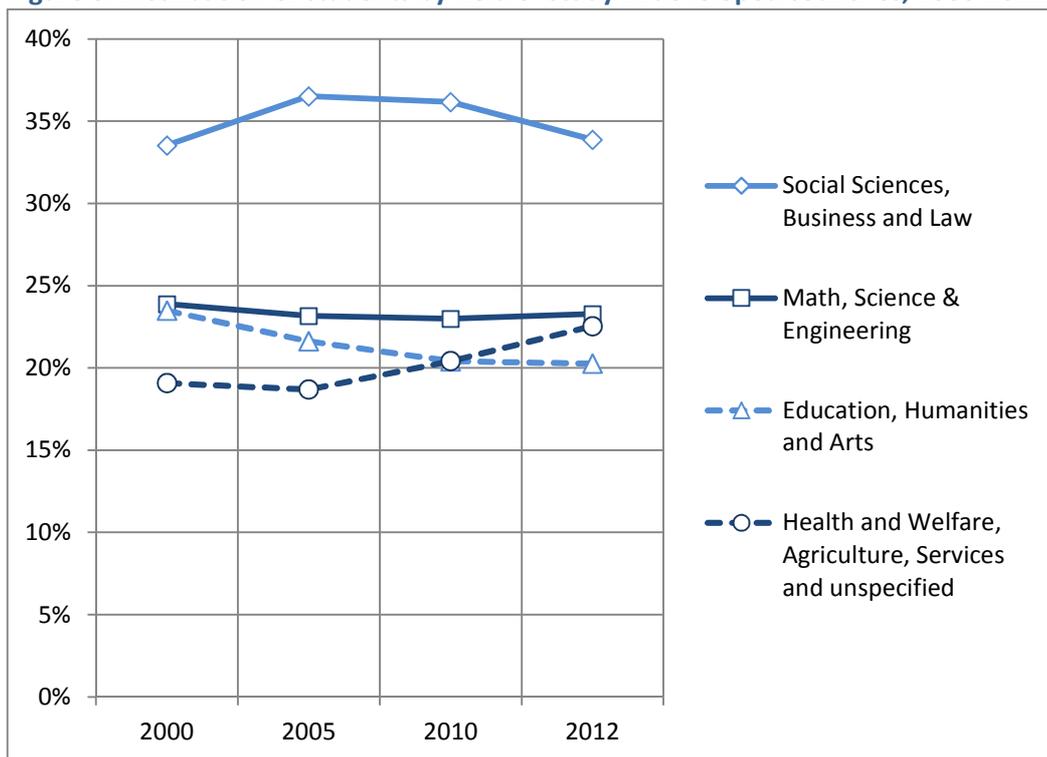
1.3 The distribution of Hungarian higher education outcomes by field of study

It is a frequently recurring issue in the strategic plans of Hungarian higher education, but outside of them as well, that there are few students in science and engineering and few students apply to such programmes.

The ratio of students in maths, science and engineering (hereinafter: MSE) is a priority issue in the USA as well as in the European Union, which is linked – among others – to the EU’s efforts in Europe related to the Lisbon Strategy devised in 2000. It is in harmony with the latter that the European education and educational objectives were approved in 2003 by the Education Council of the European Union. The resolution 8430/03 approved stipulates the following concerning the objectives to be achieved by 2010: the proportion of those graduating in maths, science or engineering should increase by at least 15% on average in the European Union and gender imbalances between men and women should be reduced.

If we examine the distribution of students of the 41 developed OECD and EU countries in higher education by the four major integrated fields of study and its evolution between 2000 and 2012 (so that we have comparable data), we can observe some characteristic shifts.

Figure 6. Distribution of students by field of study in developed countries, 2000-2012



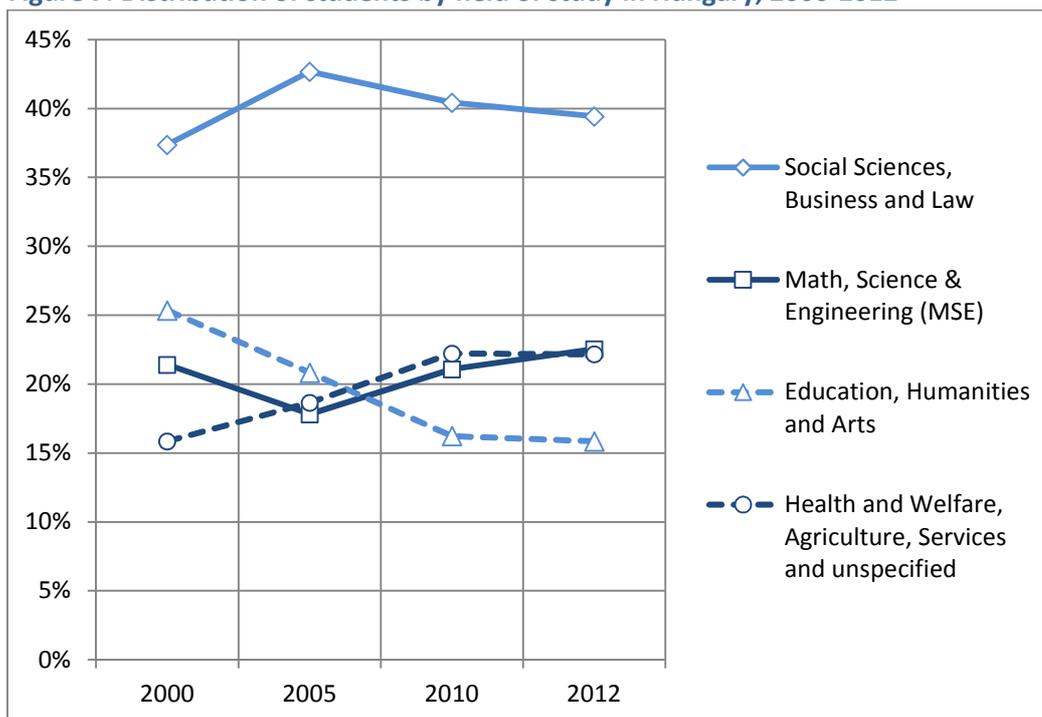
Source: based on data from http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS

The greatest proportion of students, more than one third of them, attend programmes in social sciences, business and law, but the ratio of this group decreased slightly, but steadily after the peak in 2005. On the other hand, the ratio of students in education, humanities and arts fell continuously from 2000. The proportion of students in MSE remained somewhat above one quarter, and in spite of the priorities presented above, it did not seem to be growing: it stagnated and even decreased a bit. However, the proportion of students in health and welfare, agriculture and services was on the

rise. (It is important to add that the field of agriculture amounts to a mere 1-2% and its proportion shrank from 2.2% in 2000 to 1.8% in 2012.)

In Hungary, the proportion of the field of social sciences, business and law saw a mild decrease while education, humanities and arts dropped more substantially in the same period; the other two, MSE and health and welfare, agriculture and services expanded. (The dimension of the field of agriculture is by far above the average in Hungary: it was 3.9% in 2000, 3.4% in 2010 and 2.5% in 2012. With that, Hungary is the sixth out of the 41 countries after Greece, Croatia, the Czech Republic, Slovenia and Japan.)

Figure 7. Distribution of students by field of study in Hungary, 2000-2012



Source: based on data from http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS

If we divide the 41 countries into five big groups according to Table 4, then a more detailed analysis of the ratio of students in MSE reveals that the rate of proportion increase in Hungary was among the highest in this field in the past years.

Table 4. Proportion of MSE students in groups of developed countries

	2000	2005	2010	2012
Anglo-Saxon countries	21.4	20.6	20.8	21.3
Continental Europe	22.6	20.1	20.6	22.9
Nordic countries	23.7	22.8	22.5	23.9
South-European countries	23.1	24.5	25.3	23.2
Post-socialist countries	23.8	22.9	22.5	23.8
Hungary	21.4	17.8	21.1	22.5

Source: based on data from http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS

The total number of degrees issued in Hungary per year was basically constant in the past decade, ranging from 49 000 to 57 000. Within that, the number of certificates issued in full-time

programmes fluctuated between 29 000 and 38 000. These fluctuations can be put down to the fluctuation of the number of students admitted as analysed above and the introduction of two-cycle higher education. The number of first university degree recipients (tertiary vocational programmes excluded) went down from 55 000 in 2006 to 39 000. The reason for that (just like in the case of the number of degrees issued in full-time programmes above) is the fluctuation of the demand manifested in admission procedures and the subsequent fluctuation of the number of students admitted, as well as in the introduction of two-cycle higher education.

Let us also look at the number of first university degrees by field of study. (Due to the Hungarian specificities, the field of education is presented separately in Table 5.)

Table 5. Number of first university degree recipients by field of study, 2006-2012

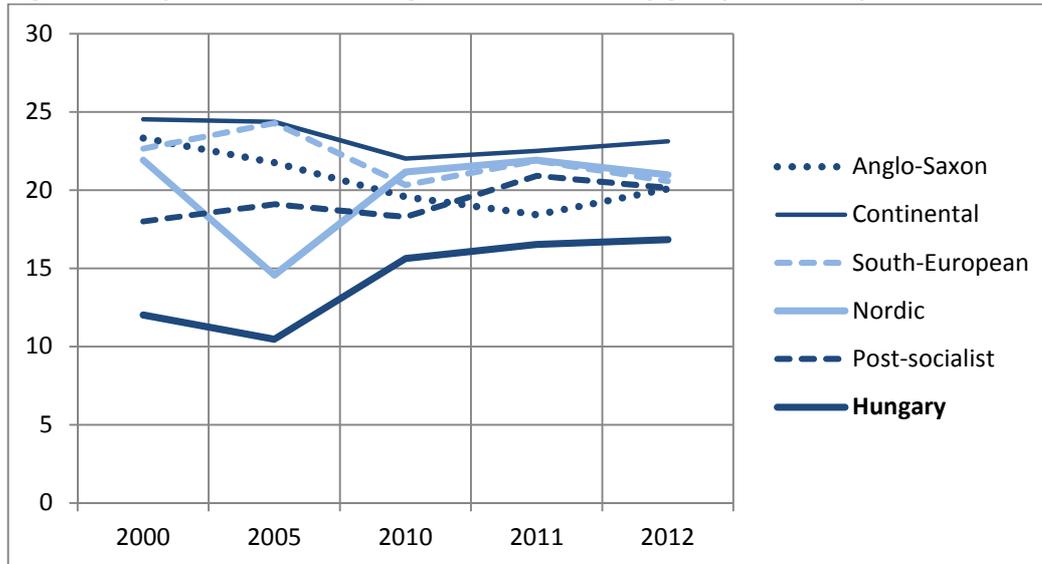
	2006	2007	2008	2009	2010	2011	2012
Social Sciences, Business and Law	21 476	19 679	19 050	20 444	19 232	16 119	14 999
Maths, Science & Engineering (MSE)	7 390	9 101	8 363	8 939	9 324	8 242	7 769
Humanities and Arts	4 940	4 781	4 862	7 419	8 132	7 092	5 816
Education	10 394	10 186	10 379	7 906	5 469	3 385	2 677
Agriculture, Health and Welfare, Services and others	11 132	11 180	10 188	10 512	9 509	7 853	7 875
Total number of graduated	55 332	54 927	52 842	55 220	51 666	42 691	39 136

Source: based on data from http://db.nefmi.gov.hu/statisztika/fs06_fm/ , http://db.nefmi.gov.hu/statisztika/fs07_fm/ , and from higher education statistics 2008-2012 http://www.oktatas.hu/felsooktatas/felsooktatasi_statistikak

Looking at it by field of study, it was in education that the number of first university degree recipients dropped the most dramatically, almost by three quarters (due to the transformation of teacher training after the introduction of the two-cycle education system). The number of degrees issued in social sciences, business and law as well as in agriculture, health and welfare and services decreased by about 30%. After the upswing of the period of 2009-2011, the number of degrees in humanities and arts fell back to the level of 2006. The number of degrees in MSE stagnated with some fluctuation or saw an (extremely mild) increase. It is evident that these processes can be explained by the reshaping of demand and the change of internal procedures (e.g. the change in dropout).

If we examine the evolution of the distribution of graduates by field of study in light of the average of the above mentioned 41 developed (OECD + EU) countries, then we can see that the proportion of graduates in social sciences, business and law increased, while that of graduates in education went down and the rest more or less stagnated. Using the classification of Table 4, we can also compare the proportion of graduates in MSE. Here we can observe movements contrary to each other: a decrease in the case of the Anglo-Saxon group versus growth in post-socialist countries. As shown by Figure 8, Hungary followed the same trend as the latter group.

Figure 8. Proportion of students graduated in MSE by group of developed countries

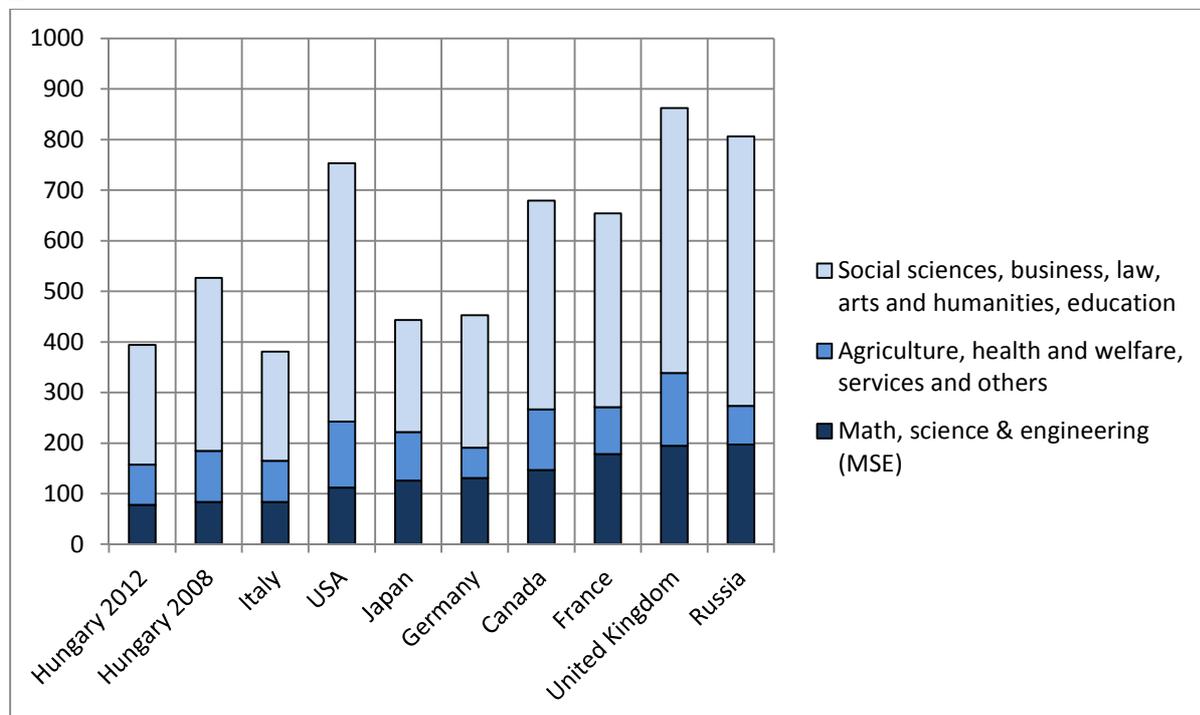


Source: based on Education at a Glance 2008 and Education at a Glance 2011-2014

The comparative study of the G8 countries provides another excellent opportunity to analyse higher education outcomes. The figures allow for a comparison of the ratios of graduates in each field of study in percentage of the total population. We have inserted Hungary's figures for 2008 and 2012 among the indicator values of the G8.

While in terms of the total number of (first) university degree recipients Hungary is about on the same level as in Italy, Germany and Japan, the number of MSE graduates per 100 thousand inhabitants in 2008 and especially in 2012 was significantly inferior to the figures characteristic of the G8 countries (except for Italy).

