



Center for International Higher
Education Studies

Hungarian Higher Education 2016

Strategic Progress Report

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Preface

The next edition of our strategic progress reports¹ evaluates the priority areas of the Hungarian higher education in relation to the developments of the years of 2015 and 2016. Following the pattern of the previous reports, the authors of the individual chapters will outline past trends and potential future consequences in the context of the current events. While in our last analysis we put certain areas into an international context by presenting several detailed international comparisons², this time we will primarily focus on the current situation in Hungary. Our study is constituted by the material previously sent to the participants of the “Hungarian Higher Education” conference held on 26 January 2017, completed by the presentations of the speakers followed by a discussion.

At the beginning of our report – in accordance with our established routine –, we provide an overview of the most important claims stated in the individual chapters. However, the picture will only be complete with the figures and analyses presented in the chapters. After the introductory chapter on educational policy, our report touches upon three major areas. First we take a look at the most recent developments of the institutional structure and management as well as the economic conditions of the Hungarian higher education. Wherever possible, we present the practices in place through figures or surveys, contrasting them with government expectations. In the next big block, we examine the situation on the national as well as on the institutional level in light of the admission data and analyse some figures in relation to graduate employment before moving on to the detailed discussion of the issue of qualifications and learning and teaching, including dual education. Finally, the analysis of domestic and international data regarding researcher performance and student mobility allow for international comparison.

Our report intends to offer some claims for consideration for both educational policy makers and heads of institutions. At the same time, we have also tried to formulate our chapters in a way so as to make our message comprehensible for a readership interested in, but less familiar with higher education.

The year of 2017 – as a pre-election year – will definitely have a few surprises up its sleeve. According to one of the dimensions of our report, we look forward to finding out whether the wide-ranging measures launched in 2015/2016 (which perhaps intervened somewhat excessively in the functioning of the institutions) will be able to reverse the trends that have been established over the years, influence seemingly entrenched practices and bring the Hungarian higher education closer to the international cutting edge. Although most of our authors are rather sceptical or at least cautious in that respect, we still hope that at our January 2018 conference and in the progress report to be published then, we will be able to report about coherent examples of the results of educational policy interventions.

January 2017, Budapest

The Authors

¹ The studies for the previous years (Strategic Progress Reports 2012, 2013 and 2014) can be downloaded from <http://nfkk.uni-corvinus.hu/index.php?id=publikaciok>.

² József Berács, András Derényi, Gergely Kovács, István Polónyi and József Temesi, “Magyar felsőoktatás 2014 – stratégiai helyzetértékelés (első és második rész),” *Köz-Gazdaság* X, no. 1 and 2 (April and June 2015): 205–232, 41–66.

Summary

The transformation of the Hungarian higher education under permanent reform and efficiency increasing measures received a new impetus in 2014. The government gained new momentum with a new “conductor” at the helm, based on a new concept and with a view to creating an efficient, internationally successful and *performance-based* higher education. With little less than two years elapsed, it is worth examining the basic orientations of the government interventions and their outcomes in 2016.

The higher educational policy of the past two years, the year of 2016 included, was defined by objectives and interventions aimed at the direction and control of the institutions. The maintainer focused on the implementation of those strategic goals that would ensure direct control over the activities of the institutions.

1. As demonstrated by the figures, **the situation of higher education will be improving by 2017**. In 2017 the total expenditure on higher education will be 90 billion HUF higher than in the previous year, and within that, operational expenditure will grow by 45.5 billion HUF. Basically, this will be just enough to cover the resources needed for the salary increase in 2016 and 2017. The funds necessary to cover the increase of expenditure will derive from an approximately 50-billion increase in state support (i.e. a little bit more than the funds needed for the salary increase) while the rest will come from revenue increase.

2. If we take a look at the situation of higher education over a longer stretch of time (2004-2017), we can see that **the record low in terms of expenditure relative to the GDP was the years of 2014-2016**. Based on the final accounts reports, expenditure in 2014 was the lowest value of the whole period. Based on the Budget Acts, expenditure was the lowest in 2016 in the period examined, and **the improvement in 2017 still does not attain the levels of the years of 2009 and 2010**.

3. The essence of the change consisted in the fact that on the one hand, allocation by the maintainer’s decision obtained a bigger role in the inter-institutional resource allocation besides and instead of the normative mechanisms, and on the other, the internal room for manoeuvre of the institutions in terms of their management was radically reduced because non-earmarked funding was phased out from the system, while the proportion of earmarked funding components increased. Quite clearly, the maintainer intends to have control over the intra-institutional utilization of state funding, and it does not support the internal restructuring of functions and duties or cross-financing. Logically, **these changes increase the chances of exercising control over the institutions through funding** and reinforce the necessity to adjust on behalf of the responsible leaders running the institutions.

4. The consolidation of the management of the institutions and the termination of the debts accumulated in the higher education sector were given key priority. The primordial task of the chancellors was to focus on this objective. Accordingly, the years of 2015 and 2016 were characterized by an intense centralization of the management powers and an effort to curb and firmly control the expenses in the overwhelming majority of the institutions. In its communication within the sector and the government as well as to the public, the maintainer illustrated the success of the systemic reforms **with the decreasing debts, the improving cash flow situation and the growth of the scriptural money (cash) stock**. Naturally, the institutional system having survived a significant ebb of resources between 2010-2014 did not possess the operational reserves indispensable for consolidation, but by drastically cutting down on investment and operational costs, the consolidation of the debts of hospitals and the

huge amount of EU grant supports paid in the second half of 2015, **the management balance was pro forma attained.**

Although it is supposed to be the most important tool of institutional management in the hands of the maintainer, the transformation of the funding scheme into a performance-based system – as set out in the strategy – has not yet taken place. There have been no positive changes in the rules of public finances, employment and remuneration that predetermine the operational efficiency and room for manoeuvre of higher education institutions. The system of remuneration and incentives of instructors and researchers has not undergone any major changes. The introduction of the multiple-phase salary increase launched in 2016 was not connected to any kind of performance enhancement or differentiation.

5. The stricter control over the institutional system and the developments seem to be in contradiction with the phenomenon – already manifest between 2010-2014 – that **there are more and more loosely connected decision-making/influential centres determining the fate of the Hungarian higher education.** The Ministry of Human Capacities and its individual State Secretariats, the National Research, Development and Innovation Office, the Ministry for National Economy, the Foundations of the Central Bank and the Cabinet Office of the Prime Minister are all players with an independent vision about the institutional system as a whole or some elements and functions of it, and they are also capable of enforcing their vision through resources and regulations. There are more and more institutions within the Hungarian higher education intended to become performance-based according to the strategy entitled *A Change of Pace in Higher Education* that carry out developments from resources and according to intentions outside the competence of the maintainer.

6. In harmony with the contents of the strategy, significant changes have taken place in the institutional structure as well. New entities have been created as independent specialized universities; **faculties and premises have seceded and merged, independent institutions have been integrated.** It is extraordinary that the maintainer was able to implement these transformations without considerable resistance on behalf of the institutions concerned, which could undoubtedly be put down to the tight institutional management practice developed in connection with the chancellor system. It is unfortunate that the preparation of the transformations and the planning and management of the procedure were not transparent. Although legally and technically, the transformations have been executed, the operation and future prospects of the new institutional constellations seem to be ad hoc. As a result of the transformations, the institutional network qualified as fragmented and offering parallel programmes has grown instead of becoming more streamlined.

7. There is no visible correlation between the trend of the number of applicants and the age-group trend; i.e. **the applications were influenced by the contemporary educational policy and other social factors.** One of the factors contributing to the 2011 dip must have been the announcement of the possibility of a self-supporting higher education and extensive tuition fees, accompanied by the student contract scheme and the minimum scores of state-funded places broken down to the individual study programmes. **As some of the restrictions were eventually attenuated, the number of applications stopped declining.** At the same time, it is also visible that in the upcoming period, the number of 18-year-olds is somewhat rising, which would certainly produce an increase in the number of applicants as well provided that the educational policy did not intend to limit the conditions of the secondary school conditions thereof.

8. Considering the levels of education, **the biggest drop was definitely experienced by the undergraduate programmes.** The number of those applying to part-time (evening or correspondence) programmes has diminished by half, the admission trend of full-time undergraduate programmes has been decreasing (but apparently coming to a halt), while distance learning has practically disappeared.

The number of state-funded places between 2009-2011 indicates a 15-20% decline for the following years – but the number of the fee-paying students does not make up for this diminution: **families struggling with a socio-economic disadvantage are unable to “switch” to fee-paying education.**

9. Up until 2015, the number of those admitted shifted toward universities in Budapest to the detriment of universities and colleges located in the countryside. Thus, as a result of the educational policy pursued since 2011, the colleges (some of which have recently become universities of applied sciences) have been somewhat rolled back. The universities located in the countryside have more or less preserved their proportions whereas universities in the capital have gained a significant number of state-funded and fee-paying students.

10. The support of study programmes in the fields of technology and natural sciences by positive discrimination was formulated in 2011 as a priority objective regarding the scientific disciplines. In comparison with the situation in 2009, the internal ratios indeed shifted towards the preferred fields of study in 2012 – as a result of the drastic interventions in 2011 –, but due to the adjustment processes, **we can see a reversal in the trends already in 2015.** For instance, the proportion of engineering sciences was 15.5%, 17.6% and 13.2% in the three priority years (2009, 2012, 2015), while the ratio of natural sciences was 5.1%, 5.9% and 5%. If we take a look at the discouraged fields, we will notice that although the study field of economics and business dropped from 23% to 18.5%, it soon climbed back to 21.9%. The latter two examples are powerful demonstrations of the fact that while the applicants react to marked administrative signals, their choices will be dominated by the labour market and salary conditions in the long run.

11. Graduate employment – again – has been quite favourable. The 2008 economic crisis affected the unemployment rates of employees of all levels of educational attainment. If we take a look at the unemployment rate of the age group of 25-34-year-olds (i.e. from the perspective of graduates: young people in their first jobs), the 1.6% unemployment rate in 2000 was almost quadrupled by 2010, peaking at 6.3%, then it decreased after the crisis, diminishing to 3.4% by 2015. This trend was even more pronounced among people with a lower educational attainment. It is quite evident today that the unemployment rate among young people (emphasized by the government’s official documents in 2010) was significantly lower than that of people with a lower educational attainment. On the other hand, the former was not due to some kind of structural disruption in higher education, but it was triggered by the economic crisis; and since the end of the crisis, it has substantially moderated. **The national higher education output is almost entirely absorbed by the economy: there are no disruptions in employment.**

12. Regarding the monthly earnings of the individual fields, there have not been any major changes or reshuffling in the course of the past ten years. **Those with a degree in law, computer science or economics are in the lead,** followed by graduates in technology and natural sciences, while doctors and teachers come at the end of the line.

13. The evaluation of the qualifications, which had been envisaged for many years, began and was executed in 2015 in accordance with the strategic plans. This revision effort came to be known as **“programme pruning”**, in the course of which the qualifications were slightly modified in most fields of study. After a small-scale expansion by 2014, **the system actually went back to the figures of 2011 by the year of 2016.**

The argumentation of the educational administration concerning the modification of the system of qualifications gave an insight into the government’s conception about the educational function of the higher education – it is **dominated by a short-term labour-market focus.** This consideration is so formidable that it pushes all the other relevant aspects into the background such as the assertion of long-term strategic goals, the development of general skills or the boosting of the innovation potential.

14. At the same time, **the earlier solid input and process regulations** – implemented through the EOR – **have been replaced by outcome and content regulations in most fields of study.** The new EOR no longer divide the educational process into mandatory phases linearly built onto each other and “sectioned” by credits. Instead, information is provided about the profile of the qualification (its practice or theory intensity), and as a result of the elimination of process regulations, the set of requirements characterizing the outcome by learning results is given more emphasis. It allows for introducing educational programme variations that correspond to the different missions and characteristics of the institutions and taking into consideration the demands of the employers who make use of the qualifications issued by the institution with more flexibility than before.

15. The new higher education strategy devoted a distinguished role to dual education. **The Hungarian dual education is unique in its form** because regarding its concrete educational model, it has announced the Baden-Württemberg model, but contrary to that, it is not limited to a single institution and to a lower (college)-level educational establishment, but it is extended to every institution and to bachelor and master’s programmes, equally. In Baden-Württemberg, the implementation of the dual education is essentially based on a corporate initiative, and it came to attain its 10% share gradually, over decades. In contrast to that, the universities in Hungary have to make a bigger effort to convince companies, and whether it is possible to achieve an 8% share in such short time even with the help of government incentives (e.g. HRDOP programmes for dual education development, corporate tax benefits, etc.) is highly questionable. The introduction of dual education is extremely resource-intensive, which can be successfully rolled out only by some of the institutions.

16. **The academic performance of the Hungarian higher education lags more and more behind the average of the developed countries.** If we examine the annual number of scientific publications registered between 1996 and 2015 in the Scopus database per one million inhabitants and compare it to the corresponding data of the 49 developed countries, we can see that the situation of Hungary has been steadily deteriorating since 1998. Concerning the number of patent applications filed by residents per one million inhabitants, the situation is similar; the only difference being that here the situation of Hungary began to deteriorate somewhat later, in the middle of the first decade of the 2000s. In 2014, we were not even in the top 30 in the ranking of the 49 developed countries. All in all, we can say that the growth of the number of internationally acclaimed foreign language publications at the Hungarian higher education research units lags substantially behind the average of the developed countries. According to the type of research unit, the number of scientific articles decreased both in R&D institutes and higher education research units, but the specific number of scientific publications is still approximately twice as big at higher education research units as in the former.

17. **The Hungarian higher education continued to become more international in 2016.** The number of foreign students grew by 23% in three years, which is a promising sign: we might be able to reach the goal of 40 000 by 2023. We can see positive examples of market-oriented, country-specific strategies at some of the institutions as well as the reorganization of the student recruitment system. The successful Brazilian government programme of two years ago, which poured substantial external resources into the higher education system, has been replaced by the **Stipendium Hungaricum programme** of the Hungarian government, which tries to support and improve the export capacity of the higher education institutions from internal government funds. The example of the market-based countries shows that the key to the long-term success of this initiative is to ensure that the institutions themselves allocate more funds for scholarships and the government ties the continuation of such support to achievements in the market.

Perhaps most importantly, no real progress has been made regarding the development of the core functions of higher education and the improvement of their quality. While measures affecting institutional management, control, economic consolidation and the institutional network as a whole

are important, their modes of action are far from the specific educational and research activities and their quality. The actions launched by the maintainer in 2016 aimed at the development of the programmes are autonomous and separate projects within the institutions and on a systemic level, too. The chances are that they will not be able to reinforce each other and contribute to the improvement of the quality of the core functions.

1 The strategic focuses of higher education: 2015-2016

The transformation of the Hungarian higher education under permanent reform and efficiency increasing measures received a new impetus in 2014. The government gained new momentum with a new “conductor” (László Palkovics) and based on a new concept with a view to creating an efficient, internationally successful and *performance-based* higher education. With little less than two years elapsed, it is worth examining the basic directions of the government interventions and their outcomes in 2016.

The strategy entitled *A Change of Pace in Higher Education*³ envisaged the complex and combined development of several factors. The measures affecting the re-positioning of the socio-economic function of higher education, the re-organization of the institutional network, the maintenance-direction model, the internal operational mechanisms of the institutions, the quality of the fulfilment of educational and research obligations as well as the quality- and performance-based transformation of the incentive system of the stakeholders promised comprehensive changes indeed. The strategy left no doubt that the government considered it its own duty and responsibility to re-organize the higher educational system, and that its engagement would not be limited to topics lying outside the scope of institutional autonomy. The planned objectives and results specified not only systemic regulatory, financial and development tools, but changes related to specific institutions, and within that, educational areas, programmes, processes and roles. The planned transformation of the system of relations between the institutions maintaining and maintained channelled both operation (through the chancellor system) and core activities (through educational and research objectives) under direct sectoral administration – though the latter implications could be deciphered only implicitly from the strategy.

The announcement of the concept was received with a sort of good-humoured scepticism as its approval seemed to fit nicely into the pattern with which the sector’s leaders and their visions would regularly alternate in the previous years.

By 2016 it can be clearly stated that as opposed to its predecessors, the *Change of Pace in Higher Education* strategy was not intended to stay in the drawer. Using it as a point of reference and a management tool, the sectoral direction has been systematically striving at implementing the contents thereof.

The higher educational policy of the past two years (including 2016) was defined by objectives and interventions aimed at the direction and control of the institutions. The maintainer focused on the implementation of those strategic goals that would ensure direct control over the activities of the institutions.

Direct and operational institutional management

With the introduction of the chancellor system, the relationship between the maintainer and the institutions was placed on fundamentally new grounds. The new leadership position – appointed by the maintainer and evaluated against the maintainer’s objectives – entails decisive and crucial entitlements in the operation and management of the institution. It is through the chancellors that the maintainer operates its channels of orientation, information and reporting. The chancellor conveys and represents the formal and informal expectations of the maintainer efficiently regarding the internal operation, and

³ *A Change of Pace in Higher Education. Guidelines for Performance Oriented Higher Education Development*, 2015. Accessible in Hungarian: <http://www.kormany.hu/download/d/90/30000/fels%C5%91oktat%C3%A1si%20koncept%C3%B3.pdf>

it is mostly through his or her person that the institution can contact the maintainer. Naturally, the above status quo launched internal adjustment processes in the ranks of the top and middle management of the institutions, even in those cases when the acceptance of the system or of the chancellor's person was not self-evident in the given establishment. The unfolding and entrenchment of the system guaranteeing a much more direct management than before is continuous, and it is further reinforced by the appointment of newly elected rectors and deans arriving alongside the chancellor in office.

As for the chancellors' positions, they saw some changes already in the course of the past one year, which were mostly due to internal discontent on behalf of the institutions, or to that of the maintainer. However, the modifications that occurred were no more than personal changes, and they did not affect or question the new institutional management mechanism. Without going into detail about the chancellors' performance, success or their level of acceptance by the institutions or the maintainer, we can affirm that the institutions with an "insider" chancellor seem to be in the most balanced situation. It is also the latter institutions that the maintainer has had the most harmonious relationship with and where there has been the least resistance to the new institutional management practice.

The maintainer has invested quite a lot of energy into maintaining the direct relationship represented by the chancellor system, attempting to obtain as much operational information about the institutions as possible and giving input to those concerned on a daily basis in certain cases. Thus the relationship is vivid and interactive, which, of course, the institutions can turn to their benefit if necessary. The lessons learned from the operation of the chancellor system will be analysed in detail in *Chapter 3* with the help of empirical data.

The intra-institutional power relations of decision-making were changed also by the introduction of the consistory, about whose operational practice we do not yet have sufficient information to assess its function. Nonetheless, it is interesting that while the maintainer expects this body to split the scope of the duties and competences of the Senate, the academic leadership of the institutions hopes that it would exercise some control over the "excessive power" of the chancellors.

Manageable funding under control

Although the normative funding mechanism, which has always had its peculiar manners of operation in higher education, stayed intact till the end of 2016 on the level of regulations, funds allocated on the basis of the maintainer's decisions became increasingly important in practice. In accordance with the legal environment, the rate of research and maintenance funding to be supplied on a normative basis dropped to zero, and the institutions received mainly educational and earmarked support as well as grants. The essence of the change consisted in the fact that on the one hand, allocation by the maintainer's decision was assigned a bigger role in the inter-institutional source allocation besides and instead of the normative mechanisms. On the other, the internal room for manoeuvre of the institutions in terms of their management was radically reduced because non-earmarked funding was phased out from the system, while the proportion of earmarked funding components increased. *Chapter 2* will present detailed figures about the management of higher education.

Quite clearly, the maintainer intends to have control over the intra-institutional utilization of state funding, and it does not support the internal restructuring of functions and duties or cross-financing. Logically, these changes increase the chances of exercising control over the institutions through funding and reinforce the necessity to adjust on behalf of the responsible leaders running the institutions.

This vulnerability is also indicated by the practice of larger-scale institutional investments and developments. Ambitious development programmes were launched or continued in 2016, to which the

institutions could have access not in a normative performance-based process, but as a result of decisions made by the maintainer or the government itself.

Management under control, use of resources

In the preparation of the introduction of the chancellor system as well as in the creation of the new higher education strategy, the consolidation of the management of the institutions and the termination of the debts accumulated in the higher education sector were given key priority. The primary task of the chancellors was to focus on this objective. The years of 2015 and 2016 were thus characterized by an intense centralization of the management powers and an effort to curb and firmly control the expenses in the overwhelming majority of the institutions. In its communication within the sector and the government as well as to the public, the maintainer illustrated the success of the systemic reforms with the decreasing debts, the improvement of the cash flow situation and the growth of the scriptural money (cash) stock. Naturally, the institutional system having survived a significant ebb of resources between 2010-2014 did not possess the operational reserves indispensable for consolidation, but by drastically cutting down on investment and operational costs, the consolidation of the debts of hospitals and the huge amount of EU grant supports paid in the second half of 2015, the management balance was pro forma attained. In January 2015, the Treasury indicated 14.1 billion HUF of trade payable overdue, which went down to 5.9 billion HUF by January 2016 and rose to 8.9 billion HUF by November 2016. The everyday activities and room for manoeuvre of the key players concerned by the direction and management of the Hungarian higher education (the maintainer, the rectors, the chancellors, the deans, the instructors, the researchers and the administrative staff) were fundamentally determined by this consolidation objective. The process was actively managed by the maintainer: it set up a monthly reporting system about the financial situation, supported the chancellors in the implementation of the fiscal and management decisions within the institutions and provided a significant volume of additional funding in order to attain the desired objective.

The scope of the present paper does not allow us to analyse the effects of the financial consolidation on the operation, the quality and the actual functions of higher education, but it should be highlighted that it was with a view to the attainment of this target that it became an expected and approved routine in the entire sector to use development funds for operational purposes.

Directed institutional developments under control

At the turn of 2015 and 2016, a new institutional development planning cycle began. The maintainer kept it under control and used it to dismantle the “Change of Pace in Higher Education” strategy and the development policy targets partly leaning on the latter on the institutional level. The institutions were forced to devise their development plans with much less room for manoeuvre compared to the earlier planning practice and in line with strong central directives. The institutional development plans adjusted to the sectoral strategy and the development resources that can only be used for the objectives included therein are supposed to create an environment in which the institutions would have truly vested interests in the implementation of the sectoral strategy and would co-operate in it.

Parallel to this process, the accessibility of development funds was also modified. From 2016 on, calls for tenders are announced with an intricately detailed system of targets, tasks and indicators that is much more tied than in the previous practice, thus in reality, the institutions find themselves with much less liberty to decide what they actually wish to implement. Basically, the resources allocated come with precisely defined tasks. Since they can only submit a proposal for the targets indicated in their Institutional Development Plan and since they need to obtain the maintainer’s approval for their tenders, it is guaranteed that the institutions will only execute developments supported, authorized and

approved by the maintainer, in accordance with the tasks and performance expectations set by the maintainer.

The stricter control over the institutional system and the developments seems to be in contradiction with the phenomenon that there are more and more loosely connected decision-making/influential centres determining the fate of the Hungarian higher education. The Ministry of Human Capacities and its individual State Secretariats, the National Research, Development and Innovation Office, the Ministry for National Economy, the Foundations of the Central Bank and the Cabinet Office of the Prime Minister are all players with an independent vision about the institutional system as a whole or some elements and functions of it, and they are capable of enforcing their vision through resources and regulations. **There are more and more institutions within the Hungarian higher education intended to become performance-based according to the “Change of Pace in Higher Education” strategy that perform their developments from funds and according to intentions outside the competence of the maintainer.**

Transformation of the institutional structure without resistance

In harmony with the contents of the strategy, significant changes have taken place in the institutional structure as well. New entities have been created as independent specialized universities; faculties and premises have seceded and merged, independent institutions have been integrated. The motivations, professional considerations and arguments behind the specific transformations as well as their adherence to the strategy should be analysed in detail in a separate study. Some details will be discussed in *Chapter 3*, but now only three key observations should be stated regarding this process.

- It is extraordinary that the maintainer was able to implement the reforms without considerable resistance on behalf of the institutions concerned, which could undoubtedly be put down to the tight institutional management practice developed in connection with the chancellor system.
- It is unfortunate that the transformations were not adequately prepared, and the procedure was not planned and managed – or at least, remained invisible to the outsider. Although legally and technically, the transformations have been executed, the operation and future prospects of the new institutional constellations seem to be ad hoc.
- As a result of the transformations, the institutional network qualified as fragmented and offering parallel programmes has grown instead of becoming more streamlined.

“Framing” the educational core activity – programme shedding

The trend continued in 2016 according to which, instead of motivating the institutions to create competitive, modern and sustainable programme portfolios by incentive mechanisms, the maintainer makes direct decisions about which study programmes can be launched in the individual educational fields and what their content should be. The maintainer engages actively in this process despite the fact that the competence required for making such decisions lies with the institutions. Moreover, the transformations often entail such decisions which the institutions can no longer professionally identify with and whose usefulness on the labour market is highly questionable.

The process conceals further contradictions. There are two essential trends regarding educational core activities in the Hungarian higher education, which is supposed to be heavily labour market oriented according to the strategy. On the one hand, the institutions have been offering a narrowing choice of study programmes left intact for years. On the other, it is virtually impossible to launch new study programmes. The changes implemented and the typical trends will be analysed in *Chapter 6*.

Deficiencies

Fundamentally, the maintainer has focused its limited resources on the execution of the above objectives. Looking back on the past two years elapsed since the approval of the strategy, certain deficiencies of the interventions can already be identified.

Perhaps most importantly, no real progress has been made regarding the development of the basic functions of higher education and the improvement of their quality. While measures affecting institutional management, control, economic consolidation and the institutional network as a whole are important, their modes of action are far from the specific educational and research activities and their quality. No actions – laid down in the strategy – have been launched by the maintainer so far that would affect the quality of the core functions directly.

Although it is supposed to be the most important tool of institutional management in the hands of the maintainer, the transformation of the funding scheme into a performance-based system – as set out in the strategy – has not yet taken place. (The content of the latest decree on funding approved at the end of 2016 does not follow the directions defined by the strategy, and it has not produced any visible impact.)

