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Characteristics of Hungarian Higher Education in an International Perspective

“... a university should be pervaded by the love of truths, and among its walls should safeguard the air of intellectual freedom without which all cultures wither away.”

Albert Szent-Györgyi

SUMMARY: In the Széll Kálmán Plan, the government made a commitment to transform the higher education system, which change is both necessary and topical. Neither a reduction in the number of state-controlled higher education institutions, nor in the number of students participating in higher education is justified. In an international comparison, the number of Hungarian state-maintained institutions is significantly below the European average; in terms of the number of state financed students per one million citizens, our lag compared both to neighbouring and to the developed countries of Europe is considerable. The proportion of higher education graduates in Hungary is below the OECD and EU-19 average. In terms of higher education expenditures, Hungary is one of the laggards among OECD countries. At the same time, government investments into higher education generate significant returns; in terms of this particular indicator, Hungary is one of the leaders of the pack. While the rate of employment in basic and secondary education is below the OECD and EU-19 average, our indicator value in higher education is average or even above average. Education directly defines the development path of a country; it is, therefore, extremely important for trends of modification to be professionally sound and to serve growth.

KEYWORDS: higher education, return, economic and social benefit

JEL CODES: I25, I21, J24

Hungarian education policy and education as a whole is facing major transformation; changes are required both in public and in higher education. The training of an intellectual, white-collar elite is a high priority task for all competitive nations. But what sort of higher education does the state need and how large should it be? In order to be able to answer this question, we should first think about the role to be assumed

by the state. Since a qualified workforce serves to implement and accomplish the economic and social policy objectives of current government, the state is forced to intervene in the control and organisation of education in several areas. It must assume a role in defining the main directions of education policy, assign the required tools and create the legislative frameworks. From an economic aspect, on the one hand the state provides institutional frameworks (maintains buildings, employs teachers, etc.), and on the other hand creates the necessary conditions for those participating in education (college

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room and board, scholarships, etc.). The state does this because in exchange it expects some sort of return from tax-paying citizens.

Participants in higher education form a unique community of interest, in which the ultimate goal of participants is to conclude a ‘deal beneficial for all’. The ‘result’ largely depends on the participants in education using and utilising the acquired knowledge as much as possible. In order to accomplish successful cooperation, competitive, modern knowledge is required that can be utilised well on the labour market, knowledge that can only be created by a modern system of education.

THE PRESENT OF HIGHER EDUCATION

At the turn of the millennium, we witnessed the significant role higher education played in socio-economic development; however, a few years later — in practically all countries of the world — we were faced with a crisis of higher education (Kadocsa, 2002).

Today, Hungarian higher education — by adopting and implementing Act CCIV of 2011 on National Higher Education — is facing significant transformation which will fundamentally alter the operation of universities and colleges, with respect to both core activities and economic management ensuring the implementation of said activities.

In terms of core activities, the new challenges not only raise the issue of the role and mission of higher education, but make it necessary for education policy to review and rethink these issues, and define new tasks in connection with education, research and other services. In the interest of the renewal and development of higher education — which is essential to avoid permanently falling behind — development priorities must be defined for the future as well as the most important tasks that support the implementation of these priorities.

The success of Hungarian higher education reform is fundamentally influenced by the answers given to questions which often arise today in connection with higher education, and responding to which is unavoidable before setting new directions.

Is there any point in comparing mass education that is of a generally lower level with elite education which concerns fewer people, but provides higher-quality knowledge? Can the poorer classes be displaced from higher education? Is this worth doing? Do we really need so many educated people? Does higher education cost a lot? Is the theory of human capital¹ true? Is education worth investing in? Does education accelerate economic development? Are our qualified degree-holders competitive, and if not, what should be done to change this?

The aim of our study is to find objective answers through situation analysis to questions of fundamental importance that arise so often nowadays, while also examining a few characteristics of Hungarian higher education in an international comparison.

THE INSTITUTIONAL SYSTEM OF HUNGARIAN HIGHER EDUCATION

The institution of university has undergone significant changes since its birth in the Middle Ages. For centuries, the very first universities² were institutions of elite training; in these ‘ivory towers’, knowledgeable, excellent teachers taught a handful of youth belonging to society’s elite, who wished to learn. The social, economic and political changes of the 19th and 20th centuries, accompanied by the challenges of globalisation, made it necessary to make higher-level education more general, to be accessible to a wider range of social classes. As times changed, so did perceptions of universities, as well as their mission and roles within society; however, in the middle of any storm,

universities were always able to revive and renew themselves (Barakonyi, 2004).

In the West and in Hungary it was thirty-fourty years ago and in recent years, respectively, when it was decided that the transition of higher education from elite to mass training is unavoidable. Worldwide more and more people want to study and learn, and no government in developed countries would dare impede this. *“We are living in the age of the knowledge super-market as greater and greater masses want to consume it, however, differently and different things than before”* (Lukács, 2002).

One of the major revamps of the institutional system of Hungarian higher education is linked to the independent Higher Education Act of 1993, which, besides state-controlled institutions, also allowed non-state controlled (religious) higher education institutions to introduce and launch secular departments. As of this point onward, the number of state-con-

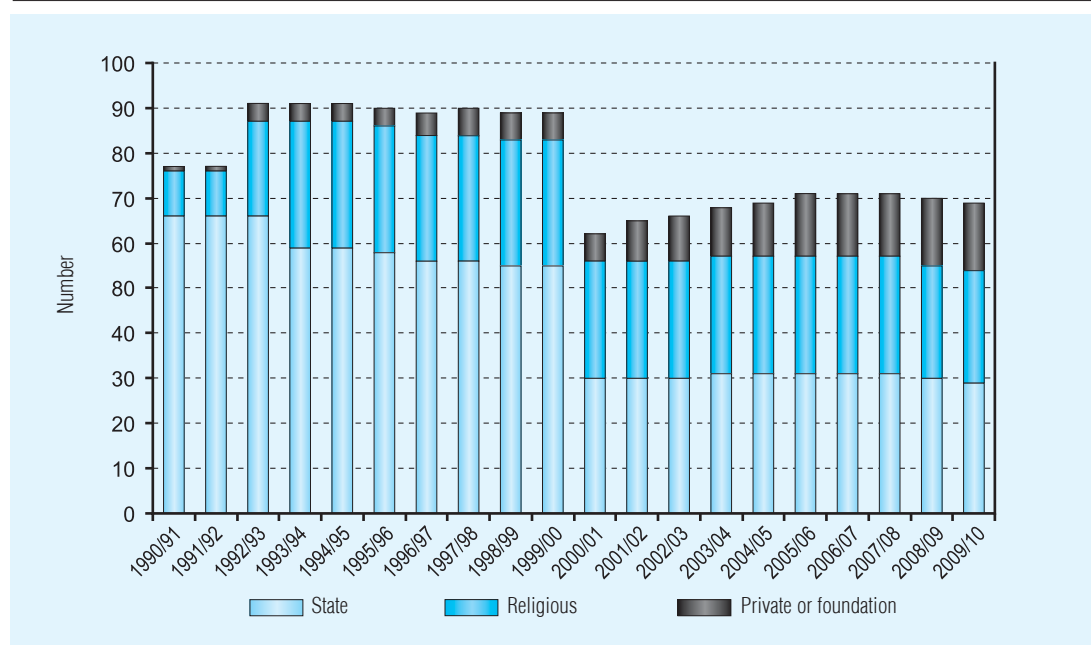
trolled higher education institutions decreased, albeit at a modest rate. The root cause of the drop, however, was not the termination of institutions, but rather their integration. The number of church-run institutions had already tripled by 1993, while the number of privately and foundation-maintained institutions is still on the rise (*see Chart 1*).