Figure 9. Number of first university degree recipients by field of study per 100 000 inhabitants, 2008

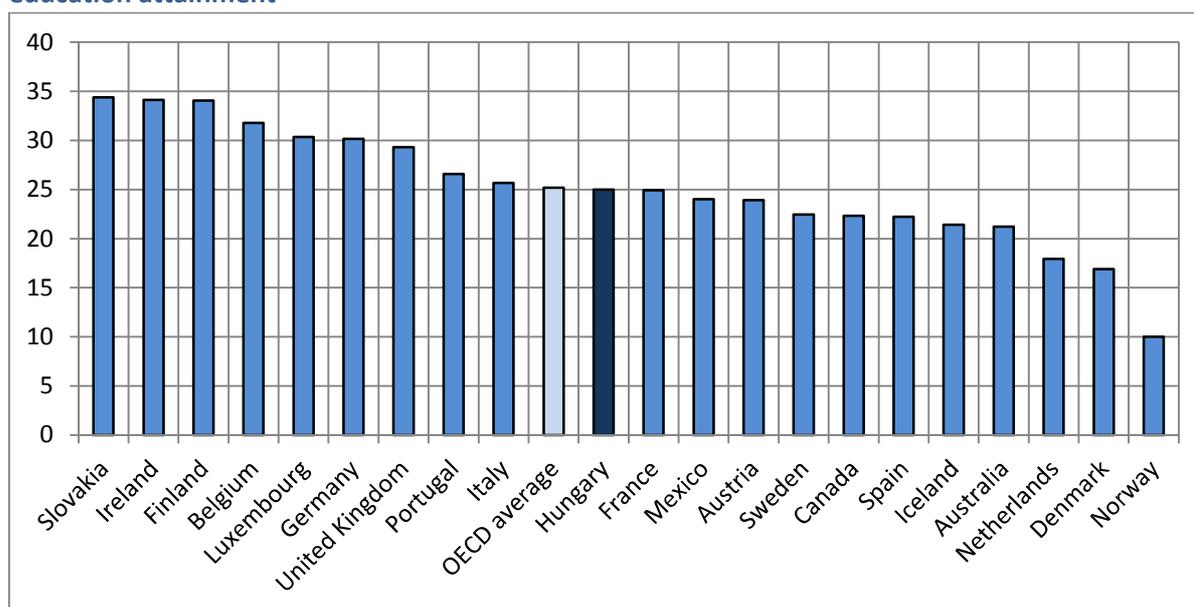


Source: David C. Miller, Laura K. Warren (2011): Comparative Indicators of Education in the United States and Other G-8 Countries: 2011 <http://nces.ed.gov/pubs2012/2012007.pdf>

While the international comparisons made on the basis of participation and graduates data indicate considerably low (if somewhat growing) proportions in the area of MSE programmes in Hungarian higher education (i.e. the flow is low), the situation is not entirely the same with respect to the stock and the ratio of MSE graduates within the population.

The last time the OECD published such figures was in 2008 (and even then for the year 2004). In that comparison, Hungary's figures were basically identical to the OECD average: Hungary was in mid-range concerning the proportions of both MSE graduates and the other two major fields. The reason for that is that before the political changeover, these fields of study had special priority (especially programmes in engineering and agriculture) for they were considered to be programmes satisfying the demand for specialists in the productive sectors.

Figure 10. Proportion of graduated students in MSE among the 25-64-year-olds with tertiary education attainment



Source: Education at a Glance 2008

Since the figures presented by the OECD are from ten years ago, it is worth examining the evolution of the number of graduates and their distribution by field in the age group of 25-64-year-olds. In order to do that, we rely on census data.

Table 6. Number of 25-64-year-olds with tertiary education attainment and their distribution by field of education in Hungary

	1990	2001	2011	2011/01
Maths, science & engineering (MSE)	161 944	193 929	254 174	131%
Agriculture, veterinary, health and welfare, services and unspecified	166 139	153 515	220 333	144%
Education, humanities and arts, social sciences, business and law	272 691	434 140	702 337	162%
Math, science & engineering (MSE)	27%	25%	22%	
Agriculture, veterinary, health and welfare, services and unspecified	28%	20%	19%	
Education, humanities and arts, social sciences, business and law	45%	56%	60%	

Source: http://www.ksh.hu/nepszamlalas/tablak_iskolazottsag (Tables 1.1.3 and 1.3.3)

Based on the census data, it is clearly visible that the number of graduates of each field of study in the age group of 25-64-year-olds has grown since 2011: the integrated ratio of graduates in education, humanities, arts, social sciences, economy and law increased by nearly two thirds, while that of graduates in agriculture, veterinary science, health and welfare, social science and services rose by 44% and that of MSE graduates by 31%.

Regardless of the above, it is still true that while the proportion of graduates in education, humanities, arts, social sciences, economy and law continued to grow since 2001 and reached 60% by 2011, the ratio of MSE graduates decreased from 25% in 2001 to 22% in 2011.

All in all, the educational and outcome structure of Hungarian higher education – apart from PhD programmes not discussed here – do not differ significantly from that of the developed countries. Indeed, we are somewhat behind regarding our outcomes in terms of MSE programmes, but (as a result of earlier processes), the ratio of MSE graduates is not unfavourable at all. Thanks to the efforts of the past period, as demonstrated by Table 7, the proportion of those representing these academic fields has been growing among new entrants as well. Nonetheless, this ratio is still low compared to the average of the individual country groups (except for the Nordic countries). In the past period, the expansion of the proportion of MSE students has more or less corresponded to the average of the continental countries.

Table 7. Proportion of new entrants to higher education in MSE among all new entrants by group of developed countries, 2009-2012

	2009	2010	2011	2012
OECD average	33.7	34.3	35.7	34.5
EU21 average	33.8	34.3	36.5	36.2
Anglo-Saxon countries	35.2	35.4	36.4	38.4
Continental Europe	30.4	30.1	32.6	31.7
Nordic countries	33.5	34.8	35.5	34.7
South-European countries	34.1	34.6	37.6	37.8
Post-socialist countries	34.4	36.2	37.3	38.0
Hungary	28.5	30.7	31.1	32.1

Source: Education at a Glance 2011-2014 Distribution of tertiary new entrants by field of education

At the same time, it should be emphasized that increasing the entrance rate of MSE students is not a simple matter of higher education policy priorities and treating it exclusively as such will lead to evident distortions in higher education. Interest in MSE programmes depends on two essential factors.

One of them is the situation of MSE graduates on the job market (demand, salary, unemployment, etc.) and the other is the standard of the academic programmes offered by public education.

As long as a physicist earns about 25% less than an analyst economist or a controller, as long as a biologist makes not even half the salary of a tax consultant or a prosecutor (source: <http://www.afsz.hu/sysres/adattar2014/index.html>), it is not surprising that programmes in economy, business and law will be more popular. On the other hand, if salary conditions are truly like that, it is questionable whether MSE graduates (or all MSE programmes) are indeed so necessary for the Hungarian economy. For true demand is much better reflected by salary

conditions than the statement of the Chambers of the Ministry, or even the strategies of international organizations. And this is equally true for the demand for PhD graduates, allowing that in their case, a decisive part of the demand is generated by state-owned (research and higher education) institutions. It is obvious that raising PhD quotas does not solve anything if the state wishes to employ the eventual graduates for the current salaries.

But the standard of programmes in science and engineering offered by public education (especially in primary and lower secondary schools) poses just as much of a problem. If students are deterred by the programme itself due to various factors (e.g. curriculum, teachers, methods), then it is hopeless to wait for a surge in demand for MSE programmes. Or if an increase in demand is forced out by means of a favourable admission policy and other education policy measures, that may kick in severely counterproductive processes that will encumber the teaching of the given fields in the long run (e.g. by training inadequate maths, physics and chemistry teachers).

2. On the structure of qualifications and the issues of teaching and learning

In the course of the past two to three years, several development projects have been implemented which concerned hundreds of instructors and generated a meaningful discussion among them through workshops held about the specific subdomains of teaching and learning. The experiences thus accumulated indicate that while teaching staff are affected by burnout and frustration due to their pedagogical difficulties, and in many cases, failures as well as their lack of means to change the situation, they not only recognize these problems (which is a remarkable change in attitude), but they are also open to changes promising to improve the situation (such as the revision and harmonization of teaching and outcome requirements announced by the higher education department of the Ministry of Human Capacities) as well as to innovative solutions (such as the application of learning results or outcome-based planning and regulation).

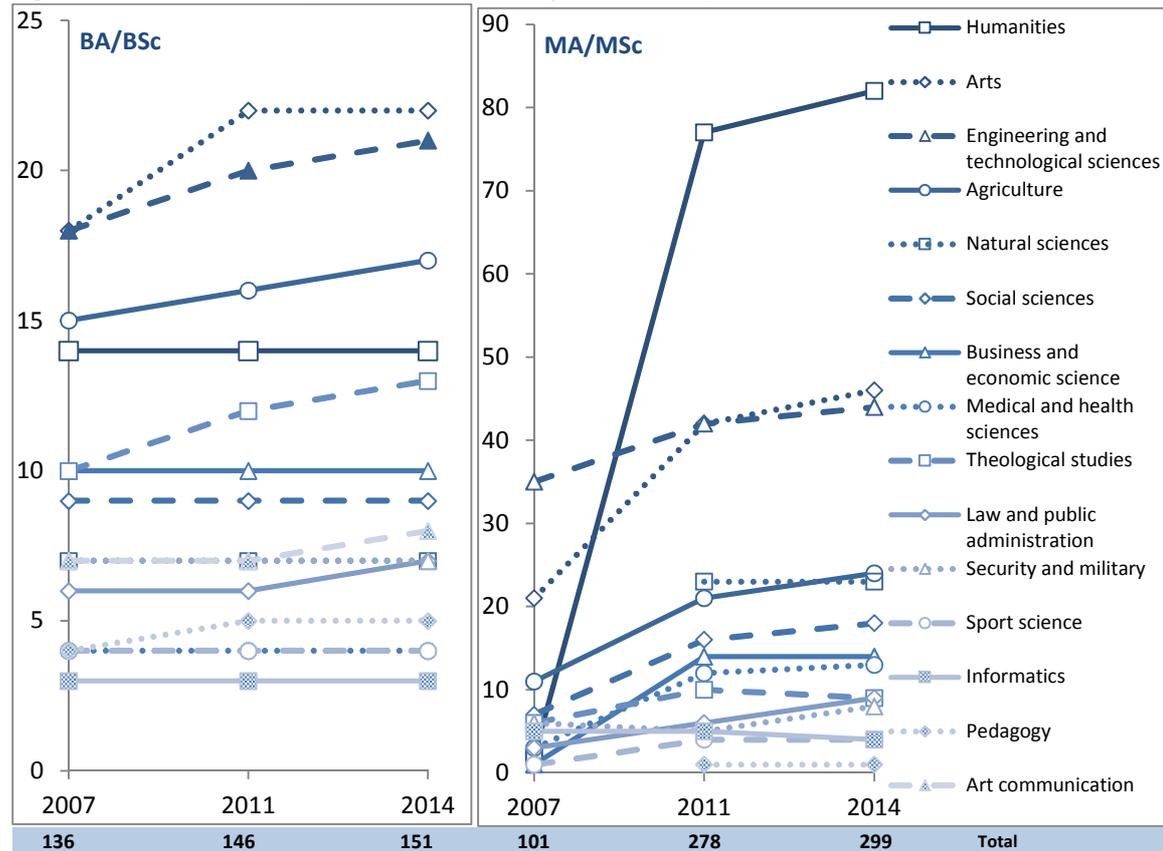
All of the above imply that the current climate of higher education is favourable for qualitative education policy initiatives aiming at the improvement of the quality of teaching and learning. The revision of qualifications and the reformation of teaching are quite timely, indeed: the figures indicate that the system of qualifications of Hungarian higher education has been frozen since 2010/2011, that is, the introduction of the two-cycle structure in a phasing-out system: barely any outdated qualifications have been abolished or new ones created ever since. Thus it is not only the quantity and the regional distribution of the qualifications that have become “ossified”, but the internal structure as well, with very different – and in some cases, distorted – proportions in each region.

Ever since the transition to the two-cycle higher education system, critical opinions emerge every year (in many cases, mixing the criticism of Hungarian solutions and their implementation with the criticism of the structure). Parallel to that, institutional initiatives also appear advocating the (re)-transformation of two-cycle study programmes into integrated ones and the launching of new integrated programmes. In 2014, these initiatives were also fuelled – to some extent – by the structural revision initiated by the Ministry of Human Capacities. However, it was not the revision of the two-cycle system of programmes that the Ministry was in favour of. Arguing for the integration of job market demands, the Ministry and the revision focused on the reduction of the number of qualifications in the individual fields. In eight years, that was the first serious intention on the government’s part to revise educational and outcome requirements.

The educational and outcome requirements constitute a document regulating the qualifications issued by higher education, which have a significant impact on the content of the qualifications offered by the institutions and thus, on the effectiveness of the programmes. Consequently, it makes sense that the qualifications should be regularly revised, both with respect to their “raison d’être” and relevance.

The figures indicate that the system of qualifications of Hungarian higher education has been frozen since 2010/2011, that is, after the introduction of the two-cycle structure in a phasing-out system: it is not only the quantity and the regional distribution of the qualifications that have become “ossified”, but the internal structure as well. There have been barely any cases for the minister of higher education to phase out outdated qualifications or to approve new ones in the Ministerial Decree defining qualifications; at the most, there have been a few cases of reassignment from one field of study to another.

Figure 11. Number of BA/BSc and MA/MSc qualifications, 2007-2014



Source: own calculation based on Ministerial Decree 15/2006.

The data reveal one more prominent distribution pattern: the number of master qualifications is precisely the double of bachelor qualifications, whereas the ratio of students in master qualifications is about one third of the students in bachelor qualifications. This ratio shows significant divergences per field of study: while the number of qualifications of the two cycles is nearly identical in the fields of sport, IT and law, the number of qualifications in humanities is six times higher on master level.

We cannot form a well-founded overview about the learning process in higher education. Although there have been developments with immense reporting obligations in recent years (e.g. FIR, AVIR), those pieces of data that could be indicative of the characteristics of the learning process have not been collected and synthesized. Research directed at certain subdomains, interviews, case studies and the workshop memos of some development projects have revealed that in international comparison, the majority of curricula are still extensive, and they contain a variety of subjects taught in a small number of classes for few credits. This is true for all fields of study. Thus, the learning environment created by Hungarian higher education does not yet effectively allow for intensive learning: study obligations and the organization of learning lead to the fragmentation of attention; the weight of individual and autonomous learning continues being low. At the same time, the learning situations are increasingly diverse, not only because of the increase of the proportion of various internships and field works, but also as a result of the appearance of project-based and task-based learning situations. There are numerous promising attempts at the creation of novel forms of learning, but these often remain invisible even within their own institution. For the moment, the lessons learned from experimental developments and the teaching and learning experience are seldom reported, registered or shared; the knowledge emerging from them is not considered valuable by the instructors, and it gets lost for the institution.

Thanks to the representative survey ordered by the Educational Authority within the framework of the TÁMOP 4.1.3 project and carried out at the beginning of 2014 by Soreco Research Kft. with the use of an online questionnaire entitled “Exploring the teaching staff’s opinion about the acceptance of new higher education pedagogic instruments”, we know a lot more about the practices and opinions of teaching staff concerning teaching. And although there is nothing surprising in their views regarding the effects of the introduction of the two-cycle education system or the current quality of teaching, their opinions about the essence of quality education – even if quite varied – signal a significant shift compared to the previous years.

According to the findings of the survey, 62% of the teachers think that the study programmes of undergraduate and master qualifications have not been successfully distinguished, while 60% of them believe that there are no appropriate tools available for the development of students who lack the necessary level of knowledge. 56% think that the study programme of undergraduate qualifications is overloaded. On the other, 71% disagree with the claim that the introduction of the two-cycle education system has improved the quality of education.

86% of the instructors agree that higher education institutions have the right to choose whom they admit and whom they reject and their opinion is in complete agreement with European higher education policy: nearly every important document of the European Universities’ Association (EUA) confirms that. 79% of the teachers also agree that higher education institutions should be given exclusive autonomy with respect to education content. However, this does not equal isolation: 88% agree that higher education institutions should be more open to society (“higher education institutions should interact more intensively with society, thus promoting knowledge sharing and innovation”), and 80% agree that study programmes should be more adapted to the demands of the job market. And although 54% of them hold that higher education institutions should be available only for the best, 61% of them think that study programmes should contain more general competence development (such as communication, team building, business studies, learning methodology).

The main feature of good teachers is that they possess a high-level knowledge within their discipline. The second most appreciated quality is that they take into consideration the students’ interests and attempt to spark their motivation. The third place of this imaginary ranking was awarded to two elements: they have the right pedagogical competence to teach their subject and they use varied methods. On the other hand, participation in academic life and especially the use of diverse assessment methods were put down as the least important factors.