There have been no positive changes in the rules of public finances, employment and remuneration that predetermine the operational efficiency and room for manoeuvre of higher education institutions.

The remuneration and incentives system of the instructors and researchers has not undergone any major changes, either. Higher education is still run by the complicity of the teaching staff who are kept in an underpaid public employee status and who, consequently, retain or tune down their performance. Quite clearly, the Hungarian higher education lost some of its competitiveness as an employer in 2016. The replacement of teaching staff and foreign brain drain pose serious problems. Most likely, the multiple-phase salary increase launched in 2016 (15% + 5% + 5%) will be unable to significantly improve this competitive position because its introduction was not connected to any kind of performance enhancement or differentiation.

The “Change of Pace in Higher Education” strategy placed a major emphasis on the creation and promotion of a world-class higher education of international acclaim. Although the number of foreign students studying in Hungary continued to increase in 2016, this growth was mainly due to the scholarship programmes initiated by the government and not to the improvement of the quality of educational or academic activities.

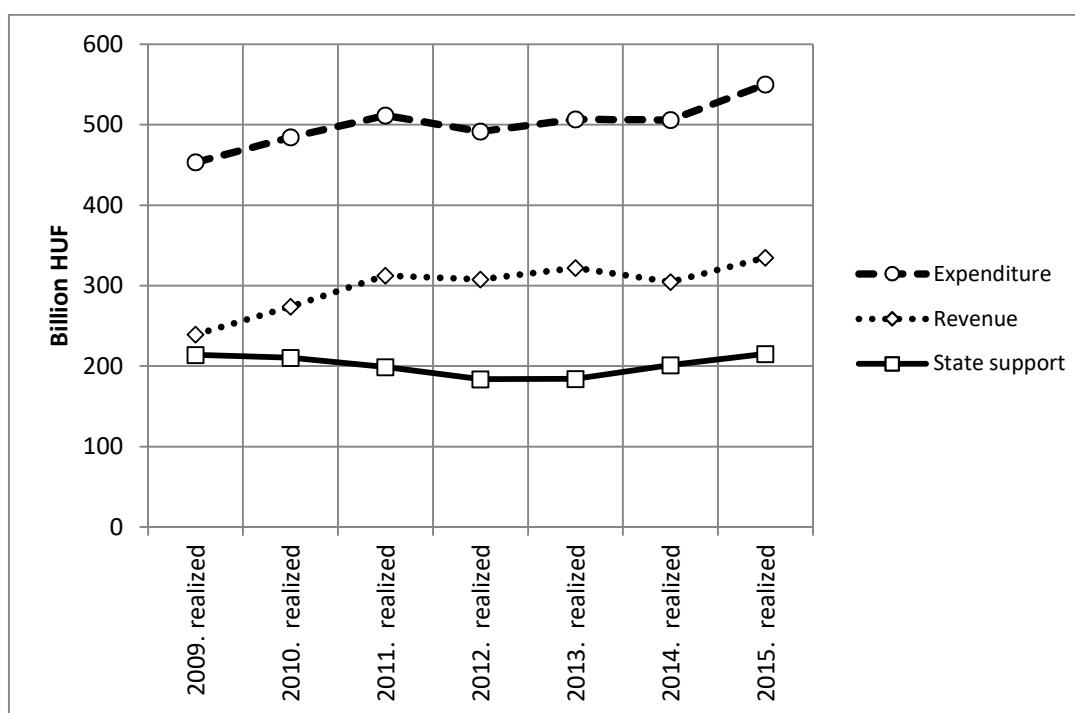
2 The economic context of the Hungarian higher education

The economic situation of the higher education sector can be examined the most accurately on the basis of the Budget Acts and the Final Accounts Act. The Budget Acts allow us to find out the planned amount of expenditure, revenue and supports while their amendments reveal changes in the latter. On the other hand, the Final Accounts Acts tell about the amount of expenditure, revenue and supports realized (but only with a two-year delay due to the mode of completion of the final accounts).

The economic situation of higher education on the basis of the final accounts reports

If we examine the conditions of the Hungarian higher education on the basis of the Final Accounts Acts of the central budget as presented in *Figure 2.1*, we can see that the expenditure of the higher education sector *in current prices*⁴ rose slightly till 2011, then stagnated before starting to increase mildly again in 2015. At the same time, within the resources of the sector, state support – after its low point in 2012 and 2013 – reached the 2009 level nominally in 2015.

Figure 2.1 The conditions of the Hungarian higher education based on the Final Accounts Acts



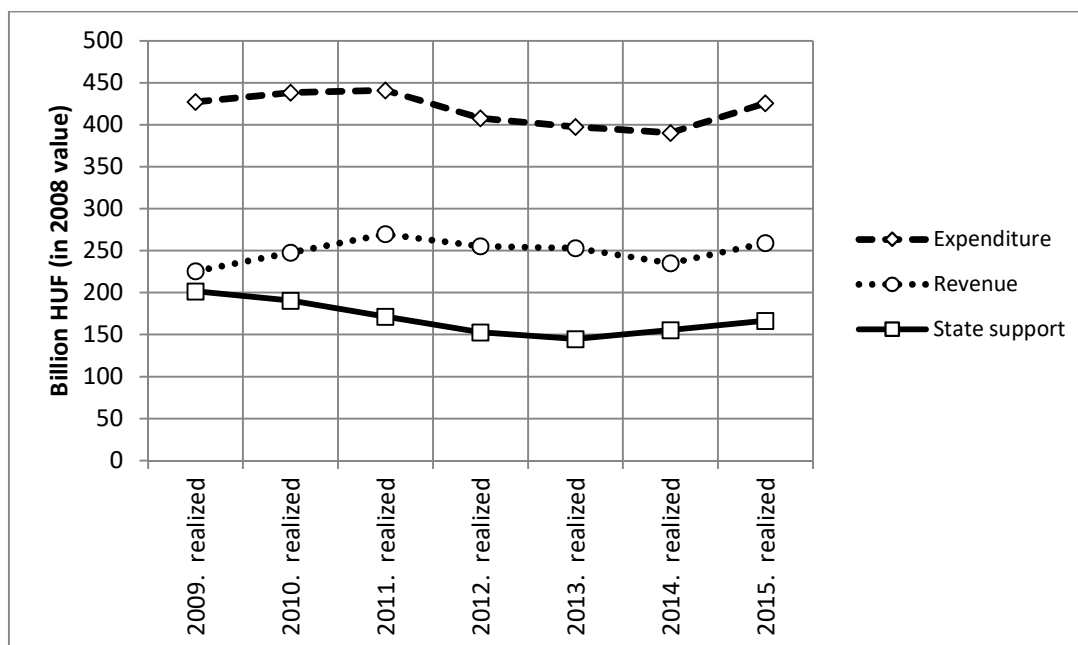
Source: own calculations based on the Final Accounts Acts

Note: Figures realized under the heading Universities, colleges, the heading National University of Public Service and the appropriations of non-state higher education; moreover, from the period prior to 2013, figures realized by Universities, colleges, Zrínyi Miklós National Defence University, the College of Law Enforcement and three non-state higher education study programmes supported by chapter-managed appropriations (“Religious Training of Church-Maintained Higher Education Institutions”, “Surplus of Students’ Number (Church-Maintained Secular Education)” and “Surplus of Students’ Number (Private Higher Education)”).

⁴ It should be noted that the final accounts of the national budget obviously do not include the expenditure of private (church-owned and foundation) higher education, only the amount paid to them by the state as support. Since 6.2% of the total number of students attend church-owned higher education while 6.6% of them attend foundation and private higher education (5.4% and 5.5% of full-time students, respectively), our rough estimate is that the total expenditure of higher education may be about 10% higher than the amount presented here.

The situation looks much less bright if we take inflation into consideration. By examining our data at *the prices of 2008*, Figure 2.2 shows that the expenditure of the higher education sector in 2015 was at about the same level as in 2009 while the state support is 82% of the 2009 rate. At the time of the low point in 2013, the state support barely exceeded 70% of the figure in 2009.

Figure 2.2 Conditions of the Hungarian higher education based on the Final Accounts Acts (at 2008 value, Billion HUF)



Source: own calculations based on the Final Accounts Acts and the inflation figures of the Hungarian Central Statistical Office

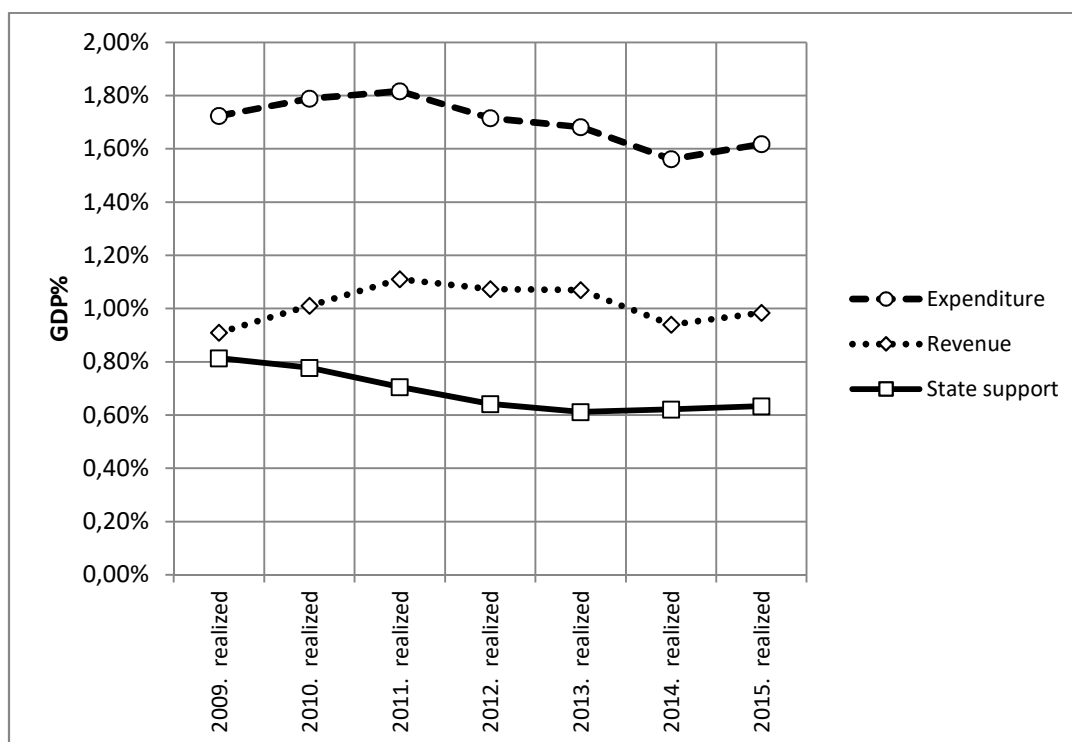
Note: see note below the previous figure.

We get a much less favourable picture if we analyse the financial supplies of the Hungarian higher education relative to the *GDP* (Figure 2.3). The total expenditure of the higher education sector relative to the GDP has dropped by about 0.2% since 2011. State support also diminished to a similar extent from 2009 to 2015. Despite a modest increase in 2015, the expenditure and state support for 2015 stayed below the 2009 and 2010 levels.

In international comparison, Hungary was the last but one among the OECD countries in 2013 in terms of total expenditure on education relative to the GDP with 3.8%, and even in terms of higher education expenditure, we were in the last third with 1.3%⁵.

⁵ Source of data: Education at a Glance 2016 OECD Indicators, Paris, 2016. The difference between the 1.6% relative to the GDP presented in Figure 2.3 and the 1.3% published by the OECD can be put down to methodological differences. Figure 2.3 includes the total expenditure of the higher education institutions and of the sector whereas the OECD data refer only to the expenditure of the higher educational duties (in somewhat simplified terms: education and the services tightly related to it).

**Figure 2.3 Expenditure and resources of the Hungarian higher education relative to GDP
(based on the Final Accounts Acts, in %)**



Source: own calculations based on the Final Accounts Acts and the data of the Hungarian Central Statistical Office relative to the GDP

The situation of higher education in light of the Budget Acts

Based on the Final Accounts Acts, we can draw a picture of the economic situation of the higher education till 2015 (because Final Accounts Acts are regularly prepared with a delay of one or two years). However, occasionally, the Budget Acts can project the future conditions as well (because the budgetary plan of a given year is completed by the middle of the previous year). At the same time, the budgetary plan tends to be modified several times during its implementation, so we can compare the figures of the individual years either on the basis of the situation reflected by the initial plan or the version having undergone several modifications. Now we will be working with the approved versions of the budgetary plans.

It should be added that what makes comparability somewhat difficult is that the interpretation of the budget changed by 2017. The earlier expenditure – revenue – support appropriations were replaced by distribution according to domestic operational budgetary expenditure and revenue, domestic investment spending and income and European Union investment budgetary expenditure and revenue⁶.

⁶ The obvious reason for the new interpretation (i.e. the separation of the operational and the investment budget) is that the Prime Minister declared repeatedly that he would like to see a budget with zero deficit. Eventually, this demand was somewhat attenuated: at the beginning of 2016, several members of the government said that a breakeven budget could be achieved within a relatively short time. However, the execution of the latter would have entailed extremely harsh austerity measures, thus they only broke even in terms of operational expenditure. (It should be noted that despite the above, the deficit planned for 2017 is about one third bigger than the amount planned for 2016.)

Table 2.1 Main components of higher education budgetary plans, 2009-2017

(Billion HUF)	2009 planned	2010 planned	2011 planned	2012 planned	2013 planned	2014 planned	2015 planned	2016 planned	2017 planned
Operational expenditure	400.9	408.3	438.6	426.1	412.9	431.5	444.9	449.3	494.8
Operating revenue	193.3	203.5	225.4	232.9	252.0	285.4	282.7	282.7	291.8
Investment spending	23.8	31.2	40.6	37.9	40.0	42.1	34.3	34.3	78.9
Investment income	17.2	24.8	34.6	37.1	33.1	0.0	0.0	0.0	33.9
State support	214.2	211.3	219.1	194.0	167.8	188.2	196.5	200.9	247.9
Summary									
Expenditure	424.7	439.5	479.1	464.0	452.9	473.6	479.2	483.7	573.7
Revenue	210.5	228.2	260.0	270.0	285.1	285.4	282.7	282.7	325.8
State support	214.2	211.3	219.1	194.0	167.8	188.2	196.5	200.9	247.9
Percentage of GDP and State Budget									
Total expenditure on higher education as a % of GDP	1.62%	1.62%	1.70%	1.62%	1.51%	1.47%	1.42%	1.37%	1.55%
Total state support of higher education as a % of GDP	0.82%	0.78%	0.78%	0.68%	0.56%	0.58%	0.58%	0.57%	0.67%
Total expenditure on higher education as a % of total state budget (planned)	4.74%	3.25%	3.46%	2.87%	2.73%	2.76%	2.76%	2.85%	3.08%

Note: the expenditure, the revenue and the support all include the figures in relation to the headings Universities, colleges, National University of Public Administration (earlier: Zrínyi Miklós National Defence University and College of Law Enforcement) as well as those of the most important chapter-managed appropriations.

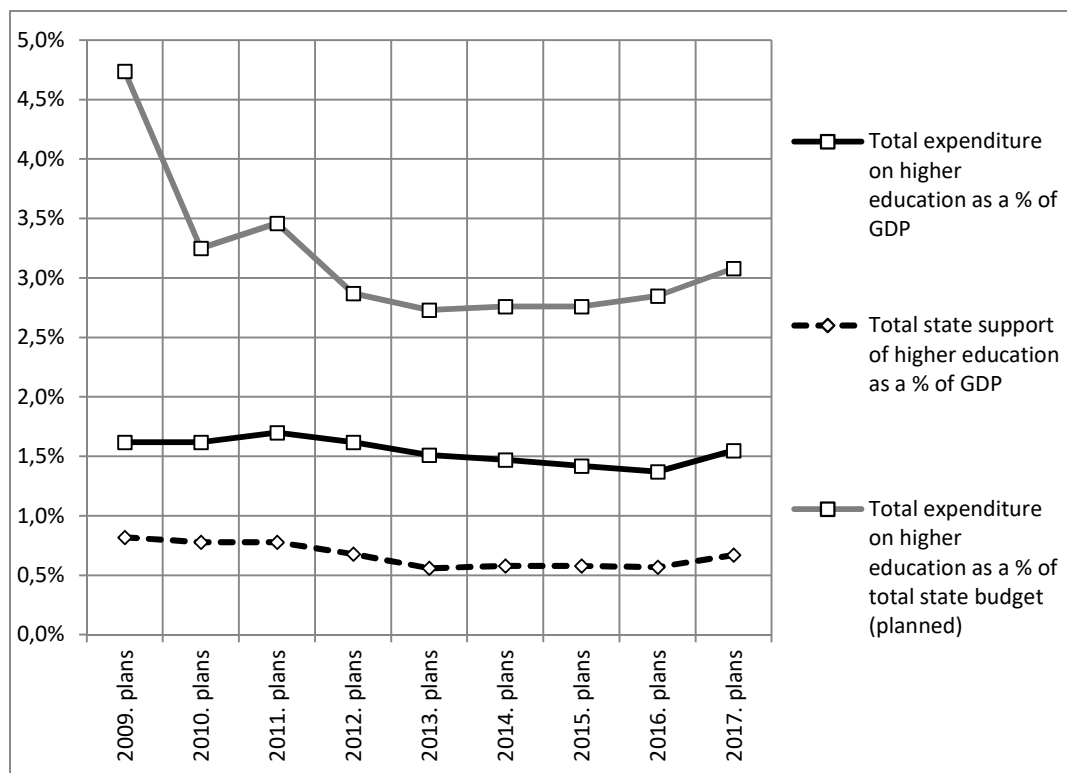
As demonstrated by the figures, the situation of higher education will be improving by 2017. In 2017 the total expenditure on higher education will be 90 billion HUF higher than in the previous year, and within that, operational expenditure will grow by 45.5 billion HUF. Basically, this will be just enough to cover the funds needed for the salary increase in 2016 and 2017.

The funds needed to cover the increase of expenditure will derive from an approximately 50-billion increase in state support (i.e. a little bit more than the funds needed for the salary increase) while the rest will come from the revenue increase.

As a result of the pay rise, staff expenditure and its related contributions make up 51.2% of the total operational expenditure (in the budgetary plan for 2017), (and 125% of the operational support – if there is such a notion at all). These figures were 47.9% and 115% in 2016, and 48.1% and 117% in 2015. The last time staff expenditure and its related contributions were lower than state support was in 2009 (on the level of the plans) (which corresponded to the old – and by now, outdated – funding principle that the salaries of public employees must be paid from secure sources in the long run, i.e. essentially from state support, or that their sources must be planned accordingly).

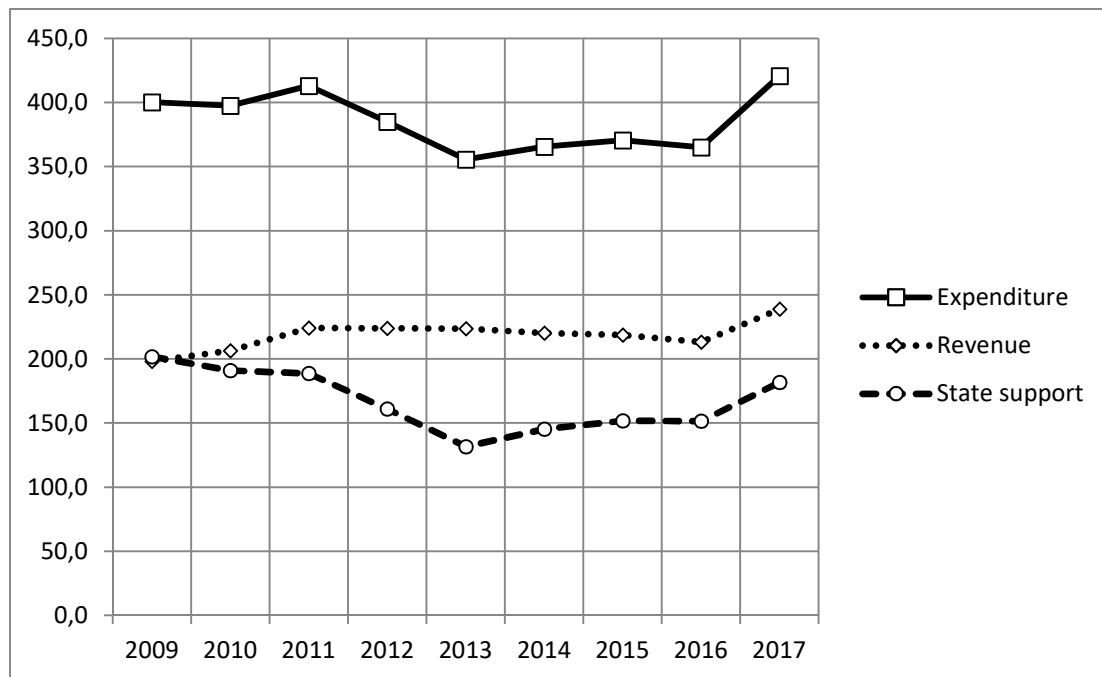
The evolution of the expenditure and resources of higher education relative to the GDP and the evolution of the expenditure relative to the total state budget in *Figure 2.4* seem to indicate a slight improvement in the conditions of higher education (compared to the earlier low point).

Figure 2.4 Expenditure and resources of the Hungarian higher education relative to GDP and in relation to total state budget (planned, in %)



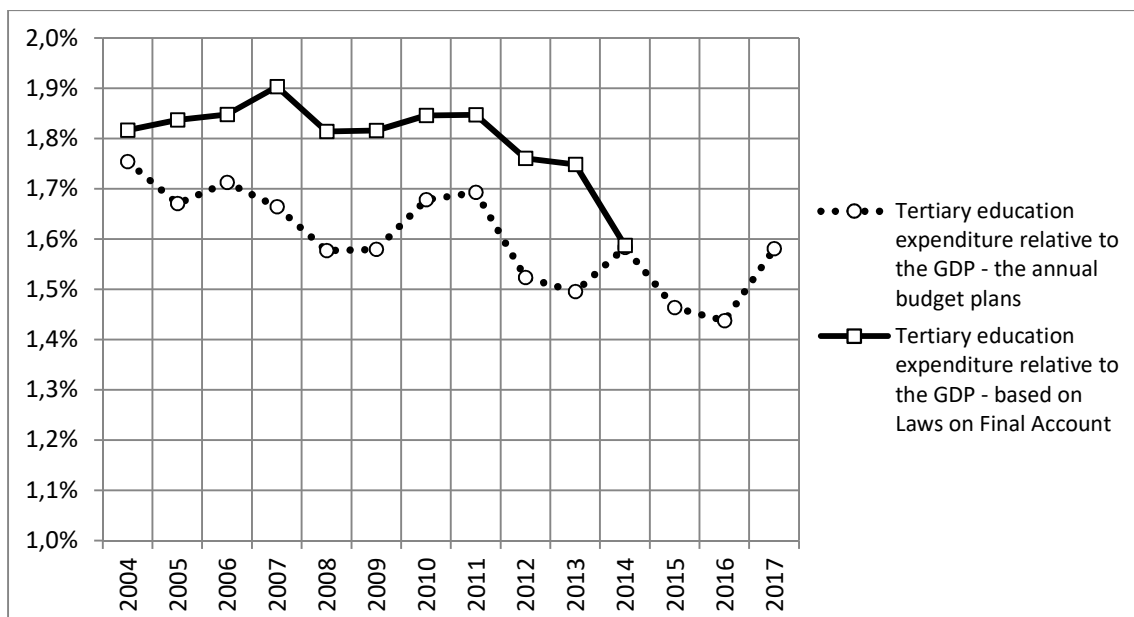
However, if we examine the evolution of the expenditure, revenue and support in the sector of higher education at the 2009 prices (*Figure 2.5*), we can conclude that the 2017 level of support has not attained the 2011 level yet while the expenditure has somewhat surpassed it: in other words, the situation has improved thanks to the revenue increase, so higher education is pulling *itself* out of the pit.

Figure 2.5 Expenditure, revenue and state support in the Hungarian higher education based on Final Accounts Acts (at 2009 value, Billion HUF)



If we take a look at the situation of higher education over a longer stretch of time (2004-2017), we can see (Figure 2.6) that the record low in terms of expenditure relative to the GDP was the years of 2014-2016. Based on the final accounts reports, expenditure in 2014 was the lowest value of the whole period. Based on the Budget Acts, expenditure was the lowest in 2016 in the period examined, and the improvement in 2017 still does not attain the levels of the years of 2009 and 2010.

Figure 2.6 Expenditure of Hungarian higher education relative to the GDP based on the approved versions of the Budget Acts and the Final Accounts Acts (in %)



Source: Treasury, functional balances

http://www.allamkincstar.gov.hu/hu/koltsegvetesi-informaciok/funkcionalis_merlegek

It is important to mention the transformation of the mechanism of the funding system. In the funding of the Hungarian higher education, the historic budgeting of the institutions – typical of the beginning of the 1990s – was replaced by normative funding in the middle of the decade, which was, in turn, replaced by formula-based funding in the early 2000s. From 2011, the historic funding of the institutions again became the general practice in the case of state-owned higher education institutions, which has been supplemented by certain funds (“Support for Excellence” and “Higher Education Structural Reform Fund” – ever since the cuts introduced in 2013 – partly to enhance quality and partly to handle indebtedness (the distributions of funds is carried out through central, one-off decisions).

Finally, it is worth taking a look at the evolution of student loans. The popularity of the *Student Loan 1 (Diákhitel1)* construction seems to be radically dwindling. Although the total number of beneficiaries has reached 350 thousand, the annual number of the new borrowers recently stayed below 10 thousand (since 2013) and dropped below 5 thousand in 2015. Thus, the amount of loan granted annually – a yearly 22 billion HUF between 2005-2010 – was halved by 2015.