In 2000, as a result of the government measures taken to restructure the fragmented higher education institutional system, the number of state higher education institutions dropped by nearly fifty per cent.³ The intention, which primarily targeted the objective of a more cost-efficient higher education, produced ‘sham results’, as even though the number of higher education institutions decreased, no institutions were closed down.

Today there are 69 higher education institutions in Hungary, including 18 universities and 11 colleges maintained by the state, while the

Chart 1

CHANGES IN THE NUMBER OF HIGHER EDUCATION INSTITUTIONS ACCORDING TO MAINTAINERS, 1990–2009



Source: Authors' own editing based on NEFMI (Ministry of National Resources) statistics (<http://www.nefmi.gov.hu/miniszterium/statisztika>)

rest are maintained privately or by foundations and churches. Recently, voices echoing the sentiment that there are too many higher education institutions in Hungary have intensified. But is this really the case?

The international study of the number of higher education institutions is no easy task in itself, as this is not an OECD indicator. The ratio of state-maintained higher education institutions in the average of 29 European countries is 63 per cent, while this value in Hungary is 45 per cent, i.e. the ratio of state-maintained institutions is far below the European average.⁴

By comparing the absolute and relative (per 1 million residents) indicators of Norway and Austria⁵, two countries with smaller populations than Hungary, the Czech Republic which has a population roughly equal in size, Poland with a population four times larger than that of Hungary, and Germany which is a leader in Europe in a number of fields, we can make the following observations. In 2008, in Hungary there were 31 state-controlled higher education institutions, 38 in Norway, 42 in Austria, 130 in Poland, 142 in the Czech Republic and 234 in Germany. The numbers of higher education institutions per 1 million people in Germany, Hungary, Poland, Austria, Norway and the Czech Republic are 2.8, 3.1, 3.4, 5.1, 8.0 and 13.9, respectively. These numbers clearly indicate that the number of state-controlled higher education institutions in Hungary is not outstanding either in absolute, or in relative values compared to the European countries mentioned above.

STUDENT NUMBERS

At the turn of the 20th century, there were approximately 10 000 students in university education in Hungary, and by the sixties, this number increased by four and a half times. The

economic development of the 1960's–1970's allowed more and more people to take part in higher-level training, and from the seventies on, the number of people with degrees also increased gradually and significantly. The concept of the 'knowledge-based society' has become the focus of the social and cultural strategies of developing and developed countries as well as supranational organisations.

By the second half of the eighties, the growth in student numbers began to stagnate, with the next radical change occurring after the regime change. The most obvious change in our higher education — examining various data from the last 20 years — is the expansion of student numbers. The number of students in higher education⁶ almost quadrupled from 1990 to 2005, and recent times in both OECD and EU-19⁷ countries were characterised by a strong upturn in student numbers. In Hungary, in recent years the number of students is showing a downward trend compared to peak data in the 2005/2006 academic year, and based on demographic data this is expected to continue (*see Chart 2*).

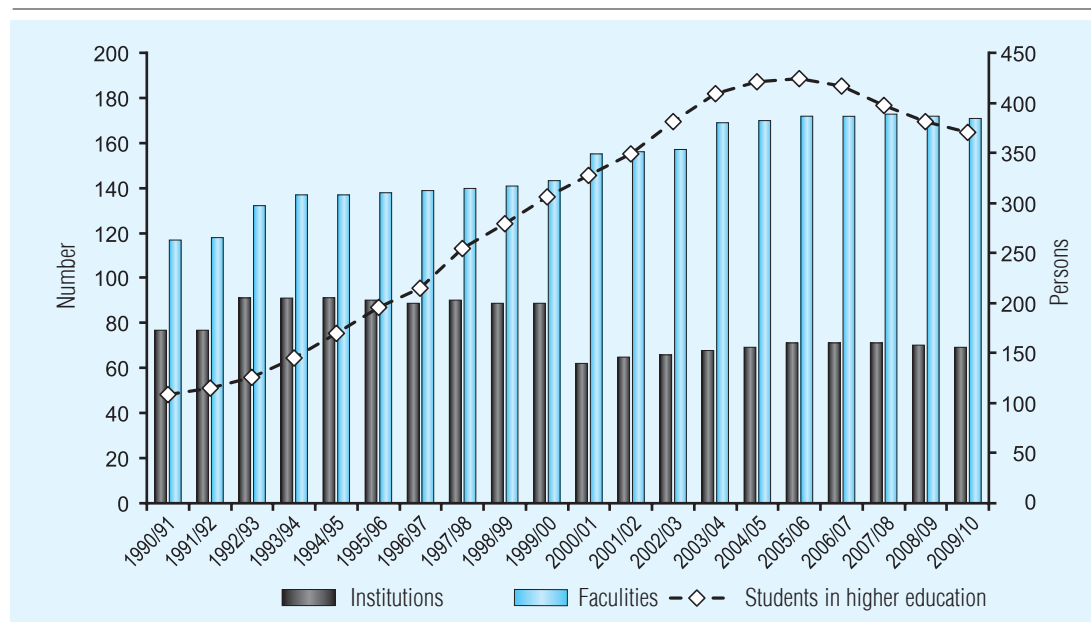
In the 2009/2010 academic year, there was a total of 370 331 students in Hungarian higher education institutions, of which 320 919 (89.7 per cent of all students) studied at one of the 29 state-controlled institutions. Recently, voices calling for the reduction of the number of students in higher education have intensified. But is it really expedient to reduce the number of higher education graduates?

Based on 2008 data, with respect to the number of state financed students per 1 million citizens (21 324 students), we are behind each of the countries examined. In Germany, the number of state financed students per 1 million citizens is 24 639; the same figures in Austria, the Czech Republic, Poland and Norway are 28 974, 33 211, 37 970 and 38 409, respectively.

Summing up the European countries until the Eastern border of the EU, the number of

Chart 2

NUMBER OF STUDENTS, INSTITUTIONS AND FACULTIES OF HIGHER EDUCATION INSTITUTIONS, 1990–2010



Source: Authors' own editing based on NEFMI (Ministry of National Resources) statistics (<http://www.nefmi.gov.hu/minizsterium/statisztika>)

state-controlled higher education institutions per 1 million residents is 5.7 and the number of students is 34 thousand.

In 2008 in Hungary, 19 per cent of the adult population had completed studies in higher education, while 61 per cent of the same age group had secondary and 20 per cent had basic qualifications. As of 1997, the number of people with higher education degrees in Hungary increased steadily, at a rate exceeding that of OECD and EU-19 averages. In the OECD average, in 2008 29 per cent of the adult population had completed studies in higher education, 44 per cent in secondary and 28 per cent in basic education institutions (see Table 1).

Highlighting higher-level education, we can observe that in Hungary, the ratio of those graduating from higher education in the 25-64 age group — in spite of the increase over recent years — falls short not only of the OECD average, but of the EU-19 average as well. Until 2006, examining schooling trends in higher

education seemed to paint a hopeful picture, due to a sharp increase in the number of enrolling students, the number of graduates also increased significantly. Taking into account that from 2006 the number of enrolled students has been steadily dropping, as well as the fact that based on the Széll Kálmán Plan a further decrease in student numbers is expected, it is plausible that in the future the ratio of higher education degree holders in our adult population will be significantly lower than the OECD and EU-19 average.