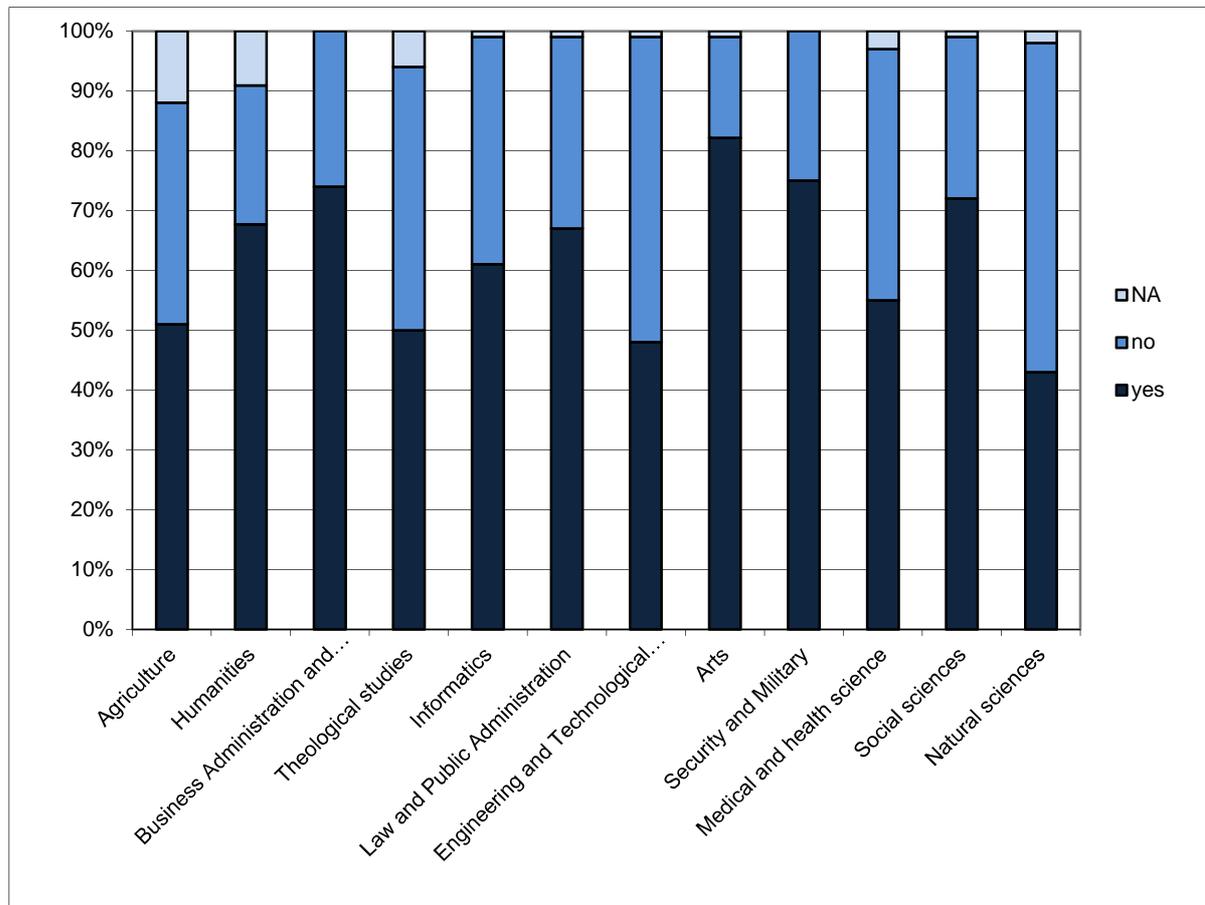
Based on the responses of the instructors, the most important factor for planning the teaching activity is the knowledge and competence to be achieved by the students. The development of students and the curricula constituted the second most important factor on average, while students’ learning motivation was placed fourth. The ability to cope with employment challenges, practical activities, compliance with curriculum requirements, taking into consideration students’ learning objectives, the interrelatedness of subjects and teaching methods were given mid-rankings. Taking into consideration timeframes and the previously acquired knowledge of students as well as the tools for teaching and learning were deemed to be the least important.

A little more than one third of the teachers consider it very important to apply new solutions, methods, workforms and environments in order to manage the learning process in the course of their teaching activities. An additional 42% consider it rather important while 17% of them think that it is rather unimportant or not important at all. It is considered the most important by

instructors of the field of arts, whereas those teaching in the fields of theology, engineering and natural sciences attach the least importance to it.

Apart from giving their opinion on the subject, 60% of the instructors claim to be applying new solutions during teaching. This is the most typical of teachers of art, economic science and social sciences and the least characteristic of instructors of agriculture, natural sciences and engineering. The distribution of the answers by field of study is demonstrated by Figure 12.

Figure 12. Using new methods for organizing/managing the learning process: distribution of answers

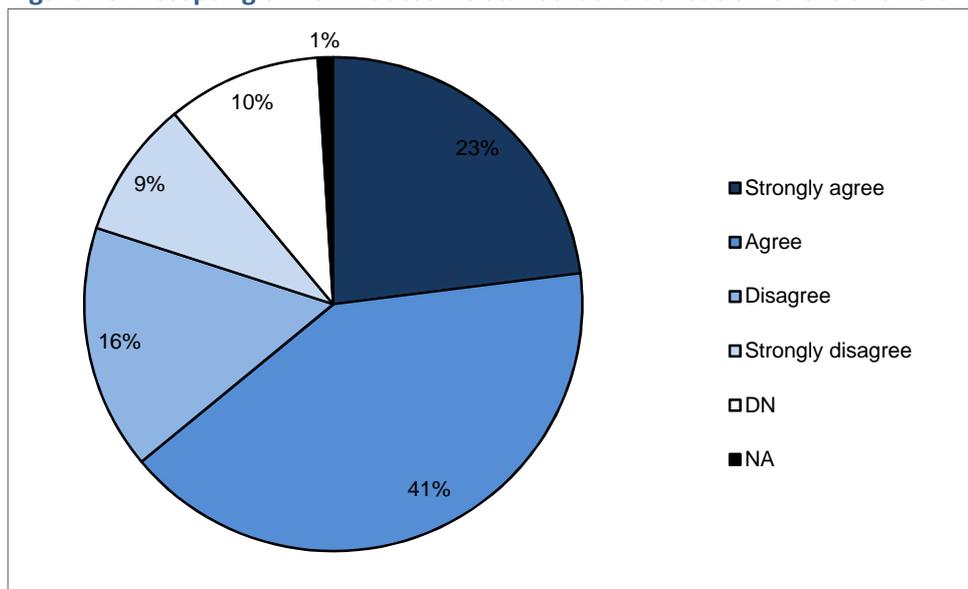


Source: questionnaire survey conducted by Soreco Research

Assessment procedures exert a great influence on the quality of teaching and learning. However, only one out of ten teachers deems it very important to use novel assessment procedures during the course, and a further one third of them believe it to be rather important. However, almost every second instructor thinks that it is rather unimportant or not important at all. Only 28% of the respondents indicated that they actually use new assessment procedures in their work.

Finally, it is worth mentioning the teachers' opinion about requirements providing a unified framework for the qualifications of the diverse institutions. 23% of the respondents strongly agreed and a further 41% of them agreed that it is sensible to formulate nationally agreed and uniform outcome requirements for individual qualifications (e.g. BA/BSc, MA/MSc). However, 16% of them disagreed and 9% of them strongly disagreed with the idea. It was the representatives of humanities and engineering who considered it the least sensible to introduce nationally agreed and uniform outcome standards for qualifications.

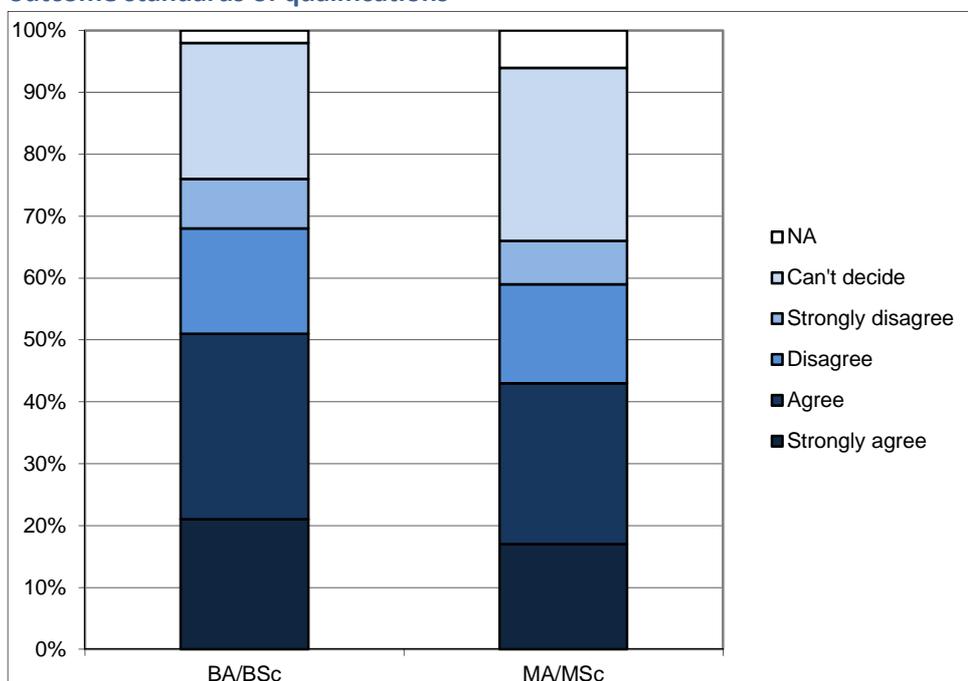
Figure 13. Accepting uniform outcome standards: distribution of the answers



Source: questionnaire survey conducted by Soreco Research

Moreover, although a significant proportion of the instructors were unable or unwilling to determine to what extent it was necessary to revise teaching and outcome requirements on the individual levels of education, the majority agreed that the time has come to do it. In the case of bachelor qualifications, the revision would be necessary according to more than 50% of the respondents while in master qualifications, 43% agree with its necessity.

Figure 14. Opinions concerning the necessity of revising the teaching and outcome standards of qualifications



Source: questionnaire survey conducted by Soreco Research

The findings thus indicate that while teachers are affected by burnout and frustration due to their pedagogical difficulties, and in many cases, failures as well as their lack of means to change the situation, they not only recognize these problems (which is a remarkable change in attitude), but they are also open to changes promising to improve the situation.

3. Trends in higher education funding

Based on the analysis of the total revenues side, the conditions of Hungarian higher education have been quite rhapsodic in the past five years. The diminution of the proportion of state support has been conspicuous. A similarly steady decrease can be detected in the ratio of the total expenditure on higher education as a percentage of the total state budget. After the peak year of 2011, institutional revenues and expenditure have deteriorated. Based on the figures of budget reports, it is clear that a growing proportion of the expenditure on higher education is funded from the institutions' own revenues. In 2013, this made up for nearly two thirds of the total expenditure (or to put it differently, barely more than one third of the expenditures was covered by state support). At the same time, the proportion of transfers from non-budgetary sources (i.e. received directly from companies, organizations, international organizations) within the total revenues stagnated steadily around 3.5-4%. This is an extremely modest sum, and as such, it is one of the major weaknesses of the funding of Hungarian higher education.

What we can observe, with an insight into institutional details, is that higher education policy is trying to manage the cut of state support of higher education by reducing the conditions of the institutions and using some of the support withdrawn to provide special funding for a fragment of the institutions, for example, as universities of national excellence, research universities or faculties, or universities of applied sciences. On the other hand, those institutions that have lost students as a result of the new higher education policy and have gone into debt due to the latter and the support withdrawn can receive financial aid from the Structural Transformation Fund (in 2014, 14 institutions received altogether 7 billion forints).

The normative (or more precisely, formula-based) state support of higher education has been basically terminated, to be replaced by a kind of mixed system of historic budgeting and earmarked state support, which is heavily hand-operated: it is non-transparent for the institutions and cannot be foreseen in the long run. Although the higher education strategic draft proposal issued in 2013 was yet calling for the restoration of normative state support, the 2014 document affirms that "the funding of the programmes relies on cost calculations determined along identical principles, and its sum will be differentiated by institution, adjusted on the basis of predetermined performance indicators". It is too early to form an opinion about the latter system yet, but this would require the substantial transformation of cost recording (even in the simplified form of cost calculation) and the identification of proportionate and fix costs. On the other hand, any kind of state support given on the basis of so-called "cost calculation based on real costs" may obviously lead to substantial differences in the specific sum of these supports from institution to institution.

Finally, it should be mentioned that the higher education strategic plan devised in 2013 proposed that "within a reasonable time frame, Hungarian higher education should reach the level customary in OECD countries, i.e. a budgetary expenditure of 1-1.2 percentage points of GDP". However, the new higher education strategy issued in autumn 2014 declares that "the direct state support cannot be substantially increased in the upcoming years, and in light of the robustness of the system, it is not even advisable to be so exposed to a single source of revenue". If we take this fact and the objective to improve the quality of teaching and research together, the only scenario that seems likely in the medium run is the considerable polarization of the stakeholders of higher education.

There have been significant changes in the methods and volume of funding for Hungarian higher education since 2010. We will examine the trends from several aspects. First, we will analyse the data about the revenues and expenditures of higher education with the help of the planned figures

of the state budget, then the actual figures will be presented on the basis of budget reports. The devil is in the detail: but here we can draw attention only to the changes of some crucial elements of revenue by analysing Table 10.

Concerning the sources of funding for higher education and the direction of expenditures, the tables reveal the reason why this issue sparks a “battle of figures” from time to time: because the debating parties tend to emphasize different (real) elements of the tables. The arguments will be different for those who would wish to expand the element of state budget support as much as possible saying that higher education is a public duty, especially if they focus on the figures of institutional support within that. Those who concentrate on the size of the funds flowing into the whole of higher education (the source of which could be the Social Security Fund or an EU fund) will arrive at different conclusions. Again, the situation will appear in a different light to those who look for sources on the market, arguing by the service function of higher education, or those who give priority to the mission of higher education in scientific research and innovation and would like to find resources for that.

These differences – also appearing in our analyses – should not be neglected because they can lead to radically different higher education and economic decisions.

Let us begin the analysis with the plans.

Table 8. Main components of higher education budgetary plans, 2009-2015

(billion HUF)	2009. plans	2010. plans	2011. plans	2012. plans	2013. plans	2014. plans	2015. plans
State-owned higher education institutions							
Expenditure	400.9	414.0	454.0	430.4	411.9	425.8	442.5
Revenue	210.5	228.2	225.4	270.0	285.1	285.4	283.3
State support	190.4	185.8	228.5	160.5	126.7	140.4	156.2
Chapter-managed appropriations							
Normative state support	15.1	14.8	14.5	11.9	9.3	17.7	17.0
- for non-state HE institutions	11.0	10.8	10.7	9.0	9.3	17.7	17.0
Earmarked and other state support	9.1	11.0	11.0	10.5	20.6	31.0	20.9
- for excellence					10.0	9.9	9.9
- Higher Education Structural Fund						11.0	9.2
Total expenditure on higher education	425.1	439.8	479.5	452.7	441.7	474.5	480.3
Total state budget support of higher education	214.6	211.6	254.0	182.8	156.5	189.1	194.0
Total expenditure on higher education as a % of GDP	1.6%	1.6%	1.7%	1.6%	1.5%	1.5%	1.5%
Total state budget support of higher education as a % of GDP	0.8%	0.8%	0.9%	0.6%	0.5%	0.6%	0.6%
Total expenditure on higher education as a % of total state budget (planned)	4.7%	3.2%	3.3%	3.0%	2.7%	2.8%	2.8%

Source: state budget plans of each given year

Remark: Data of “state-owned higher education institutions” includes the data of Zrínyi University and Police Academy as well as the data of National University of Public Service

One of the striking phenomena in Table 8 is the substantial decrease of the planned total state budget support of higher education in 2013. Even though it is followed by a certain increase from 2014, the total state budget support never reaches the 2009 level again. The planned increase of total expenditure on higher education from 2014 to 2015 is somewhat less than 6 billion forints, which is far below the 17 billion emphasized in public communications. The latter sum holds true for the increase of the planned sum of institutional expenditure, but only because a part of the sums planned on the line of chapter-managed appropriations (e.g. PPP funding) was earlier distributed to the institutions (i.e. in the draft proposal of the Budget Act).

The other important change is that a growing proportion of planned state support goes into chapter-managed appropriations while planned institutional support constitutes only a declining part of it. In 2009, nearly 90% of total support was planned as institutional support, a figure which amounted to a little more than three quarters of that in 2015.

Due to the above two processes, by 2015, the planned support of institutions dropped to 77% of the sum allocated in 2009.