In the case of *Student Loan 2 (Diákhitel2)*, the number of borrowers has shown an annual increase of 5 thousand, so there were more than 20 thousand of them in 2015. The amount of loan granted so far is a little over 14 billion HUF. Currently, there is no indication of the danger potentially disastrous for the budget that perked its head during the introduction of *Student Loan 2*. That can partly be put down to the low number of borrowers and partly to the relatively low specific demand for credit.

3 Changes in the institutional structure and management

In the course of the past two years, the institutional structure of the Hungarian higher education and the state management of the institutions underwent some quintessential changes: a large-scale reorganization was completed (separation and integration of institutions, relocation of faculties), a new type of institution (university of applied sciences) and study programme organizational solutions (community colleges) were set up, and the chancellor system and the consistory began to be institutionalized. In the following, we will elaborate on these topics.

(Dis)integrations and new types of institutions

The first major reform of the institutional structure of the Hungarian higher education after the political changeover took place in 2000 when the government put an end to the slowly progressing bottom-up institutional attempts of cooperation and integration of the 1990s by a top-down regulatory decision. This measure undoubtedly reduced the fragmentariness of the higher education structure inherited from the Soviet regime, composed of overspecialized institutions, but it also generated a significant amount of tension within the institutions. Although legally the institutions merged underwent a complete integration, practically, a significant part of the institutions operated in a federative structure, which harmed the manageability of the institutions due to the failure to reinforce the competences of the rector's directional role.⁷

The wave of integration was followed by a temporary period of stability, but from 2011 on, the restructuring of the institutional network was again permanently on the agenda (e.g. the zone system plan), and it was finally executed in 2015.⁸

The government strategy entitled *A Change of Pace in Higher Education* focused on two primary aspects in the course of the reform: first, programme shedding, which involved a clear distinction between the types of institutions (missions) in addition to the specialization of the institutions, and second, the replacement of the “nonsensical and uneconomic local competition” by “cooperation and task distribution, the unification of regional resources in order to prevail in the international competition” (p. 42).

Part of the transformations carried out in 2015 and 2016 corresponds to the need of programme shedding. Certain institutions now have a more uniform profile (University of Physical Education – TE, University of Veterinary Medicine – ÁOE), and in certain cases, even the relocation of the faculties between institutions is also in line with this effort. For instance, Szent István University (SZIE) with an agrarian profile took over the faculties of agriculture of Corvinus (thus creating a relatively homogeneous Corvinus University). ELTE, specialized in teacher training, “acquired” the faculties of pedagogy of the University of West Hungary (NYME) in Szombathely from February 2017 (though ELTE is also “gaining” technical and sports science study programmes, so its profile is becoming more diversified).

Nonetheless, many instances of integration went against the explicit objectives: the portfolio of the institutions thus created became more complex and wider than initially (ELTE, Eszterházy Károly University – EKE, Széchenyi István University – SZE). The complexity was only deepened by the fact that

⁷ In our opinion, that must have played a significant role in the evolution of those phenomena (irregular operation, debts) that were used to justify the introduction of the chancellor system.

⁸ For a detailed overview of the integration policy between 1990 and 2014, see Gergely Kovács, “Intézményi egyesülések és szétválások: nemzetközi tapasztalatok, hazai gyakorlat,” in *A magyar felsőoktatás 1988 és 2014 között*, ed. András Derényi and József Temesi (Budapest: OFI, 2016), 101–152. Accessible at http://ofi.hu/sites/default/files/attachments/a_magyar_felsooktatás_beliv_net.pdf

certain government institutions and background institutions (such as the Hungarian Institute for Educational Research and Development, Márton Áron College for Advanced Studies) were integrated into higher education organizations (EKE, ELTE). It is also a significant aspect to be considered that the establishment of specialized institutions (ÁOTE, TE) – or the restoration of these institutions to their state prior to 2000 – increases the fragmentariness of the institutional structure (cf. the requirement of the economies of scale).

Another component of the programme shedding is the introduction of a new type of institution: the universities of applied sciences. According to the *Change of Pace in Higher Education* strategy, the core mission of the universities is academic research and the creation of new knowledge while the universities of applied sciences place an emphasis on the utilization of this knowledge. The content of the latter and how they differ from former colleges has not yet been crystallized in practice (but there are international examples for it, e.g. in Finland). Although the government strategy stresses that the university of applied sciences is “not a smaller or weaker university”, that is what the qualification parameters laid down by the legislation seem to suggest: the institutions are qualified according to certain criteria and the standards that universities of applied sciences have to meet are lower than in the case of universities in every respect

The other goal put forth by the higher education strategy was to strengthen regional co-operations and reduce unnecessary local competition (or regarded as so). In our opinion, the re-introduction of regionalism into the considerations of higher education policy is important because this aspect was not sufficiently asserted after the political changeover. The reason for that is that after 1990, the role of the counties was gradually downgraded parallel to the strengthening of the municipalities, which also diminished the weight of regionalism (thus the reinforcement of this aspect can also be interpreted as the weakening of the self-assertive power of municipalities).

The elimination of harmful competition and the strengthening of regional co-operation were implemented partly through the streamlining of the educational profiles of the institutions and partly through their integration. As a result of the latter, however, institutions of such geographic dimensions were brought to life (Eszterházy Károly University, Pallas Athéné University – PAE, Széchenyi István University) whose manageability – although capable of handling certain regional aspects within the institution – is at best dubious, judging by the past experiences and internal tensions arising from integration.⁹ On the other hand, certain transformations have improved the geographical concentration of institutions (e.g. the University of West Hungary became more concentrated).

From the perspective of the satisfaction of regional demands, the government has assigned an important role to the community higher education training centres (community colleges for short), too. The aim of the latter is to improve access to higher education in such places that would otherwise fall outside the catchment area of higher education institutions. However, the creation of community colleges – similarly to the establishment of specialized institutions (ÁOTE, TE) – only increases the fragmentariness of the institutional structure and diminishes the economies of scale whereas these two considerations were also among the key objectives of the reforms. After the restructuring, the number of educational sites was not reduced and none of them was closed down – on the contrary, with the appearance of community colleges, higher education study programmes were launched/extended in additional towns (Kisvárd, Kőszeg, Salgótarján, Sümeg, Hatvan, Siófok).¹⁰

⁹ With the integration of the programmes in Szombathely, ELTE is also part of this group.

¹⁰ According to the current legislation, community colleges are non-profit organizations that can be maintained by the local government, local businesses and/or churches. While the infrastructure necessary for the training is provided by the community college, the study programme and the related activities (administration, student services) are supplied by the higher education institution co-operating with the educational centre. This construction has numerous shortcomings: e.g. student services that are critical for education and the learning experience cannot

So how should we assess the process of the institutional structural reforms? In many respects, the transformation of the institutional network is reminiscent of the integration processes of the 2000s. For example, the reforms were carried out in a top-down spirit, in which the alternatives of integration were downplayed. The radical, top-down remodelling of the institutional network is not the only path to achieve the objectives set. There would be alternative tools as well (e.g. associations of institutions), and the rationalization of the institutional network could be attained in many other ways, too (e.g. with the help of incentive tools).¹¹

Due to the objectives of programme shedding and rationalization, institutions operating in the same field of study were often merged. As attested by international experience, such integrations run the highest risk of conflict and potential fiasco. This is confirmed by the fact that in several cases, the will of the maintainer led to the creation of such establishments that were either fiercely opposed by the stakeholder forced to merge with another (e.g. the merging of the BCE Faculties located in Buda into SZIE), or were undesirable for both parties (PAE, EKE). Some of these integration efforts also nourished the assumption that the government was trying to solve the problem of ailing colleges in the countryside (College of Szolnok, Károly Róbert College) by shifting the burden onto the recipient institutions.¹²

It is no accident that these reorganizations were executed very speedily, preceded only by a brief planning period and hasty preparations (the chances of resistance were cut out, the issue remained only briefly on the agenda, etc.). At the same time, the general experience is that any kind of integration takes five to ten years to consolidate because the integration demands not only the amendment of legal provisions and the settling of short-term, operational issues (e.g. the takeover of students and teaching staff, the harmonization of the IT systems), but it generates significant organizational planning and development tasks as well.

The consolidation of the operation of the new organization can be supported by incentives relative to the success of the integration, a remuneration scheme, additional resources allocated to the institutions concerned and clear targets and expectations related to the integration. However, the latter are generally missing from the integrations so far executed: there are no expectations of efficiency and quality after the integration (or they are not known), there is no incentive scheme and the institution received no or barely any additional funds to perform the integration.

Experience with the chancellor system

From 2014 on, the management of the higher education institutions also underwent significant modifications. According to the legislation passed in June 2014, the chancellors were appointed in autumn 2014 and January 2015 while the consistories – in a supervisory role – were set up at the beginning of 2016. We have analysed the duties and the role of the chancellors and the consistories as defined in the legislation as well as the dilemmas raised by their existence in several earlier studies.¹³

be guaranteed; several areas of key importance are not really managed by anyone due to lack of authority, management or competence, etc. (For more detail, see a paper by Gabriella Keczer: <https://www.u-szeged.hu/download.php?docID=52292>)

¹¹ In contrast, we could perhaps refer to the Dutch or Australian integration process – oft-cited in the 1990s in Hungary –, in which they did not prescribe which institution should merge with which. The only thing defined was the size of support an institution would be entitled to above a certain size, and then it was up to the institution to reach that goal. Thus the institutions had the chance to opt for solutions other than integration.

¹² At the same time, Eötvös József College of Baja managed to preserve its autonomy, but as its water science institutes will be attached to the National University of Public Service in 2017, its future seems almost hopeless.

¹³ See Gergely Kováts, ed., *A kancellári rendszer bevezetése a magyar felsőoktatásban. Tapasztalatok és várakozások* (Budapest: BCE-NFKK, 2016). Accessible at http://nfkk.uni-corvinus.hu/fileadmin/user_upload/hu/kutatokozpontok/NFKK/publikaciok/TJ_Kancellar_final.pdf, and József Berács et al., *Stratégiai helyzetértékelés 2014* (Budapest: BCE-NFKK, 2015). Accessible at <http://nfkk.uni-corvinus.hu/index.php?id=56768>

Since then, however, the institutionalization of the chancellor system has been pursued intensively, and it has started to operate both within the institutions and in relation to the Ministry. In the framework of that, the regulations of the institutions were transformed, and the institutional structures defined by the legislation were set up. The drafting of the 2015 and 2016 budgets was carried out in the new structure as were the preparations of the institutional development plans and the preparation and execution of secessions and integrations in the case of several establishments.

The Ministry has been striving to facilitate the institutionalization in numerous ways. The chancellors meet on a regular basis where they can share best practices. The chancellors are obliged to prepare a 5-8-page monthly report for the Ministry in which they describe the key management actions, the evolution of the financial situation, the progress of projects and priority developments, potential anticipated risks as well as the most important tasks in the upcoming periods. A regular, yearly evaluation has been introduced for the chancellors, and regular contact persons have been appointed in the Ministry.

The Ministry of Human Capacities considers the chancellor system as essentially successful: as László Palkovics emphasized in his assessment of the chancellor system in autumn 2015, “while in 2013 and 2014 the time-proportionate unpaid debts exceeded 20 billion HUF at the end of August, this year [at the end of 2015] this figure is down to 9 billion HUF”.¹⁴ As *Világgazdaság* highlights in another interview, “it is already visible that thanks to the chancellors, the budgets are much more consistently planned, and by now a smooth and efficient co-operation has developed between the rectors and the chancellors nearly everywhere”¹⁵. Moreover, the new version of the *Change of Pace in Higher Education* strategy (2016) states that “thanks to the chancellor’s function, the operation and processes of the institutions have become transparent to the maintainer, and as a result of the management and enhancement schemes of the chancellors, efficiency has grown significantly, and not only in the realm of management. On the whole, it can be declared that the introduction of the chancellors has changed the inefficient operational models: it put the institutions in the worst situation on an upward curve and reinforced the good operation of those institutions that were in a more advantageous position” (p. 18).

For the moment, we have less information about the opinions and experiences within the institutions themselves. The Minister’s words seem to be supported by the fact that there were few media reports published about the work of the chancellors after the launching of the system. József Bódis, the President of the Hungarian Rectors’ Conference said the following about the experience of the institutions in 2016: “The introduction of the system was successful because the higher education as such did not collapse, but if we fail to do the fine-tuning, the chancellor system will prove to be a drawback for the entire higher education”¹⁶. In his opinion, certain institutions experience tension due to the lack of local knowledge and co-operation on behalf of the chancellors, the appointment of people from “their own camp” and the creation of independent self-serving hubs of power.

In April 2015 CIHES made a survey about the evaluation of the chancellor system among the rectors, vice-rectors, deans and vice-deans of the institutions. The survey, which was prepared a few months after the appointment of the first chancellors, was a mixed reflection of expectations and experiences. We repeated the anonymous questionnaire survey in 2016 among the same respondents.¹⁷

¹⁴ http://eduline.hu/felsooktatas/2015/9/25/Jo_hogy_bevezettek_a_kancellari_rendszer_c_6AA1ZB It should be definitely added that since the institutions depend heavily on state funding, their improving debt situation could be put down not only to a more efficient management, but also to increasing state support or a more substantial amount of EU grants, for instance.

¹⁵ <http://www.vg.hu/kozelet/palkovics-az-egyetemi-kancellari-rendszer-sikeres-451770>

¹⁶ http://eduline.hu/felsooktatas/2016/1/6/Ilyen_alapon_barmire_kitehetjuk_hogy_egyete_3TN9UZ

¹⁷ There were 135 respondents (the response ratio was 25.7%), of whom 50 persons did not indicate their academic affiliation. The other respondents came from 20 institutions; the response ratio was around 20% in the institutions named, but it was no higher than 50%.

Part of the results of the survey are summarized in *Table 3.1*. The table shows the level of satisfaction of the employees of the individual institutions with the activities of the chancellor and the rector, the chancellor system, and to what extent they consider the relationship of the chancellor and the rector harmonious. As a point of reference, we have also provided the figures of the 2015 survey relative to the chancellor and the chancellor system.

Table 3.1 Some indicators of satisfaction by institutions

Code of institution	2016 (N = 134)					2015 (N = 135)		
	Proportion of respondents	Proportion of respondents rather satisfied or satisfied with the chancellor	Proportion of respondents rather satisfied or satisfied with the rector	Proportion of respondents who agree with the statement that "the cooperation between the chancellor and the rector is rather harmonious or completely harmonious"	Proportion of respondents who agree with the chancellor system	Proportion of respondents	Proportion of respondents rather satisfied or satisfied with the chancellor	Proportion of respondents who agree with the chancellor system
F*	15-25%	100%	100%	83%	25%	5-15%	100%	0%
F*	15-25%	25%	25%	50%	0%	15-25%	60%	40%
G	25-35%	0%	57%	0%	0%	25-35%	50%	75%
C	15-25%	57%	71%	43%	29%	5-15%	80%	20%
K	15-25%	0%	83%	0%	0%	below 5%	100%	100%
T	15-25%	40%	75%	20%	0%	-	-	-
P	15-25%	20%	100%	20%	20%	5-15%	50%	50%
B*	35-45%	80%	80%	80%	20%	25-35%	71%	57%
A	5-15%	80%	40%	100%	20%	15-25%	78%	22%
L	25-35%	25%	75%	100%	0%	5-15%	50%	0%
H	5-15%	0%	75%	0%	0%	5-15%	20%	20%
Q	15-25%	100%	100%	100%	0%	-	-	-
D*	5-15%	67%	67%	100%	33%	25-35%	67%	50%
S*	more than 45%	0%	50%	0%	0%	-	-	-
O*	5-15%	0%	0%	0%	0%	5-15%	100%	100%
N*	5-15%	50%	50%	50%	0%	5-15%	0%	50%
U	more than 45%	0%	-	0%	0%	-	-	-
R	5-15%	0%	100%	0%	0%	-	-	-
J	25-35%	100%	100%	100%	100%	more than 45%	0%	0%
I	below 5%	0%	100%	100%	100%	5-15%	0%	0%
M	-	-	-	-	-	15-25%	0%	0%
no institution indicated		52%	74%	48%	16%	72	31%	22%
All respondents	26%	47%	69%	49%	14%	115	43%	29%

Notes: the number of respondents at the institutions above the bold line was no fewer than 5 (in the survey of 2016)

* The chancellor was an insider at the institutions marked with an *.

** Only approximate proportions of respondents are provided in order to protect the anonymity of the institutions.

The table allows us to draw certain conclusions.

1. The proportion of those satisfied with the chancellors grew by 4 percent, from 43% to 47%, from 2015 to 2016. The number of those who agreed with the chancellor system was halved, and dropped from 29% to 14%. We examined the agreement with the chancellor system by aggregating the acceptance or rejection of four parameters: the institutions have no say in the selection of the chancellor, the rector has no rights of employer over the chancellor, the administrative units are mandatorily assigned under the chancellor’s direction, and the employer of the non-teaching staff is mandatorily the chancellor. As revealed by the responses, questions 1 and 4 were especially rejected out of the above: 88% and 77% of the respondents (respectively) did not or rather did not agree with them, but the proportion of those who did not agree with the other two parameters was by far greater than 50%, too.

On the whole, all of the above goes to show that while the chancellors are more or less accepted within the institutions, the elements of the chancellor system are received with almost unanimous rejection, and this negative attitude is shared by the majority of even those who otherwise support the chancellor’s person. This is well reflected by *Table 3.2* presenting the attitude of the respondents regarding the chancellor’s person in particular and the chancellor system.

Table 3.2 Distribution of respondents by their satisfaction with the chancellor and the chancellor system in 2016 (N=133)

		Satisfaction with the activity of the chancellor			
		satisfied / support	uncertain	not satisfied / opposed	Total
Support for the chancellor system	support	12.8%	0.0%	1.5%	14.3%
	uncertain	6.8%	0.0%	3.0%	9.8%
	opposed	27.8%	0.8%	47.4%	75.9%
Total		47.4%	0.8%	51.9%	100.0%

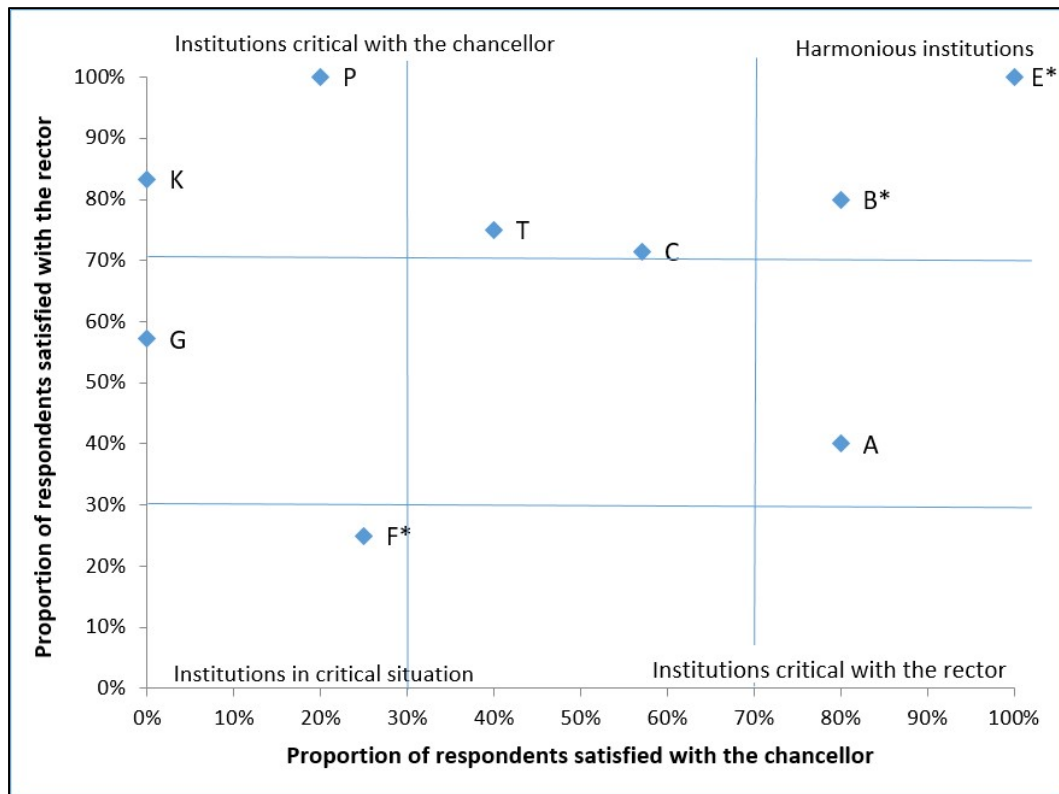
As clearly demonstrated by the table, about 60% of those satisfied with the person of the chancellor oppose the chancellor system, which means that “pro-chancellor critics of the system” represent a significant mass within the Hungarian higher education.

2. *Table 3.1* also shows that the proportion of those fully or rather satisfied with the rector is 69%, and that about half of the respondents think that the relationship between the rector and the chancellor is fully or rather harmonious. By a more thorough examination of the data, we find that where the relationship is poor between the two leaders, only 15% of the respondents are dissatisfied with the rector whereas 85% of them are discontented with the chancellor. On the other hand, where the relationship is harmonious, 77% of the respondents are satisfied with the rector and 78% of them are contented with the chancellor. In other words, the respondents blame mostly the chancellor for the poor relations between the two officials.

3. If we consider those nine institutions that had more than five respondents in 2016 on the basis of the data of *Table 3.1*, we can observe that only four out of these nine institutions had a higher than 50% ratio of respondents satisfied with the activities of the chancellor, and there are two institutions where none of the respondents were satisfied.

If we accept the hypothesis that the answers of the respondents are a true reflection of the institution-level opinion of the academic leaders, we may attempt to characterize the institutions on the basis of the data available. The results are presented in *Figure 3.1*.

Figure 3.1 Internal relations within the institutions



Note: Only institutions with at least 5 respondents are represented in the figure.

There are three centroids in the figure: in the harmoniously operating institutions (B*, E*) the acceptance of both the rector and the chancellor is high, and there is a good co-operation between the two leaders. In those institutions where the situation is critical, the case is quite the opposite: neither of the leaders is supported by the respondents; moreover, they see the relationship between the two leaders as tense (F*). In those institutions that are critical of the chancellor (K, P), the respondents support the rector and are critical of the chancellor, and in most of the cases, they also consider the relationship between the leaders as critical. In theory, there could be a fourth centroid as well, that of institutions critical of their rector and more supportive of the chancellor (for instance, where the leaders of the faculties would co-operate with the chancellor to obstruct the rector’s leadership). In fact, institution A comes the closest to that, where the leaders of the faculties co-operate with the chancellor and oppose the rector’s leadership.

Naturally, there are numerous institutions that find themselves in some sort of a middle position, but the overall picture confirms the hypothesis that a great number of institutions are discontented with the chancellor’s activities.

Another assumption can also be made on the basis of *Figure 3.1*: the quarter incorporating the harmonious institutions include only such establishments whose chancellor is “an insider”. This suggests that the familiarity, acceptance and local knowledge of the chancellor plays a decisive role in the good relationship between the rector and the chancellor. We can also see, however, that this is not necessarily enough because there is also one institution in the figure that meets this requirement, but the chancellor is not seen in a positive light (F*). In consideration of all the respondents, we can affirm

that insider chancellors are surrounded by much more satisfaction: half of those rather or fully satisfied with the chancellor have an insider chancellor in office, while this proportion is only 26% in the case of those dissatisfied with the chancellor.

The free-text answers of the questionnaire give us a deeper insight into the institutional-level impressions about the chancellor system. Positive comments included the following:

- Clearer orientation and engagement on behalf of the maintainer: “strengthening of the proprietor’s mentality on behalf of the maintainer”.
- More disciplined operation: “more disciplined and more transparent management, better budgetary planning, elimination of deficit”.
- Lobbying activity: “firmer ability to assert our interests before the government”; “improving relationship between the maintainer and the institution”.
- Positive personal experience: “quick organizational learning, quickly identified with the institution, strong market orientation, assertion of market orientation”; “willingness to co-operate, patience”; “more structured thinking than earlier”.
- Correction of internal relations: “attenuation of comparative advantages between the faculties”.
- Positive organizational initiatives: “tranquil operation, shift towards a provider’s mentality”; “facilitation of tendering efforts”.

The following problems were mentioned the most frequently:

- Cumbersome operation, increasing bureaucracy, increasing centralization and the simultaneous growth of the weight of the chancellery and its demand for funding: “The chancellery has become a gigantic, over-financed and top-heavy institution, which has carried out huge financial cuts and made the academic sector’s position untenable. The chancellor is governed by different interests and jeopardizes the very existence [of the institution], strengthening another institution by its activities. Its operations are not transparent.”; “Instead of simplification and transparency, it has brought even more complications and cumbersomeness”.
- Dilemmas of task and competence distribution, uncertainty due to the dual leadership: “Dual leadership has no traditions in Hungary. It polarizes the leadership only further. It makes the already cumbersome administration even more complicated. It encourages blame-shifting.”; “This system has made decision-making less transparent and more uncertain”.
- Abuses, lack of control over the chancellor: “The chancellor is not co-operative at all. He abuses his power. His petty reprisals for his alleged insults hurt the institution. ... He is not really controlled by anyone because any modification of the system is seen as a retreat by the government. He poisons the atmosphere at the institution entirely.”; “Instead of expertise, there are the chancellor’s people in every position.”; “The direction of the university now includes a self-centred, easily offended and aggressive person who has set up an oversized chancellery that blocks academic and research plans”.
- Lack of competence: “Lack of local knowledge; lack of knowledge about the specificities of higher education as an industrial sector”.