The needs of knowledge-based society⁸ and the challenges of globalisation represent the greatest challenges to university education, and this has manifested itself in the expansion of higher education. In developed countries, the number of people participating in higher education has been steadily increasing since the nineteen sixties and nineteen seventies. We have seen cases where this growth temporarily came to a halt in certain countries, but at no

EDUCATION AND TRAINING LEVEL TENDENCIES IN THE 25–64 AGE GROUP (1997–2008)

(data given as %)

Name	Level of education	1997	1998	2000	2005	2006	2007	2008	Average annual growth rate, 2008–1998
Hungary	Basic	37	37	31	24	22	21	20	–5.8
	Secondary	51	50	55	59	60	61	61	1.9
	Higher education	12	13	14	17	18	18	19	3.8
OECD average	Basic	36	37	36	31	30	30	29	–3.1
	Secondary	43	42	42	44	44	44	44	0.9
	Higher education	21	21	22	26	27	27	28	3.4
EU-19	Basic	36	38	37	30	29	29	28	–3.3
	Secondary	46	44	44	46	47	47	47	1.2
	Higher education	18	19	19	24	24	25	25	3.5

Source: OECD, Education at a Glance, 2010

point did it regress. In 2008 in Hungary, the number of students enrolling in higher education was 65 per cent of secondary school graduates, which may correspond to the regional average, but falls short of the 70 per cent average of Western states (Molnár, 2011). Comparing ourselves to OECD and EU-19 countries, and taking into account efforts aimed at the nation's competitiveness, neither a reduction in the number of state-controlled higher education institutions, nor in the number of students participating in higher education seems justified (Bazsa, 2011). Knowledge — as a tool and a goal — is the foundation of the development of education. The greater the knowledge, the greater the development that can be achieved (McMahon, 2002).

THE STRUCTURE OF EDUCATION, THE 'VALUE' OF A DEGREE

The task of education policy is to make sure available resources are utilised in a manner that is best for the economy. In order to achieve this, labour market feedback must also be taken into account and aligned with training capacities.

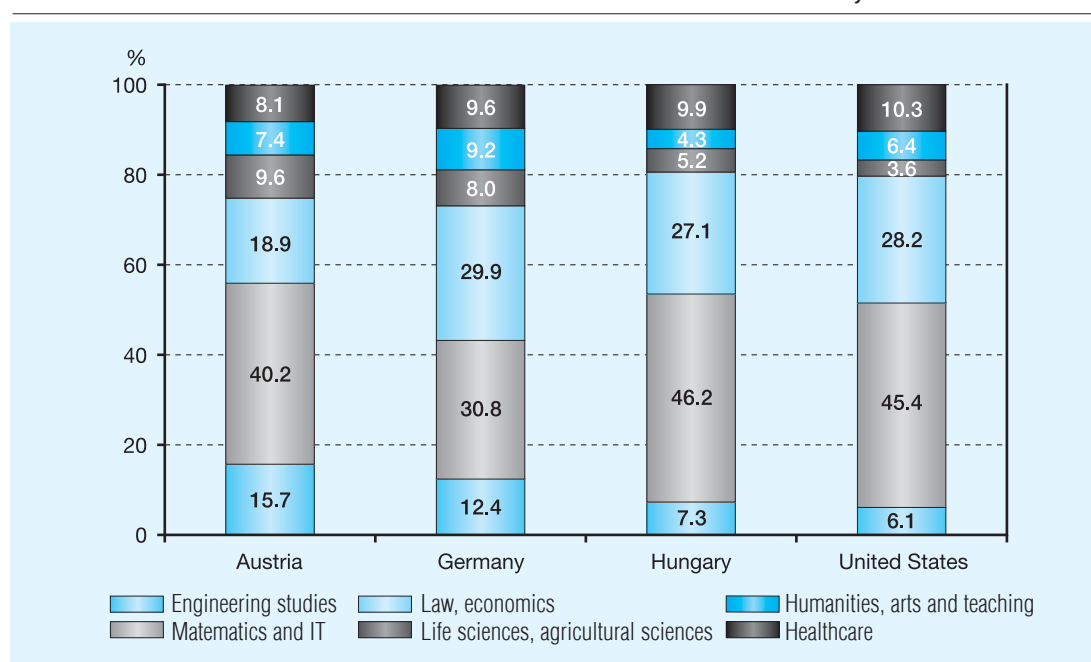
“The state wastes tens of billions of forints every year due to the fact that the structure of higher education is not aligned with labour market expectations. If technical training continues to wither away, the future workforce of the processing industry could dry up. In the business sector, demand has increased for people with technical qualifications and degrees, but in spite of this fact, higher education is expanding in a ‘human direction’ and fails to react to market needs, or if it does react, it does so very slowly.” (Széll Kálmán Plan)

In the period of the regime change, in Hungarian higher education 37 per cent of students studied to be teachers, while 20 per cent participated in technical studies, 10 per cent in healthcare, another 10 per cent in economics, and 4–5 per cent in the fields of law, social sciences and agriculture. The following changes were realised by 2009 per training field (see Chart 3).

The plurality of students (24.1 per cent) studies in economics. Over the last two decades, the number of students in this particular field has multiplied eight-fold. The ‘popularity’ of the aforementioned field has been on the decline since 2006, with a change of –17 per cent in four years.

Chart 3

EDUCATIONAL STRUCTURE IN CERTAIN OECD COUNTRIES, 2008



Source: OECD, Education at a Glance, 2010

In 2009, 15.8 per cent of students studied in technical fields. By 2009, the number of such students exceeded 2005 values, i.e. topped 50 000 students.

The ‘biggest loser’ of the last 20 years was teacher training. While in 1990, close to 40 per cent of students studied in this particular field, by 2009 this value fell below 7 per cent.

In 1990, 1.6 per cent of students studied natural sciences, while today this value stands at 3.7 per cent.

Chart 3 compares the structure of the Hungarian education system with that of Austria, Germany and the USA. In Hungary, law and economics education is much more significant than in the other two European countries; however, at the same time Hungary falls short of Austrian and German indicators in terms of engineering, mathematics, IT, life sciences and agricultural education.

The structure of education has changed significantly over the last 10 years. As labour mar-

ket demand increased for people with higher-level qualifications, institutions strived to change available training selection — in both theoretical and practical fields — accordingly. In theory, practical training is adapted to labour market needs⁹, which unavoidably keep changing as a result of constant technological development and globalisation processes. In order for higher education to keep up with the demands of the market¹⁰, newer and newer departments must be accredited. Development and the need to meet market demands make the reform of higher education training fields a necessity; however, in the course of this reform, taking the country’s possibilities and its breakout features into account is essential. On the first hand, fields where progress is required must be taken into account, such as for instance “*In order to develop high added-value industries (healthcare, high-tech, innovation, R+D, green economy), natural science and engineering training and education must be*

strengthened in Hungary.” (Széll Kálmán Plan). On the other hand, the problem of over-training must also be resolved. It would be interesting for higher education (finally) to develop an education development strategy plan that also builds on Hungarian values and at the same time exploits its opportunities. The world around us has changed; we need competitive higher education, and if higher education is becoming increasingly industrialised worldwide we need to adapt. Today, Hungarian higher education is still in a phase of transition; it has turned into education for the masses, but still operates in an undefined ‘semi-market’ system, where habitual customs are as equally important and determining as the need to meet global market demands (Lukács, 2002).

THE RESULTS OF HIGHER EDUCATION

According to arguments for and against the support and utilisation of higher education, both the state and participants of higher education have a significant stake in ensuring that the ratio of highly qualified higher education graduates be as high as possible.