Higher education conditions hit rock bottom in 2013, after the Prime Minister's speech delivered in autumn 2012 on self-sufficient higher education system. The concept anticipated a radical cutback in the number of state-funded places for students and the payment of full tuition for the bulk of students, the entire sum of which could have been paid from the then-introduced Student Loan 2 with an extremely favourable interest rate. Thus, a self-sufficient higher education system would have corresponded to tuition fee paying education for most students. The admission quotas for state-funded places were already determined in this spirit. Due to the massive student demonstrations generated by this proposal, the government withdrew its plan, basically raising the quotas to the level of institutional capacities, except for 16 programmes which were turned into fee-paying ones with the help of extremely high admission scores in the case of state-funded places. Nonetheless, after the freefall of 2012 and 2013, the total state support of higher education saw a rise in 2014, but due to the processes above presented, the increase of institutional support remained moderate; it was mostly in terms of chapter-managed appropriations that a certain growth could be detected.

Regarding chapter-managed appropriations, we can observe two important changes:

The first one is the significant increase of state support for non-state higher education. Between 2009 and 2013, the total amount of three non-state higher education appropriations (entitled "Theological programmes of church-maintained higher education institutions", "Surplus of students' number: church-maintained secular programmes" and "Surplus of students' number: higher education maintained by private schools") was around 9-11 billion forints per year. After the termination of the above three appropriations, the appropriation created in 2014 soared to more than 17 billion forints.

The second change was the significant increase of the amount of non-normative earmarked appropriations. This can be put down to the appearance of the two hand-operated major appropriations: "Support for Excellence" from 2013 and "Higher Education Structural Transformation Fund" from 2014. The former amounted to 10 billion forints in 2013 and 9.85 billion forints in 2014 and 2015, while the latter was 11 billion forints in 2014 – or rather, only 6.8 billion forints, to be more precise, because from the total sum of 110 billion forints blocked within the state budget in July 2014, 4.2 billion forints hit the Structural Transformation Fund; its planned sum for 2015 is 9.19 billion forints.

Thus, higher education policy has kept a firm grip on higher education management. It has been trying to manage the cutback of state support for higher education by reducing the conditions of the institutions and using some of the support withdrawn to provide special funding for a fragment of the institutions, for example, as universities of national excellence, research universities or faculties, or universities of applied sciences. On the other hand, the institutions that have lost students as a result of the new higher education policy and have gone into debt due to the latter and the support withdrawn can receive financial aid from the Structural Transformation Fund (in 2014, 14 institutions received altogether 7 billion forints). Basically, there are four colleges in the countryside struggling with a particularly tough situation: the Colleges of Baja, Dunaújváros, Szolnok and Nyíregyháza, which are extremely indebted compared to their budget. The controversial nature of the situation is well-illustrated by the fact that 70% of the total debt of higher education institutions monitored by budgetary supervisors belonged to five institutions in the middle of 2013 (Pécs, Szeged, Semmelweis, Debrecen, Nyíregyháza), of which four are universities of excellence and three are research universities.

We can form an idea about the evolution of the actual support and revenues of higher education on the basis of the accounts data in Table 9. It is clearly visible that the total support as a percentage of GDP decreased steadily since 2009. We can observe a similarly continuous diminution in the total expenditure on higher education as a percentage of the total expenditure of the total state budget. The figures for institutional revenues and expenditures deteriorated after the 2011 peak. The figures of the budget reports also demonstrate it clearly that a growing proportion of the expenditure on higher education is funded from the institutions' own revenues. In 2013, this made up for nearly two thirds of the total expenditure (or to put it differently, barely more than one third of the expenditures was covered by state support).

Table 9. Data of higher education budget based on the institutions' financial reports, 2009-2013

(billion HUF)	2009	2010	2011	2012	2013
State-owned higher education institutions					
Expenditure	445.8	474.1	500.6	482.9	496.2
Revenue	240.8	282.8	307.3	295.3	323.4
State support	203.1	199.8	188.2	175.1	175.2
State support provided to non-state HEIs	11.0	10.8	10.7	9.0	9.3
Total expenditure	456.8	484.8	511.3	492.0	505.4
Total states support	214.1	210.6	198.9	184.1	184.4
Institutional own revenues as a % of the institutional expenditures	54.0%	59.6%	61.4%	61.2%	65.2%
Total expenditure as a % of GDP	1.8%	1.8%	1.8%	1.7%	1.7%
Total support as a % of GDP	0.8%	0.8%	0.7%	0.6%	0.6%
Total expenditure on higher education as a % of total state budget (fact)	5.0%	3.4%	3.4%	3.3%	2.9%

Source: Laws on Financial Accounts of the given years

According to the figures of Table Table 10, the share of revenues of the Faculties of Medicine transferred to them by the Social Security Fund within their total revenues went down from 40% in

2009 to 37% in 2013, while its amount grew by one quarter. Within the revenues, the proportion of support received from chapter-managed appropriations increased significantly, rising from 2.5% to nearly 10% by 2013, which produced a little more than five-time (!) increase in amount. Besides what has been mentioned above, the reason for that is that the funds of the EU developments constitute a separate chapter in the state budget and within this chapter, the funds of the individual programmes are put down as chapter-managed appropriations. Thus the increased chapter-managed appropriations within the institutional budgets derive from participation in these programmes both in the case of operational revenues and accumulation.

At the same time, the proportion of transfers from non-budgetary sources (i.e. received directly from companies, organizations, international organizations) within the total revenues has stagnated steadily around 3.5-4%. This is an extremely modest sum, and as such, it is one of the major weaknesses of the funding of Hungarian higher education.

However, accumulation revenues nearly doubled between 2009 and 2013 and their share within the revenues grew from 9% to above 12%. Again, this can be put down to the increase of the ratio and the amount of funds received from chapter-managed appropriations.

Table 10. Higher education revenues in detail based on the institutions' financial reports, 2009-2013

(billion HUF)	2009	2010	2011	2012	2013
Revenue	240.8	282.8	307.3	295.3	323.4
Operational institutional revenue	89.3	95.1	101.1	100.1	103.5
Operational revenue from state support	118.7	137.1	153.5	151.4	167.9
- from budgetary units	10.1	12.3	13.5	11.4	14.7
- from chapter-managed appropriations	6.0	8.1	13.1	16.3	30.9
- from special state funds	6.8	4.6	8.4	5.1	3.4
- from Social Security Fund	95.4	111.4	116.7	114.0	118.7
Transfer for operational purposes from non-budgetary sources	9.1	9.5	11.5	9.9	11.3
- from companies	1.5	1.6	2.3	0.9	1.7
- from non-profit organizations	3.7	2.1	2.4	2.0	2.3
- from international organizations	5.1	5.8	6.7	2.6	4.4
Accumulation and loans	20.6	36.9	41.2	33.9	40.7
- State support	9.2	27.5	34.6	31.1	38.9
- from chapter-managed appropriations	2.3	19.6	21.4	20.8	32.6
Non-budgetary sources	4.6	4.0	5.1	1.4	1.23

Source: Laws on Financial Accounts for each given year

If we examine the conditions of Hungarian higher education in international comparison, we are faced with a quite unfavourable situation. The sum of the revenues of Hungarian higher education as a percentage of GDP, together with the Slovakian, Italian and Greek data, is among the last ones in the group of OECD countries.

In conclusion, we can affirm that the funding methods of Hungarian higher education have gone through a substantial transformation. The normative (or more precisely, formula-based) state support of higher education has been basically terminated, to be replaced by a kind of mixed

system of historic budgeting and earmarked state support, which is heavily hand-operated: it is non-transparent for the institutions and cannot be foreseen in the long run.

In the past five years, the proportion of state support has diminished dramatically and in that sense, the future does not seem brighter, either. True enough, the strategic plan on higher education devised in 2013 proposed that “within a reasonable time frame, Hungarian higher education should reach the level customary in OECD countries, i.e. a budgetary expenditure of 1-1.2 percentage points of GDP”. However, the new higher education strategy issued in autumn 2014 declares that “the direct state support cannot be substantially increased in the upcoming years, and in light of the robustness of the system, it is not even advisable to be so exposed to a single source of revenue...” Elsewhere it also adds that funding will be essentially based on “a realistic source cost calculation, the expansion of the share of non-state type resources and relieving the budget”. The accounts data presented above make this objective strongly questionable since non-budgetary sources (companies, organizations, etc.) currently play a very insignificant role in the funding of higher education.

4. An organizational change of key importance: the introduction of the chancellor system

Since 2011, the organizational and managing autonomy of institutions has been reduced dramatically, as illustrated by the appointment of rectors and Chief Financial Officers by the Minister, the appearance of budgetary supervisors, the restriction on the establishment of companies and the introduction of centralized payroll. It should be added, however, that the current higher education strategy envisages the expansion of management rights (asset management, founding companies).

The year 2014 saw the introduction of a new element, the chancellor system, carried out mostly with reference to the practice in Germany. However, the Hungarian implementation diverges significantly from that rationale on two points: on the one hand, there are no built-in mechanisms to resolve conflicts between the chancellor and the academic leadership (rector), and on the other, the chancellor's internal and external legitimacy is uncertain, not to mention the strong tendencies inherent to the system to erode his internal legitimacy.

In our opinion, the introduction of the chancellor system on the whole tends to preserve the low-level organizational and managing autonomy of the institutions, especially because it reduces their ability and possibility to take responsibility. The chancellor system could be suitable for driving the efficiency of the use of resources, but it is unlikely to give an incentive to the institutions to find sources of revenue.

As we signalled it already in our strategic analysis last year, the autonomy of institutions has been narrowed down from several aspects since the approval of the Higher Education Act of 2011. In the area of education and research, the possibility of intervention in the admission procedure has become limited: quotas are centrally set and the number of the state-funded places of 16 programmes has been drastically cut. A new element was announced in 2014: according to a new amendment, the uniform admission criteria for each higher education institution will be an advanced level secondary school leaving examination and an intermediate-level language exam from 2020. In the domain of human resources, the forced retirements may have long-term effects although the public employee system did not change. In that respect, there were no significant changes in 2014.

Besides the earlier changes (the appointment of rectors and Chief Financial Officers by the Minister, the appearance of budgetary supervisors, the restriction on the establishment of companies and centralized payroll), the introduction of the chancellor system brought an additional turn at the end of 2014, which was implemented along with the restitution of the institutions' rights to elect their rectors. According to the Higher Education Act, the chancellor is in charge of the functioning of the institution: he is responsible "for the economic, financial, controlling, accounting, employment, legal, management and IT activities of the higher education institution, the asset management of the institution, including the matters of technology, institution utilization, operation, logistics, service, procurement and public procurement, and he directs its operation in this field" – moreover, he has the right of consent in the above areas. The chancellor is the employer of all the workers except for the instructors, researchers and teachers.

The institutions had no say in the selection of the chancellors; the procedure was carried out above their heads. The job application procedure was managed by the Ministry of Human Capacities, the appointment of the chancellor was performed by the Prime Minister; what is more, the chancellor is accountable to his employer, the Minister of Human Capacities. It is worth mentioning that the introduction of the chancellor system took place mostly with reference to the practice in Germany. It is undoubtable that the higher education regulations of numerous German Länder assigns the

position of the chancellor several duties and responsibilities similar to the Hungarian ones (e.g. in several places, the chancellor has a veto right in budget issues). But even if earlier it was indeed the Länder government or ministry that appointed the chancellors at the head of the institutions, whose duty was to represent the state within the institution, the state has withdrawn from the direct control of the institutions by now and increased their operational and financial autonomy. According to the German Länder regulations in force, nowadays chancellors are elected in many places by the board of instructors and students and/or the board of university and external stakeholders upon the proposal of the institution's rector or president. The employer of the chancellor is the rector or president of the institution. The state merely approves the appointment of the chancellor (e.g. in Bavaria).

A similar practice is applied at Andrásy Gyula German Language University, where the chancellor's appointment and dismissal is decided by the 11-member Senate composed of the rector, the deans, the head of the doctoral school and the representatives of students and instructors in the framework of a so-called "co-decision procedure" upon the proposal of the Rector's Council. In other words, the decision has to be approved by the University Council composed of the representatives of internal and external stakeholders. "The employer's rights above the chancellor are exercised by the rector; the rector may give orders to the chancellor."

Therefore, in contrast to the current Hungarian regulation, the German institutions have a major say in the choice of the chancellor's person. The double management does not mean that the chancellor is entirely independent from the rector, but that the legitimacy of the chancellor is strong, irrespective of the rector's confidence in him, which is assured by the rules of the selection process. Since the chancellor is confirmed by external and internal stakeholders as well, the rector has to take the chancellor's position very seriously. However, in case of a conflict, the rector is able to enforce his will (for instance, he can give orders to the chancellor or propose his dismissal at the university boards), but then he bears all the liabilities. Therefore the chancellor is able to perform his duties properly and counterbalance the rector if he has the necessary internal support besides the external confirmation. The former derives from the fact that the institution itself takes part in the selection procedure.

The Hungarian practice diverges from this logic on two points significantly: on the one hand, there are no mechanisms to resolve conflicts between the chancellor and the academic leadership (rector), and on the other, the chancellor's external and internal legitimacy is uncertain, not to mention the strong tendencies inherent to the system to erode his internal legitimacy.

The risk of conflicts in higher education institutions may be reduced by the abundance of funding; that is, there can be no severe conflicts about distribution because for example, the state pays all substantial expenses (as was the case in German higher education a few decades ago). However, in a system laden with financial tension, where the institution is forced to generate some of the funds necessary for its own maintenance, conflicts of distribution and cross-funding are bound to emerge. All of that reinforces the constraint to weigh every academic decision from an economic point of view as well. In theory, there are two ways to go about that: on the one hand, it is possible to strengthen the integrated and simultaneous validation of economic and academic/professional points of view, that is, to reinforce and clearly define the financial responsibilities within the institution (e.g. by clarifying the professional and financial responsibilities of programme directors, heads of department, grant programme managers). The other possibility is to separate the two institutionally: with the introduction of the chancellor system, the rector is in charge of the academic activities, while the chancellor is responsible for the organization of the administration and the budget. The system thus established ensures that both academic and economic arguments are taken into consideration in each decision-making process. At the same time, it sparks conflict as

well because the representation of these separate aspects are assigned to separate people, which means that conflicts in the system will inevitably escalate into conflicts between people (positions).

It may constitute a further source of conflict if the chancellor tries to place his people into certain positions. For the chancellor, it is logical to fulfil the positions of chief financial officers, HR managers and technical or IT managers with people whom he trusts. However, by doing so he pushes some people out of the administration who have worked at the institution for a long time and/or enjoy the confidence of the rector's management team.

Although the law stipulates that the chancellor "shall be required to observe his obligation to cooperate with the rector", there is no guarantee for that. In other words, the operation of the institution does not depend on guarantees, established procedures or a decision-making hierarchy regardless of individuals, but on the persons of the chancellor and the rector. There is a lack of mechanisms to help resolve conflicts between the chancellor and the rector: the rector is not the chancellor's employer, he cannot dismiss the chancellor or give orders to him if he does not agree with the chancellor's decisions, whereas the chancellor can impede the functioning of the institution for a long time. If conflicts persist for a long time or become more severe, the Minister needs to interfere, which leads to the dependence of the institution. Thus, while conflict management depends on interpersonal cooperation, the institutions have no means to participate in the selection of the chancellor to test and to verify the "match".

The lack of conflict management procedures has been present not only in the chancellor system, but also in the system of Chief Financial Officers appointed by the government, so nothing crucial has changed compared to that. With the introduction of the chancellor system, it is the rector's "conflict management tool kit" that is being compromised at the most, since from now on the institutions will have no possibility to limit the government-appointed official's room for manoeuvre by reorganizing the administration. For it had happened in the past that an institution "outsourced" part of the administrative activities originally belonging to the Chief Financial Officer and re-assigned them in the rector's competence. However, not even then had there been room for the outsourcing of signature rights, which guaranteed the bargaining position of the Chief Financial Officer. With the introduction of the chancellor system, it is the possibilities of restructuring that are narrowed down significantly because the latter now must be approved by the chancellor. The price of that is the deterioration of the organizational autonomy of the institutions and it will be harder to set up other types of institutional formations as well.

Another cornerstone of the operation of the chancellor system is the chancellor's legitimacy and acceptance. Without the latter, cooperation based on trust will become impossible, which is of key importance in the case of expert organizations because one can only make a deal with a chancellor without legitimation, but no mutual relations can be established without confidence.

The chancellor's internal acceptance is greatly impaired by the fact that the institutions have no say in his selection. That weakens the chancellor's internal acceptance by default while it relieves the institution from the responsibility of choice. It carries a risk for the government as well for it is basically the government that takes on all the responsibility of the appointment as well as of the financial stability of the institutions. Should any problem arise, it will be easy to blame it on the chancellor and/or the government.