- Increasing tension between the academic and the administrative staff and the relegation of the academic considerations: “Wage disparities between the chancellor’s staff and the academic staff”; “The academic aspect has become weightless; the fact that there are students and teachers is of secondary importance. Everything is subordinated to the administration and the centre and centralization.”; “He blames the academic sphere and does not think it is viable (whereas our programmes are competitive on the market, for instance). He treats the academic sector like an ivory tower (‘absent-minded professors’) that cannot survive on its own.”; “Reduced transparency, increasing wage disparities (and tensions) between teaching and administrative staff, cuts of resources in the arena of education and research. Scarcity (education, research) and squandering (chancellery) are present simultaneously”.
- Excessive influence on behalf of the maintainer, excessive enforcement of financial considerations: “The chancellor system represents not the interests of the university, but of the maintainer.”; “The biggest problem is that long-term developments become impossible because the chancellery is only interested in making short-term economies. Everything has come to a halt.”; “In many cases, only financial aspects are regarded, the academic ones are no longer taken into account”; “The unyielding intention to satisfy the requirements of the maintainer sometimes pushes those alternative solutions into the background that would be tailored to the specificities of the institution”.

As it transpires from the above, the positive interpretations of the role of the chancellery from the perspective of the institutions include partnership, entrepreneurial spirit, supportive attitude, lobbying and quick identification with the institution. The negative interpretations of its role comprise the obstinate intent to serve the maintainer, the intensification of the “authority” mentality and bureaucratic operation as an end in itself. Thus the chancellors continue to be caught in the crossfire: they are supposed to meet the expectations of both the maintainer and the institutions, and their success (or failure) in finding the golden mean largely determines the operation and the possibilities of the institution as well as the relations within the latter.

In sum it can be stated that the results of the 2016 survey do not show a marked difference compared to the results of the 2015 survey or to the outcomes formulated in the 2014 strategic progress report of CIHES. The institutions themselves are characterized by the rejection of the chancellor system or an effort to survive it, and – with a few exceptions – moderate enthusiasm for the chancellors. We still consider it a valid observation that although – thanks to the direction by the maintainer, a professional administrative leadership and the demolition of the unfavourable status quos – the dual leadership institutionalized by the chancellor system carries a potential for progress, it also generates strong tendencies for conflict without helping to create the trust necessary to solve them.

The introduction of consistories

Consistories in charge of supervision on behalf of the maintainer were put in place in 2016. Besides the chancellor and the rector, the consistories have three members appointed by the maintainer. External members could be nominated by the institutions, the students’ councils and the stakeholders of the institutions as well. According to the summaries available¹⁸, there were altogether 192 nominations (including some persons who were nominated for several institutions). 76% of the 86 members appointed in February 2016 (one position remained vacant) were institutional candidates, 45% were nominated by the students’ councils and 34% were proposed by external organizations (one person

¹⁸ <http://www.kormany.hu/hu/emberi-eroforrasok-miniszteriuma/hirek/balog-zoltan-kijelolte-az-ujnonnan-letrejovo-konzisztoriumok-tagjait>

could be nominated by multiple stakeholders). In 13 of the 29 state institutions, all three members had been nominated by the institutions (as well). On the other hand, there were five institutions where only one of the candidates had been nominated by the institution itself. It is quite noteworthy that out of these five institutions, two (Károly Róbert College and the College of Szolnok) had been merged with other establishments. The majority of the appointed members are top officials of companies of national or regional excellence, while some of them are members of the industrial chambers or representatives of companies owned by local governments. A significant number of the members are the representatives of the Central Bank (MNB) (6 persons).

The consistories have a veto right regarding budgetary issues, asset management and institutional strategy. Their first task after the appointment was to reference and approve the development plans of the institutions. According to the questionnaire filled in by the academic leaders of the institutions, 40% of the 134 respondents were unable to state the extent of the changes proposed by the consistories in the institutional development plans while 55% of them thought that the consistories approved the plans without any or with minor modifications.

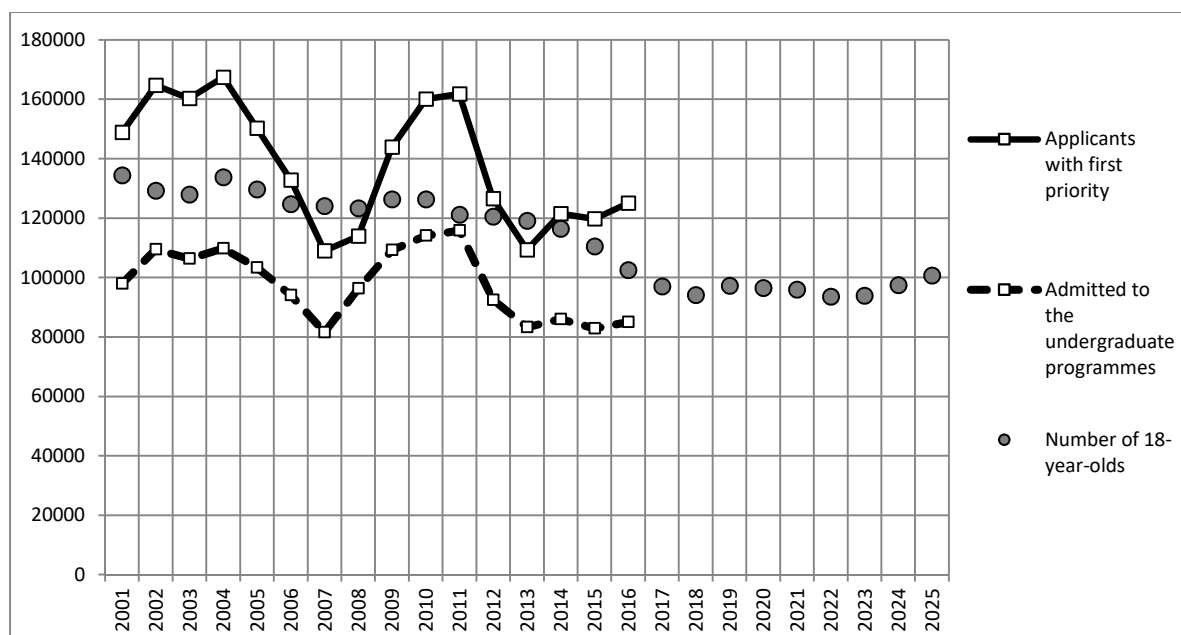
All of the above seems to suggest that neither the Ministry, nor the appointed consistories have had any major confrontations with the institutions so far. The Ministry accepted the proposals of the institutions in most cases, and strived to enforce other considerations only in the case of a few institutions. The consistories used their veto power only sparingly in the course of the approval of the institutional development plans.

4. Admission trends in higher education

If we examine applications to higher education after the turn of the millennia (*Figure 4.1*), we can observe that after the peaks between 2002-2004 and 2010-2011, there were low points in 2007-2008 and 2013 – the Felvi database registered a drop by as many as 40-50 thousand. But while the figures began to rise again after 2009 (because the master programmes not yet launched in 2005 now absorbed their full student capacity), there was a kind of stagnation in the figures after 2013, and the situation seems to be stabilizing at a lower level.

The demographic trend is illustrated by the dotted line of the 18-year-old age group in the figure below. There is no visible correlation between the trend of the number of applicants and the age-group trend; i.e. the applications were influenced by the contemporary educational policy and other social factors. One of the factors contributing to the 2011 downturn must have been the announcement of the possibility of a self-supporting higher education and extensive tuition fees, accompanied by the student contract scheme and the minimum scores of state-funded places defined for the individual study programmes. As some of the restrictions were eventually attenuated, the number of applications stopped declining. At the same time, it is also visible that in the upcoming period, the number of 18-year-olds is somewhat rising, which would certainly produce an increase in the number of applicants as well provided that the educational policy did not intend to limit the conditions of the secondary school conditions thereof.

Figure 4.1 Number of applicants and number of students admitted to higher education, 2001-2016; number of 18-year-olds, 2001-2025



Source: felvi.hu

Note: data of all admission procedures for the given academic year

The set of figures of *Figure 4.2* presents not only the number of those admitted from 2009 to 2016. It transpires from *Figure 4.2.a* that considering the levels of education, the biggest drop was definitely experienced by the undergraduate programmes. *Figure 4.2.b* contains the applications according to the mode of study. The number of those who applied to part-time (evening or correspondence) programmes diminished by half, the admission trend of full-time undergraduate programmes has been decreasing (but apparently coming to a halt), while distance learning has practically disappeared. If we consider that at the summit of higher education student numbers, in the middle of the first decade of

the new millennium, it was these two forms of education that made up nearly half of the total number of students, we will understand that one of the factors responsible for the decrease in the total number of students in the Hungarian higher education is the “disappearance” of these study programmes. *Figure 4.2.c* distinguishes between the students admitted according to their payment status. The number of state-funded places between 2009-2011 indicates a 15-20% decline for the following years – but the number of the fee-paying students does not make up for this diminution (families struggling with a socio-economic disadvantage are unable to “switch” to fee-paying education – for more on this topic, see the paragraph about student loans at the end of *Chapter 3*).

Figure 4.2.a Number of students admitted by level of education, 2009-2016

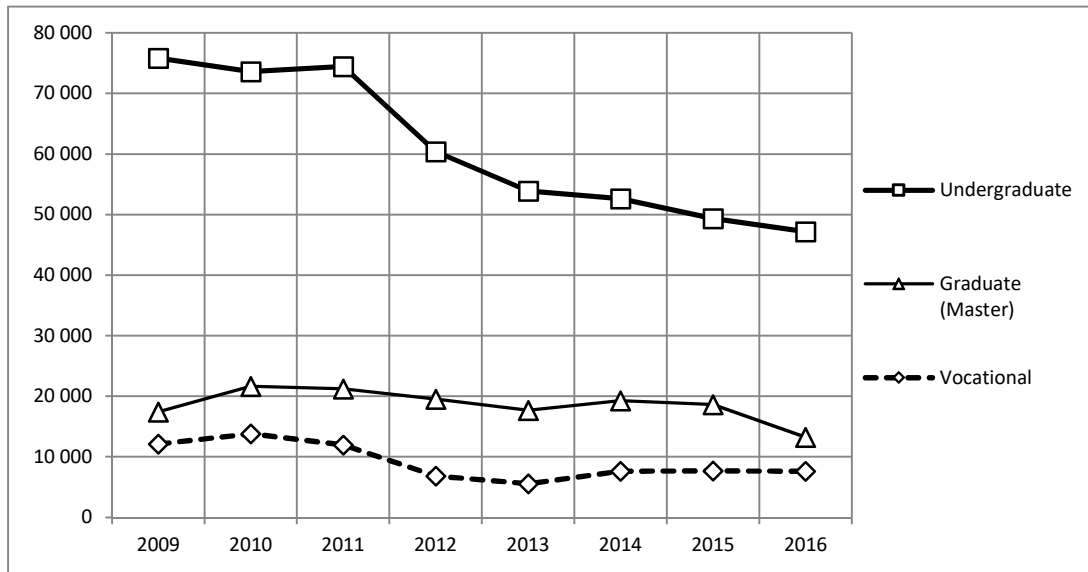


Figure 4.2.b Number of students admitted by mode of study, 2009-2016

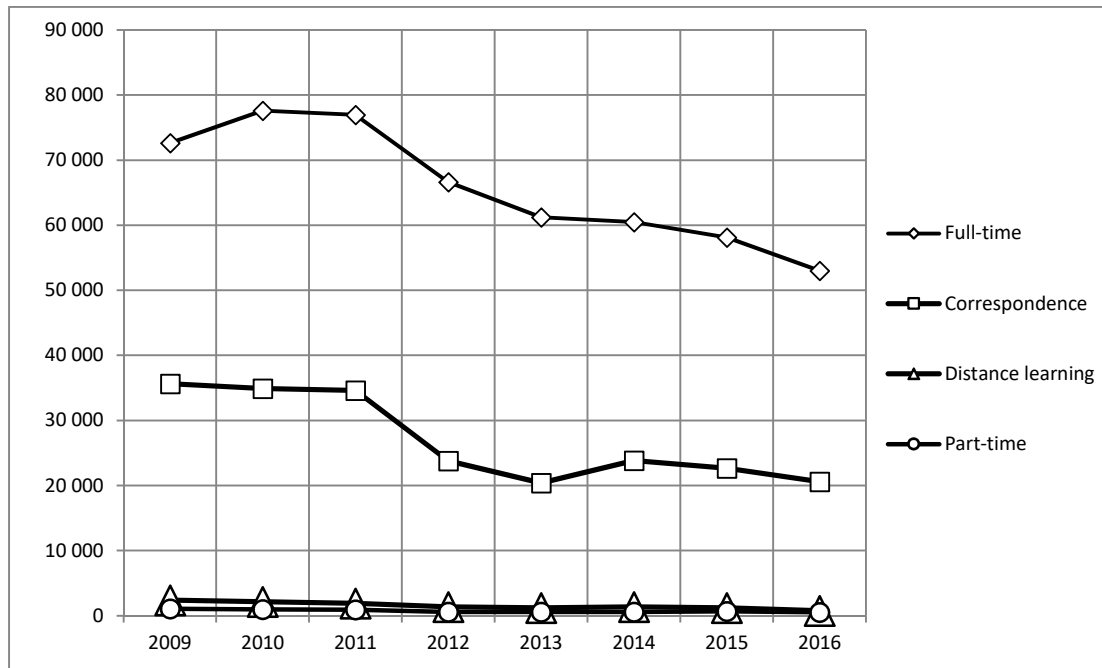
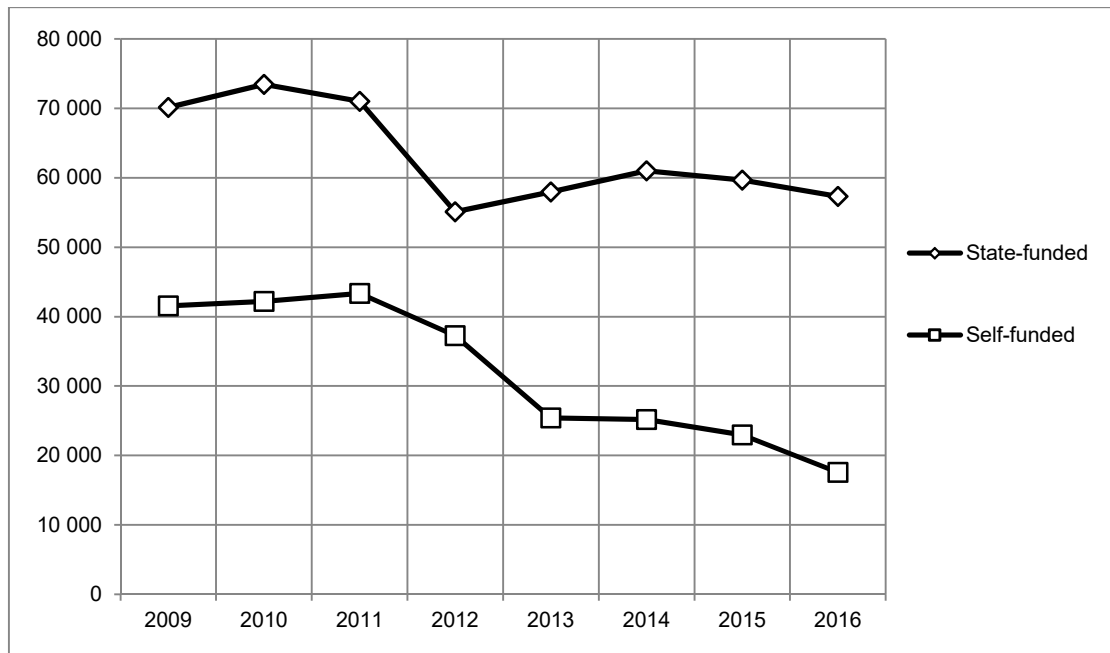
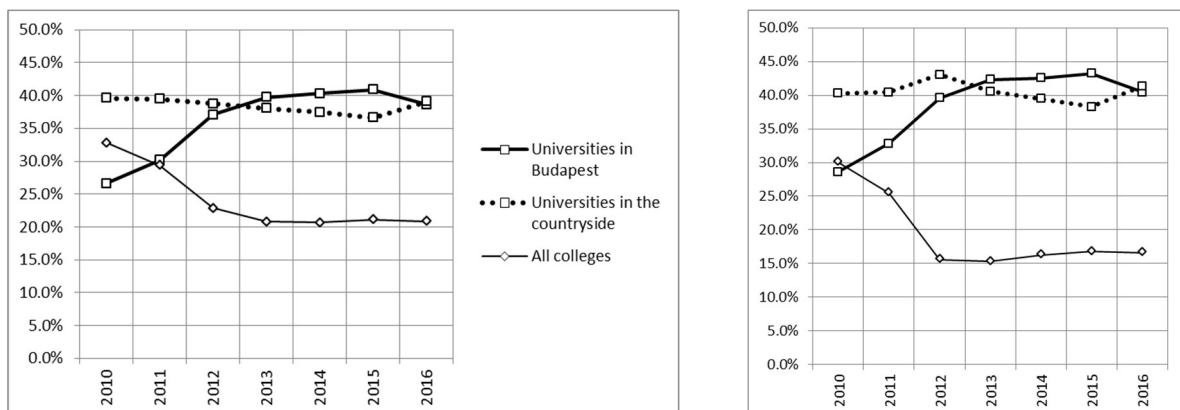


Figure 4.2.c Number of students admitted by payment status, 2009-2016



If we look at the data of the students admitted from the perspective of institutional structure, we can witness a significant shift in the centre of gravity. According to the left part of *Figure 4.3*, the number of those admitted shifted toward universities in Budapest till 2015 to the detriment of universities and colleges located in the countryside. Moreover, the figures of 2016 indicate a preference for universities versus colleges.

Figure 4.3 Distribution of students admitted (left), and distribution of students admitted to state-funded status (right) by institutional groups, 2009-2016



Source: felvi.hu, own calculations

Note: the figures contain the data of the regular admission procedures for studies started in September

Thus, as a result of the educational policy pursued since 2011, the colleges (some of which have recently become universities of applied sciences) have been somewhat rolled back. The universities located in the countryside have more or less preserved their proportions whereas universities in the capital have gained a significant number of state-funded and fee-paying students (the latter statement is supported by the right-hand section of *Figure 4.3*).

If we focus on the clearly distinguishable groups within the institutional system of the Hungarian higher education on the basis of the study prepared by Ildikó Hubos and her work group¹⁹, we get an even more nuanced picture. The paper identifies eight clusters (the numbers representing the institutions and their rounded-off proportion from the total national number of students are in parentheses):

1. church-owned colleges offering theological programmes for a small number of students (16 – 1%)
2. private colleges offering programmes predominantly in the field of economics and social sciences for a small number of students (7 – 4%),
3. colleges with a broader educational profile and a higher number of students (10 – 19%),
4. special colleges with a more limited profile (11 – 4%),
5. universities with a broad educational profile, but differing from the traditional professional profile (12 – 40%),
6. relatively small universities with a special profile (7 – 1%),
7. classic universities (4 – 32%),
8. international universities (2 – 0.1%)

Based on the admission data for 2009-2016, we can delineate the following groups:

- a) small institutions to be closed down or on the brink of termination,
- b) bigger colleges whose student numbers have been halved, which take various escape routes,
- c) declining big universities,
- d) stagnating big universities and medium-size institutions,
- e) mildly increasing or stable institutions, mostly big universities and expanding church-owned universities.

The clusters can be easily mapped onto the latter groups. Type a) mostly includes private colleges and colleges in the countryside that have only one profile. Basically, the institutions of Cluster 2 can all be assigned here, with the only exception of the Budapest School of Communication, now called Budapest Metropolitan University. Equally, the College of Szolnok, Eötvös József College and even the College of Nyíregyháza – in Cluster 3 – are threatened by joining Type a). Here the exception is Eszterházy Károly College that managed to find an escape route indicated in Type b), along with the Budapest College of Economics that jumped to Type e) thanks to its exceptional features. Based on their student numbers, the University of Miskolc and the University of Kaposvár from Cluster 5 can be described as declining (as in Type c)), but most of them should actually be classified in Type d). Despite certain problems, the three big universities (ELTE, Debrecen, Szeged) clearly belong to Type e) – just like Pécs if we disregard the drop in numbers ensuing from its organizational changes. Semmelweis University, the Budapest University of Technology and the two big church-owned universities also belong here from Cluster 5.

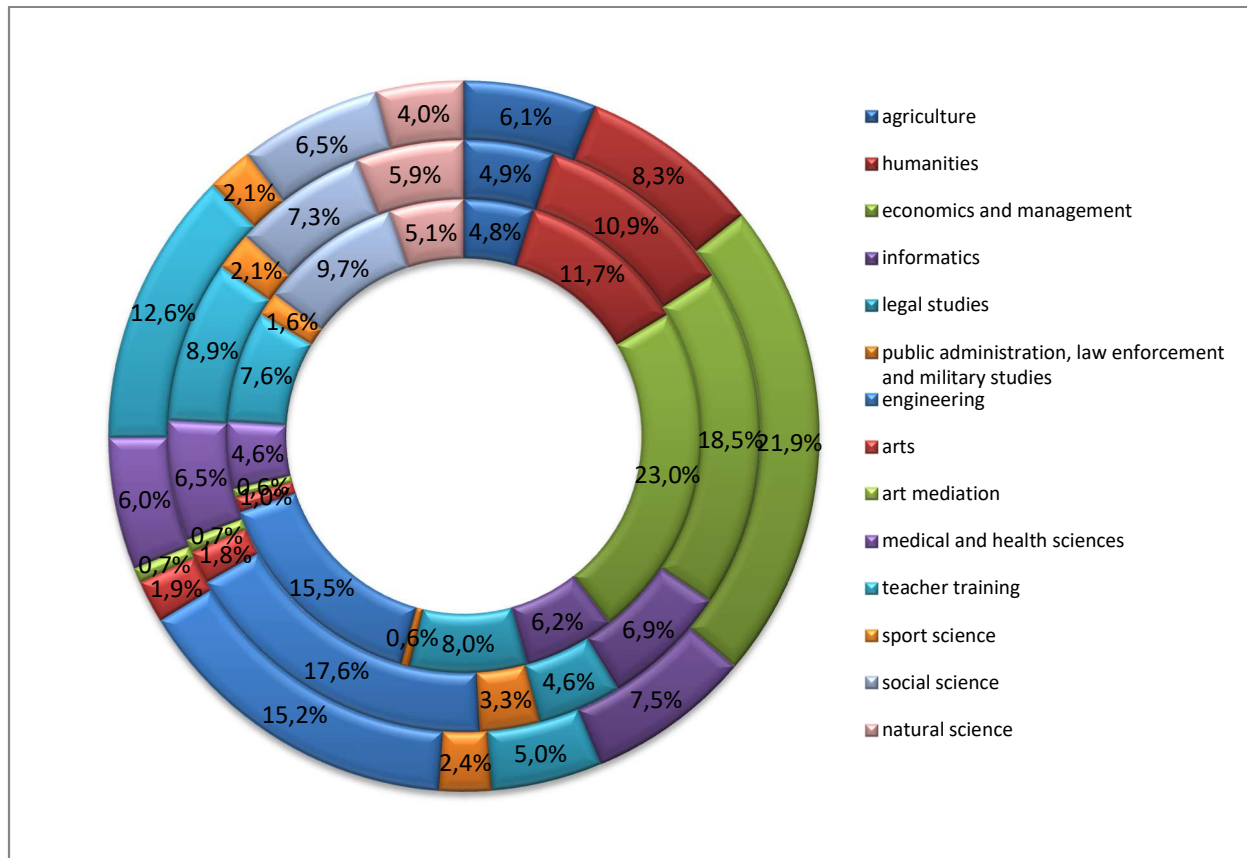
There is something uniquely Hungarian in the above process: the “winners” are not truly happy and the “losers” leave not sadly, but with their head held high. Those institutions that have managed to preserve or increase their student numbers do not have the certainty that their status can be

¹⁹ Ildikó Hrubos, ed., *Elefántcsonttoronyból világítótorny* (Budapest: Aula Kiadó, 2012).

maintained: they not only have to monitor the economic environment (which should be natural, anyway), but also keep an eye on the political changes.

Finally, let us analyse one more educational policy objective. In 2011, supporting study programmes in the fields of technology and natural sciences by positive discrimination was formulated as a priority objective for scientific disciplines. *Figure 4.4* derives from the analysis on the Felvi website. This figure shows that in comparison with the situation in 2009, the internal ratios indeed shifted towards the preferred fields of study in 2012 – as a result of the drastic interventions in 2011 –, but due to the likely adjustment processes, we can see a reversal of the trends already in 2015.

Figure 4.4 Distribution of students admitted by field of study, 2009, 2012, 2015

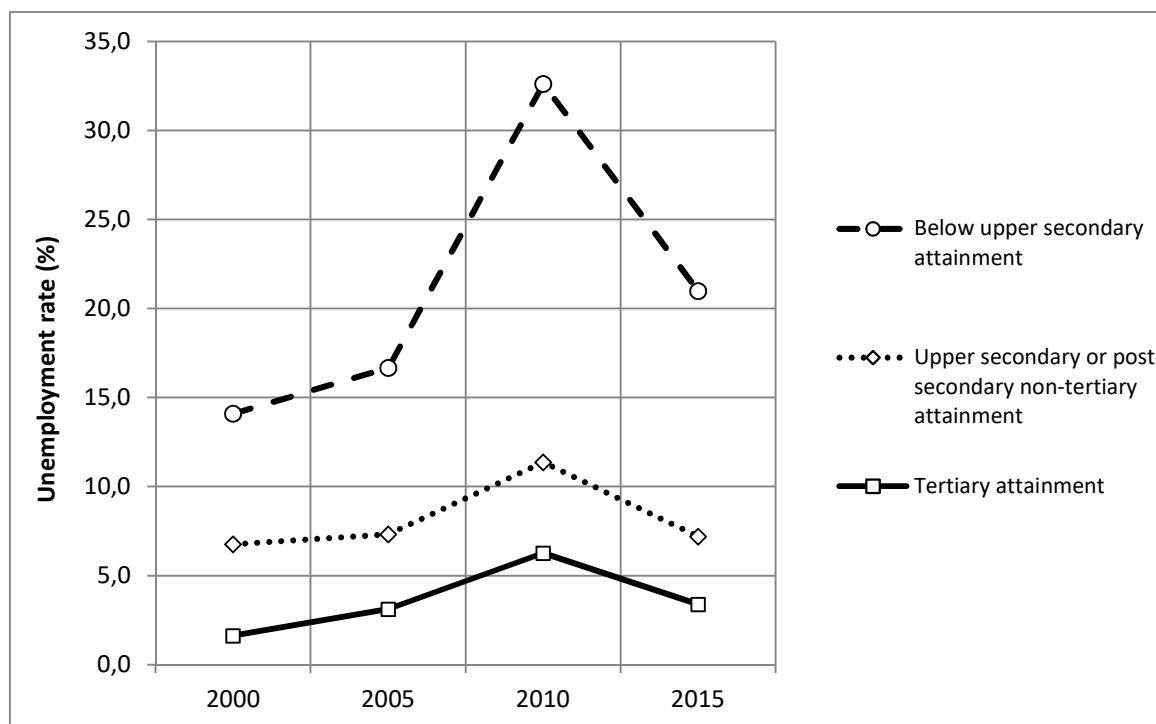


For instance, the proportion of technical sciences was 15.5%, 17.6% and 13.2% in the three priority years, while the ratio of natural sciences was 5.1%, 5.9% and 5%. The field of IT has yielded the desired result: 6.2%, 6.9% and 7.5%, but if we take a look at the discouraged fields, we will notice that although the study field of economics and business dropped from 23% to 18.5%, it soon climbed back to 21.9%. The latter two examples are powerful demonstrations of the fact that while the applicants react to marked administrative signals, their choices will be dominated by the labour market and salary conditions in the long run.