According to *Freidmann* (1996), the state must spend money on higher education, because significant public benefit is generated through education. From the state’s point of view, what these public benefits are and whether the investment into higher education generates returns are fundamental questions. The role of training and education in economic development is best explained by *Schultz’s* (1983) theory of human capital. The theory states that human capital is comparable to an investment, which is the end result of a costly and time-consuming process. Human capital contributes equally to workforce productivity and entrepreneurial skill. If a student acquires a higher education degree, this represents direct financial benefit both for the state and the

employee. For the state, in exchange for the period lost, the benefits are accompanied by higher productivity, higher tax revenue and higher consumption. Well-trained workforces are more flexible, easier to retrain, and are more easily employed in new fields, which means potential state transfer payments could be reduced. For employees, higher education levels ensure better job opportunities, higher wages, which in turn induce higher savings. Employee mobility increases, employees find it easier to secure employment in other professions and are less affected by the changes in labour market demands.

Higher-level qualifications are accompanied by indirect financial gains, which may be more intangible than direct gains; however, their existence is undeniable. The state can perceive the indirect benefits of higher education through greater social mobility, lower crime rates, more charitable manifestations, better adaptation of new technologies and understanding of social diversity. The indirect benefits of the private sector may be better working conditions, higher social status and level of satisfaction, better health and longer life-span, more hobby and recreational activities as well as self-realisation (Vossenteyn, 2004).

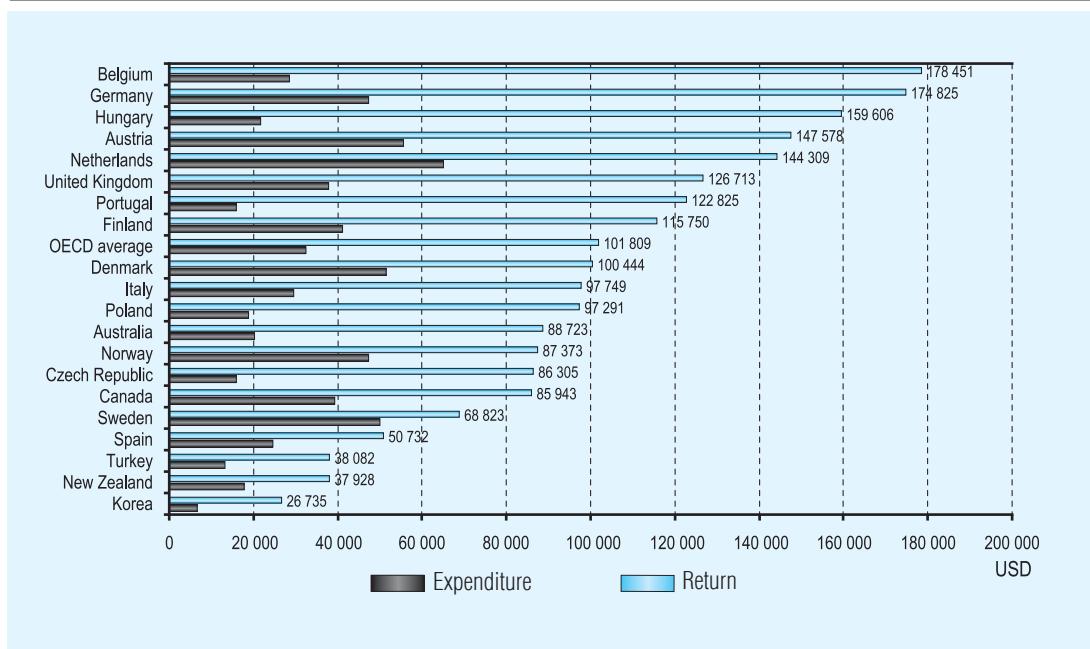
The examination and quantification of indicators related to direct and indirect social benefits of higher education is no easy task, and as such their concretisation is also difficult.

THE TOTAL ECONOMIC RESULT OF HIGHER EDUCATION

Based on OECD data, in terms of returns on state resources invested into higher education, Hungary is among the leaders of the pack¹¹, as returns are 1.6 times the OECD average; while our expenditures are significantly lower (see *Chart 4*).

Chart 4

STATE RESOURCES INVESTED INTO HIGHER EDUCATION AND THE RATES OF RETURN IN OECD MEMBER COUNTRIES¹², 2006



Source: Authors' own editing based on 2010 data of OECD Education at a Glance

In Hungary, higher-level education generates greater benefits for society than lower-level education, and at the same time produces the best return rates among training and education types.

The impact of education expenditures in the economy is only felt much later, in 15-20 years time. This is why it is of the utmost importance how much we invest in education today. How much should the state spend on higher education?

Answering this question is difficult, but not impossible. If the role of the state and its expectations towards higher education are precisely defined and if requirements are clear, building on available databases and using the tools of modern IT, our higher education institutions could tell us 'what' they need and require in order to perform their tasks. In turn, the data supported by facts could act as an objective basis for debate for and against.

ECONOMIC GROWTH – AS THE MOST SIGNIFICANT ACHIEVEMENT OF HIGHER EDUCATION

For the state, the most important achievement of education manifests itself as economic growth. The most widely used and accepted indicator to measure the size and aggregate performance of an economy is the gross domestic product (GDP), which is an indicator expressing the size and volume of a given country's annual production and services.

OECD-examinations highlight the fact that there is a significant correlation between economic development levels and expenditure on education. The correlation coefficient between basic and secondary-level training and education and economic development is 0.83 and 0.88 respectively, which indicates a strong connection between the criteria. In higher level training, a moderately strong ($r^2=0.6254$) cor-

PER CAPITA GDP AND PER CAPITA EXPENDITURE PER STUDENT IN HIGHER EDUCATION, 2007



Source: Authors' own editing based on 2010 data of OECD Education at a Glance

relation is exhibited between per capita GDP and expenditure (see Chart 5).

It is a fact that countries that spend more on higher education have greater per capita GDPs, i.e. have more developed economies.

TAX REVENUE RESULTS

In order to determine the utility of higher education, it is expedient to compare expenditures with revenues. In the case of people with university or college degrees, by expenditure we mean the costs of training and education themselves, as well as the tax and contribution revenue losses suffered by the state during the training period. In contrast, by revenue we mean the excess tax citizens pay during their lifetime.¹³

In 2008, average gross wage among white-collar workers was HUF 274 866 per month,

while average net wage was HUF 157 163. This means that on average on a monthly level, a white-collar worker paid HUF 117 703 into the budget, which on an annual basis meant HUF 1 412 436 revenue per person for the state. Among blue-collar workers, gross wages were HUF 130 823, while net wages were HUF 90 940, i.e. on average a blue-collar worker paid HUF 39 883 in taxes into the budget every month, which on an annual basis meant HUF 478 596. Summing up, we can conclude that people with university or college degrees contributed HUF 77 820 excess tax to state expenditures every month. If we assume that an employee works on average for 34 years¹⁴, then a white-collar worker pays HUF 26.5 million more in taxes during this period.

From the state's perspective, education expenditures are made up of three main components. First of all, it spends money on the maintenance of institutions; secondly it con-

tributes to living expenses of students; and thirdly tax revenues lost during the higher education period are also considered expenditures. In Hungary in 2008, on average the state spent HUF 960 000 on a student, which means that the average training costs of a degree-holder amounted to HUF 3 888 million¹⁵. Average tax revenue lost during the training period was approximately HUF 5.720 million. Total cost amounts to approximately HUF 9.700 million, with HUF 26.5 million paid in excess tax on the other end.

Examining the time series of the average monthly tax and contribution payments of white and blue collar workers, we can conclude that compared to 2001, the tax payments of white-collar workers (103.3 per cent) are increasing at a higher rate than those of blue-collar workers (67.3 per cent) (see Table 2).