Among the chancellors appointed at the end of 2014, there are several (university) insiders who can make up for their lack of internal legitimacy. At the same time, there may be tendencies within the institutions to continuously erode the chancellor's internal legitimacy. By the separation of financial and academic considerations, the rector (and all academic officials) will be freed from the constraint to weigh their decisions and proposals from an economic point of view because that is "what the chancellor is for". In an extreme case, the rector might represent the most absurd

demands of instructors and researchers unscrupulously because refusing them and covering the costs of their implementation (in case of approval) are both the duties of the chancellor. If they are rejected, the rector might say that “he did all he could, but the chancellor was against it, there is nothing to do”. The system established might breed a tendency for the rector (the academic leadership) to impair the chancellor’s internal acceptance – along with the possibility of future cooperation – in order to strengthen his or her own internal legitimacy.

Despite the fact the right of the institutions to elect their rectors was restored in 2014, the introduction of the chancellor system on the whole tends to preserve the low-level organizational and managing autonomy of the institutions, especially because it reduces their ability and possibility to take responsibility. The chancellor system could be suitable for driving the efficiency of the utilization of resources (although the opportunities are limited due to high salary costs), but it is unlikely to give an incentive to the institutions to find other sources of revenue.

The appearance of a chancellor acting independently from the rector disturbs the status quo established within the institution. If the institution has been unable to sort out the conflicts of interests within its walls and this has hampered the development of the institution, then the appearance of the chancellor will offer a chance to decide about so-far unresolved matters and to get out of the deadlock. However, the opposite scenario is also possible when by tipping off the internal balance, the chancellor, instead of contributing to the rationalization and consolidation of the institution, will aggravate and escalate conflicts. Whether the first scenario will happen or the second depends on the situation of the institution and the chancellor’s legitimacy.

The lack of mechanisms for conflict management does not mean, of course, that the relationship between the chancellor and the rector is doomed to be bad. It means only that while the structure created favours the generation of conflicts (since it separates academic and economic considerations by position), it offers no solution to settle them. The system now established does not mean, either, that the chancellor will necessarily suffer from a lack of internal legitimacy, only that it will be continuously eroded by internal conflicts, which will lead either to disengagement or to the representation of institutional interests. However, it is questionable in both cases whether it is possible (if it has been ever proposed) to assure the continuous monitoring of the institutions by the government through the chancellor system. In our opinion, it will increase the non-transparency of the relations of lobbying, hence the dependence of the institutions, thus making trust-building initiatives more difficult to carry out.

5. Higher education in Hungary in international comparison

International rankings and country analyses indicate that all in all, Hungary's higher education is in line with its level of economic development, and in general, we are among the middle ranks. Thus the current situation does not seem too bad. However, it is regrettable that we have attained this position as a result of losing significant advantages. In the middle of the 2000's, Hungarian higher education "outperformed" the country's level of economic development in many respects; it was usually at the top of the East-Central European region, about to catch up with the EU average. Unfortunately, we have dropped back in nearly all the rankings in the past 10 years, so the trend is not so positive.

Since these analyses rely on the official figures provided by the Hungarian government via its international reporting obligations and transform them to enable international comparison, certain ranks and methodological solutions can be disputed, but the overall picture is a realistic one. It would be worthwhile to analyse in detail whether we are dealing with long-term trends and to what extent some of the evaluations can be put down to the impact of the economic crisis, to turns in economic policy or to the return to normality. It is also instructive to see that our composite score is usually the result of a relatively wide range of components (see *Universitas 21* or autonomy dimensions) – these surveys see our strengths and weakness in a very similar manner and we could take their advice into consideration. These recommendations keep talking about the increase of state support for Hungarian higher education, the expansion of certain components of autonomy, the improvement of admission and outcome rates and the expansion of mobility.

We have examined the rankings of the institutions in the past three years and analysed the ranks of Central European countries in a broad sense. The Hungarian institutions which regularly (ELTE, SZTE, DE) and occasionally (BCE, BME, PTE) appear in these rankings are typically ranked in the range of 400-700, and with that, they come right after the international elite (the all-time members of the rankings). Taking into consideration the further ranks of the country, Hungary has a relatively high number of good-quality institutions per number of inhabitants in the aggregated rankings of excellence compared to its neighbours – institutions which exhibit a high-standard and well-balanced performance on the whole. In terms of research rankings, Austria and Slovenia stand out in the region, while Hungary, the Czech Republic and Poland perform on a similar level, falling behind the former two.

5.1 Country rankings and country analyses

We will offer a brief overview of four international research projects. The first one is aimed at presenting the higher education of countries as a whole, which are also ranked. Two others highlight key dimensions of higher education, also with a view to their ranking and classification: one of them focuses on autonomy, while the other one concentrates on public funding. The fourth study features country rankings and country analyses examining the relationship of higher education and competitive economy.

Founded in 1997, the *Universitas 21* network brings together high-prestige research universities. This is the network that launched the initiative – unique so far – which aims at ranking the higher education of individual countries instead of higher education institutions or programmes. The first ranking was published in 2012, raising a huge interest from the public worldwide, which was followed by the publications for 2013 and 2014. The ranking involves four components, which aggregate several indicators themselves. The *resources* component, for instance, contains the state expenditure on higher education as well as expenditure on research and development among others, whereas the *environment* module includes the quantified strategic and regulatory elements

along with the composition of the student body and the faculty. The *relationship* component is comprised of the indicator of cooperation with the business world and several internationalisation indicators and the evaluation of international publications and websites. The indicators of *outcome* focus on research findings, student applications and employability. The ranking of the countries is performed on the basis of the weighted average of the scores of the four areas, where the outcome indicators participate with 40% and the other three modules with 20% each. The rankings of the four modules are intriguing themselves and they reveal a lot about the situation of the individual continents, for example.

Table 11. U21 ranking of national higher education systems in 2014

Rank	Country	Score	Rank	Country	Score
1	United States of America	100.0	26	Czech Republic	58.2
2	Sweden	86.7	27	Italy	53.7
3	Canada	82.9	28	Malaysia	53.4
3	Denmark	82.9	29	Hungary	52.5
5	Finland	82.2	30	Saudi Arabia	52.4
6	Switzerland	81.5	31	Poland	50.8
7	Netherlands	80.4	32	Greece	50.3
8	United Kingdom	79.2	33	Chile	49.1
9	Australia	78.0	34	Serbia	48.7
10	Singapore	76.3	35	China	48.6
11	Norway	75.0	35	Russian Federation	48.6
12	Austria	73.7	37	Slovakia	47.9
13	Belgium	73.1	38	Brazil	46.1
14	Germany	71.1	39	Romania	45.4
15	Hong Kong SAR	70.6	40	Bulgaria	45.0
16	New Zealand	70.4	41	Argentina	44.9
17	Ireland	69.7	42	Thailand	43.9
18	France	68.7	42	Ukraine	43.9
19	Israel	68.5	44	Croatia	43.7
20	Japan	64.9	45	South Africa	43.4
21	Korea	61.6	46	Mexico	42.6
22	Taiwan-China	61.3	47	Turkey	39.1
23	Spain	61.1	48	Indonesia	38.5
24	Portugal	60.3	49	Iran	37.8
25	Slovenia	59.6	50	India	36.8

Source: <http://www.universitas21.com/>

Concerning resources, Denmark, Canada, Sweden and the USA are in the lead (the prestigious position of Northern European countries is remarkable in other cases, too); Hungary occupies the 41st place out of the 50 countries. This rank is five places lower than in the previous year due to the diminishing state expenditure on higher education. We are also ranked 41st in the environment module (the first three being the Netherlands, New Zealand and the USA; Poland is 7th, Bulgaria is 9th, the Czech Republic and Romania are 12th and 13th). We are classified 21st in the relationship ranking, ahead of, for example, Slovenia or Slovakia; the first three countries are Switzerland, Sweden and the United Kingdom. With respect to the outcome indicators, the Anglo-Saxon countries are at the top (USA, UK, Canada), while Hungary is number 31. The countries that come right before and after us are Greece and the Czech Republic, and Poland and Brazil, respectively.

In the ultimate ranking, the winner (USA) has 100 points while Sweden, the second has 86.7 points. Hungary is placed 29th with 52.5 points; Italy and Malaysia come right before, whereas Saudi Arabia and Poland come right after us. The neighbouring Austria is ranked 12th, Slovenia is 25th and the Czech Republic is 26th.

Table 12. U21 ranking of national higher education systems after adjusting for levels of economic development in 2014

Rank	Country	%dev	Rank	Country	%dev
1	Sweden	17.4	26	Slovenia	-11.3
2	Finland	16.2	27	Norway	-12.8
3	Denmark	16.0	28	Czech Republic	-13.8
4	Serbia	13.3	29	Greece	-15.8
5	New Zealand	12.7	30	Korea	-16.2
6	United Kingdom	9.7	31	Singapore	-16.3
7	Canada	8.8	32	Taiwan-China	-16.8
8	Portugal	6.5	33	Poland	-17.7
9	China	6.3	34	Croatia	-18.0
10	Netherlands	5.1	34	Japan	-18.0
11	Switzerland	4.8	36	Russian Federation	-18.1
12	Australia	4.0	37	Ukraine	-18.5
13	Israel	3.6	38	Chile	-20.1
14	Belgium	3.2	39	Hong Kong SAR	-20.5
15	United States of America	2.0	40	Thailand	-20.7
16	Hungary	0.4	41	Argentina	-23.2
17	South Africa	-0.5	42	Romania	-24.0
18	Brazil	-3.3	43	Italy	-24.5
19	Austria	-4.0	44	Mexico	-25.1
20	Germany	-4.4	45	Turkey	-27.1
21	France	-5.7	46	Iran	-28.3
22	Malaysia	-6.5	47	Saudi Arabia	-29.8
23	India	-7.1	48	Bulgaria	-31.6
24	Ireland	-8.5	49	Slovakia	-39.5
25	Spain	-10.4	50	Indonesia	-44.1

Source: <http://www.universitas21.com/>

%dev = percentage deviation from expected value at nation's level of GDP per capita

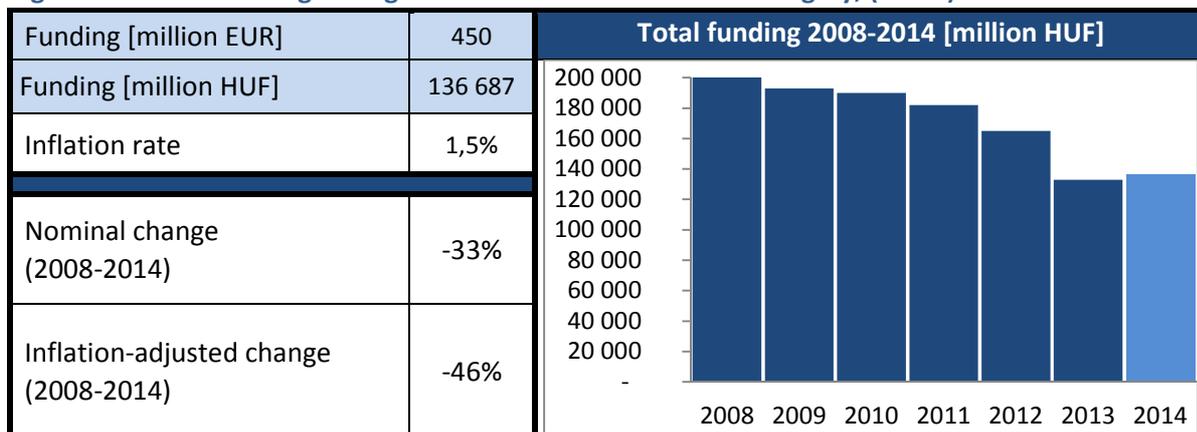
In the course of the project, the methodology to generate rankings adjusted to the level of economic development was also elaborated. The comparability of the individual indicators is assured by the regression projection of GDP measured in purchasing power parities taking the 2011 USA data as base, and other methods were also used in the case of some data. The development-adjusted indicator values were also calculated for each country and the difference between these values and the actual figures constituted the data used for ranking. With this methodology, the USA comes in 15th (although it still belongs to the group where the actual value is above the expected score). The first five places are taken by Sweden (its aggregated indicator is 17.6 points higher than what could be expected on the basis of its economic development), Finland, Denmark, Serbia and New Zealand. Hungary is 16th, surpassing the expected score by 0.4 points. (South Africa, the next in line, is already in the group with negatives).

The European University Association (EUA) has been collecting data about the public funding of higher education since 2008 and it publishes them in the tables and with the analyses of the Public

Funding Observatory. The data are submitted by the national rector's conferences every year. The analyses of the recent years containing figures in real terms take inflation into consideration as well. The figures are given compared to both GDP and student numbers for 28 European countries. The exact comparability is guaranteed by the use of Eurostat data on GDP and inflation.

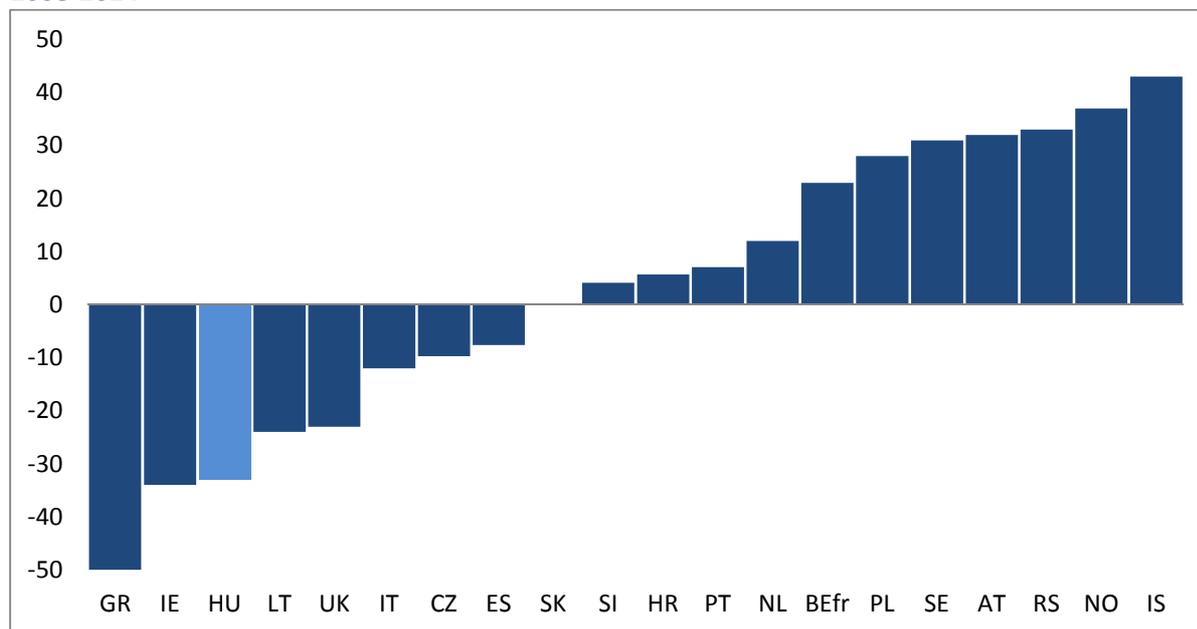
The analysis of the Observatory points out that in this time period, 2014 was the first year in Hungary when the public funding of higher education did not decrease nominally. The figures without inflation are shown in Figures 15 and 16.