5 Some characteristics of graduate employment

The situation of graduate employment – again – has been quite favourable. The 2008 economic crisis affected the unemployment rates of employees of all levels of educational attainment. If we take a look at the unemployment rate of the age group of 25-34-year-olds (i.e. from the perspective of graduates: young people in their first jobs) in *Figure 5.1*, the 1.6% unemployment rate in 2000 was almost quadrupled by 2010, peaking at 6.3%; then it was reduced after the crisis, diminishing to 3.4% by 2015. As demonstrated by the figure, this trend was even more pronounced among people with a lower educational attainment. In 2010, the unemployment rate of those with an upper secondary educational attainment rose to 11.4% while that of people with a below upper secondary education reached 32.6%. It is quite evident that the unemployment rate of young people (emphasized by the government's official documents in 2010) was significantly lower than that of people with a lower educational attainment. On the other, the former was not due to some kind of structural disruption in higher education, but it was triggered by the economic crisis, and since the end of the crisis, it has substantially moderated (however, this moderation cannot yet follow from the higher education reforms, for the effects of the latter could not have manifested themselves by 2015)²⁰.

Figure 5.1 Unemployment rates by educational attainment (25-34 year-olds), 2000-2015



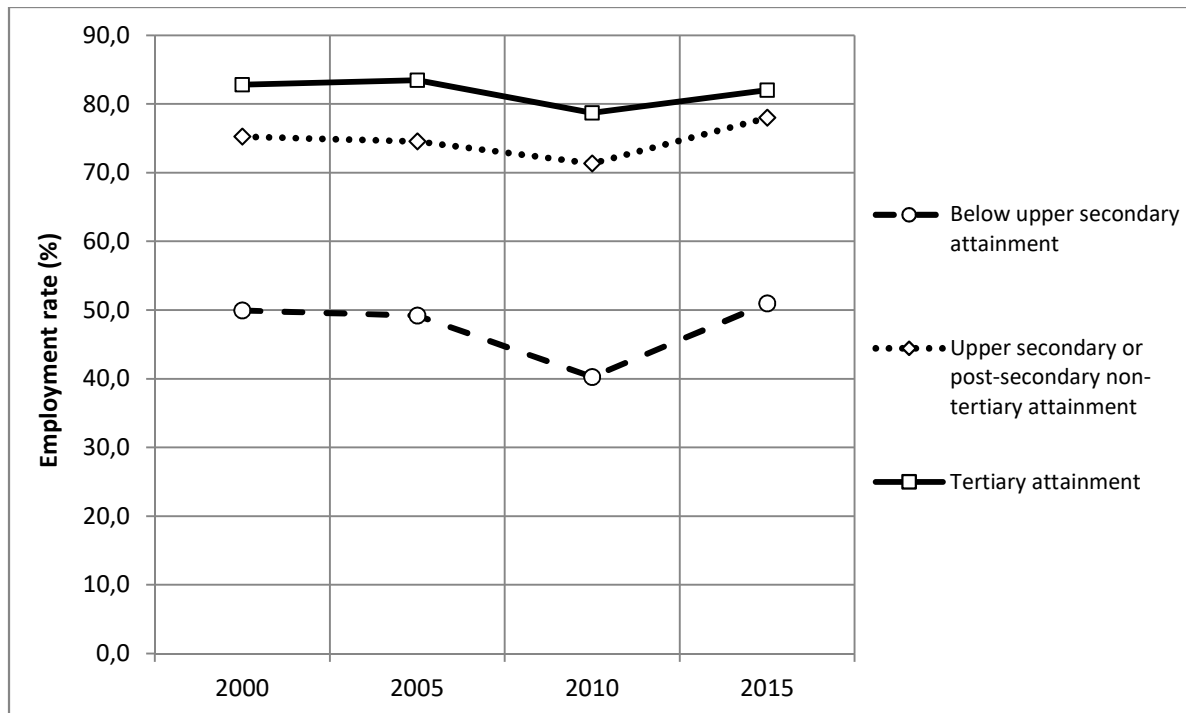
Source: own production based on *Education at a Glance 2010* and *2015* (in both: Table A5.4)

The evolution of employment rates²¹ in *Figure 5.2* shows this trend even more markedly. The high employment rate of young graduates practically returned to its earlier level by 2015, thus – although the employment rate of people with an upper secondary educational attainment outperformed the 2005 level (which could be put down mostly to public employment), the employment rate of young graduates was still the highest among all groups of educational attainment.

²⁰ It should be added that this comparison draws a parallel between young graduates and groups of lower educational attainment who have much more years of labour market experience.

²¹ Labour economists consider the employment rate a much more reliable indicator than unemployment that is often harder to measure.

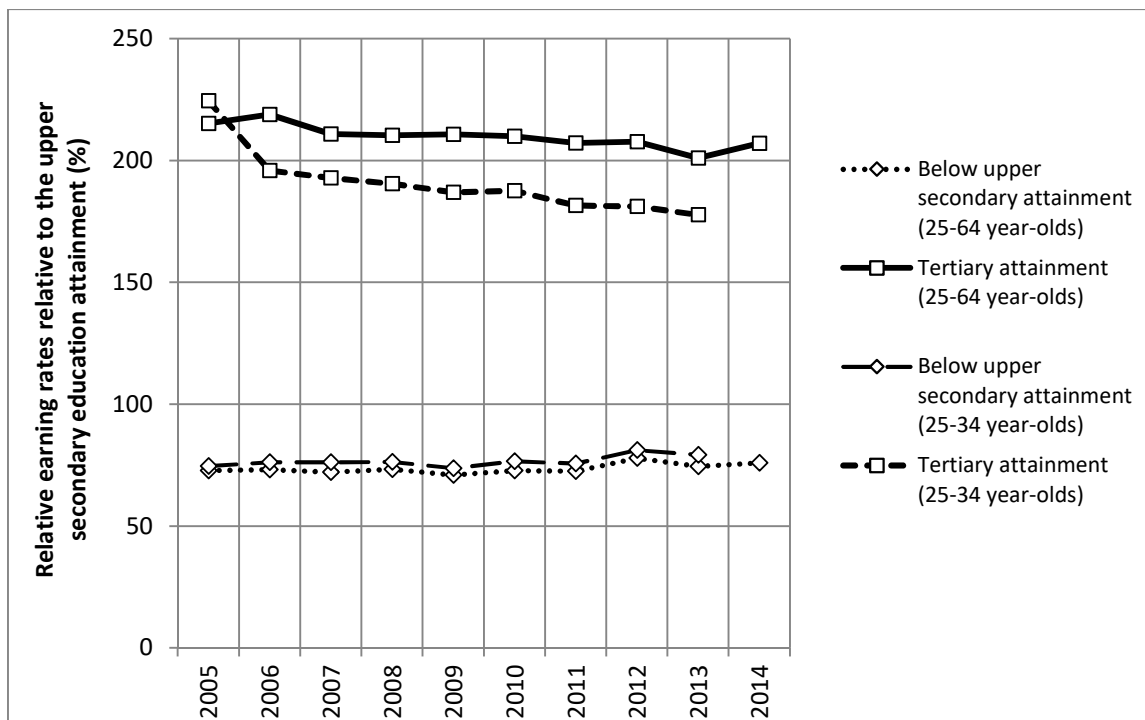
Figure 5.2 Employment rates by educational attainment (25-34 year-olds), 2000-2015



Source: own production based on *Education at a Glance* 2010 and 2015 (in both: Table A5.3)

These trends are a clear indication of the fact that the national higher education output is almost entirely absorbed by the economy: there are no disruptions in employment.

Figure 5.3 Relative earning rates of the tertiary attainment relative to the upper secondary education attainment (%), 2005-2014

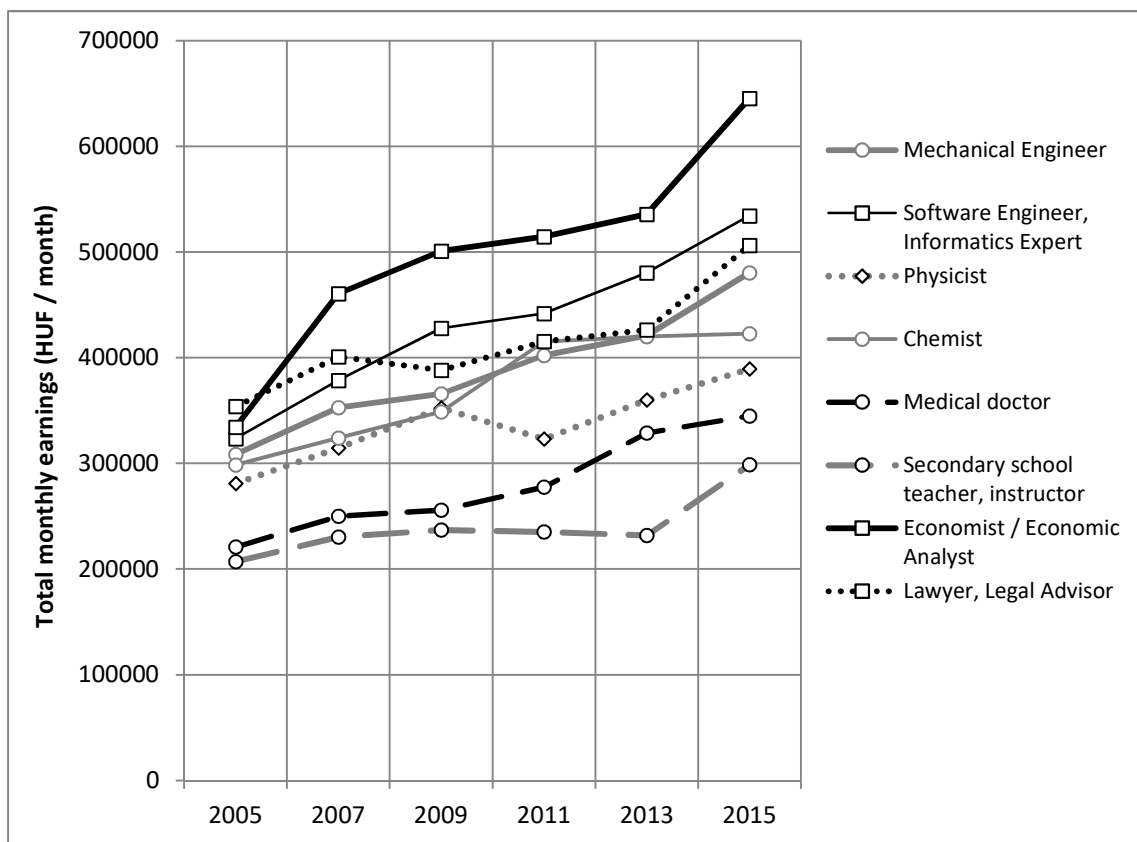


Source: own production based on *Education at a Glance* from the year following the given year

If we examine the relative earning rates²², there is barely any sign of the economic recession. *Figure 5.3*, which examines those with a tertiary attainment in two groups (as 25-34-year-olds and as 25-64-year-olds) demonstrates that the earning rate advantage of the entire age group with a tertiary attainment went down mildly in 2013, but then it began to grow again, and it was above 200% in 2014. At the same time, the earning rate advantage of young employees decreased continuously from 2005, but it was still nearly 180% in 2013 in comparison with those with an upper secondary attainment.

Concerning the monthly earnings of the individual fields, *Figure 5.4* reveals that there have not been any major changes or reshuffling in the course of the past ten years. Those with a degree in law, computer science or economics are in the lead in terms of monthly earnings, followed by graduates in technology and natural sciences, while doctors and teachers come at the end of the line.

Figure 5.4 Total monthly earnings of occupations, 2005-2015 (HUF/month)



Source: own production based on the figures of the Labour Database
http://nfsz.munka.hu/engine.aspx?page=afsz_stat_adattar

In light of the above figures, it is no wonder (also pointed out somewhat disapprovingly by the so-called higher education strategy) that those secondary school students who have the best scores tend to pursue their studies in social sciences programmes.

All in all, the minor dip in the employment rate of graduates caused by the economic recession (which was much less significant than in other categories of educational attainment) has disappeared by now, and people with a tertiary attainment, including young people, display quite favourable employment trends. Similarly, concerning the earning rates, it can be stated that the relative earning rate advantage of graduates has barely moderated. There is no change in terms of the individual occupational fields:

²² In this figure, we compare the earnings of those with lower than secondary educational attainment and those with tertiary educational attainment with the earnings of those with secondary educational attainment (100%).

the income of graduates in technology and natural sciences – with the exception of computer science – is lower than that of lawyers and economists while the income of doctors and teachers continues to lag behind at the end of the income ranking.

6 Changes in qualifications and study programmes; the development of teaching and learning

Recently – once more after a decade –, higher educational policy related to education and training as well as teaching and learning has been put in focus. After the structural reform carried out hastily by way of legislation in 2005-2006 in the framework of the Bologna process, the development of the quality of teaching and learning did not appear as an explicit higher educational aim for more than a decade. The structural reform of the programmes was aimed only at the cyclic transformation of the structure, adjusting the Hungarian higher education system to the higher education system of the other countries of the European Higher Education Area. That was no insignificant change, either, as it allowed for international compatibility: it made Hungarian diplomas intelligible abroad and boosted and simplified student mobility. The elaboration of adequate teaching and learning organization assigned to the shorter training cycles was not put on the agenda of the educational administration, and no initiatives or efforts were made in that direction by the stakeholders in higher education, either. At the same time, the traditional training and learning organizational methods proved to be entirely ill-suited to the new structure. The most conspicuous sign of that was the high – in certain fields, exceptionally high – dropout rate. Isolated, occasional innovation efforts cropped up – and continue to crop up – around the individual study programmes and departments. Due to the lack of a reasonable timeframe, the central (priority) projects preparing the way for the introduction of the higher education qualification framework and the reform of the educational and outcome requirements did not have a widespread effect, either. So much so that not even the higher education administration running these projects took into consideration the most important results of these developments: the methods that could have been efficient in higher education in the transformation of the programmes or the timeframes necessary to perform them.

At the turn of 2014-2015, we summarized the situation of higher education by saying that the climate was favourable for the higher education administration to initiate developments and changes related to study programmes, teaching and learning because the teachers had recognized and accepted that pedagogical tools were necessary and that teachers needed to be prepared for them in order to achieve better results. Consequently, they were looking forward to the appearance of possibilities with openness and curiosity. In the first version of *A Change of Pace in Higher Education* published at the beginning of 2015, one of the four major processes identified as supporting the strategic goals was educational innovation. A separate chapter was devoted to the discussion of the improvement of the teaching and learning environment, and there were several clear allusions to the modernization of the content of educational and outcome requirements, the strengthening of the role of learning and the application of the learning results in the process of teaching and evaluation. This was an important milestone because no strategic document had ever formulated explicit development concepts about teaching, learning and their environment before.

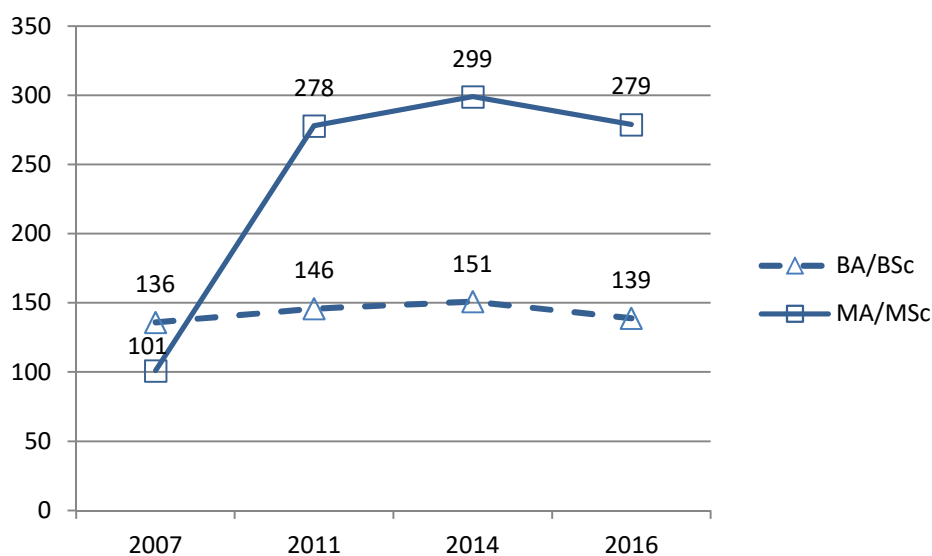
Reduction of the number of qualifications

The evaluation of the qualifications, which had been envisaged for many years, began and was executed in 2015 in accordance with the strategic plans. This revision effort came to be known as “programme pruning”, in the course of which the qualifications were slightly modified in most fields of study (i.e. those exit points that study programmes could lead up to). This intervention in the system of qualifications stirred up the entire higher education, and provoked discontent in nearly all fields of study: either due to its manner, or to its content. *A Change of Pace in Higher Education 2015* signalled the consideration of the data of the Graduate Career Tracking System (DPR) and the Higher Education Information System (FIR), but in several cases, these data did not justify the termination of a

qualification (e.g. there is a terminated qualification that is about to be set up again). Several qualifications were included in the hastily published *Registry of Programmes*²³ under incomprehensible or ridiculous English designations. (The amended version²⁴ came out only one year later, in which many of the names were rectified). Due to the maladroit management of the “programme pruning”, the above-mentioned openness that had characterized the teaching staff at the beginning of the year quickly evaporated.

As demonstrated by *Figure 6.1*, after a small-scale expansion by 2014, the system actually went back to the figures of 2011 by the year of 2016 (in 2007 the qualifications in the master cycle were still being rolled out).

Figure 6.1 Changes in the number of qualifications in Hungarian higher education and the results of cutting them out in 2016



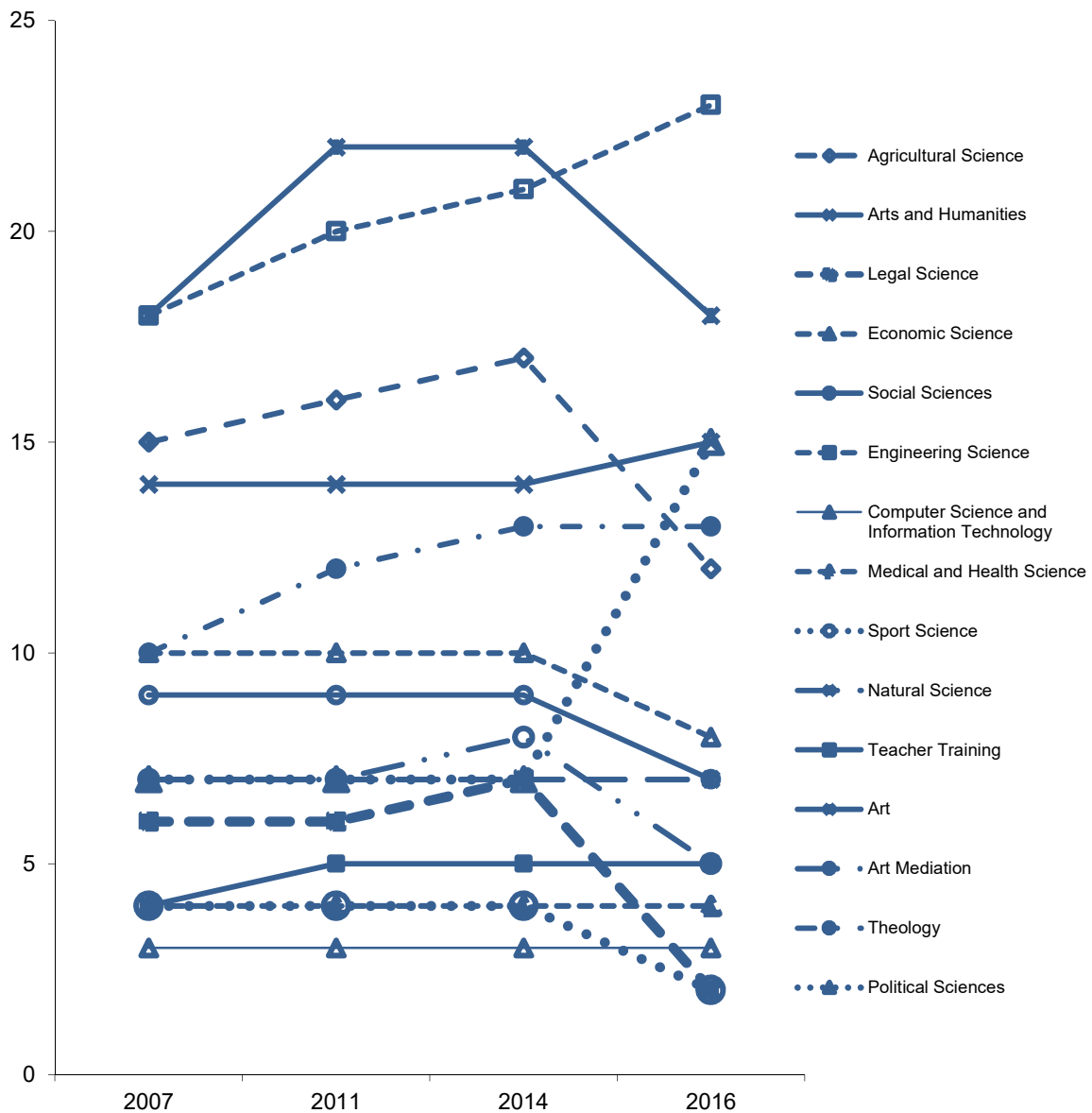
Source: author’s own calculation based on Ministerial Decree No. 18/2016

If we examine the programme shedding by fields of study in the individual cycles, we arrive at a mixed tableau. In the undergraduate cycle (*Figure 6.2*), the number of qualifications stayed the same in certain fields of study (e.g. medical and health science, computer science), or decreased slightly, while in other fields it even grew to a minor extent (e.g. engineering, humanities). The most important change took place in the field of engineering where there were five more qualifications in 2016 than in 2007 (altogether 23) as a result of a steady expansion over several years. The other major reshuffling was due to the creation of the National University of Public Service and the separation of the fields of law and public administration studies: in the field of law, the number of qualifications dropped from six to two whereas it grew from seven to fifteen in the field of public administration studies. Nonetheless, the aggregated number of the qualifications offered in the two fields that used to belong together did not change significantly: it rose from 13 to 17.

²³ Government Decree No. 139/2015 on the list of qualifications obtainable in higher education and enrolment of new qualifications

²⁴ Government Decree No. 169/2016 on the amendment of certain government decrees relative to the regulation of higher education

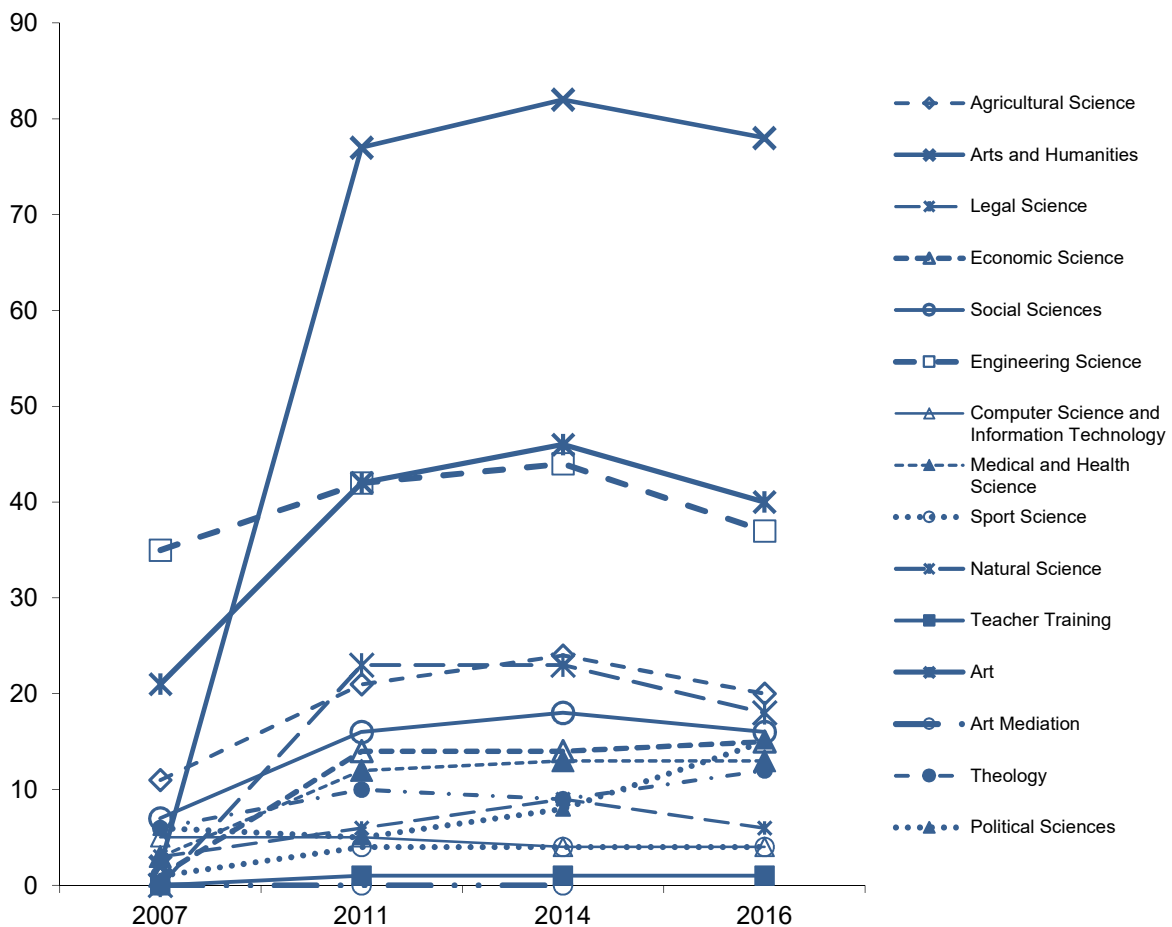
Figure 6.2 Changes in the number of qualifications in the first cycle (by fields of study)



Source: author's own calculation based on Ministerial Decree No. 18/2016

The master cycle (*Figure 6.3*) underwent similar changes as the bachelor cycle, albeit in different fields of study. Here again, the biggest changes affected the field of engineering where there were five fewer qualifications in 2016 than in 2011 (altogether 37) and the field of natural sciences where the number of qualifications dropped from 23 to 18. An even more substantial change took place in the field of public administration studies (currently taught only at the Hungarian University of National Defence), where the number of qualifications swelled from five to fifteen from 2011 to 2016.