These calculations are of an approximate nature¹⁶; we did not take into account the fact that these revenues and expenditures should be calculated to present value. The model described simply points out that investing into education makes sense from an economic aspect as well.

LABOUR MARKET RESULT

A fundamental component of economic growth is for a trained workforce to be available on the labour market in appropriate quantities.

Human capital has long been considered a main instrument of battling unemployment and low wages, yet the new higher education act that is being prepared at the moment outlines a decrease of student numbers with respect to both state-financed and tuition fee based training. *“The state plays a pivotal role in maintaining the currently fragmented institution system that serves the above structure; however, this generates a considerable fiscal burden. The effectiveness and efficiency of the state’s role can be improved by reducing the number of state-financed students and modifying internal structure.”* (Széll Kálmán Plan)

It is a fact that the situation of fresh graduates entering the labour market is uncertain, as employers do not know what to expect of those exiting this new training and education system (Berde, 2006). It is also true that around the turn of the millennium, we were once already faced with the fact that finding employment for fresh graduates of higher education has become more difficult, as well as the fact that those with higher level academic qualifications are less prone to unemployment and, examining training levels, this is where the unemployment rate is the lowest.

The analysis of the development of the unemployment rate between 1997–2008 calls attention to a very important fact. While in the average of OECD and EU-19 countries the unemployment rate is dropping at all training

Table 2

THE AMOUNT AND CHANGE OF THE AVERAGE MONTHLY TAX AND CONTRIBUTION PAYMENTS OF WHITE AND BLUE-COLLAR WORKERS, 2001–2008

(2001=100)

Name	2001	2002	2003	2004	2005	2006	2007	2008
White-collar HUF	57,887	68,187	77,536	82,075	88,252	95,251	108,699	117,703
per cent	100	117.8	133.9	141.8	152.5	164.5	187.8	203.3
Blue-collar HUF	23,833	26,270	24,681	25,877	26,656	30,027	37,188	39,883
per cent	100	110.2	103.6	108.6	111.8	126.0	156.0	167.3

Source: Authors' own editing based on HCSO data

levels, in Hungary the employment situation of only secondary education graduates has improved (see Table 3). This is clearly in connection with the expansion of people enrolling in higher education.

In 2000 in Lisbon, the EU formulated the objective that by 2010 the community become the world's most competitive, most dynamically developing knowledge-based economy (Keczer, 2007). Increasing the employment rate to 70 per cent, while simultaneously moderating the level of unemployment constituted an important element of the strategy.

In OECD countries, higher education has an increasing significance on the demand side of human resources. Demand is shifting from positions that can be filled with secondary-level qualifications to jobs that require higher-level qualifications, and as a result the chances of finding employment with higher level academic qualifications increase. Workers with higher-level qualifications lead the pack in terms of securing employment, i.e. there is a lower proportion of workers with higher-level qualifications among the unemployed classes constituting a problem for society.

While the rate of employment in basic and

secondary education is below the OECD and EU-19 average, our indicator value in higher education is average or even above average (see Table 4).

In Hungary, the unemployment of the classes with below secondary academic qualifications is causing social and economic problems.

Based on OECD data, academic qualifications and labour market chances are more determinative in Hungary than in other countries. The relative income of people with higher-level qualifications is second highest in Hungary, after Brazil (see Chart 6).

SOCIAL RESULT

Investing into education can also generate indirect returns for the government. It is a well-known fact that there is a strong correlation between state of health, social sensitivity and affinity for politics and academic qualifications. Those with higher academic qualifications are psychologically, socially and indirectly biologically healthier, which, besides moral benefits, also translates into economic benefits for society.

Table 3

UNEMPLOYMENT RATE TENDENCIES IN THE 25–64 AGE GROUP, 1997–2008

(data given as %)

Name	Level of education	1997	1998	2000	2005	2006	2007	2008	Average annual growth rate, 2008–1998
Hungary	Basic	12.6	11.4	9.9	12.4	14.8	16.0	17.3	4.7
	Secondary	6.9	6.2	5.3	6.0	6.1	5.9	6.3	-0.6
	Higher education	1.7	1.7	1.3	2.3	2.2	2.6	2.3	0.6
OECD average	Basic	10.1	9.4	9.0	10.5	10.0	9.1	8.7	-1.4
	Secondary	6.7	6.5	5.7	6.0	5.5	4.9	4.9	-1.8
	Higher education	4.1	4.0	3.5	3.8	3.5	3.4	3.2	-0.9
EU-19	Basic	13.3	11.4	11.1	13.0	12.1	11.0	10.6	-2.7
	Secondary	8.4	7.4	6.6	6.8	6.2	5.4	5.3	-3.1
	Higher education	4.7	4.4	3.8	4.2	3.7	3.5	3.2	-1.5

Source: Education at a Glance, 2010

Table 4

EMPLOYMENT RATES BY TRAINING LEVELS AND GENDER, 2008

per cent

Name	Gender	Basic	Higher education	
			Secondary ISCED 3C	Type A
Hungary	Men	17.3	72.9	85.0
	Women	5.4	56.0	75.8
OECD average	Men	64.5	84.1	89.8
	Women	37.0	65.2	78.2
EU-19 average	Men	58.1	81.9	89.7
	Women	36.1	64.9	82.1

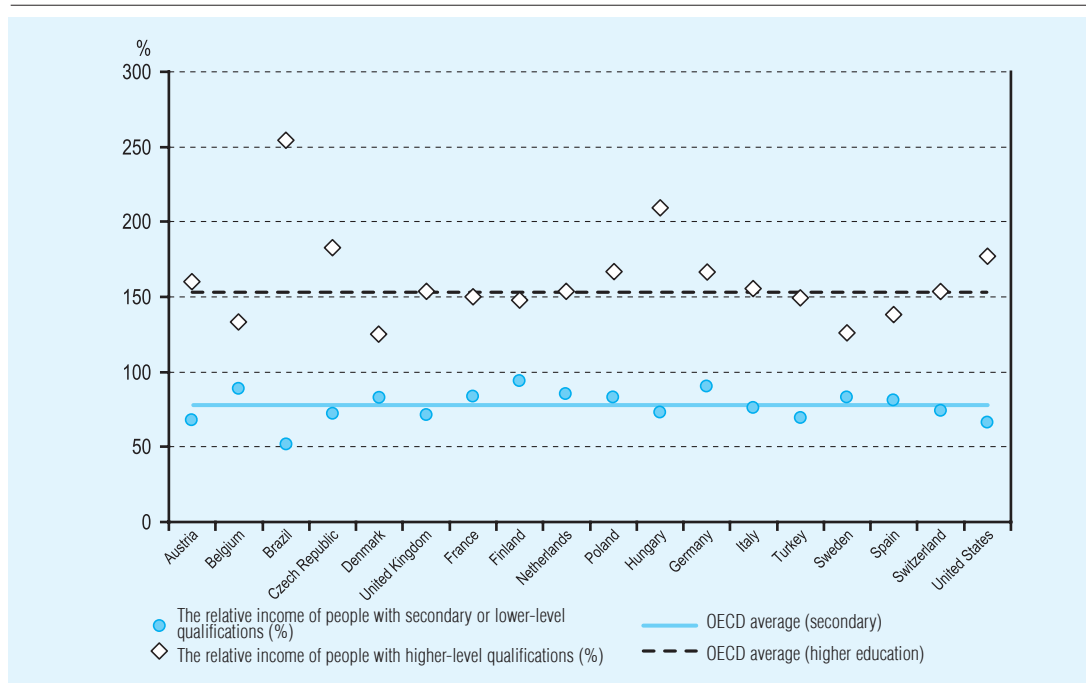
Source: OECD, Education at a Glance, 2010

According to an OECD study, in Hungary the ratio of healthy people with secondary-level education is 56 per cent. Among participants of higher education, this value is 75 per cent, and only 35 per cent among those who have no secondary education (see Chart 7).