Figure 15. Public funding for higher education institutions in Hungary, (2008-)2014



Source: <http://www.eua.be/publicfundingobservatory>

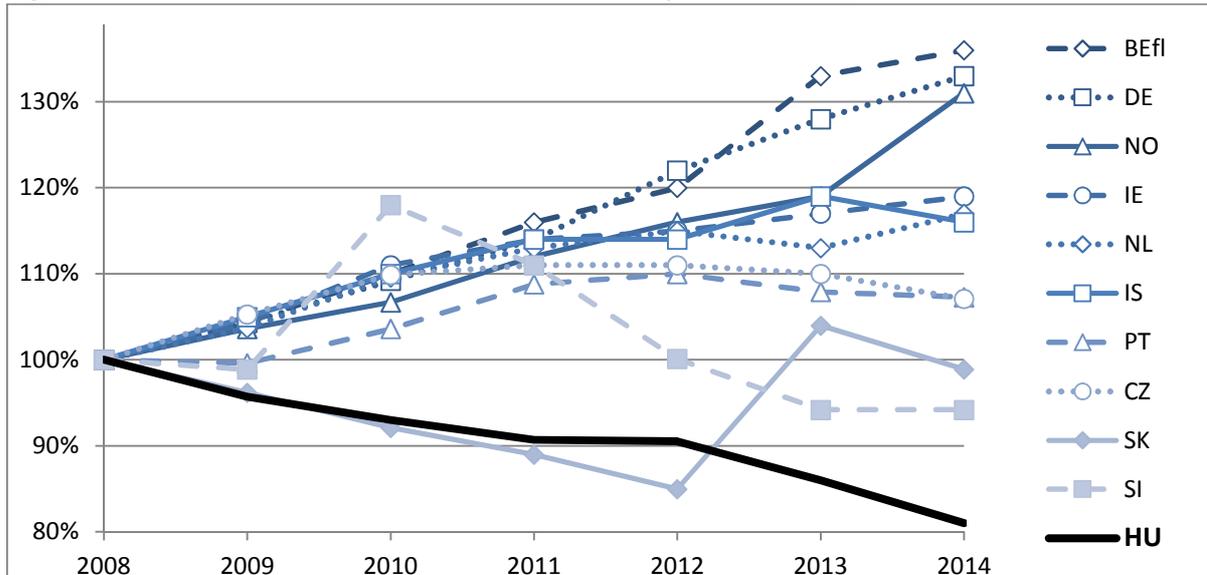
Figure 16. Change of public funding for higher education institutions, in %, European countries, 2008-2014



Source: <http://www.eua.be/publicfundingobservatory>

On the other hand, with respect to the interval of 2008-2014, Greece and Hungary were the only countries where the decrease in real terms exceeded 40%. At the same time, the increase of student numbers was higher than 10% in certain countries (e.g. in Greece) while it dropped by 19% in Hungary (Figure 17).

Figure 17. Evolution of student numbers in some European countries, 2008-2014



Source: EUA Public Funding Observatory, 2014; <http://www.eua.be/publicfundingobservatory>

The European University Association launched the multi-level examination of the European universities' higher education autonomy in 2007. After the years of the elaboration of the methodology, the first results were published in 2011 in a book format. These results describe the situation as of the end of 2011. Since 2012, there has been a web surface on the EUA website (<http://www.university-autonomy.eu/countries/hungary/>), from which more detailed analyses can be downloaded regarding the 29 countries participating in the project (Germany is represented by three Länder). Updates are also displayed there.

The notion of autonomy was broken down into organizational, financial, staffing and academic dimensions and relative rankings were determined for these four areas with the help of indicators number 7, 11, 8 and 12. The 38 indicators contain statistical data, research findings, expert estimates and a combination of these. The detailed description of the scoring and weighting methodology can be found in the publication entitled "University Autonomy in Europe II – The Scorecard" (pp. 14-17). It is important to note that one of the key messages of the project is the complexity of the notion of autonomy and its broad interpretation. Autonomy cannot be narrowed down to academic freedom or the practice of the appointment of professors: it includes all of that and much more.

In the analysis, the countries are divided into clusters by dimension: upper, upper-medium, lower-medium and lower levels are distinguished and the characteristics of each group are described. Hungary is ranked 16th in the organizational dimension, its relative score is 59 and with that, it belongs to the lower-medium cluster. Our financial score is 71 and our staffing one in 66, both of which place us in the upper-medium group. Finally, our academic cluster is the lower-medium one with 47 points.

The score of 100 points usually represents a situation in which universities enjoy nearly unlimited autonomy, while "limitations" are translated into point reductions. A possible limitation is, for example, if the officials are appointed by the state, if the quality assurance agency is not be independently elected, if the institution cannot decide about how to spend revenues, if there are extra-institutional elements appearing in the admission procedure and so forth. However, it is worth mentioning that these detailed analyses seek to offer a consistent image of the situation of a subdomain of autonomy rather than pass moral judgement. The presentation of the trends shows how the interpretation of autonomy in higher education varies by country (by region) depending on the role undertaken by the state.

Table 13. Autonomy scores (2010)

Organisational autonomy scores			Financial autonomy scores			Staffing autonomy scores			Academic autonomy scores		
Rank	System	Score	Rank	System	Score	Rank	System	Score	Rank	System	Score
1	United Kingdom	10	1	Luxembourg	91	1	Estonia	100	1	Ireland	100
2	Denmark	94	2	Estonia	90	2	United Kingdom	96	2	Norway	97
3	Finland	93	3	United Kingdom	89	3	Czech Republic	95	3	United Kingdom	94
4	Estonia	87	4	Latvia	80		Sweden	95	4	Estonia	92
5	North Rhine-Westphalia	84	5	The Netherlands	77		Switzerland	95	5	Finland	90
6	Ireland	81	6	Hungary	71	6	Finland	92	6	Iceland	89
7	Portugal	80	7	Italy	70		Latvia	92	7	Cyprus	77
8	Austria	78		Portugal	70	8	Luxembourg	87	8	Luxembourg	74
	Hesse	78		Slovakia	70	9	Denmark	86	9	Austria	72
	Norway	78	10	Denmark	69	10	Lithuania	83		Switzerland	72
11	Lithuania	75	11	Ireland	66	11	Ireland	82	11	Hesse	69
12	The Netherlands	69	12	Switzerland	65	12	Poland	80		North Rhine-Westphalia	69
13	Poland	67	13	Austria	59	13	Austria	73	13	Brandenburg	67
14	Latvia	61	14	North Rhine-Westphalia	58		The Netherlands	73	14	Sweden	66
15	Brandenburg	60	15	Finland	56	15	Iceland	68	15	Poland	63
17	France	59		Sweden	56	16	Norway	67	16	Italy	57
	Hungary	59	Spain	55	17	Hungary	66	Spain		57	
18	Italy	56	18	Poland	54	18	Portugal	62	18	Denmark	56
19	Spain	55	19	Lithuania	51	19	Hesse	61		Slovakia	56
	Sweden	55	20	Norway	48		North Rhine-Westphalia	61	20	Latvia	55
	Switzerland	55	21	Czech Republic	46	21	Turkey	60	21	Portugal	54
22	Czech Republic	54	22	France	45	22	Brandenburg	55	22	Czech Republic	52
23	Cyprus	50		Turkey	45	23	Slovakia	54	23	The Netherlands	48
24	Iceland	49	24	Brandenburg	44	24	Italy	49	24	Hungary	47
25	Slovakia	45	25	Iceland	43	25	Cyprus	48	25	Turkey	46
26	Greece	43	26	Greece	36		Spain	48	26	Lithuania	42
27	Turkey	33	27	Hesse	35	27	France	43	27	Greece	40
28	Luxembourg	31	28	Cyprus	23	28	Greece	14	28	France	37

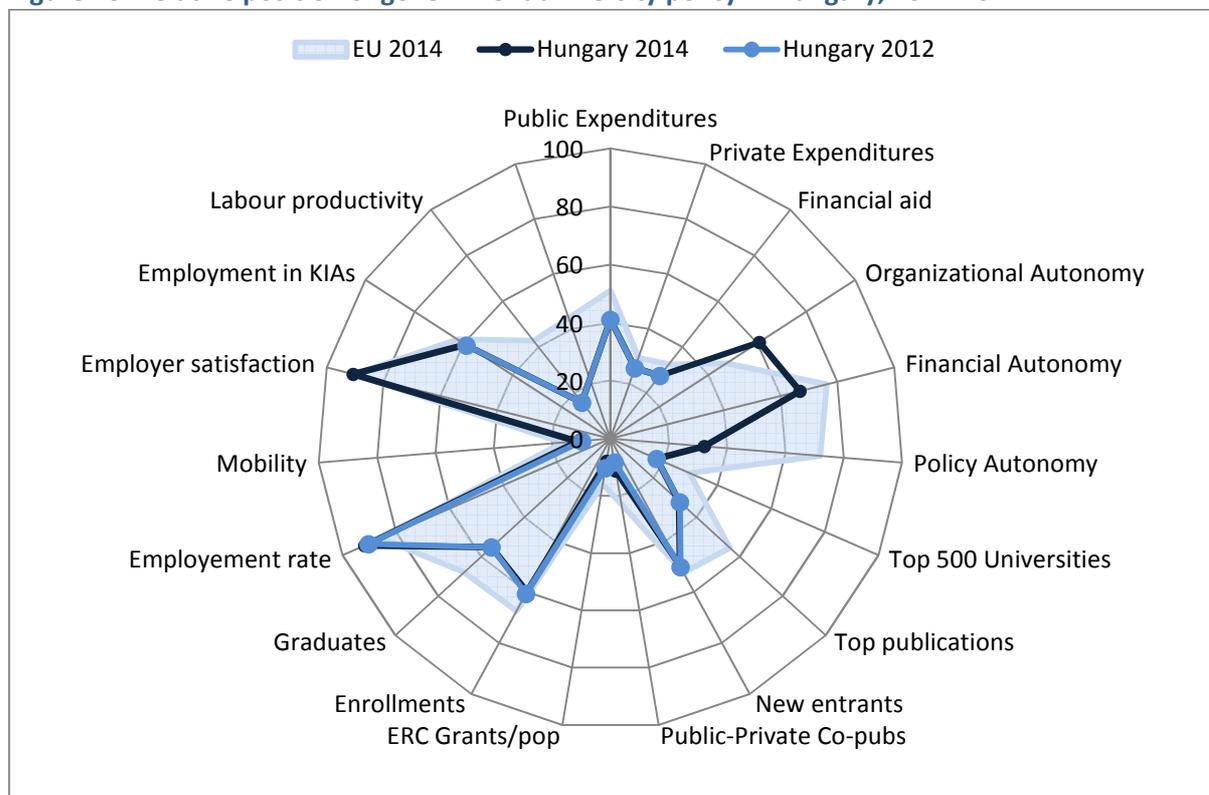
Source: <http://www.university-autonomy.eu/>

A ranking established with the help of multivariate statistical methods created via the relationship between the economy and the higher education of European countries is prepared since 2012 by the research team of Maastricht University with the involvement of international experts (<http://empowereu.org/>). The project is called *Empower European Universities*, which implies that the engine of the development of nations is higher education: if Europe wishes to remain competitive with other continents, then it needs to invest in education. The results are published under the title of “The State of University Policy for Progress in Europe”; the most recent report was released in November 2014.

The 2014 analysis treats the nationally quantified strategic and performance indicators of the universities (education, research) together with the indicators of economic performance and innovation. It presumes a cause and effect relationship between these three groups of variables: the university strategy affects the performance of the university, which – in turn – affects the results of the national economy. The indicators of the individual groups of indicators are quantified from OECD and Eurostat statistics, but public databases of other research projects are also utilized. Due to the delayed publication of reliable statistical data, the first report of 2012 uses data mostly for 2008, while the second report of 2014 features data for 2010-2012. Both volumes contain expert opinions about whether the years gone by till the year of publication brought positive or negative trends and what kind of adjustments might be expected in the next report.

A composite ranking is also issued in the framework of this study involving 32 countries. It is not an easy task to interpret this ranking, therefore the report includes short country analyses as well, where certain indicators are displayed on a radar chart.

Figure 18. Relative position of government university policy in Hungary, 2012-2014



Source: The State of University Policy for Progress in Europe, 2014

According to the report, the contribution of the higher education strategy to economic innovation was modest in Hungary, which is due to the fact that the higher education and student expenditures per capita of both the public and the private sphere were inferior to the EU average. We fell short of the EU average with respect to other important indicators also: university research performance as well as admission and graduation rates in higher education. The internal student mobility was also negligible. The most recent measures are aimed at stopping the brain drain rather than at increasing the number of foreign students. Both reports classify Hungary in the middle group of countries, but we are located in the lower part of the latter.

5.2 Hungarian and Central European higher education institutions in international rankings

The criteria of excellence for an institution are quite different from the system-wide considerations of excellence. It is an error frequently committed by higher education specialists to judge the whole of the higher education system on the basis of the position of the best-ranked institutions with the implicit assumption that by improving the excellence of a few institutions (i.e. their position in the ranking), we can enhance the higher education system itself. However, their relationship is just the opposite. As higher education specialist Robert Birnbaum has put it, “the United States does not have a world-class higher education system because it has many world-class universities – instead it has world-class universities because it has a world-class higher education system”.

Nonetheless, several initiatives have been launched in Europe and in many countries of the world (e.g. the German *Exzellenzinitiative* or the Chinese *Project 985*) that have aimed for advancement in the international institutional rankings by additional funding and institutional integration. (In recent years, such objectives have been regularly formulated in the documents and resolutions of the Hungarian higher education government as well.) Although these initiatives may contribute to the strengthening of an institution, they also reinforce the differences between the institutions (i.e. their hierarchical stratification). It is especially in Europe that this generates tension inside higher education systems because in these systems, the existence of significant quality differences between institutions is not as widely accepted (due to the higher rate of state intervention, for example); i.e. these systems are more characterized by an egalitarian attitude.

In the following, we will examine the rankings of Central European countries in a broad sense on the basis of the QS World University Ranking in the interval of the past three years. In our analysis, we will include, besides the Visegrád countries, the countries of the Balkans and the Baltic countries, as well as Austria for comparison. This ranking seeks to evaluate other activities also, apart from research, when establishing its order. In order to do that, the QS looks at teaching staff and employer reputation surveys, teaching staff and student numbers and ratios as well as research performances. Another global universal rating, which is similar to QS, is the Times Higher Education World University Ranking (THE). The reason for us to consider only the findings of QS in what follows is that the THE ranking publishes the ranking of only the first 400 institutions and in 2014, only Austria (5 institutions), the Czech Republic and Poland (1 institution each) could make it onto the list from this region. On the other hand, the QS list includes the first 800 institutions.

Table 14. Countries of the region in the QS World University Ranking

Country	Population 2014 (million)	Number of institutions in the ranking			Average rank			QS institutional density
	2014	2012	2013	2014	2012	2013	2014	2014
Estonia	1.2	1	2	2	525.0	455.0	452.0	1.67
Lithuania	3	3	4	4	608.3	718.8	706.3	1.33
Austria	8.5	7	7	7	397.6	429.3	454.3	0.82
Latvia	2	0	1	1	-	750.0	750.0	0.50
Slovenia	2.1	1	1	1	575.0	575.0	525.0	0.48
Czech Republic	10.7	4	5	5	509.0	522.6	531.8	0.47
Hungary	9.9	4	4	4	581.3	612.5	643.8	0.40
Croatia	4.2	1	1	1	575.0	625.0	625.0	0.24
Romania	21.6	4	4	4	650.0	750.0	731.3	0.19
Poland	38.2	4	6	6	530.8	598.2	605.2	0.16
Bulgaria	7.1	0	1	1	-	675.0	675.0	0.14
Serbia	9.4	1	1	1	650.0	750.0	750.0	0.11
Number of ranked institutions		700 (729)	800 (834)	800 (863)				

Source: based on <http://www.topuniversities.com>

There are two essential indicators in the table: one of them shows the number of ranked institutions per 1 million inhabitants in the given country (“institutional density”). In this respect, it is the small Baltic states that performed outstandingly well besides Austria, for they were able to delegate numerous institutions into the ranking despite their relatively small number of inhabitants. Hungary is in the middle of the ranking along with the Czech Republic while Romania and Poland have been pushed down to the last third of the list. It should be highlighted that there are no institutions in the ranking from Slovakia. It should also be pointed out as a way of comparison that the USA (0.45) and Germany (0.51) have a similar ratio to that of Hungary.

For the evaluation of the results, it is worth mentioning that currently, the QS evaluates the data of 3 000 institutions and it is from that pool that the first 800 are distinguished (according to estimates, there are about 20 000 higher education institutions worldwide at present). Because of the methodology chosen, the ranking is partly based on data reported by the institutions, which means that the ranking features only institutions which volunteer. As a result of that, the low number of institutions may indicate either the weak performance of the institutions (they provided data, but were left out of the first 800), or their lack of interest (they did not provide data).

The other indicator reflects the average position of the institutions listed in the ranking. The lower this value is, the more prestigious rankings the institutions of the given country have on average. In this respect, Estonia and Austria stand out in the region, followed by Slovenia and the Czech Republic. Hungary, together with Poland, is again in the middle of the pack. (However, Latvia and Lithuania could only appear at the bottom of the listing on the basis of this indicator.) The Estonian achievement is extraordinary also because while the number of institutions featured on the list has grown, their average rank also improved, as opposed to all the other countries.

The falling trend may have two possible explanations. One of them is that more and more institutions are trying to get into the QS ranking, among them institutions that did not provide data in the past. Some of the institutions that have been hiding so far perform better than the other institutions of the region which will be pushed further down the list by the entrance of the new institutions (even if their own performance has been improving). In this case, we are not dealing with a decline in competitiveness: it is only the difference in performance that is now made manifest.

According to the other possible explanation, the relative competitiveness of the region is indeed deteriorating, which can be put down to funding, regulatory and other structural reasons. In order to be able to decide this question, we would need to do a more thorough analysis of the QS data and indicators.