Figure 6.3 Changes in the number of qualifications in the second cycle (by fields of study)



Source: author's own calculation based on Ministerial Decree No. 18/2016

Regardless of the “programme pruning”, the statement formulated two years ago still holds true for the qualification system: namely, it has been basically frozen, and practically, no substantial changes can be accomplished in it – as demonstrated by the above, not even in case of firm political intentions in the sector. That could become a serious drawback for the Hungarian higher education in the competitive international arena. What the government sets in stone and keeps “frozen” with the *Registry of Programmes* is the obtainable outcomes and qualifications in an age when numerous fields are characterized by a swift evolution of skills and competences considered as valid and of the qualifications demanded by the employers.

The modification of the qualifications does not go hand in hand with the changing of the cyclical educational system even though there had been such preliminary expectations that the government would interfere with the Bologna structure and would bring back the traditional integrated degrees. According to the data available on felvi.hu, taking teacher training out of the equation, there are only 108 integrated degree programmes from the 1080 masters announced and beginning from September 2017 (and even half of those are launched in the field of theology).

For the 139 B.A. qualifications (degrees), there were 1430 undergraduate study programmes announced and beginning from September 2017 by all the institutions of the Hungarian higher education, while there were 1080 programmes announced for the 279 M.A. qualifications (degrees). In other words, there were more than ten study programmes for each B.A. qualification on average and nearly four study programmes for each M.A. qualification.

The argumentation of the educational administration concerning the modification of the system of qualifications gave an insight into the government's conception about the educational function of higher education: it is dominated by a short-term labour-market focus. This consideration is so formidable that it pushes all the other relevant aspects into the background such as the assertion of long-term strategic goals, the development of general skills or the boosting of the innovation potential. The government has decided about the phasing out of certain qualifications and the promotion of the acquisition of other qualifications through the provision of scholarships with reference to the figures of the DPR and FIR. The scope of the present chapter does not allow for the analysis of the risks related to such a direct utilization of data (for more detail, see Derényi 2015²⁵), but the fact that the planning of the evolution of the labour market is quite short-termed and uncertain even for one of its key stakeholders, i.e. the employers (cf. Czibik et al. 2013²⁶), puts the justification of the government's interventions into a peculiar light.

Changes in educational and outcome requirements

The modification of outcome characteristics and standards was a natural consequence of the modification of the qualifications. Hungary is in a unique position: not only the name, but the standards (the educational and outcome requirements, EOR) of the qualifications of the higher education as well are laid down not by the higher education institutions, but by government decrees (which set the latter in stone). In fact, the government has transformed not only the modified educational and outcome requirements, but all of them. Although it involved the players of higher education and later on, the representatives of the labour market in this process more than previously, it left extremely short delays for the process, only to be modified on several occasions. Instead of the originally planned two months (!), it finally accorded five months, which were completed by three additional months, and the meticulous elaboration of the details of the decree would eventually take six more months. The new decree²⁷ was finally published in August 2016.

The fixing of the outcome standards of the qualifications and the individual characteristics of the educational process leading up to it in decrees, the fierce manipulation of the institutions concerning the possibility to launch specific study programmes year after year (by state scholarships and the setting of admissions quotas/input thresholds) fix and ossify not only the outcomes, but the inputs as well in an effort to influence and remodel the desires of those wishing to pursue tertiary studies. This kind of "social engineering", which has had a long history in Hungary, falls through from time to time, and augments the costs of the education of graduates – for example, through the already mentioned dropout, whose rate is quite high in Hungary (especially in graduate and integrated programmes): 36-38%²⁸, which is about ten percentage points higher than the EU average (25-30%). Within the national average, the dropout rate is especially high in the fields of agriculture, engineering, computer science as well as medical and health science.

²⁵ András Derényi, "Bizonyítékokra alapozott kormányzás és a kommunikáció képzés," *Jel-Kép* no. 1, special edition (2015): 21–34.

²⁶ Ágnes Czibik, Mihály Fazekas, Nándor Németh, András Semjén and István János Tóth, "Munkaerő-keresleti előrejelzés vállalati várakozások alapján," *Közgazdasági Szemle* LX (February 2013): 189–223.

²⁷ Ministerial Decree No. 18/2016. (VIII. 5.) on the educational and outcome standards of bachelor and master programmes as well as on the joint requirements of teacher training and the amendment of Ministerial Decree No. 8/2013 (I. 30.) on the educational and outcome standards of the individual teacher training programmes.

²⁸ Calculations made on the basis of the data relative to the study programmes begun in the academic years of 2009/2010 and 2011/2012 of the Higher Education Information System (FIR).

The development of learning and teaching

At the same time, we should call attention to the fact that in spite of the hurried job, the significance of the change accomplished is much greater than what the players and stakeholders of the system have recognized so far. The earlier solid input and process regulations – implemented through the EOR – have been replaced by outcome and content regulations in most fields of study. The new EOR no longer divide the educational process into mandatory phases linearly built onto each other and “sectioned” by credits. Instead, information is provided about the profile of the qualification (its practice or theory intensity), and by the elimination of process regulations, the set of requirements characterizing the outcome by learning results is given more emphasis. For instance, the bigger professional-content units included in the qualification and their quantity expressed in credits are represented in more or less detail depending on the field of study.

It follows from the above that it becomes possible to present educational programme variations corresponding to the different missions and characteristics of the institutions and to take into consideration the demands of the employers who make use of the qualifications issued by the institution with more flexibility than before. Thus the new EOR substantially increase the freedom of the institutions to shape their own educational programmes that the over-detailed process-regulating character of the previous EOR kept on a low level. With that, they open up a new possibility for the higher education institutions to create and implement study programmes of better quality.

(It should be noted that nowhere else in Europe is it typical to have state regulations of this kind and of this scale pertaining to tertiary qualifications. While the mild increase in the degree of liberty gives already reason for hope in Hungary, the higher education system of many other countries saw the appearance of European-level qualification framework schemes as a regression of autonomy in comparison with the earlier situation without any kind of standards. Even where there is a higher education outcome standard on a level lower than the national, it serves only as a point of orientation, and the higher education institutions have an obligation to make arrangements with the stakeholders concerning the programme [e.g. in the Netherlands], or it is limited to the professional field and has an orientational nature [e.g. in Poland]. However, the definition of the specific qualifications and their transfer to the students are regarded as matters within the academic autonomy of higher education.)

After the reworking of the EOR, the next logical step is to transform the specific study programmes. Concerning the latter, the government announced its unambiguous intentions and support by opening the HRDOP (Human Resources Development Operational Programme) funds as well as in the *A Change of Pace in Higher Education 2.0* document.²⁹ In preparation for the former, one of the often criticized sections of the Higher Education Act was amended in summer 2016, and now higher education institutions have to provide a minimum of 200 classes per semester instead of 300.³⁰ This figure is close to the number of classes held in the more distinguished higher education systems, and together with the EOR, it further increases the freedom to modernize the study programmes. However, the messages of the educational administration have been quite confusing as to their intentions. The decree orders that the new EOR should be applied already for the study programmes beginning in the academic year of 2017/2018³¹, while the *Change of Pace in Higher Education 2.0* and the HRDOP calls for tenders demand such elementary modifications in the programmes (200 classes/semester, increasing the chances of staying in, application of the learning results, etc.) that are impossible to carry out within a few months. In the HRDOP calls for tenders, the tendering authority allows a four-year term for the implementation of the funded activities, and that would be a realistic timeframe, indeed. For instance,

²⁹ *A Change of Pace in Higher Education*. Medium-term Policy Strategy (working paper, 2016).

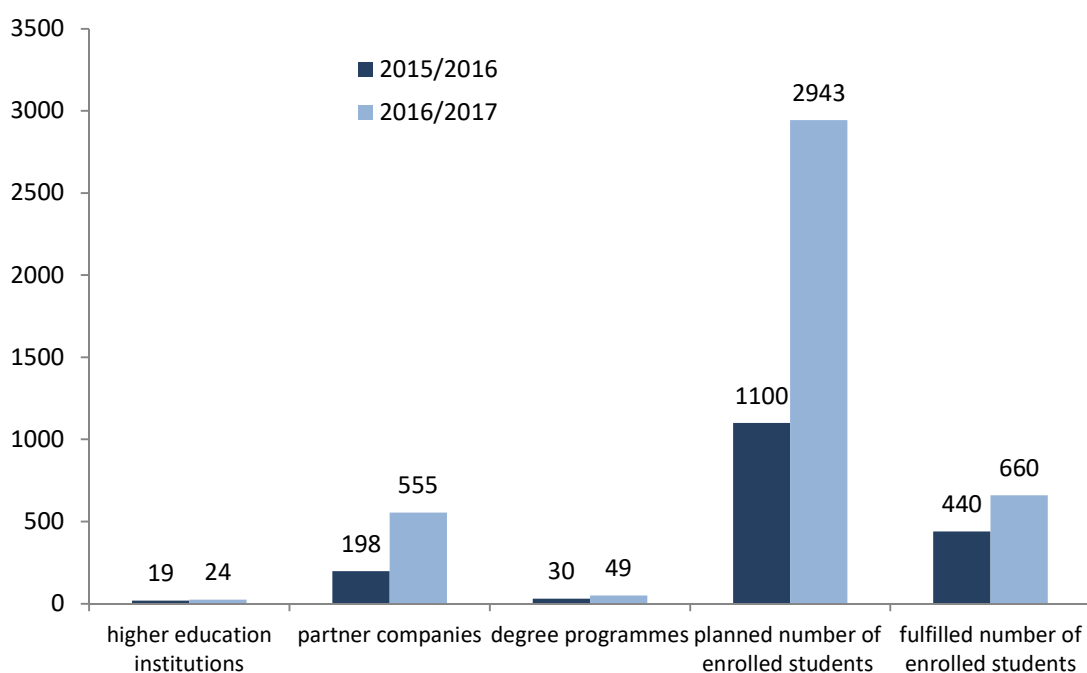
³⁰ “Full-time education is composed of minimum two hundred classes per semester.” National Higher Education Act, Section 17, Par. (1).

³¹ Cf. Ministerial Decree No. 18/2016, Section 8.

the *Change of Pace in Higher Education 2.0* strategic document spells out the reduction of the number of classes to be taught in the field of engineering (and only there!), determining a very specific programme broken down into years for the transformation of the programmes. It is also an indication of a coordination discrepancy that the regulation and the practice of the Hungarian Accreditation Committee (HAC), which is supposed to evaluate the effective and high-standard implementation of the preparation, fixing and institutional implementation of the government decrees, are less and less compatible with each other. This pulls the rug out from under the feet of the players. These rather conflicting messages and educational policy inconsistencies cause disturbances in the planning and implementation of the educational development activities of the institutions and can hinder the – somewhat controversial, but still existing – progress.

The above mentioned detailed programme creation proposal reinforces the impression that the functions/roles of the policy makers, the controllers of the system and the maintainer are regularly mixed up since these roles are fulfilled in a sort of personal union. This confusion of roles could be observed in the sector and the entrepreneurial sphere in relation to the appearance and introduction of the dual higher education programmes as well. There legislation took over the competences of the head of the institution and of the programme director, and it implemented a detailed programme regulation through the amendment of several acts and decrees. When it comes to the introduction of a new programme, this could seem like an efficient procedure, but in relation to the actual implementation, it causes a huge amount of problems, and diverts the attention of the participants to other things (e.g. compliance with small regulatory details), drawing the energies of the system away from the management of other essential elements. The most important one of the latter seems to be the enrolment itself: the companies are not interested in the admission of inadequate applicants, and as such, a great part of the applicants cannot get into the programmes. As demonstrated by *Figure 6.4*, although the government anticipated a dynamic growth and created the organizational conditions for it (training institutions, partners, programmes), the expected results are yet to be seen: the companies admitted much fewer students compared to the prior expectations.

Figure 6.4 Changes in main data of dual higher education (2015-2016)



Source: data supply by the Ministry of Human Capacities; OSAP database

Due to the lack of recent surveys, there is no data available about the views of the instructors and programme directors concerning the organization of training, education and learning. There were no developments in the course of the past two years that would justify a hypothesis about any significant shift compared to the survey results of two years ago. At the same time, it is an important difference in comparison with the previous years that the HRDOP calls for tenders have begun to cover activities aimed at preparing the teaching staff and supporting their further education. However, the impact of the latter will become manifest only years later and without experience-sharing incentive measures, only locally and in a limited way.

We cannot count on a larger-scale innovation in the area of the organization of degree programmes and teaching. One of the main reasons for that is the learned inertia – typical for quite some time now – that can be put down to over-regulation. The leaders responsible for the programmes as well as the teaching staff have an important array of (partly factually incorrect) arguments about the regulatory, accreditation and internal institutional prescriptions that stand in the way of educational innovation. The result of the latest international survey about academic freedom and autonomy also reflects on the situation: out of the 29 countries examined, Hungary was ranked 27th in 2016. The researchers having conducted the survey conclude that “the Hungarian higher education legislation [reflects] the paternalistic role of the state in regulating higher education”³².

³² Klaus D. Beiter, Terence Karran and Kwadwo Appiagyei-Atua, “‘Measuring’ the Erosion of Academic Freedom as an International Human Right: A Report on the Legal Protection of Academic Freedom in Europe,” *Vanderbilt Journal of Transnational Law* 49, no. 3 (2016): 597–691.

7 The models of dual education and its situation in Hungary

Examples of practice-oriented dual education in Hungary and the German model of reference

Practice-oriented education and traineeship look back on several decades of history in Hungary. The latest manifestation of this practice in the legislation has been the minimum three-month-long internship of 30 credits accomplished either in the 7th semester of the undergraduate education or continuously during the 6th semester in the Bologna system launched in 2006. But even prior to that, it was possible for the companies to sign a study contract with students parallel to the study programme that could include internships of various intensity and duration. There were times before the political changeover when the universities undertook to organize internships for the students at various companies simultaneously with their studies. The period of internship was laid down in a contract between the student and the company. After the political changes, companies in Hungarian ownership were busy struggling for survival, and these forms of co-operation temporarily died out. This issue was not important for the incoming multinational companies and private owners. After the transition period (1990-1996), however, there were renewed attempts at creating a tighter collaboration between the companies and higher education. The newly founded private colleges specializing in economic degree programmes were especially good at establishing an entrepreneurial sphere that would operate as an internship background for the students and would facilitate finding an employment for the graduates. The 2008 economic crisis and the successive years did not favour the operation of these colleges, and these partnerships shrank to the internship semester integrated into the undergraduate programmes in the whole of the higher education system. It was in these circumstances that the dual education appeared.

In order to promote practice-oriented education, boost the early work ethic of students, facilitate employment after graduation, become acquainted with the world of labour and implement other goals aimed at increasing the competitiveness of higher education, the new higher education strategy approved in 2014 assigned a distinguished role to dual education. The goal set by the strategy was to achieve that by 2020, 8% of the first-year students in full-time undergraduate education would take part in dual education. Not long after, this new form of education also appeared in the Higher Education Act of 2015. According to Par. 1a of Section 108 of the National Higher Education Act, “dual education: a form of education pursued in a practice-oriented bachelor programme or master programme in the fields of technology, agricultural science, natural sciences or economic sciences where the practical training prescribed in the full-time programme’s curriculum – defined according to the educational and outcome requirements, containing special provisions for the training period, the methodology of the training, the classes and the assessment of the knowledge acquired – takes place in the frameworks regulated by the Dual Education Council”.

Before going deeper into the analysis of the situation of dual education in 2016, two models exempt from government influence should be presented here, which have been running successfully for some time already. Interestingly and characteristically enough, both dual education and practice-oriented education have been implemented at two colleges in the countryside (in Kecskemét and Győr), at the manufacturing bases of the automobile industry with the aim of facilitating the training of engineers. One of them soon became the model for national-level dual education while the other has been going its own way. In order to assess the situation authentically, both models should be presented in their original form along with the model of Baden-Württemberg used as a reference point in dual education.

The solution in Győr described in the first box below has been an important step ahead for the institution, but it has not become a national standard. Neither did it become a general practice there

with its 100 graduated students per year, but it diversifies the institution's offer. It is a natural form of education in VET schools as well as in post-secondary non-tertiary vocational education and currently in secondary vocational schools that pupils spend part of their week at a company. This could be a solution in higher education, too, but as illustrated by the two examples below, it has not become widespread due to difficulties of organization and employment.

PRACTING programme in Győr

The programme aimed at the implementation of the complex system of the PRACTING practice-oriented training of engineers at Széchenyi István University was launched in autumn 1996 – with the support of the Phare Programme of the European Union – by the Faculty of Transport and Mechanical Engineering of Széchenyi István College for students attending degree programmes in mechanical engineering, transport engineering, technical management and education of engineering as a practice-oriented engineering education project. It had a double aim: first, to introduce and implement a half-year practical semester in an industrial environment, and second, technology transfer – R&D, re-training, further education – for the companies participating in the consortium. Practising students solve personalized tasks at the partner receiving them and they can also do their thesis paper there. After the half-year practical semester spent in the industry, about 90% of the participants find their first job at the place of their internship.

Over the 20 years of the programme, more than 2000 students completed their traineeship at 170 Hungarian and 30 foreign partners. As a result of the development of the programme, the students of all the degree programmes can now take part in the internship programme at Széchenyi István University. When the Phare funds were no longer available, AUDI Hungária Motor Kft., OPEL Hungary Ltd. and RÁBA Rt. set up the **PRACTING Foundation** that provided the financial foundations of the programme. The contributions of the consortium members continuously ensure the public benefit activity of the Foundation and within that, the funds for the scholarships of the participating students. In 2011, the university launched an Automobil Produktion track in the mechanical engineering programme in the framework of the pilot project of **dual education**. 8 companies receive students for one-year off-site trainings while the university helps the students acquire the curriculum of the track by e-learning materials. Source: <https://sze.practing.hu/>

The model of Kecskemét presented in the next box did well “at the exam” because in January 2016, out of the 25 students in the vehicle engineering dual education programme, 18 persons (73%) obtained their degree. On the other hand, out of the 43 students attending the traditional undergraduate programme, only 8 persons (18.6%) finished their studies within the shortest possible timeframe. In fact, that does not go to illustrate the – otherwise high – dropout rate, for the majority of the rest will, too, receive their diploma in the course of the next 1-2 semesters, but it is an indication of the fact that the dual education in itself decreases the tendency to drop out. The thesis papers prepared in the dual education are project works that have a practical relevance for the companies. Most of the graduates have been offered a job, too, but many of the dual students have pursued their studies on a master level, which proves that this kind of education does not cancel the possibilities of further education.

Dual education in Kecskemét

Mercedes-Benz (Daimler) began its production activities in the town of Kecskemét in 2011. In the same year, the necessity of the elaboration of a high-standard practice-oriented labour force training programme was recognized. They adopted a model from Germany, and in 2011 the town officials and the leadership of the College of Kecskemét went on a study tour to learn about the best practices at an institution called Duale Hochschule Baden-Württemberg (DHBW), which has been using the concept of dual education – unique also in Germany – for 40 years. Based on the German model, the College of

Kecskemét elaborated its dual education and introduced it from the academic year of 2012/2013. At the beginning, there were two big companies participating in the programme, Mercedes-Benz Manufacturing Hungary Kft. and Knorr-Bremse Fékrendszerek Kft., which received altogether 25 students from the vehicle engineering degree programme. Two years later in 2014, there were already 20 companies receiving 121 students from four degree programmes in the framework of dual education. In the academic year of 2016/2017, 235 dual students are currently studying in 7 degree programmes, and the number of partner companies has grown to 73.

In the Kecskemét model, all students attending traditional or dual education start the 13-week educational programmes of both semesters together. While traditional students go on holiday after the 5-week exam period following the study period, dual students take part in an 8-week and 16-week off-site internship/training in winter and summer, respectively, and they also take exams in the meantime. In the seventh semester, they participate in an internship and work on their thesis paper. Within the timeframes provided by the law, the companies are flexible about the time-off accorded during the exam period, and continuous work relationships are not unusual, either.

One of the basic models of dual education is run in Baden-Württemberg. The Duale Hochschule Baden-Württemberg (DHBW) model is presented in the third box below. DHBW is the first college of Germany that blends practical training with theory in an integrated manner. It was founded on 1 March 2009, and bears the title of “university of applied sciences”. Its legal predecessor, Berufsakademie-Baden-Württemberg was established on 1 October 1974, and it soon gained a prestigious reputation in Germany and around the world as the first dual education institution. About 10% of all higher education students in Baden-Württemberg attend DHBW, which makes this institution the biggest university of the province of 10.7 million inhabitants. From the total number of those studying in dual education in Germany, approximately 50% of the students attend DHBW, which shows that this is a special Baden-Württemberg model. Its uniqueness is manifested in two ways. On the one hand, it was the companies (Mercedes, Bosch, etc.) that initiated this programme: at first, they were the ones that admitted students with a secondary school leaving certificate and looked for a college for them. When they did not find any suitable candidates, they decided to support the creation of a new college network. On the other, this programme did not spread to other provinces in the same construction: i.e. no or barely any other institutions have been set up in other places that would offer this sort of purely dual education.

The practice of Duale Hochschule Baden-Württemberg

Dual education, which integrated practical training into the study programme of the higher education institution and made it continuous, emerged as a new and innovative training system in the German higher education system characterized by a network of universities and colleges. During the year, students study alternatively at the educational institution and the company site in quarterly blocks. In the beginning, on 1 October 1974, in the first year of the pilot model, 160 students began their B.A. studies at two sites (Stuttgart and Mannheim) with 50 contractual companies in two fields of study (economics and technology). The programme was initiated by big companies such as Mercedes-Benz and Bosch, which were soon joined by others. The educational profile was shortly completed by the field of social sciences as well. The number of students continued to grow, and now the partner companies and the number of educational sites cover the whole state with three campuses and nine member institutions. The following figures and features characterized the institution in 2014 on its 40th anniversary.

The centre of the training is Stuttgart; education takes place on nine campuses. The number of students was 34 thousand in 2014-2015. 141 thousand students have graduated from here since the beginning; 85% of them have found a job at a contractual partner. Currently, the programme boasts more than 9000 partner companies. Half of the 650 full-time instructors have come from the field. More than 20

undergraduate and graduate study programmes are available in the fields of economics, technology and social sciences.

The students study in a modular system, so they make maximum use of the infrastructure and the teaching staff's capacities. The fostering of *company relations* is a priority; experiences are assessed annually with the involvement of all the stakeholders, but they are in permanent contact as well. The companies report about the students. They maintain good relations with the local chamber of commerce and industry. Career planning is paramount. The IT sector differs from the rest significantly in that here only 52% of the graduates stay at the company having supported their training. *The teachers* must have corporate experience. *The curriculum* is permanently reviewed by a committee composed of corporate and higher education experts (50%-50%). Although they are mostly concerned by undergraduate education, the market competition has been pushing them to launch *master's programmes*, too, where the tuition fee is 6000 euros per semester. Undergraduate programmes are purely *state-funded*; that is, they are allocated 3000 euros of tuition fee from the state after each and every student, and they work from this budget. The companies do not take part in the financing of the institution. The students receive a 1000-euro salary on average from the company, which gives them reasonable motivation to join.

Few countries have adopted the Baden-Württemberg model. Such an example is *Singapore* where the higher education structure that evolved in 1990 is very similar to the German model. In addition to the three big universities, the National University of Singapore, Nanyang Technological University and Singapore Management University, young corporate professionals were trained by Lincoln School of Management and four technological colleges. Besides these, there was an institution primarily specialized in the vocational further education of people with a secondary school leaving exam certificate, the Institute of Technical Education, the organization in charge of vocational and industrial education, which set the Baden-Württemberg dual education model as its goal, but created a system similar to the "practicing" model of Győr. After several organizational reforms, a system composed of three campuses and six schools was established. The educational content guarantees that the graduates will get good jobs and have a successful career, but many of them decide to pursue their studies. In general, 25% of the secondary school graduates are admitted by this institution, i.e. 13,000 persons per year.