Based on OECD data, Hungary is among the laggards with respect to this particular indicator as well. In Hungary, only 30 per cent of people with basic-level education have a good state of health, and with this result Korea is the only OECD country we manage to overtake. Only

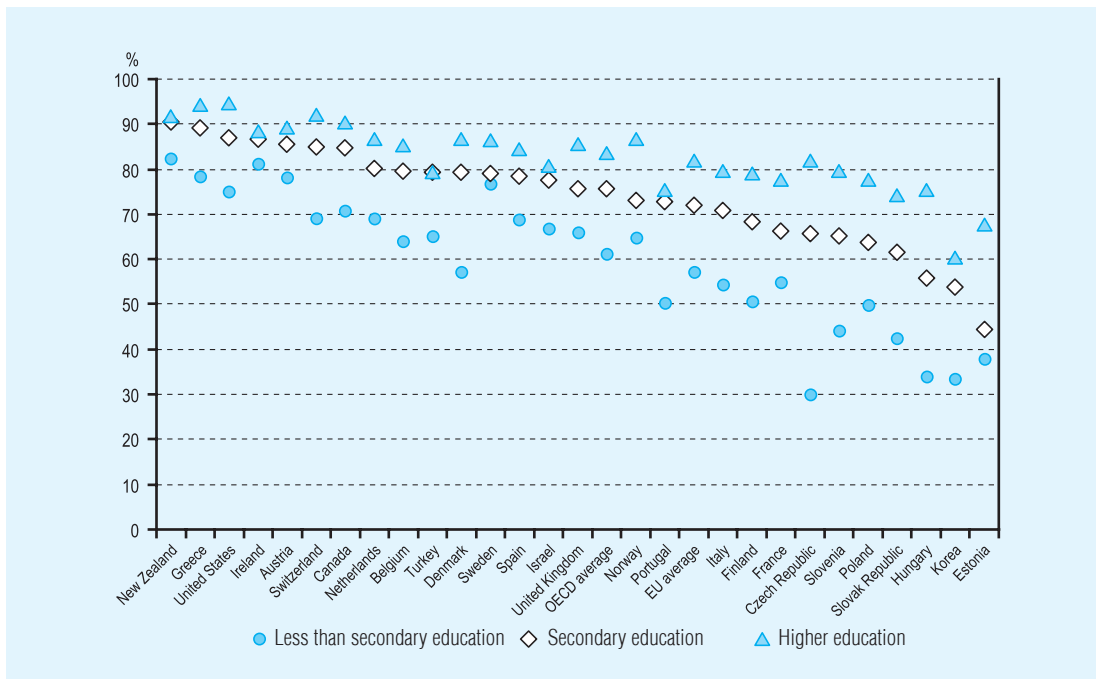
Chart 6

THE RELATIVE INCOME OF THE 25–64 YEAR OLD POPULATION ACCORDING TO ACADEMIC QUALIFICATIONS IN OECD AND PARTNER STATES¹⁷, 2008



Source: Authors' own editing based on 2010 data of Education at a Glance

THE RATIO OF HEALTHY ADULTS AT VARIOUS LEVELS OF EDUCATION, 2008



Source: Authors' own editing based on 2010 data of OECD Education at a Glance

slightly more than half of people with secondary academic qualifications have a good state of health, and only Estonia and Korea have values lower than this. Seventy-five per cent of our higher education graduates have a good state of health, and even though this value is also lower than the OECD average, it is of equal value to neighbouring countries which means our lag compared to these countries is not significant.

HOW MUCH ARE WE SPENDING ON HIGHER EDUCATION?

Both the state and the private sector have expenses in higher education. The state, on the one hand, supports institutions by subsidising operating and maintenance expenses, and on the other, it provides scholarships and other benefits for students. For private players expenditures include tuition fees, textbooks, rent, living expenses, etc.

Education expenditures can be analysed from a number of different aspects; they are usually examined as a percentage of the GDP or as a ratio of per capita GDP. This shows how much a country spends on education compared to its own performance capacity.

Based on OECD data, on a macro-level there are three clearly distinguishable financing systems.

1 High level of state and private funding; state aid exceeding 1 per cent of the GDP, which is supplemented by private funds to the amount of approximately 1 per cent of the GDP [United States (3.1 per cent); Canada (2.6 per cent)].

2 High level of state funding and negligible share of private funds: state aid exceeds 1 per cent of the GDP; however, the amount of private funds is negligible. This is the type of financing that is typical in most European countries.

③ Low state aid and high level of private funding (Japan, Korea, Chile).

The rate of education expenditures depends on the national income available to the given countries. The Hungarian government spends approximately 1 per cent of the GDP on higher education expenditures, added to which are private sector expenditures which are close to 0.1 per cent of the GDP. If we examine indicator tendency from 2000, we can see that compared to the 1.1 per cent typical of the year of the turn of the millennium, certain years were characterised by a 0.1–0.2 per cent decrease or stagnation (see Table 5). Due to the increase of the GDP, the one per cent expenditure of higher education represents increased expenditure; at the same time, however, according to data adjusted by the change of the consumer price index, the support of education has still not increased.

Examining Hungary in an international perspective, our higher education expenditures as a percentage of the GDP are 0.5 per cent lower than the OECD average and 0.3 per cent lower than that of the EU-19. In 2007, of the OECD countries we only managed to overtake Italy and Slovakia.

After translating GDP-proportionate expenditures into concrete figures, the differences between the countries are more apparent. For the purposes of international comparison, we can examine per student education expenditures at comparable prices (e.g. in USD). In terms of education expenditures, among OECD countries Hungary is one of the laggards, and this is true for basic, secondary and higher-level education alike. In 2007, the higher education expenditures of OECD countries per student fluctuated between USD 5 500 and 27 000. In Hungary, this amount was slightly over USD 6 700, placing Hungary firmly in the last third.

The process of the changing of expenditures does not paint a more favourable picture either. While in OECD countries, it is a general tendency that expenditures per student have increased in recent times, of OECD countries Hungary is among the laggards with respect to this particular indicator as well. It is true that compared to the turn of the millennium, by 2007 higher education expenditures increased by 33 per cent; however, in the same period student numbers also increased by 51 per cent.

Table 5

EDUCATION EXPENDITURES EXPRESSED AS A PERCENTAGE OF PUBLIC FINANCE EXPENDITURES AND GDP, 2000–2009

Year	Education expenditures		Support of higher education
	As a percentage of public expenditures	As a percentage of GDP	As a percentage of GDP
2000	11.1	5.0	1.1
2001	11.4	5.0	1.0
2002	11.0	5.4	1.0
2003	12.3	5.7	1.1
2004	10.7	5.2	1.0
2005	10.4	5.3	0.9
2006	9.6	4.8	1.0
2007	9.5	4.8	1.0
2008	9.5	4.7	1.0
2009	9.7	4.7	n.a.

Source: Statistical Yearbook of Education, 2010

All in all, this resulted in expenditures per student dropping by 18 per cent (*see Table 6*).

We must emphasise that in the period under examination, student numbers increased at a much more intense rate than expenditures.

Another reason for our falling behind is the recession of the economy. In times of economic recession, the efficient operation of education systems comes under fire. On one side we have increasingly limited resources and on the other side the increase of the significance of human capital investments, as one of the prerequisites of economic upturn is the acquisition of suitable skill and abilities.