In 2014, the QS made a separate ranking for the countries of Central and Eastern Europe on the one hand and for the countries of Central Asia on the other (the listing basically covers the post-socialist region and Turkey). 368 institutions provided data for this survey (255 institutions did not even participate in other QS research) and out of them, the first 100 institutions were ranked on the basis of a system of criteria somewhat different from the global ranking.

Table 15. Indicator values of some East-Central European and Central Asian countries, based on QS

Country	Population 2014 (million)	QS EECA 2014/2015		EECA density
		Number of ranked institutions	Average rank	
Estonia	1.2	2	15.5	1.67
Latvia	2	3	67.0	1.50
Lithuania	3	4	57.3	1.33
Czech Republic	10.7	10	57.3	0.93
Hungary	9.9	6	30.5	0.61
Kazakhstan	16.6	8	55.9	0.48
Slovenia	2.1	1	19.0	0.48
Slovakia	5.5	2	62.5	0.36
Azerbaijan	9.5	3	75.0	0.32
Poland	38.2	9	46.7	0.24
Croatia	4.2	1	36.0	0.24
Romania	21.6	5	48.6	0.23
Belorussia	9.3	2	51.5	0.22
Russia	142.5	26	54.7	0.18
Bulgaria	7.1	1	49.0	0.14
Turkey	75.8	10	25.0	0.13
Ukraine	44.9	6	65.0	0.13
Serbia	9.4	1	65.0	0.11
Number of ranked institutions		100		

Source: based on <http://www.iu.qs.com/eeca2014-rankings-results/> and <http://www.worldometers.info/world-population/population-by-country/>

As we can see from the table above, the highest number of institutions was given by Russia (26), Turkey (10) and the Czech Republic (10). However, concerning the number of institutions ranked per 1 million inhabitants, it is Estonia, Latvia and Lithuania that are at the top. (Estonia achieved an

excellent result in terms of the average position in the ranking, too.) Among the countries with a bigger population, it is the Czech Republic, Hungary and Kazakhstan that have the highest number of noteworthy institutions per 1 million inhabitants. Among the countries listed with more than one institution, Estonia, Turkey and Hungary are in the lead in terms of the average ranks.

So what does this list reveal about Hungary? Although there are no Hungarian institutions in the first 15 places of the ranking, Hungary has a relatively high number of good-quality institutions per number of inhabitants in the composite rankings of excellence compared to its neighbours, institutions which exhibit a high-standard and well-balanced performance on the whole.

The Times Higher Education also compiled a special ranking for BRICS countries and emerging economies (BRICS & Emerging Economies Ranking). This ranking features, for example, Chinese, Brazilian, Saudi Arabian and Indian institutions besides the Central European region. The system of criteria was again modified compared to the THE world ranking.

Table 16. Indicator values of some countries among BRICS & Emerging Economies, based on THE Ranking

Country	Population 2014 (million)	BRICS & EE 2014		BRICS & EE 2015		Institutional density (2015)
		Number of ranked institutions	Average rank	Number of ranked institutions	Average rank	
Russia	142.5	2	38.5	7	49.3	0.049
Czech Republic	10.7	3	56.0	2	45.0	0.187
Turkey	75.8	7	29.4	8	26.8	0.106
Poland	38.2	4	57.0	2	52.0	0.052
Hungary	9.9	3	71.0	2	61.0	0.202
Number of ranked institutions		100		100		

Source: based on BRICS & Emerging Economies Ranking, and <http://www.worldometers.info/world-population/population-by-country/>

The special ranking of THE implies that although the Hungarian institutions do not appear in the first half of the ranking, Hungarian higher education fares well on the basis of the ranking of the institutions per 1 million inhabitants. (Especially if we take into consideration that only Czech, Polish and Hungarian institutions have made it into the top 100.)

Besides the above presented QS and THE rankings, which have a universal focus, there are several international research rankings established as well. The difference between research rankings and universal rankings is that the former usually examine the research performance of institutions on the basis of international publication databases in the first place. Therefore the institutions do not have to provide data for the creation of such rankings. Today there are a lot of research rankings available, out of which we will examine our region on the basis of the *Academic Ranking of World Universities* (“Shanghai Ranking”) and the *National Taiwan University Ranking* (NTU).

Both rankings carry out a preliminary selection among the institutions on the basis of the number of articles published. The methodologies of the two rankings differ from each other in their choice of indicators the most: while ARWU takes into consideration such “soft” indicators as the number of Nobel Prize winners, NTU focuses solely on research performance (e.g. by the examination of published articles and the number of references).

Table 17. Research ranking: indicator values of some countries

Country	Population	Number of institutions in the ranking						Average rank						ARWU density
		ARWU			NTU			ARWU			NTU			
		2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	
Austria	8.5	7	7	6	6	6	7	353.6	353.6	337.5	338.8	345.5	371.7	0.7
Slovenia	2.1	1	1	1	1	1	1	450.0	450.0	450.0	394.0	365.0	360.0	0.5
Hungary	9.9	2	2	2	1	1	1	400.0	400.0	400.0	461.0	434.0	487.0	0.2
Serbia	9.4	1	1	1	0	1	1	450.0	350.0	350.0	-	339.0	315.0	0.1
Czech Republic	10.7	1	1	1	1	1	1	250.0	250.0	250.0	214.0	185.0	190.0	0.1
Poland	38.2	2	2	2	2	2	2	350.0	350.0	350.0	396.0	343.5	376.0	0.1
Estonia	1.2	0	0	0	0	0	1	-	-	-	-	-	499.0	-
Croatia	4.2	1	1	0	1	0	0	450.0	450.0	-	454.0	-	-	-
Number of institutions ranked		500	500	500	500	500	500							

Source: based on <http://www.shanghairanking.com/>, <http://nturanking.lis.ntu.edu.tw/>, <http://www.worldometers.info/world-population/population-by-country/>

The comparison should be made on the basis of two indicators here as well: one of them is the number of institutions ranked per 1 million inhabitants (institutional density), while the other is the average rank. As shown by Table 17, there is no significant difference between the number of institutions of the two rankings, thus we will communicate density-related figures only for ARWU.

In terms of these figures, Austria and Slovenia stand out in the region, while Hungary, the Czech Republic and Poland perform on a similar level, falling behind the former two. (For the sake of comparison: the density indicator value is 0.45 for the USA, 0.47 for Germany and 0.93 for Finland.) In recent years, the majority of the Baltic and Balkan states could not get any of their institutions into the ranking, thus Bulgaria, Latvia, Lithuania, Romania and Slovakia were all left out. The number of the institutions of the region is very low on the whole, which might be due certain regional specificities: the research institutions' network is partly separated from educational institutions. Further reasons may be the financial and structural characteristics: in developing countries, the funding of research is usually inferior to that of developed countries; only a fragment of EU research funds is allocated to the East Central European region; the institutions are characterized by a closed higher education culture; their staffing policy is inflexible; the salaries of the teaching staff are not competitive; brain drain effects are at work. Thirdly, this phenomenon may follow from the methodological characteristics of the ranking: linguistic and disciplinary distortions, the number of articles published in English is decisive for the ranking, which is more favourable for institutions active in the field of medicine and natural sciences.

The Hungarian institutions appearing regularly (ELTE, SZTE, DE) and occasionally (BCE, BME, PTE) in these rankings are typically ranked in the range of 400-700, and with that, they come right after the international elite (the all-time members of the rankings). This can be perhaps safely declared even in light of the fact that out of the 20-22 thousand institutions, there are probably about 3-4 thousand that attempt to get into the general international rankings (most likely, the others do not have the necessary profile or they lack international ambitions). Appearance in international

rankings builds prestige for institutions and as such, it constitutes a key element for the institutions' ability to attract students and capital.

On the basis of the overall image, there is no major difference compared to the Czech and Polish higher education with similar abilities: the Czech Republic, Poland and Hungary move together more or less both with respect to the number of institutions ranked per 1 million inhabitants and the average rank of the institutions. (Romania has not been able to catch up with them for the moment.) Perhaps the only significant difference is that in Hungarian higher education, there are no such truly outstanding top institutions like Charles University in the Czech Republic or the University of Warsaw in Poland.

The small Baltic countries and Slovenia form a special group within the region because despite their low number of inhabitants, they are able to maintain one or two universities regularly listed by the rankings. According to the rankings, Croatia and Serbia also belong to the group of "one-university" countries. The Slovakian institutions have been unable (or unwilling) to get into the rankings.

6. International mobility and export capacity in Hungarian higher education

The export market orientation of higher education conceals major inequalities both with respect to fields of study and higher education institutions, which is also true for the convergence region. In 2001, Hungary was still in the lead among the Visegrád countries in terms of the absolute number of degree seeking foreign students, with only Austria being ahead of it in the region. By 2012, however, compared to Hungary's somewhat more than 1.5-times increase, Austria nearly doubled the number of its foreign students, Poland tripled this figure and the Czech Republic and Slovakia achieved a fivefold increase. At the same time, the sector of Hungarian higher education is still characterized by an export surplus.

The policy of the so-called "opening to the East" launched in 2014 may bring a general breakthrough in foreign trade, while we can look to Tempus Public Foundation, Campus Hungary and the Brazilian programme of the Hungarian Rectors' Conference for similar headway in this area. In the national rankings of the programme entitled "Science Without Borders" funded by the Brazilian government, Hungary occupies the 10th place whereas the University of Technology is ranked 5th in the university ranking.

Thanks to the various exchange programmes, part-time studies and study trips abroad, it is not only Hungarian students and instructors who could profit from a favourable opportunity: the international receptiveness of the entire Hungarian higher education has also improved.

For the moment, however, the motivation of officials, the international marketing capacity and the pressure from proprietors or the government all seem to be missing – factors which could possibly turn the tide in the export revenues of Hungarian higher education.

If we consider higher education as a sector, the question justly arises to what extent it takes part in international commerce. It is especially important for small, open countries to answer the question whether Hungarian higher education is characterized by an export or an import surplus on the whole. This is a simple question left unanswered by official foreign trade statistics. The foreign trade balance of Hungary had always been negative till the economic crisis of 2008. After that year, however, the trend turned and as a result of both the limitation of import and the promotion of export (especially investments in the automobile industry), it has been producing a growing export surplus year after year. In 2013, the export amounted to as much as 97% of GDP, exceeding the import by 10.5% of GDP.

The export of services constitutes an increasing proportion of the export, which is composed of three groups: tourist and transport services as well as government and business services. Higher education may be classified in the same group with tourist or business services, but it is not displayed separately. The export products of higher education institutions can have a broad range: besides the sale of intellectual products, workforce, technical books, conference organization services, etc., they can also include education and other services provided to foreign students. As far as we know, at present there is only one university, Budapest University of Technology and Economics to disclose the portion of its revenues deriving from export directly or from international sources indirectly.

According to the data available for 2012, 12.4% of the revenues came from international sources and this figure grew year by year. At the same time, the ratio of foreign students moved in the opposite direction: it went down from 4.5% in 2008 to 3.9% by 2012, thus the revenue from tuition fees of programmes taught in foreign languages decreased from 617 million forints to 488 million forints. A significant change took place in this respect in 2013 when thanks to the Brazilian guest

student programme to be discussed below, the number of foreign students leaped to 1127, reaching 4.6% of the total student number.

Table 18. Revenues of TUB from international sources (in thousand HUF), 2008-2012

	2008	2010	2012
Tuition fees of programmes taught in a foreign language	617.3	571.4	488.3
Incomes from R+D and business activities	133.4	107.8	77.7
Project supports by international organizations	1 328.1	1 143.2	954.3
Local project incomes containing international donations (structural funds, operative programmes)	584.8	981.8	1 916.3
Total international income	2 663.6	2 804.3	3 436.6
Total supports and own incomes reduced with students' appropriations	29 307.0	26 883.3	27 646.3
Rate of international incomes	9.1%	10.4%	12.4%

Source: www.bme.hu/sites/default/files/BME_tenyek_es_adatok_2014.pdf

Basically, foreign students can be divided into two groups: degree seeking foreign students and students doing part-time studies here. The latter students can also be split into two groups from the perspective of export revenues: those who study here as exchange students, i.e. without paying tuition, and those who pay for their part-time studies. International statistics tend to contain data only on mobility realized with a view to obtaining a degree. Even within that, they focus on full-time students in the first place. It is the host countries that can provide reliable data on the stay of Hungarian citizens studying abroad, which are aggregated by international organizations such as UNESCO. Table 19 presents the changes of the past 30 years in Hungary.

Table 19. Export and import, incoming and outgoing students in Hungarian higher education

Categories	1980/81	2005/06	2010/11	2012/13
Full-time students	64 100	231 482	240 727	233 678
Foreign students	2 700	10 974	15 889	17 987
Proportion of foreign students (%)	4.21	4.74	6.60	7.70
Hungarian students studying abroad	1 725	7 458	8 184	9 634
Proportion of Hungarian students studying abroad (%)	2.69	3.22	3.40	4.12
Balance of export/import	+1.52	+1.52	+3.20	+3.57

Source: Based on http://www.oktatas.hu/felsooktatas/felsooktatasi_statistikak and <http://data.uis.unesco.org/index.aspx?queryname=170>

In 1980, ten years prior to the political changeover, the ratio of foreign students among full-time students was 4.21% in Hungary whereas the ratio of Hungarian students studying abroad was 2.69%: in other words, we had a 1.52% export surplus. Surprisingly, twenty-five years later, after the change of regime, this ratio had not changed a bit by the academic year of 2005-2006, while the number of students studying abroad showed a slight increase. The significant change came after that, just like in the case of the commerce of goods and services, and we could observe a steadily growing export surplus in higher education as well: in this sector, it reached as much as 3.57% in the academic year of 2012-2013.

If we look at the total number of the so-called "degree seeking" students studying in Hungary in the academic year of 2012-2013 (i.e. we eliminate the so-called "credit seeking" students doing only

part-times studies in Hungary), then the Hungarian economy has an export revenue of more than 20 billion forints, calculating with the rough estimate of an average tuition revenue of 1 million forints per year. Although this sum constitutes only 0.42% of the 4 823 billion forint service export, it equals 6.4% of the 323.4 billion forints revenue of higher education in 2013 and nearly 12% of the 175.2 billion forints of public funding, which is quite significant. If we wish to catch up with the countries attracting huge masses of foreign students (USA, Australia, New Zealand, Switzerland, etc.) as it is often heard in government circles, then we need to have exact data about these revenues, just like them. We also need new research projects for that. On the other hand, Hungarian research shows that foreign students spend a sum roughly identical to their tuition on their costs of living. As a result of that, the export ratios calculated earlier are doubled on macro level.

The foreign students studying in Hungary come from more than 120 countries. From a market perspective, it is worth distinguishing three major strategic groups: neighbouring countries, other countries of Europe and countries of other continents (Table 20).

Table 20. Countries sending more than 100 students in 2012/2013 by main strategic groups

Neighbouring country	Number	Other European country	Number	Other continent	Number
1. <i>Slovakia</i>	2 436	1. Germany	2 528	1. Iran	1 025
2. <i>Romania</i>	2 308	2. Norway	856	2. <i>Israel</i>	739
3. <i>Serbia</i>	1 465	3. Sweden	451	3. Nigeria	639
4. <i>Ukraine</i>	1 269	4. Spain	447	4. Turkey	583
5. Austria	175	5. France	335	5. USA	456
6. Croatia	113	6. Great-Britain	322	6. China	331
		7. Italy	253	7. South Korea	298
		8. Cyprus	244	8. Japan	259
		9. Ireland	224	9. Vietnam	234
		10. Russia	199	10. Saudi-Arabia	226
		11. <i>Greece</i>	167	11. Canada	198
		12. Iceland	125		
		13. <i>Poland</i>	109		
		14. Portugal	107		
Total	7 766	Total	6 367	Total	4 988
Country group %*	37.53%	Country group %*	30.77%	Country group %*	24.10%

Source: Based http://www.oktatas.hu/felsooktatas/felsooktatasi_statisztikak

Italic: decrease compared to the previous year

* Based on the total number of international students: 20 694

The majority of the students coming from the neighbouring countries attend a programme in Hungarian as native speakers of Hungarian. Their number has stagnated or decreased in the past 10 years and their ratio has fallen from the earlier 52% to 37%. That is a natural consequence of the demographic changes, Hungarian-language programmes launched on the other side of the borders and globalization. The most spectacular drop could be observed in the number of students coming from Romania, especially among full-time students. The double nationality also plays a role in that because now it is only a matter of choice which of their identities students indicate. All of the above makes it quintessential that we promote such part-time studies – and within that, exchange programmes – in cooperation with our neighbouring countries, increasing the number of students

both incoming and outgoing, which may greatly enhance the networking of the Carpathian Basin and the feeling of belonging together.