The situation of dual education on the national level and concluding remarks

The *Dual Education Council*, the President of which is an international business professional and which has the rector of the College of Kecskemét (its new name is Pallasz Athéné University) among its members, too, formulated the core principles of dual higher education in a six-page document. The latter document clearly draws on the experience of the College of Kecskemét and indirectly, the system of Baden-Württemberg. The extended *A Change of Pace in Higher Education – Medium-Term Political Strategy 2016* strategy published on 2 December 2016 still contains the 8% objective for 2020 and presents the results achieved so far as shown in *Table 7.1*:

Table 7.1 The dual education in numbers, national data

Specification /semester	2015/2016	2016/2017
Number of institutions in dual education	19	24
Field of study	4 (technology, IT, agricultural science, business and economics)	6 (technology, IT, agricultural science, business and economics, social sciences, natural sciences)
Number of programmes	30	49 (40 BSc and 9 MSc)
Number of companies	198	555
Number of open positions	n. d.	2943
Number of students admitted in the given year	440	660

Source: A Change of Pace in Higher Education – Policy Strategy 2016, Ministry of Human Capacities

In accordance with the regulations of the dual educational programme, one can find detailed information about the dual education sites for the next academic year on the www.dualisdiploma.hu website and the higher education information booklet. However, the dual educational data on the programmes to be launched in the academic year of 2017/2018 have not been fully uploaded.

The Hungarian dual education is unique in its form because regarding its concrete educational model, it has announced the Baden-Württemberg model. However, contrary to the original model, the Hungarian version is not limited to a single institution and to a lower(college)-level educational establishment, but it extends to every institution and to the bachelor programmes and the master’s programmes, equally. Although DHBW was awarded the rank of “university of applied sciences”, its image still incorporates the concept of “Berufsakademie” (vocational college), which stands for a different category even with respect to traditional colleges.

In Baden-Württemberg, the implementation of the dual education is essentially based on a corporate initiative, and it attained its 10% share gradually, over decades. In contrast to that, the universities in Hungary have to make a bigger effort to convince companies, and whether it is possible to achieve an 8% share in such short time even with the help of government incentives (e.g. HRDOP programmes for dual education development, corporate tax benefits, etc.) is highly questionable.

In the German example, the bulk of dual students work at *multinational companies*, but the latter are not so committed to this form of training in Hungary.

The introduction of dual education is extremely *resource-intensive*, and only some of the institutions can roll it out successfully. It is questionable whether it is advisable to carry on an extensive development, i.e. increase the number of institutions and study programmes, or rather, that should be regarded as a special institutional competence, which is not limited to a single institution (as opposed to the DHBW example), but is shared by several others, allowing that not every institution should strive for it.

8 Research performance in higher education

Considering the international comparison of the number of publications per capita, the situation of Hungarian science has been deteriorating. If we examine the annual number of scientific publications registered between 1996 and 2015 in the Scopus database for one million inhabitants and compare it to the corresponding data of 49 developed countries³³ (Table 8.1 and Figure 8.1), we can observe that Hungary's situation has been steadily declining since 1998. Since 2013, the number of international (Scopus) publications per one million inhabitants has hardly exceeded the half of the average of the 49 developed countries, and Hungary ranks 33rd or 34th among these countries. From the post-socialist countries, we precede only Lithuania, Romania and Bulgaria (in fact, no other EU countries are behind us) as well as Russia.

Table 8.1 The number of scientific publications per one million inhabitants, 1996-2015
(based on <http://www.scimagojr.com/>)

	Average of 49 countries (Scientific publications / million inhabitants)	Hungarian average (Scientific publications / million inhabitants)	Hungarian average / Average of 49 countries	Hungary's ranking among 49 countries
1996	654.4	425.0	65%	26
1997	699.0	460.9	66%	25
1998	707.1	513.9	73%	25
1999	662.7	488.7	74%	23
2000	740.7	535.3	72%	25
2001	737.3	508.6	69%	25
2002	780.2	538.8	69%	26
2003	901.3	598.4	66%	27
2004	982.3	648.6	66%	29
2005	1121.9	756.2	67%	29
2006	1125.8	763.3	68%	28
2007	1202.7	812.7	68%	29
2008	1360.3	880.6	65%	32
2009	1475.3	872.1	59%	32
2010	1506.5	873.2	58%	32
2011	1674.1	974.8	58%	33
2012	1779.6	1024.1	58%	32
2013	1844.8	1016.6	55%	34
2014	1871.7	1045.2	56%	33
2015	1738.7	961.7	55%	34

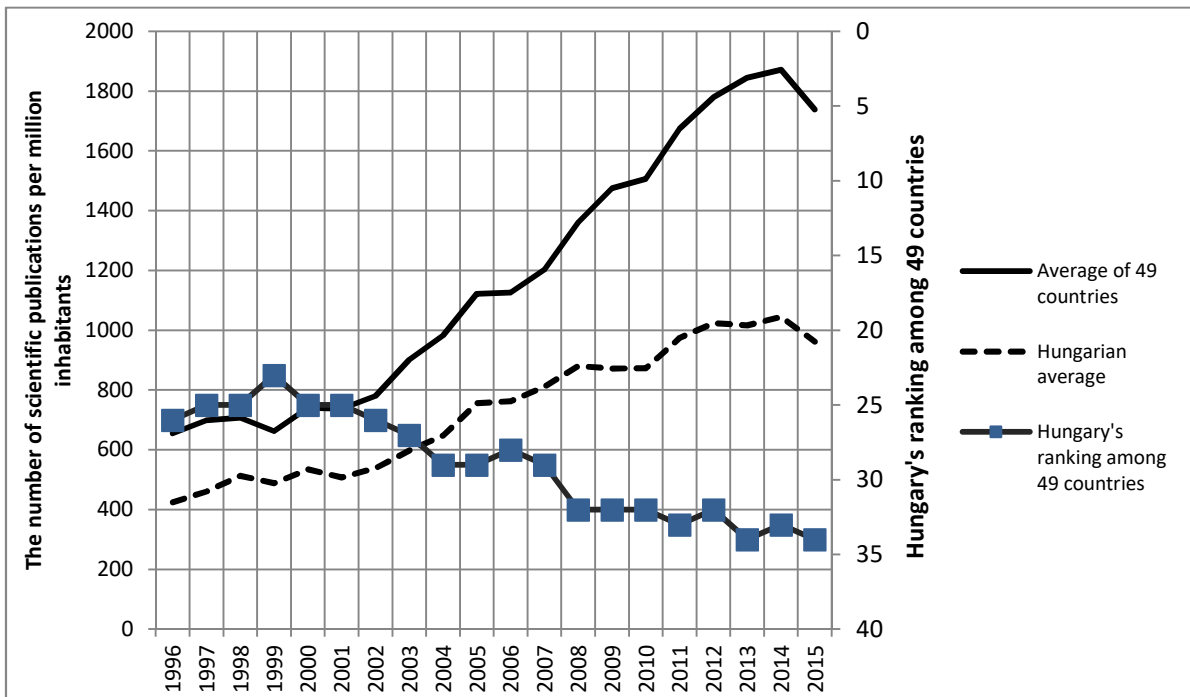
Source: own calculations.

Source of the number of publications: <http://www.scimagojr.com/countryrank.php>

Source of the number of inhabitants: <https://esa.un.org/unpd/wpp/>

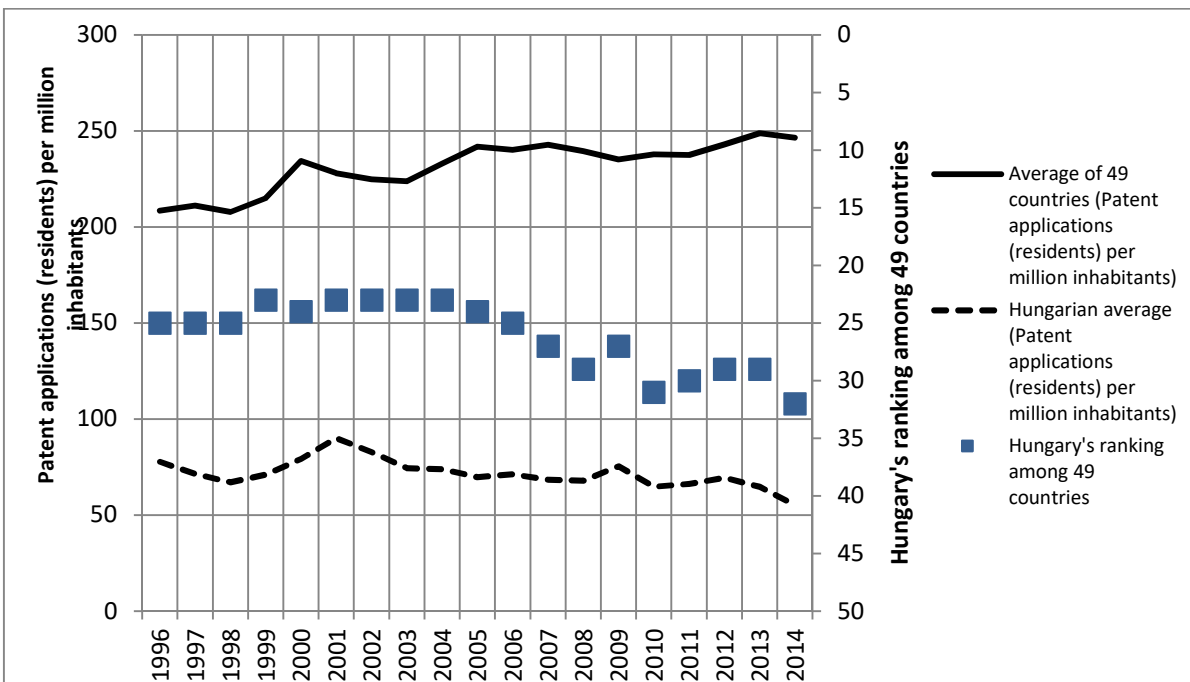
³³ Since the data at our disposal pertain to a differing number of countries in the individual years, we compared the data on the set of OECD, EU and G20 countries because we have data about each of them for every year. Due to the overlap between the individual organizations, this means 49 countries.

Figure 8.1 The number of scientific publications per million inhabitants, 1996-2015



Concerning the number of patent applications filed by residents per one million inhabitants, the situation is similar (as presented in *Figure 8.2*), the only difference being that the situation of Hungary began to deteriorate somewhat later, in the middle of the first decade of the 2000s. In 2014, we were not even in the top 30 in the ranking of the 49 developed countries. Poland and the Czech Republic preceded us by eight places, while Slovenia was twenty places ahead of us.

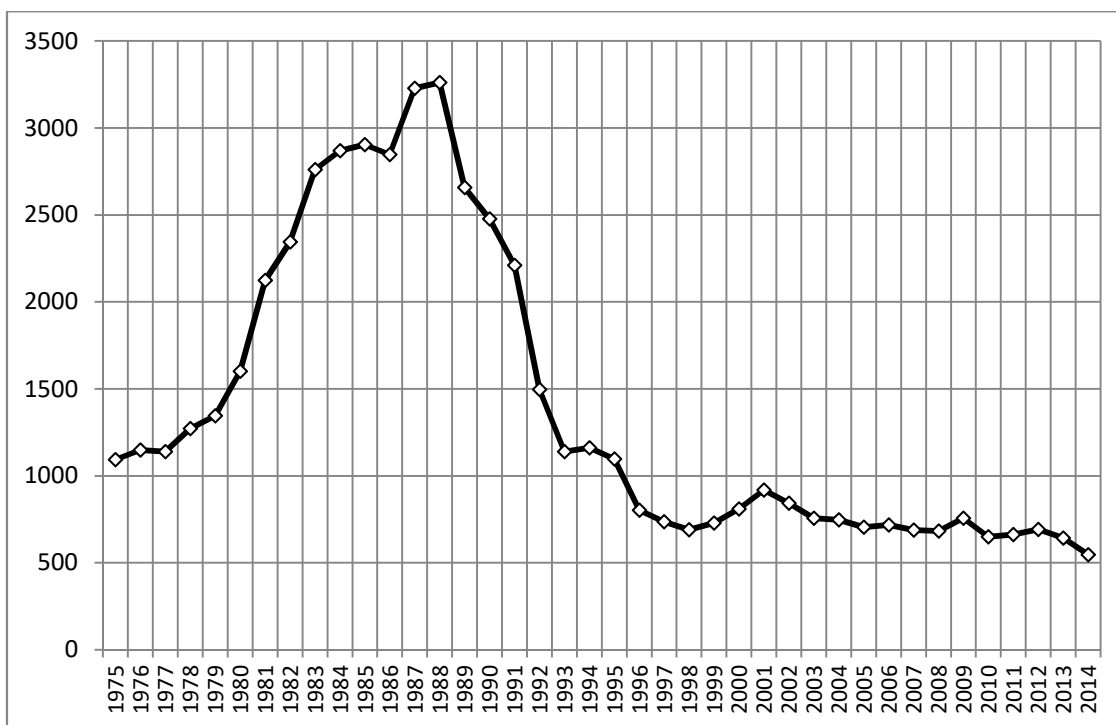
Figure 8.2 Patent applications (filed by residents) per million inhabitants 1996-2014



The trend of the Hungarian indices is similar with respect to both indicators of innovation and scientific performance. In the period preceding the political changeover and right after it, the number of patent

applications filed rose according to the graph of *Figure 8.3*, then it began to nosedive. There was a slight increase at the very beginning of the 2000s, but we have been witnessing a downturn ever since.

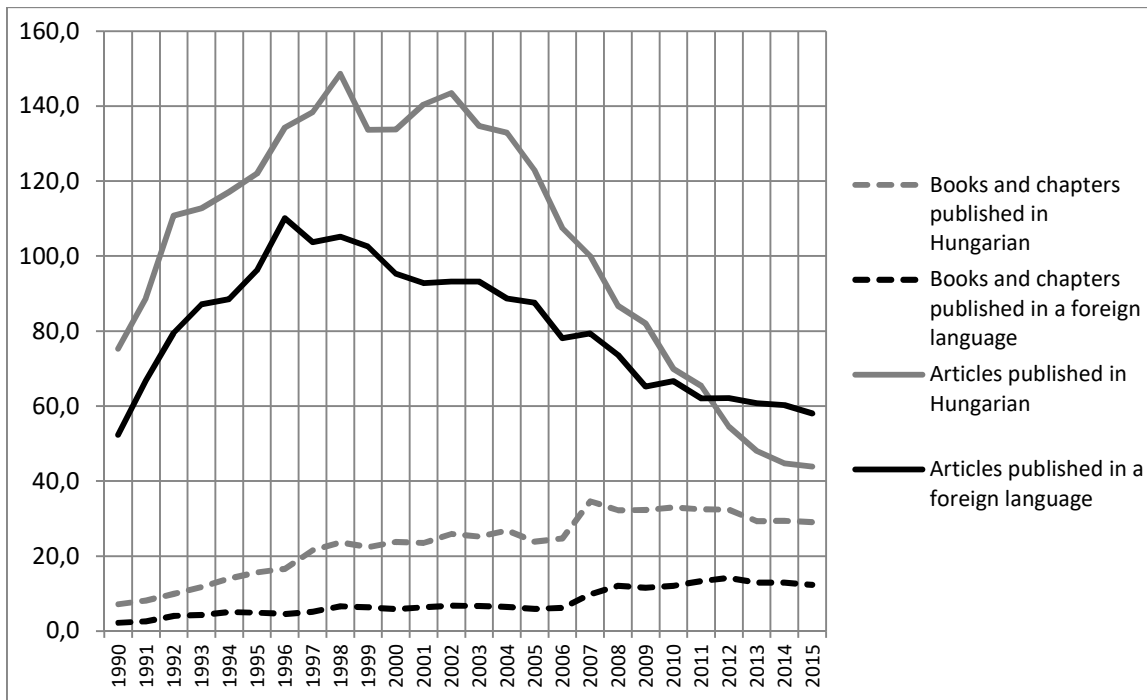
Figure 8.3 Patent applications (filed by residents) in Hungary 1975-2014



Source: <http://databank.worldbank.org/data/reports.aspx?source=2&series=IP.PAT.RESD&country=#>

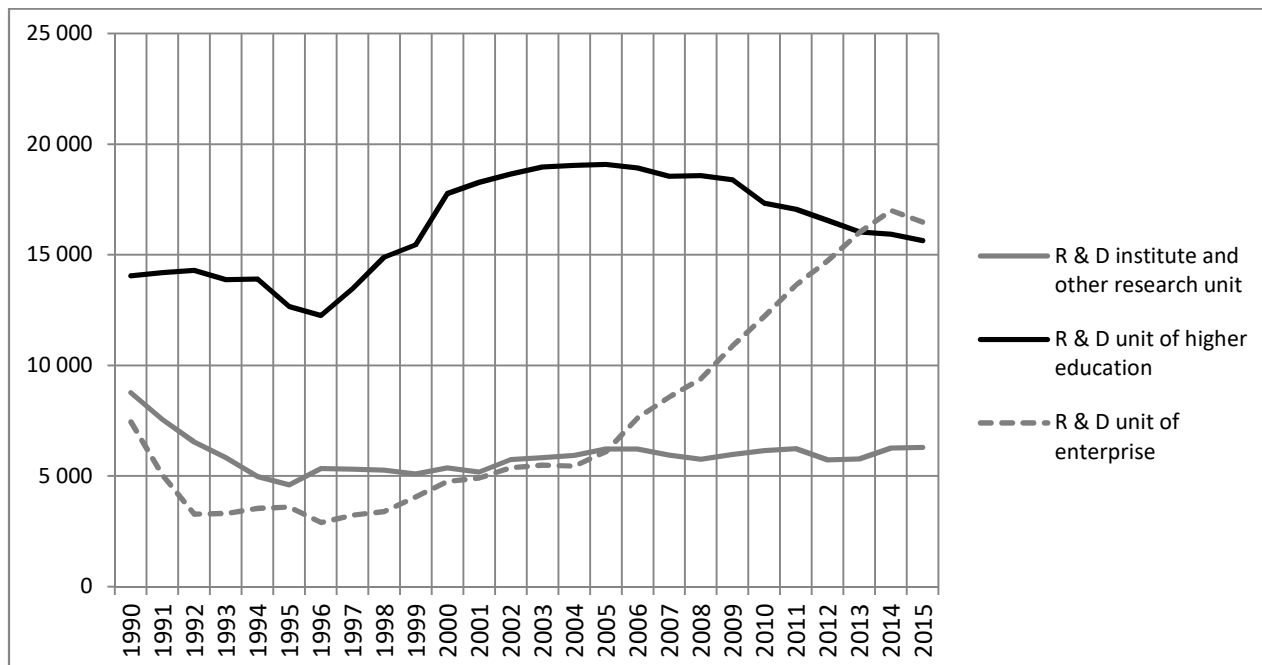
Based on the data of the Hungarian Central Statistical Office, we can also analyse the specific performance per 100 researchers. The Statistical Office tracks articles, books and book chapters published in Hungarian and in foreign languages separately. The number of scientific articles per 100 researchers is shown by *Figure 8.4*: it peaked around the turn of the century, but the number of such publications both in Hungarian and in foreign languages has been declining since then.

Figure 8.4 Scientific publications in Hungary – Quantity per 100 scientists and engineers (FTE)



These trends can be put down to the growth of the number of researchers and developers as well as to the transformation of their composition (see *Figure 8.5*):

Figure 8.5 Total R & D staff (person)



From the years following the turn of the century, the number of researchers working at corporate R&D units has tripled. At the same time, scientific publications play a lesser role in the performance at these places of research. There is a tell-tale sign of this restructuring in *Figure 8.4*: by 2015, the number of Hungarian publications per 100 researchers (FTE) dropped to 30% compared to 1998 while the number of foreign language publications was halved. As for books, we can see an increase till 2007 for both

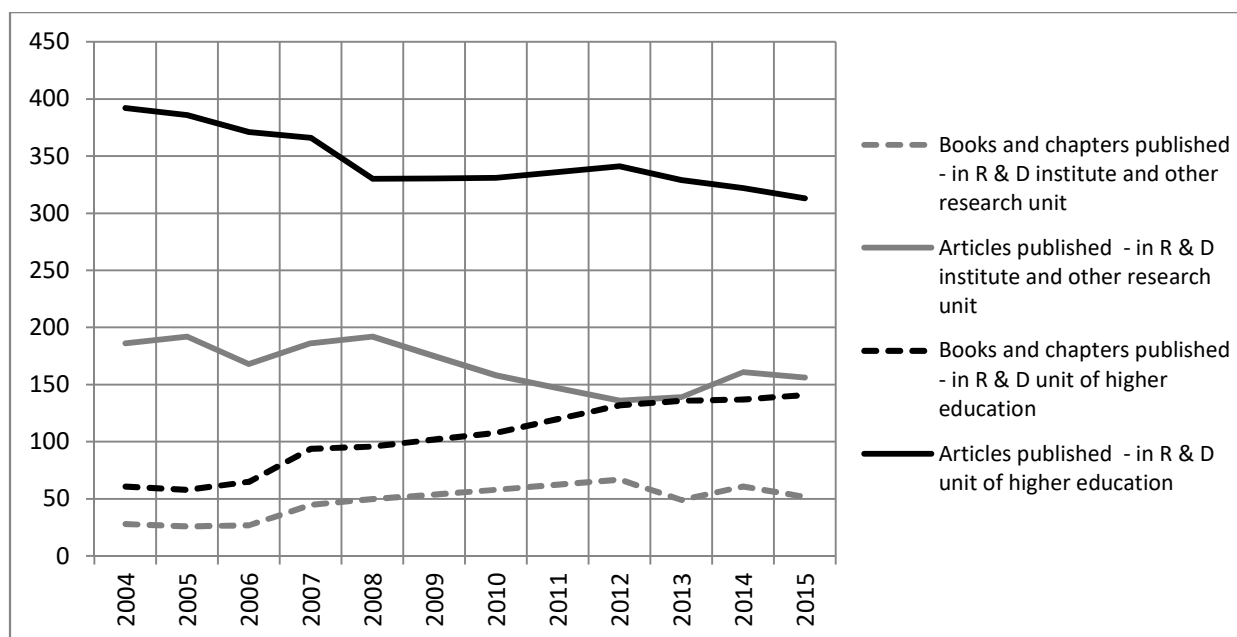
Hungarian and foreign language publications, but the number of the books published has been stagnating since then.

In *Figure 8.6*, we examine the evolution of the number of publications per 100 researchers (FTE) according to the type of research unit over the past decade. It can be seen that the number of scientific articles decreased both in R&D institutes and higher education research units, but the specific number of scientific publications is still approximately twice as big at higher education research units as in the case of the former.

At the same time, there has been a steady rise in the number of books at higher education research units while this figure seems to stagnate in the case of research institutes. Here the higher output of higher education research units is even more conspicuous (there are nearly three times as many books published per FTE instructors).

It should be added to the above that the corporate R&D units not discussed here – whose R&D staff number grew by two and half times from 2005 to 2015 and now employ the most people within the three sectors – produce a very low and decreasing publication output. That is the reason why – despite the fact that the number of foreign language publications per 100 higher education researchers (FTE) has been growing –, it has been stagnating in research institutes and declining on the whole among Hungarian researchers.

Figure 8.6 Scientific publications in Hungary – quantity per 100 scientists and engineers (FTE) – (at various research units)



The question arises repeatedly: in which discipline is Hungary the most successful? If we answer this question based on the ranking of Hungary among the 49 developed countries examined according to the number of international scientific publications in the given discipline, neuroscience and veterinary medicine are in the lead and business sciences come last.

However, we get a different picture if we examine the issue on the basis of the number of Scopus scientific publications per one million inhabitants as shown in *Figure 8.2*. In this case, materials science is number one, veterinary medicine comes second and neuroscience is ranked third. Business sciences gain in position because they precede engineering and energy.

On the whole we can declare that the performance of Hungarian sciences lags more and more behind the developed countries in terms of patent applications and publications. Upon a closer analysis of the publications, we can state that there was a restructuring in the publication of scientific results in the past decade at the higher education research units. While the number of scientific papers per capita decreased, that of foreign language articles and books augmented. At the same time, the research institutes were less affected by this kind of reshuffling.

Nevertheless, it is quite evident that these changes were not sufficient to maintain the position of Hungarian science in the international competition. There are very few disciplines (altogether three: materials science, veterinary medicine and neuroscience) where Hungary is in the top 20 among the 49 developed countries in the international comparison of scientific publications per one million inhabitants.

In conclusion, we can say that the growth of the number of internationally acclaimed foreign language publications at the Hungarian higher education research units lags substantially behind the average of the developed countries.

Table 8.2 Hungary's ranking among 49 countries according to the number of international scientific papers per one million inhabitants, 1996-2015

Sequence	Disciplines	Hungary's ranking among 49 countries	Hungary's data / average of 49 countries in the given discipline
1.	Veterinary	16	118%
2.	Neuroscience	20	95%
3.	Chemistry	25	95%
4.	Pharmacology, Toxicology, and Pharmaceutics	26	92%
5.	Mathematics	27	85%
6.	Multidisciplinary	27	61%
7.	Chemical Engineering	28	81%
8.	Biochemistry, Genetics and Molecular Biology	28	73%
9.	Decision Sciences	28	57%
10.	Agricultura and Biological Science	29	65%
11.	Psychology	29	38%
12.	Arts and Humanities	30	56%
13.	Immunolgy and Microbiology	30	54%
14.	Earth and Planetary Sciences	30	50%
15.	Social Science	30	44%
16.	Phycics and Astronomy	31	76%
17.	Medicine	31	49%
18.	Economics, Econometrics, and Finance	31	34%
19.	Material Science	33	62%
20.	Computer Science	32	54%
21.	Environmental Science	33	42%
22.	Health Professions	33	28%
23.	Nursing	33	20%
24.	Dentistry	34	23%

Sequence	Disciplines	Hungary's ranking among 49 countries	Hungary's data / average of 49 countries in the given discipline
25.	Business, Management and Accounting	35	25%
26.	Engineering	36	50%
27.	Energy	36	41%

Note: In case of a tie, the better position was assigned to the discipline in which the relation of the Hungarian data and the average of the data of the 49 countries was higher in the given discipline in percentage.