Based on the currently known concept of higher education, it is increasingly clear that we are less in support of investing into human capital, which will most probably impair our already poor position even further, if there are in fact indicators we could do worse in.

Similarly to Hungary, there were a number of other European countries which were unable to increase their higher education expenditures to such an extent as to maintain earlier expenditures per student. In the case of students studying in higher education, average expenditure in the majority of European countries fails to reach half of expenditures in the US. The need for more and higher quality higher education will, however, sooner or later force state governments into a position where they will have to make a decision; higher education must be supported through investments and a deci-

sion must be reached whether to increase the rate of state aid or private financing.

In recent years, Hungarian higher education (compared to state aid) was characterised by a significant withdrawal of resources. Over the last two years, the supervisory agency has executed two fund withdrawals and the government decree introduced at the end of the year stipulated further blockages and significant retention of residual amounts for institutions. The 2012 budget of higher education already contains the new decrease of funds as appropriated in the Széll Kálmán Plan. The funds withdrawn from the system represent an increasingly unbearable burden for higher education institutions, which are forced to make up for the withdrawn amounts through austerity measures. The solution will most likely arrive in the form of student number rationalisation, as the existing infrastructure must be maintained and its costs can barely be reduced. Do these withdrawals from higher education really provide help to the state?

The budget's education expenditure appropriation within the system of public finances was HUF 1 237 224 million in 2009 (this was 13.8 per cent of the main expenditure appropriation of the 2009 central budget). We spent one fifth of this amount on higher education, HUF 252 713 million, which represented 2.8 per cent of the expenditure gross sum of the central budget (*see Table 7*).

The gross sum of the expenditure appropriation of our budget multiplied by 2.4 over the

Table 6

THE CHANGE OF EXPENDITURES PER STUDENT IN HIGHER EDUCATION
(1995, 2007)

Name	The change of expenditures (2000 = 100)		The change in student numbers (2000 = 100)		The change of expenditures per student (2000 = 100)	
	1995	2007	1995	2007	1995	2007
Hungary	77	133	58	151	133	88
OECD average	82	136	84	122	98	114

Source: OECD, Education at a Glance, 2010

Table 7

**GROSS SUMS OF TOTAL EDUCATION AND HIGHER EDUCATION EXPENDITURES
IN THE BUDGET OF THE REPUBLIC OF HUNGARY, 2000–2009**

Year	Total education		Higher education		
	expenditure appropriation (at current price, in HUF million)	expenditures as a percentage of appropriations	expenditure appropriation (at current price, in HUF million)	expenditures as a percentage of total expenditure appropriations	expenditures as a percentage of total expenditure appropriations
2000	672,943	17.76	143,239	3.78	21.29
2001	770,879	17.10	155,379	3.45	20.16
2002	932,529	21.58	176,473	4.08	18.92
2003	1,071,456	20.18	207,604	3.91	19.38
2004	1,089,090	17.76	205,179	3.35	18.84
2005	1,170,113	17.47	216,554	3.23	18.51
2006	1,216,135	15.50	224,544	2.86	18.46
2007	1,228,401	14.75	242,771	2.92	19.76
2008	1,275,107	14.14	256,390	2.84	20.11
2009	1,237,224	13.81	252,713	2.82	20.43

Source: Authors' own editing based on the Statistical Yearbook of Education (2009/2010) and the budget acts

last ten years, within which the gross sum of education expenditures increased to 1.84 times as much (in the case of higher education, this value was 1.76). In Hungary, in 2000 education expenditures represented 17.8 per cent of total expenditures, while today this ratio has dropped by 4 per cent. This decrease has been constant since 2002 (when education expenditures were at 21.6 per cent) (see Chart 8).

The expenditure appropriation of higher education increased year after year until 2008; however, this change still fell short of the change of total education expenditures. In proportion to expenditures, we are spending less and less on higher education. While in 2000, the appropriation of higher-level training expenditure represented 3.8 per cent of total budgetary expenditure, by 2009 this value dropped by close to one percentage point. The same tendency can be observed within the appropriation of total education expenditure, at the turn of the millennium, higher education expenditures represented 21.3 per cent of education expenditures, but by 2006, this fell below 18 per cent. Although, in light of the appropriation of recent

years this ratio shows a slow increase, we must note that through the amendment of the appropriation, there was a significant withdrawal of budgetary funds from higher education over the last four years (see Chart 9).

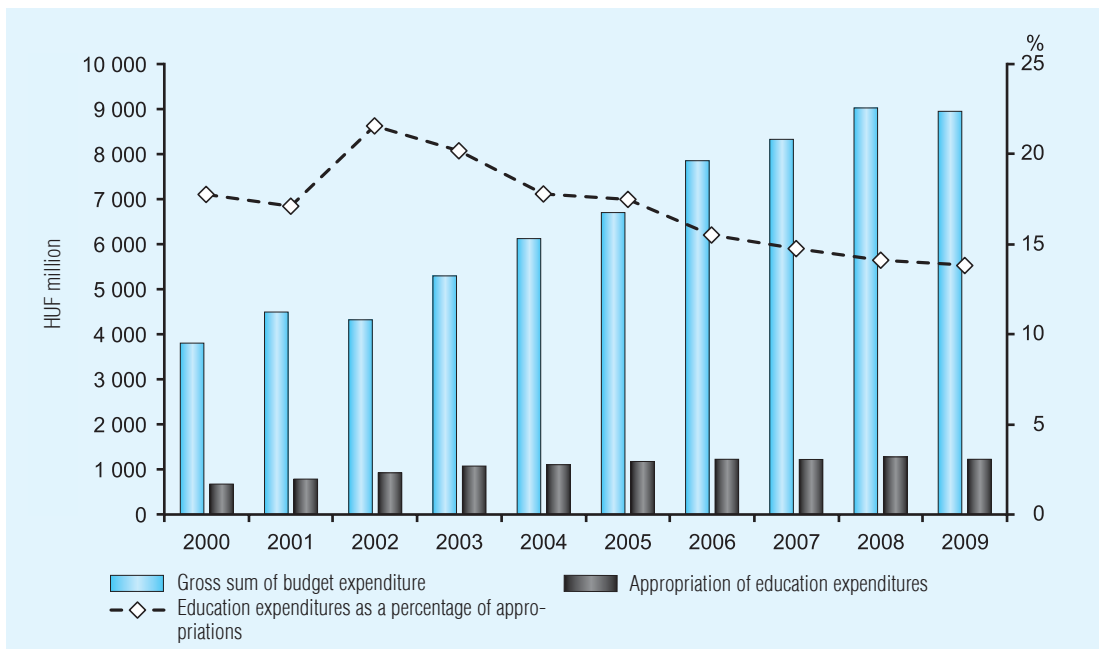
In 2009, Hungary spent 2.8 per cent of its budget on higher education. This ratio continued to decrease over the past two years. Moreover, the government has on a number of occasions already withdrawn funds from this amount, which was relatively low to begin with. In the system of public finances, the funds withdrawn are considered a low amount; they do, however, represent significant losses to higher education, the impacts of which could be decisive for our future from a socio-economic aspect.

THE REFORM OF HUNGARIAN HIGHER EDUCATION?