The bulk of foreign students coming to Hungary from European countries attend a foreign-language programme in medicine as fee-paying students. As many as 14 countries have more than 100 students in Hungary, and Germany has taken over the absolute lead among the countries with 2528 persons. In this group of countries, the Scandinavian countries are on the podium and only the student numbers of Greece and Poland were inferior to the respective figures of the previous year.

It is the number of students from other continents that has increased the most dynamically in ten years: from 14% to 24%. There are 11 countries that have sent more than 200 students to Hungary, followed by the countries giving less than 100 foreign students. Iran and Israel have been at the top of this group for a decade now, while the third place is taken by Nigeria, the most populated African country, for which the number of students has grown the most spectacularly.

The question arises: on what basis can we judge whether the current sending countries reflect the opportunities of Hungary appropriately? We can look at this issue from two aspects. On the one hand, from the perspective of our capacities; that is, we can check which countries are in the lead concerning the export of Hungarian products and services. Secondly, we can examine our opportunities from the perspective of global market stakeholders: namely, who are the ones who host the most foreign students. The figures are shown in Table 21.

Table 21. Top 10 countries by certain priority indicators

Top 10 countries sending foreign students to Hungary, 2012/2013	Top 10 export destination countries for Hungary, 2013	Top 10 sending countries in the world, new tertiary entrants in 2012
1. Germany	1. Germany	1. China
2. Slovakia	2. Romania	2. India
3. Romania	3. Austria	3. South Korea
4. Serbia	4. Slovakia	4. Saudi-Arabia
5. Ukraine	5. Italy	5. Canada
6. Iran	6. France	6. Taiwan
7. Norway	7. United Kingdom	7. Japan
8. Israel	8. Poland	8. Vietnam
9. Nigeria	9. Czech Republic	9. Mexico
10. Turkey	10. Russia	10. Turkey

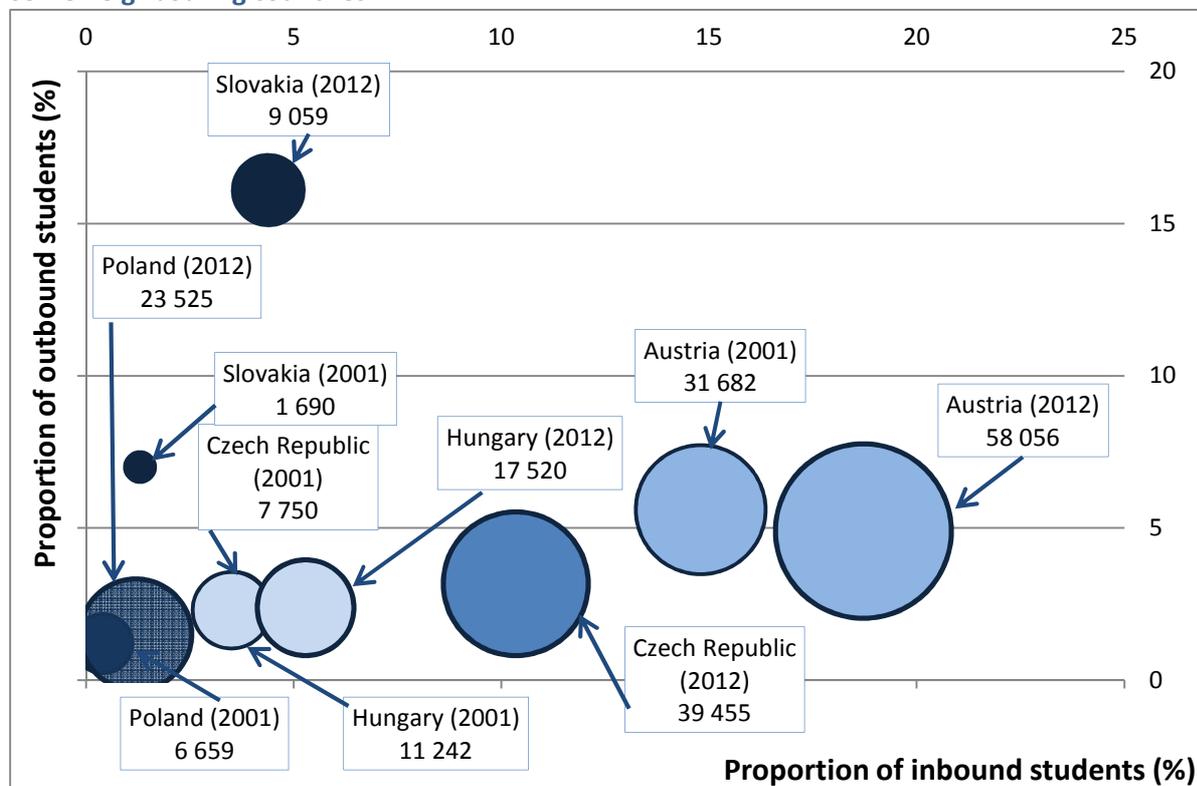
Source: Educational Authority, Higher Education Statistics, Foreign Trade Hungarian Central Statistical Office 2013, Open Doors 2012 Data

Out of the top 10 countries sending the most foreign students to Hungary, only four appear in one of the columns of the above mentioned two rankings. (These countries are indicated in bold in the table.) The first three countries, Germany, Slovakia and Romania occupy a similar position among the biggest export markets of Hungary, too. However, it is surprising that market opportunities are not properly exploited since from the global ranking of the top 10 countries sending the most students abroad in 2012, only Turkey can be found in Hungary's top 10. What this means is that there are lots of countries from China to Vietnam where students could be recruited from. The fact that it has not been done in Hungary proves that neither the government, nor the universities have understood the dynamics of this market. The policy of the so-called "opening to the East" launched in 2014 may bring a general breakthrough in foreign trade, while we can look to Tempus Public Foundation, Campus Hungary and the Brazilian programme for similar headway in this area. In the framework of Campus Hungary, Balassi Institute has recruited students in numerous countries such

as Vietnam. The Stipendium Hungaricum announced for foreign nationals could also boost the interest in our country.

It is worthwhile to evaluate the evolution of the number of foreign students in Hungary in light of the figures of the neighbouring countries as well.

Figure 19. Evolution of the number of inbound and outbound students between 2001 and 2012 in some neighbouring countries

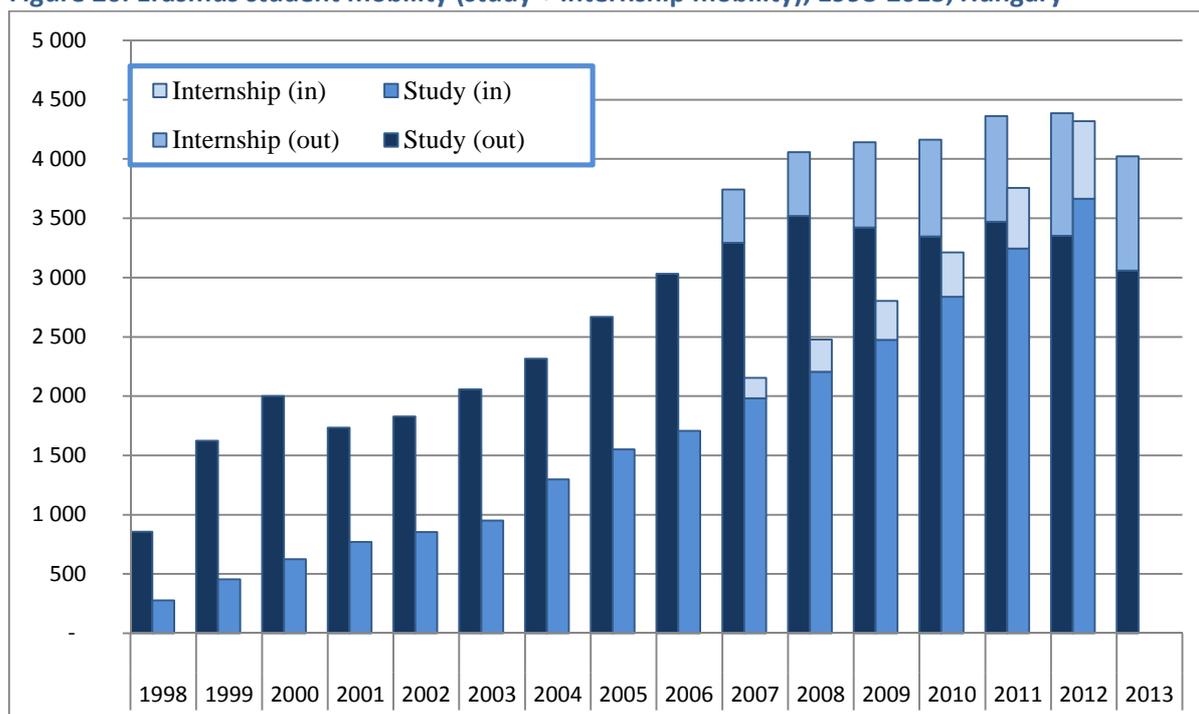


Source: based on UNESCO IS, <http://data.uis.unesco.org/index.aspx?queryname=170> and OECD (2014/2003) Education at a Glance: 2014, 2003

According to the OECD statistics published in 2014, a remarkable reshuffling has been taking place on the European market in the past 11 years. In 2001, Hungary was still in the lead among the Visegrád countries in terms of the absolute number of incoming foreign students, with only Austria being ahead of it in the region. By 2012, however, compared to Hungary's somewhat more than 1.5-times increase, Austria nearly doubled the number of its foreign students, Poland tripled this figure, and the Czech Republic and Slovakia achieved a fivefold increase. This is perplexing even if we are aware of the relative development gap of the Visegrád countries, the great and mutual traversability between the Czech Republic and Slovakia and their linguistic proximity. For instance, there are students who go to Slovakia from the more developed Czech Republic, which is not the case between Hungary and Romania.

After the degree programmes, let us move on to part-time credit programmes: in 2014, the Erasmus Programme, the biggest European exchange programme entered a new phase, Erasmus+. The student mobility figures of the past period from 1998 to 2013 show that in the initial period, Hungary was mostly a sending country. Between 1998 and 2006, there were nearly twice as many Hungarian students going abroad to study as foreign students coming to Hungary. However, in the period of 2007-2013, the gap closed between the two curves.

Figure 20. Erasmus student mobility (study + internship mobility), 1998-2013, Hungary



Source: Tempus Foundation

This can be put down to at least four reasons. First of all, Hungarian institutions have become more and more suitable for hosting foreign students thanks to their high-standard programmes offered in foreign languages. As a result of that, foreign students love coming to Hungary and leave satisfied, spreading our good reputation at their own universities, as shown by the surveys conducted among them. Second, due to the decreasing number of students in Hungarian higher education and the financial and linguistic difficulties of students (especially in the convergence region), the interest in studying abroad declined. Between 2007 and 2013, the number of students going abroad to study stagnated before starting to go down in 2013. It was in 2012 for the first time that the number of foreign students studying in Hungary was higher than that of Hungarian students doing part-time studies abroad, which announced the beginning of the “export surplus” period. Third, the Campus Hungary Programme opened up new opportunities for international mobility, which was exploited by many, thus creating a healthy competition for the Erasmus Programme. Fourth, it should be mentioned that the Erasmus internships launched in 2007 became increasingly popular among both outbound and inbound students, which assured the slow progression that seems to be losing momentum now. We need new approaches in order to boost the incentive to study abroad again. The EU and Hungary have set the objective that 20% of graduated students should spend at least one semester abroad before receiving their degree.

The Erasmus Programme for students is completed by teaching and administrative staff mobility as well. In the framework of the new Erasmus+ Programme, Tempus Public Foundation is expecting the arrival of a total of 5800 persons (4300 university students, 1100 instructors and 400 administrative staff members) in the academic year of 2014-2015 while a somewhat lower number, 5700 Hungarians are planned to go abroad, including 1300 higher education administrative staff members. In 2014, the budget framework of Erasmus+ was 13.3 million euros, a sum significantly higher than the 11 million euros in 2013, which allowed us to send 6127 people abroad. At the same time, Tempus Public Foundation coordinates many other programmes as well (Leonardo, Comenius, CEEPUS, etc.) and these programmes altogether paid for the foreign stay of 15 129 people in 2013.

Table 22. Grants and supports awarded by Tempus Foundation (TKA) and by Campus Hungary, revenue of Hungarian Rectors' Conference from tuition fees, number of participants in mobility programmes in 2013 and during the whole period of the programmes

Name of programme	Grants awarded and revenue estimates		Number of participants in mobility programmes
	EUR (million)	HUF (million)	
Erasmus (scholarship)	11.0		6 127
All programmes coordinated by TKA	23.2		15 129
Campus Hungary (2013-2015)		4 900	9 963
Hungarian Rectors' Conference, Brazilian programme (2013-2015)		6 000	1 888

Source: Tempus Foundation; news; own calculations

The year of 2014 saw the flourishing of the Campus Hungary (CH) Mobility Programme funded by EU sources and coordinated by Balassi Institute. Hungarian students and higher education staff members were the principal beneficiaries of the Campus Hungary Mobility Programme, which provided them an opportunity to spend some time abroad from a budget of 4.9 billion forints allocated over 3 years. The programme invited proposals for collective study trips as well and thus altogether 9963 persons could enjoy some kind of support. As opposed to Erasmus scholarships, the target countries could also be outside Europe, so the programme made it possible to travel to 3500 host institutions in 92 countries and gain experiences there.

In the framework of the "Science Without Borders" programme funded by the Brazilian government, 100 000 university students of the South-American country can spend two or three semesters at higher education institutions in another country. In the global ranking of the 40 host countries, Hungary has attained the most distinguished 10th place, while the University of Technology has been ranked 5th among universities. The Hungarian Rectors' Conference pioneered in the organization of the programme, setting an example for the cooperation of the 18 universities and colleges concerned by the programme as well as that of diplomatic bodies. 1888 students have come to Hungary and nearly one third of them, 539 students have opted for the programmes of Budapest University of Technology and Economics. The second place has been taken by the University of Debrecen with 178 students, the third by ELTE with 121 students, the fourth by Szent István University with 99 students and the fifth by Óbuda University with 87 students from Brazil. According to estimates, the higher education institutions involved have made at least 6 billion forints of export revenue from this programme within a short time.

Center for Higher Education Studies (CIHES)

The Center for Higher Education Studies was founded at the Faculty of Economics of Corvinus University of Budapest in May 2008. *As a project organization of the university*, the Center provides its participants with a framework to formulate and pursue new research directions and take part in Hungarian and international research tenders. In the 21st century, the use of the term “international” with respect to education, research and other service activities provided in higher education is also a measure of competitiveness.

Higher education reflecting the national characteristics and institutional diversity can serve its students, teachers and other employees properly if it prepares them for succeeding both in the Hungarian and the global market. The mission of our *Research Center* is to promote this objective. While fully preserving their position at their faculty or workplace, the members of the Center work on the implementation of the individual projects within the organization using the resources available. We strongly believe that we can be successful only if we do that through an intensive collaboration with the Hungarian and the international professional community.

In today’s world described as “knowledge society”, the role of higher education has intensified. The appearance of globalization and market conditions raise new and intriguing questions in education, just like in every service sector. *The role of universities* in shaping and meeting social expectations is at the centre of international debates and political decisions. The Research Center, while dealing with certain priority issues of higher education embedded into an international framework, seeks to provide help for *the leaders of Hungarian higher education institutions as well as education policy-makers* through its projects.

The nature of the research activities conducted in a given period is determined by the fields of interest of the members of the Research Center, the research assignments received as well as the effort to offer a solution for *the challenges faced by Hungarian higher education*. In the past 7 years, our main activities have focused on the following areas:

1/ A workshop conference entitled “*Hungarian Higher Education 2008, 2009, 2010, 2011, 2012, 2013, 2014*” is organized by CIHES every year in the last week of January, which discusses the topical issues of the year in a strategic and international context with the assistance of invited lecturers and with an average of 150 registered participants representing all areas of the higher education sector. For three years now, CIHES has prepared a discussion paper entitled “Strategic Progress Report” for this occasion.

2/ Along with *book shows, research project reports and progress reports*, we also organize conferences on timely issues in cooperation with our partner organizations throughout the year. The topics that have been discussed so far include the employability of graduates, international mobility, innovation, the application of pedagogical methods, science policy, funding, the Bologna process, university mission, market orientation and many others.

3/ In addition to *the publications* appearing in Hungarian and international journals, the staff of our Research Center also edit and partly contribute to the *CIHES Working Papers*, of which 11 volumes have been published so far.