9 Student mobility and foreign students in the Hungarian higher education

In the academic year of 2016/2017, there were 28 628 foreign nationals, 9.5 percent more compared to the previous year, who pursued their tertiary studies in Hungary. This means 29 persons per 10 000 inhabitants. The strategic paper entitled *A Change of Pace in Higher Education* treats the augmentation of the number of foreign students as a priority, and sets 40 000 persons as a target to be reached by 2023, which would correspond to 40 persons per 10 000 inhabitants. The question may arise how realistic an objective that is. The intensity of international student mobility continued to grow in 2016 all over the world. For instance, the United States of America has witnessed a steady increase in the number of its foreign students for more than ten years now. Growing by 7.1% in the academic year of 2015/2016, their number surpassed the magic figure of one million, or 32 persons per 10 000 inhabitants. Naturally, this was accomplished in an entirely different economic, social and geographic context, so we mention this figure only as a reference point, and our study will focus on the Hungarian trends.

The statistics on international students traditionally distinguish between *degree mobility* and *credit mobility*. The latter include part-time studies and exchange programmes, and usually last for a semester. The biggest such programme is Erasmus, in the framework of which 4000 students go abroad and foreign students come to Hungary on a similar scale. (For a presentation of the two types of mobility, see the paper by József Berács et al.³⁴) The tables below, however, contain the aggregated data for the two types of mobility. Students pursuing their studies at the transborder educational sites of Hungarian higher education institutions and foreign students studying in Hungary in the framework of Erasmus and other mobility programmes are represented together with students striving for a degree. In FIR OSAP statistics³⁵, persons with a double Hungarian citizenship are qualified as foreign citizens if they were not born in Hungary. The figures of *Table 9.1* were prepared with the same methodology for each of the four years, so that the changes become visible. On the other hand, they can be compared with statistics from previous years only after the necessary corrections.

³⁴ József Berács, Katalin Bander, József Hubert and Gábor Nagy, "A magyar felsőoktatás nemzetközi versenyképességének néhány tényezője a globális és a regionális mobilitás tükrében," in *A felsőoktatási mobilitást akadályozó és ösztönző tényezők Magyarországon*, vol. 1 (Budapest: Tempus Közalapítvány, 2014), 5–52.

³⁵ FIR: Higher Education Information System, OSAP: National Statistical Data Collection Programme

Table 9.1 Number of students coming from the 10 largest source countries in Hungary in the past 4 years

Country	2013/14	2014/15	2015/16	2016/17	Share in 2016/2017
1. Germany	2 851	2 893	3 108	3 234	11.3%
2. Romania	2 253	1 992	1 965	2 054	7.2%
3. Serbia	1 543	1 517	1 658	1 907	6.7%
4. Slovakia	2 350	2 120	2 015	1 885	6.6%
5. China	446	725	1 158	1 574	5.5%
6. Iran	988	991	1 116	1 417	4.9%
7. Ukraine	1 169	1 080	1 105	1 193	4.2%
8. Norway	859	938	1 042	1 101	3.8%
9. Nigeria	827	936	1 070	1 031	3.6%
10. Turkey	768	829	869	968	3.4%
First 10 countries together	14 034	14 021	15 106	16 364	57.2%
Total number of foreign students	23 208	24 598	26 155	28 628	100%
Share of 10 leading countries (C10) %	60,5%	57,0%	57,8%	57,2%	

Source: own calculations based on FIR OSAP statistics.

While the number of foreign students rose steadily from year to year, we can detect a significant difference of pace concerning the constitution of those coming from the individual regions and countries. In 2013 students from 152 countries were studying in Hungary, and this figure grew to 160 by 2016. The members of the top 10 countries changed only in one respect in the course of the past four years: *China got into the top 10 in 2014, and two years later it ranked 5th already*. This a dramatic change that did not take place in the previous ten years even though it was to be anticipated judging by the international trends. The real question is whether this trend will continue in the direction indicated by the big recipient countries (USA, UK, Germany, etc.) where the most populous first place is taken by the Chinese students. The number of the students coming *from the neighbouring countries* (Romania, Slovakia, Serbia and Ukraine), which constituted half of the foreign students 10 years ago, continues to fall; it dropped by 4% over these four years though more students arrived from Serbia. Today only one quarter of the foreign students are “quasi” foreign students whose mother tongue is actually Hungarian. This also contributed to the fact that the concentration index of the first 10 countries (C10) sank from 60% to 57%. It is unfortunate that there is still a “brain drain” effect concerning transborder Hungarians, especially due to the extremely low number of exchange students and students who pursue part-time studies. As for the neighbouring countries, Austria is still an area of unexploited potential because the 158 students who come from there are far inferior to what one would expect from the balanced bilateral relations (and based on the German example).

The highest number of students (11.3%) comes from *Germany* to take part mostly in degree programmes in medical science, but Hungary receives the most students from there in the framework of the Erasmus exchange as well. This is a reliable and steadily expanding market. Although somewhat inferior to the tripling of the Chinese student numbers over four years discussed earlier, we can observe a spectacular growth in the case of *Iran*, too, where the number of students grew by 50% in the given period. In the previous decade, Iran appeared in the top 10 alternatively with *Israel*, but the flux of Israeli students ebbed in the past years. In 2013 there were 691 Israeli students studying in Hungary while in 2016, only 577. This figure is not bad in itself, considering that only four times as many Israeli students attend higher education in the United States. The last two members of the top 10, Nigeria and

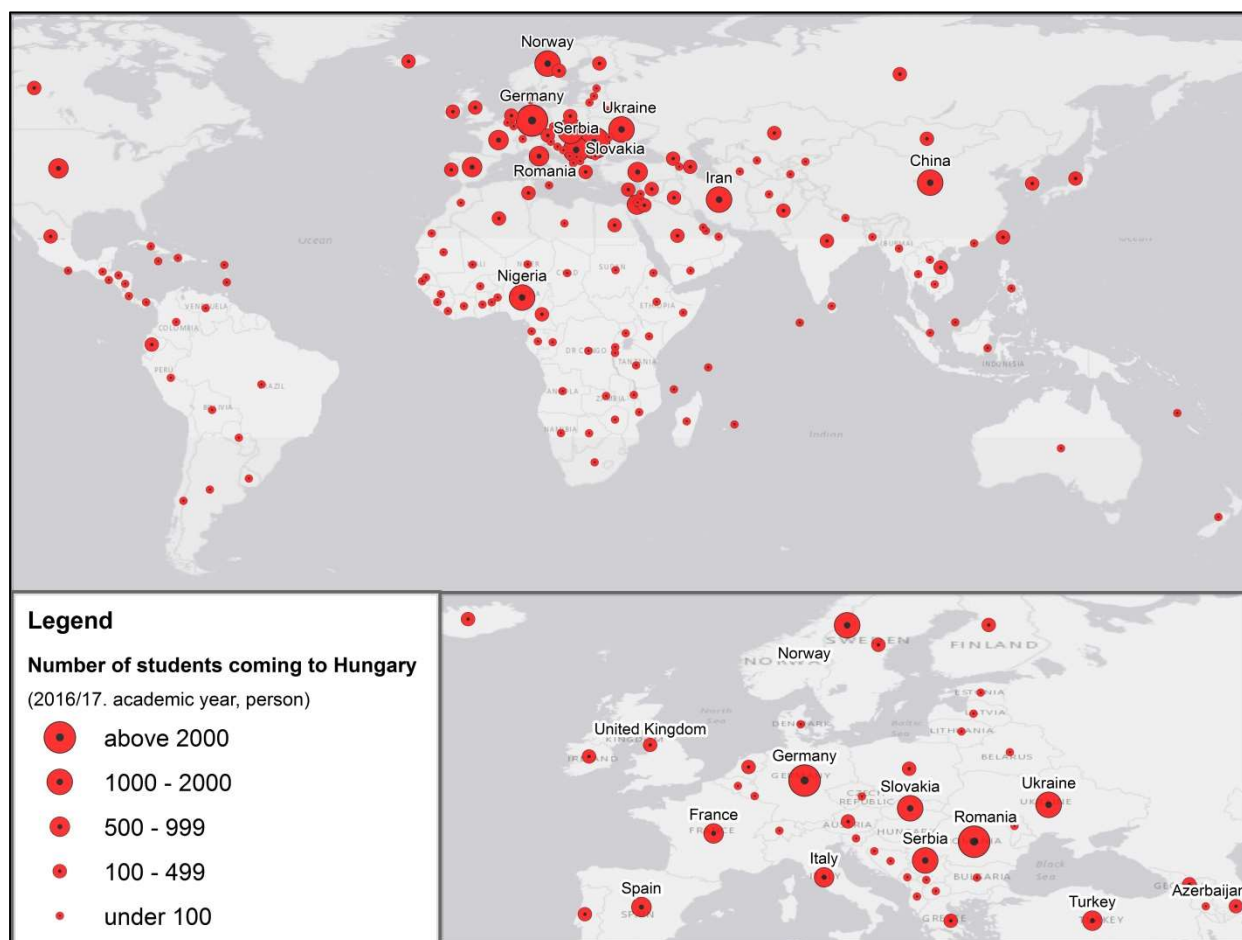
Turkey show a steady and reliable growth, but the composition of their students differs substantially. *Nigerian* students are primarily attracted by the medical training in Hungarian whereas most students from *Turkey* come to Hungary through the Erasmus exchange programme.

The first 10 countries of *Figure 9.1* were calculated on the basis of the statistics of the academic year of 2016/2017. If we had used the figures of the previous years, certain other countries – similarly to Israel – would have also appeared in the ranking. First of all, *Brazil* should be highlighted, which sent a record number of 1362 students in the academic year of 2014/2015 thanks to the “Science Without Borders” programme, which allowed it to occupy the 5th place among the nations. The only fly in the ointment was that the organizers could not place this highly successful programme on new foundations from the perspective of student mobility between the two countries, i.e. make it sustainable despite the (past and present) efforts of the Hungarian Rectors’ Conference. In 2016 there were only 52 Brazilian students studying in Hungary, nearly the same number as before the programme. From the perspective of English-language study programmes, it is essential to know how many students coming to Hungary have *English as their native language*. There are more and more students arriving from the United States, the United Kingdom and Ireland from year to year (602, 469 and 286 persons in the academic year of 2016/2017, respectively). If we also add Australia and New Zealand, there are altogether 1408 persons, or 4.9%, whose mother tongue is English, i.e. one out of every 20 foreign students.

The year of 2016 brought a turn also in the foreign strategy of the Hungarian government, when the *Stipendium Hungaricum (SH)* programme – replacing the earlier Campus Hungary programme – appeared for the first time along the exchange programmes. The programme, which was launched with 47 persons in 2013, made it possible for 1653 (mostly degree credit) students from 49 countries to study in Hungary in 2015/2016. According to estimates, *their number stood at 3000 in 2016*, and all of them were studying in a state-funded Hungarian higher education institution. The objective is to achieve that within a few years, students could apply to the SH programme in 90 countries on the basis of inter-state agreements, and their number would attain 4700. For the sake of bilateral quality assurance, the institutions had to apply for participation in the SH programme in 2016, an opportunity that they would be granted for two years (the academic years of 2017/2018 and 2018/2019) and spelled out to study programmes and a maximum number of students. The tuition fees calculated according to the fee-paying places is paid to the institutions by the Ministry of Human Capacities. The SH programme is part of the foreign policy and foreign economic policy programmes of the government as well, a symbolic event of which was the *International Alumni Reunion* organized by the Ministry in October 2016 with the involvement of the Hungarian embassies. More than 100 students having studied in Hungary and built a brilliant career in their home country reported about their experience. They welcomed the effort that would re-direct Hungary on the road taken by the country before the political changeover, when it had offered a degree scholarship to more than 3000 persons from *Vietnam*, for instance. Regrettably, the latter has not been accomplished yet, and Vietnam, which is 6th in the U.S. ranking, still occupies the 17th place in Hungary with 430 students in autumn 2016, albeit on a modestly ascending curve. This country with a population of nearly 100 million would deserve more attention due to its dynamic expansion and its economic role in South East Asia.

Hungary’s global appearance is represented in *Figure 9.1*, in which the size of the circles reflects the given categories of student numbers. It transpires even without more detailed share statistics that it is still Europe and within that, the neighbouring countries that constitute the main source of foreign students. The Far East remains only a promise. The same can be observed about Africa and South America that “flourished” just two years ago.

Figure 9.1 Number of foreign students coming to Hungary by source countries



Source: own calculations based on FIR OSAP statistics, map prepared by Ágnes Varga

In light of the international and domestic macro connections, each *Hungarian higher education institution* must come up with its own strategy. Out of the 66 higher education institutions registered in Hungary as of 1 August 2016, 64 received foreign students. Before moving on to the individual institutions and the top 10 institutions having received the most foreign students, an additional comment should be made regarding the number of *foreign students*. It is a debatable practice and amplifies the figures that the FIR OSAP statistics also incorporate some of those students who study at the transborder educational sites of Hungarian higher education institutions such as Selye János University in Komarno or Sapientia Hungarian University of Transylvania in Miercurea Ciuc. According to the same logic, but actually *reducing* the figures of the FIR OSAP statistics, those foreign students are not represented who attend the institutions of foreign universities or programmes with a foreign accreditation operating in Hungary. The most obvious example for that is Central European University (CEU): about 1200 of its 1500 students are foreign nationals, but since most of them attend programmes accredited in the U.S., only 395 persons are included in the official Hungarian statistics, i.e. the ones who are studying in programmes accredited in Hungary. That is the reason why Central European University does not appear in *Table 9.2* among the 10 biggest recipient universities, where in fact, it would occupy the 8th place in the ranking of the universities. Since 1 December 2015, 29 foreign institutions, including CEU, have been offering higher education programmes with the authorization of the Education Authority. They are not incorporated in the statistics, and we can only give a rough estimate for the number of their foreign students, which can be no more than 1300-1400.

Table 9.2 Rankings of the 10 largest source countries and the 10 largest host universities in the 2016/2017 academic year

Country	DE	SE	SZTE	PTE	ELTE	BCE	BME	ATE	SZIE	BGE	Total of universities
1 Germany	23	1 011	412	797	140	110	69	255	20	46	3 234
2 Romania	424	61	93	47	189	63	94	7	126	77	2 054
3 Serbia	11	31	1 151	113	150	22	32	1	164	12	1 907
4 Slovakia	81	99	47	41	360	87	105	7	63	58	1 885
5 China	187	22	74	328	123	282	73	0	32	90	1574
6 Iran	319	330	156	415	94	9	63	4	5	2	1 417
7 Ukraine	266	33	13	18	27	61	48	0	58	21	1 193
8 Norway	45	329	21	261	224	7	7	183	0	1	1 101
9 Nigeria	654	43	82	69	17	7	26	0	32	3	1 031
10 Turkey	152	30	89	105	97	26	70	4	35	17	968
10 countries together	2 162	1 983	2 138	2 194	1 601	674	589	461	387	329	
University total number of students	4 321	3 470	3 208	3 200	2 625	1 469	1 420	992	935	816	28 628
Share of 10 countries (C10)	50,0%	57,1%	66,6%	68,6%	61,0%	45,9%	41,5%	46,5%	41,4%	40,3%	

Source: own calculations based on FIR OSAP statistics

The title of the university receiving the highest number of foreign students was conquered by the University of Debrecen from Semmelweis University about 10 years ago, and the former has maintained its leading position ever since. With its *4321 foreign students* received in October 2016, the University of Debrecen approaches the standard of the leading universities in the west, which proves that it is possible to create an appealing environment in the countryside as well, and the town of Debrecen has played a great role in that. Several factors have paved the way for this success, but we will list only some of them. The first one is the high standards of the medical training, which is equally characteristic of the other three Hungarian universities with a medical faculty (Semmelweis University, University of Pécs, University of Szeged). Half of the medical students are foreign, and the training is provided in English and in German as well. The University of Debrecen *recruits* students *on its own*, which has proved to be an efficient marketing strategy. It has profited from the possibilities offered by the fact that the university has numerous faculties, and it could apply its *international market knowledge* acquired in the medical field to other study programmes as well. The latter is illustrated by the fact that while its concentration index for the top 10 countries is high (50%) (*Table 9.2*), the C10 index for its 10 most important countries is 61.5%. It features Israel as a new country in the 5th place (225 persons), the UK in the 7th (176 persons), Vietnam in the 8th (153) and Pakistan in the 10th (100 persons). The University of Debrecen received the most students from Nigeria (654 persons), which is 63.4% of all Nigerian students studying in Hungary.

This is a typical market niche strategy also used by other universities in other countries, but the opportunity is there for many other institutions as well. For example, 68.9% of the 286 Irish students studying in Hungary (197 persons) have chosen the *University of Veterinary Medicine of Budapest*. Owing to its *geographical proximity*, 76.3% of the 412 foreign students (312 persons) attending *Széchenyi István University* in Győr come from Slovakia. On the same analogy, it is the *University of Szeged* that received the most students from Serbia (1151 persons) while the *University of Debrecen* receives 424 persons from Romania and 266 persons from Ukraine. The *University of Pécs* receives 113 students from Serbia, which is the closest country to it. Out of the 110 foreign students attending the

University of Nyíregyháza, 84 come from Ukraine, and – presumably Hungarian speaking – students arrive from Slovakia (13 persons) and Romania (11 persons).

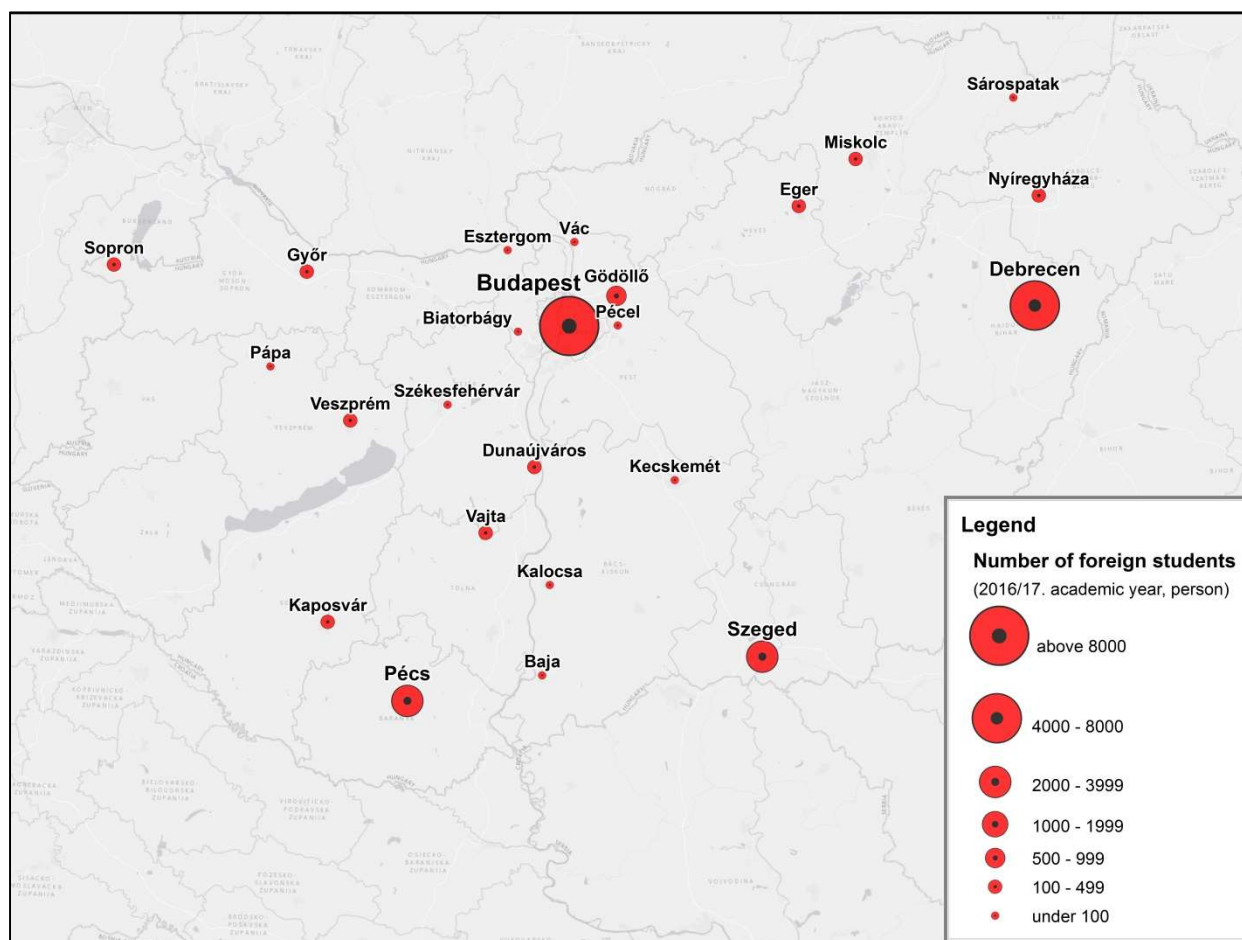
From the top 10 universities receiving the most students, 9 are state-owned universities, and Semmelweis University, placed 2nd, is followed by the big universities of the countryside, Szeged and Pécs. In Szeged, the second most populous group of foreign students – after the students from Vojvodina – is that of Germany with 412 persons. In Pécs, however, Germany is the number one source country (797 persons), followed by the two most dynamic countries, Iran (415 persons) and China (328 persons). This dynamic can be put down to *conscious university strategies*. In the case of Iran, the university with four medical faculties is a key partner. On the other hand, the case of *China* is entirely different: the 328 Chinese students of the University of Pécs and the 282 Chinese students of *Corvinus University of Budapest* (placed 2nd) attend study programmes in the fields of economics and social sciences. The Chinese market orientation of the two institutions is quite clearly indicated, for instance, by their Chinese-language website. Four years ago it was the University of Debrecen that received the most Chinese students (108 persons) and Corvinus came second thanks to its strategy going back nearly two decades. The change in this field, the advancement of the economic and management field in the fee-paying market – observed in the U.S. – is definitely a positive sign. It is also noteworthy that Corvinus is also the first in the reception of U.S. students (160 persons) in Hungary. They have deployed this strategy since the beginning of the 1990s, building on the “study abroad” programmes of American universities.

Eötvös Loránd University receives quite a large number of Norwegian students (224 persons), but it is also one of the most significant recipient of transborder Hungarians as well due to its professional competences. There were altogether 906 students studying at ELTE from Slovakia, Ukraine, Romania and Serbia, which is 34.5% of all foreign students attending the university in 2016. The *Budapest University of Technology* is ranked 8th, right after Corvinus University. Most of its foreign students come from France (128 persons), which indicates the difference of the international orientation of the engineering education and the relatively low degree of concentration. The above mentioned *University of Veterinary Medicine* has the biggest concentration among the top 10 universities as 64% of its foreign students come from three countries: Germany, Ireland and Norway. Its earlier mother institution, *Szent István University* closes the list in the 9th position with 935 foreign students, 43.9% of which come from neighbouring countries (the top four source countries at this institution).

The last among the top 10 universities is Budapest Business School (BBS), a state-owned university of applied sciences with 816 foreign students, coming before 12 state and 7 non-state universities. It is remarkable that the country that sends the most students (90 persons) to BBS is China, which is a sign of the Asian focus of the foreign trade orientation. After the big state-owned universities, there is a big vacuum in terms of foreign student numbers: there are only two non-state universities of applied sciences where their number exceeds 500. The market-based *International Business School (IBS)* and *Metropolitan University (METU)* received 678 and 650 foreign students, respectively. For them, revenues from tuition fees are important, which is also reflected by their regional specialization. At IBS the first three positions are taken by Kazakhstan (58 persons), China (52 persons) and Azerbaijan (50 persons) whereas Turkey (123 persons) and China (46) prevail at METU.

In order to boost the number of foreign students, the *universities and their home towns need to cooperate* in order to provide a liveable, attractive and multi-cultural environment that will constitute an asset for the students of the recipient institutions and the local citizens alike. From this perspective, we can say – if we take a look at *Figure 9.2* – that apart from the capital, only the towns of Debrecen, Pécs and Szeged, home to three big universities in the countryside, meet this requirement. The size of the circles is somewhat misleading in the case of Budapest because the number of foreign students living there is the multiple of those living in Debrecen (more than 13 thousand).

Table 9.2 Number of foreign students by location of the receiving institutions



Source: own calculations based on FIR OSAP statistics, map prepared by Ágnes Varga

Increasing the number of foreign students creates an opportunity to take advantage of the free capacities of the Hungarian higher education both in terms of labour force and infrastructure. Foreign students constitute a significant source of revenue, mostly in medical training at present, but they appear in business and management education as well. Contrary to the U.S., there is no methodology to take stock of these revenues on the national level. According to our rough estimate, the revenues of the universities in that area may be around 30 billion HUF, and the economic impact for the country is about 50 billion HUF. The presence of foreign students exerts a virtually non-quantifiable positive impact on the improvement of the standards and the quality of education, the amelioration of the language skills of Hungarian teachers and students and the enhancement of their international competitiveness. It can also have a positive effect on the international reputation of the country. We have no statistics available about *foreign teachers and researchers* in Hungary. Such data would also be crucial so that we would be aware of them and encourage their presence.

We could make numerous additional analyses about the foreign students according to their participation in exchange programmes, the language of education, distribution by field of study, regional distribution, rate of growth, manner of funding, recruitment expenditures on behalf of the government and the institutions and from many other aspects that could help us depict an even more sophisticated tableau of the current situation. Nonetheless, the information presented above allows us already to make some conclusions regarding the year of 2016.

All in all, it can be affirmed that the Hungarian higher education continued to become more international in 2016. The number of foreign students grew by 23% in three years, which is a promising

sign – we might be able to reach the goal of 40 000 by 2023. We can see positive examples of market-oriented country-specific strategies at some of the institutions as well as the reorganization of the agent system the initial results of which are starting to become visible, but which are faint for the moment. The successful Brazilian government programme of two years ago, which brought substantial external resources into higher education, is replaced by the Stipendium Hungaricum programme of the Hungarian government, which tries to support and improve the export capacity of the higher education institutions from internal government resources. The example of the market-based U.S. shows that the key to the long-term success of this initiative is to ensure that the institutions themselves allocate more funds for scholarships and the government ties the continuation of such support to achievements in the market.