The study examines but a few basic topics, but still makes it clear that the future of higher education fundamentally impacts the

Chart 8

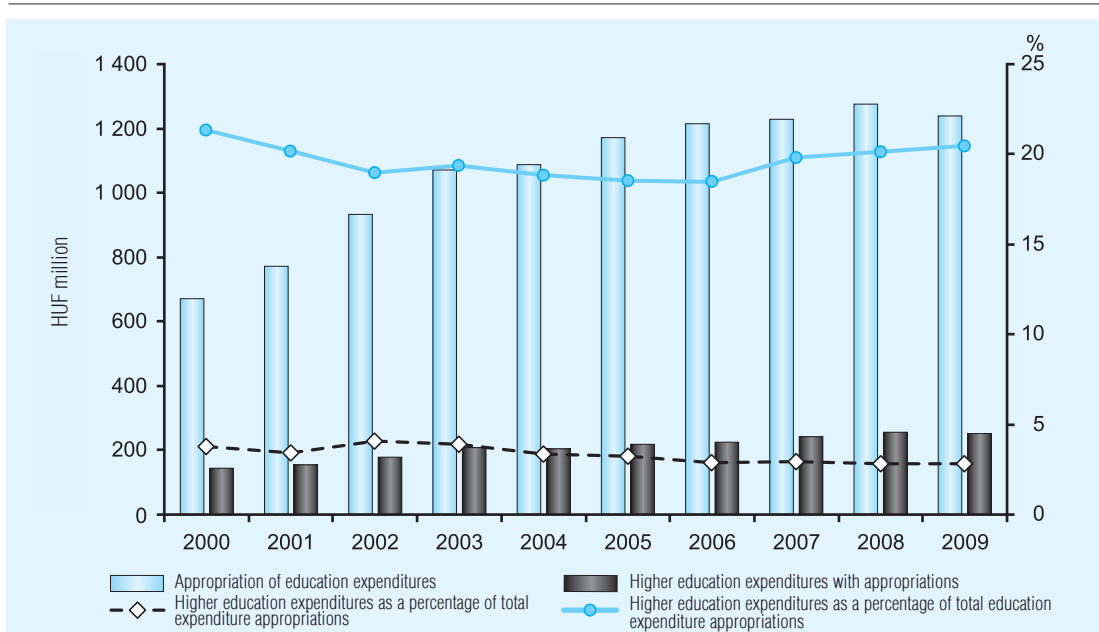
THE GROSS SUM OF BUDGET EXPENDITURE AND THE APPROPRIATION OF EDUCATION EXPENDITURES, 2000–2009



Source: Authors' own editing based on data of the 2009/2010 Statistical Yearbook of Education

Chart 9

EDUCATION AND HIGHER EDUCATION EXPENDITURE APPROPRIATIONS OF THE BUDGET, 2000–2009



Source: Authors' own editing based on data of the Statistical Yearbook of Education (2009/2010)

socio-economic development of the entire country.

The 2011 budget ensured a HUF 189 billion subsidy to higher education, of which the government immediately blocked HUF 20 billion at the beginning of the year (the amount in question has since been withdrawn), then blocked further amounts in August and September as well. Over the next three years, the Széll Kálmán Plan is planning to withdraw HUF 88 billion from higher education: According to plans, the budget subsidy of higher education will be reduced by HUF 12 billion in 2012, and by HUF 38 billion in both 2013 and 2014. This, close to 50 per cent, withdrawal of funds has been unprecedented since the regime change. The ratio of the budget's higher education expenditures as a percentage of the GDP has hardly changed since 1995, when it was 0.9 per cent. This value was 1.1 per cent in 2000 and 1.0 per cent in 2009. This is still a relatively good result by regional standards; neighbouring countries spend around 1 per cent of their GDP on higher education. Translating GDP-proportionate expenditures into concrete figures, we can see, however, that in terms of financing Hungarian universities

cannot be considered competitive. While OECD countries spend USD 8 970 per student on higher education (USD 12 907 with higher education research & development), Hungary spends USD 5 365 without R&D (USD 6 721 with R&D), i.e. spends approximately half of the OECD average per student on higher education.

Our objective with this study was to shed some light on the nuanced nature and complexity of the field. Changing of a single factor (in this case budgetary funds) could trigger a snowball effect, the impacts of which are not foreseeable or can only be foreseen with great uncertainty. There is a chance that the planned reform will backfire. In the absence of a trained workforce, economic growth could slow down, which in turn would again generate the same problems the budget is currently experiencing. Student numbers will be reduced due to fiscal reasons, but the desire to learn cannot be suppressed. It is not unthinkable that students will acquire the knowledge they seek abroad, which in turn will speed up migration. There are a number of similar issues to ponder upon and review in order to implement veritable and relevant changes.

NOTES

¹ It regards education and training costs as investments into human capital; which investments increase our production capacity, our productivity and accordingly the market value of labour, as a result of which future incomes will be higher. (Varga, 1998)

² Hungary's oldest universities: the University of Pécs founded in 1367 and the University of Óbuda established in 1395, both of which functioned until the 1410's.

³ In the 1999/2000 academic year, there were 55 state higher education institutions in operation, and 30 in the 2000/2001 academic year.

⁴ In Hungary, the 55 per cent ratio of religious, foundation and private higher education institutions significantly exceeds the 37 per cent average of the 29 European countries examined.

⁵ Based on 2008 data: Norway: 4 763 million people; Austria: 8 264 million people; Czech Republic: 10 221 million people; Poland: 38 166 million people; Germany: 82 210 million people.

⁶ The data on student numbers includes participants in university and college level programmes, higher-level vocational training, bachelor and masters programmes, unified programmes, vocational further

training and PhD programmes, regardless of training-type.

⁷ In OECD statistics, many indicators show ‘EU-19’ average values. The reason for this is that these are the EU countries for which we have actual or estimated data available. In OECD statistics, the EU-19 is made up of the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom, Czech Republic, Hungary, Poland and Slovakia.

⁸ In 2000 in Lisbon, the EU formulated the objective that by 2010 the community become the world’s most competitive, most dynamically developing knowledge-based economy (Keczer, 2007).

⁹ Meeting labour market needs is no easy task. On the one hand, it is difficult to say what these needs will be in five to ten years time. On the other hand, meeting these needs is a lengthy process, and a higher-level training spans a period of at least three years.

¹⁰ Széll Kálmán Plan: “The education structure (and institution system) of higher education is currently distorted, sector supply has become disconnected from social and labour market needs.”

¹¹ Portugal is in first place with returns 7.7 times the amount of expenditures; Hungary is in second place with 7.4, and Belgium in third with 6.3. The indicator is lowest in Norway at 1.8, that is to say in each of the countries examined the rate of returns from higher education exceeds expenditures.

¹² According to the OECD study, the so-called ‘community costs’ include lost tax revenues and expenditures. These are teachers’ wages, institutional maintenance, and scholarships. ‘Community benefits’ include increased tax revenues, as well as the decrease of social benefits derived from higher income. In order to calculate net present value, it takes the interest rate of government bonds as Rho .

¹³ We, however, have no accurate information with regard to how much more taxes people with university or college degrees pay. The HCSO basically distinguishes between white and blue collar workers. Persons between 1–4 according to the FEOR (Hungarian Standard Classification of Occupations) are white-collar workers, and all others are blue-collar. Among white-collar workers, we are likely to find a significant number of people with secondary qualifications (secondary school leaving examinations).

¹⁴ We took a 38 year employment relationship as a basis and deducted the training period.

¹⁵ The average training period in Hungary is 4.05 years (Education at a Glance, 2010)

¹⁶ Our own calculation for 2008 should be considered a simplified quick estimate, for which we took relevant data of the HCSO (Statistical Yearbook of Hungary, 2010) into account.

¹⁷ When compiling the Education at a Glance publication, the data of 31 OECD member states and five non-OECD member states are used. These countries are Brazil, Estonia, Israel and the Russian Federation. They are not members of the OECD, but could soon become members.

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