

THE EFFICIENT ALLOCATION AND USAGE OF RESOURCES IN THE HIGHER EDUCATION SYSTEM

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Abstract: The performance orientation of the higher education system, along with its evaluation and financing according to quality criteria may remain unfulfilled objectives if there will not be the desire and determination to promote and apply such policies. Today's system of funding the public higher education system is based on the assumption that the state has the obligation to provide the funding, while the institutions and the students carry little responsibility compared to the resources allocated to them. Without an own financial effort from the students' side comes little responsibility for the quality of the received tuition, while without financial effort on the educational institution's side there is little preoccupation for providing a quality service. It is of the utmost urgency that the present funding system be modified, in a fashion that would allow creating an educational system acting as a competitive educational services market, where the access to state funds should be granted selectively to universities and students depending on the performance demonstrated by certain indicators. To conclude, it is irrelevant what the amount of funds allocated from the state budget is, while the efficiency of their administration is not sufficiently focused on increasing the system's overall performance.

1. Evaluating the outputs of the higher education system

While properly assessing the efficiency of the usage of public funds, the direct relationship between the benefits and the society's effort to financially support the higher education system should not be avoided, but more likely be turned into a criterion for granting access to resources.

The performance orientation of the higher education system, along with its evaluation and financing according to quality criteria may remain unfulfilled objectives if there will not be the desire and determination to promote and apply such policies.

Given the context, statistics show several aspects that attract attention to the outputs of the Romanian higher education system. Thus, during 1994 – 2004 the number of students attending one of the higher education institutions grew significantly from 336,141 to 620,785, meaning 1.85 times. According to the specialists, this increase is due to the appearance of private institutions of higher education, which, given the restrictive and responsible authorization criteria, would have represented a natural step forward. In reality, this growth came first of all due to the expansion of the public system in which the number of enlisted students went up by 226,045, meaning 79.7% out of the total increase of 284,644 students; while the private sector contributed to the total growth by only 20.4%, meaning 58,599 students (table 1).

Table 1

**Enlisted students during 1995/ 1996 and 2003/ 2004,
By sector and form of study**

	1995/1996	2003/ 2004	Absolute growth
Total enlisted students:	336,141	620,785	+ 284,644
• public sector:	250,836	476,881	+ 226,045
• private sector	85,305	143,904	+58,599

Source: Education in Romania – statistics data, Edited by the National Institute of Statistics, 2004

However, another characteristic of the Romanian higher education system is the lack of selectivity, both upon admission and throughout the years of study (table 2).

Table 2

**Exit rate over the years of study in the public and the private
Higher education system [%]**

Admission year	Public system				Private system			
	Exit rate between years				Exit rate between years			
	I - II		II - III		I - II		II - III	
	Total	Normal Studies	Total	Normal Studies	Total	Normal Studies	Total	Normal Studies
1994	8.9	9.7	0.0	0.5	-	-	-	-
1995	7.3	8.2	1.9	2.1	22.2	18.0	4.8	0.2
1996	6.9	6.4	1.1	1.5	11.4	9.2	16.6	14.7
1997	5.7	5.8	0.1	1.2	13.1	13.9	19.0	14.1
1998	7.0	8.3	5.4	5.4	25.9	23.0	9.2	8.1
1999	9.2	10.2	4.4	3.4	15.2	17.2	8.9	3.0
2000	11.4	10.9	9.1	5.6	25.4	19.4	8.4	2.8

Source: National Institute of Statistics, Bucharest, 2000.

There is no rigorous selection in the Romanian education system, especially in the first year where the average rate of exit from the education system is of 8%, but instead there is a tendency to preserve the mass of students. Therefore, these three factors (wide spread, strong financial support, low selectivity) have eventually led to an increase of the number of graduates in the higher education system (table 3).

Table 3

**The variation of the number of high school and university graduates
During 1996-2005 [%]**

Graduates	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
High-School	100.0	103.7	104.2	103.8	98.9	91.5	83.9	98.0	102.0	112.4
Higher Education system	100.0	141.2	118.2	110.9	118.4	132.9	162.9	180.0	211.0	223.6

Source: Annual Statistics of Romania 2004 and „Romanian Education –statistics data”

There is a noticeable increase in the number of high-school graduates (from 103.7% in 1997 to 112.4% in 2005) as well as graduates from the higher education

system (from 141.2% in 1997 to 223.6% in 2005). Particularly this second increase is due to the fact that more and more high school graduates wish to further continue their studies. Despite this, upon graduation of university a large proportion of these does not work in the field of their studies or work jobs that do not require a university degree.

This brings the responsibility to the educational system to provide highly qualified graduates to the industry. Also, a part of the young people graduating from university, as they fail to occupy a position in the industries will eventually become unemployed (table 4).

Table 4

**Registered unemployed university graduates
In the years 2004 and 2005**

	2004				2005			
	Annual average	Oct.	Nov.	Dec.	Annual average	Oct.	Nov.	Dec.
Total, out of which:	26225	28220	28953	28641	18316	20819	-	-
- less than 2 years;	9294	11977	12586	12032	5811	8510	-	-
- % of total unemployment	35.4	42.4	43.5	42.0	31.7	40.9	-	-

Source: Data from the National Agency for Occupation of the Work Force, 2004-2005

One can easily note the variation of the number of unemployed university graduates from one year to the other. A concerning fact is also that in terms of efficiency, the higher education system barely reaches a level of 20%. It is the authors' consideration that the higher education system is to act in a more responsible manner concerning the results it produces.

2. Assessing the necessary efforts to increase the efficiency of the higher education system

The Romanian experts [Miroiu, A. Dinca; 2000], have elaborated studies and suggested models focused on the funding system, the resource allocation, and the calculation of the average costs per student. The unanimous view on the financing costs is the following:

- contributions to the funding of the education system should be made by all the beneficiaries of this process: the state, the enterprises, the private sector and the students;
- the funding system should encourage the educational institution to efficiently manage and make use of the available funds;
- the allocation of funds should be made according to quality criteria of the education and research activities and according to the feasibility of the research projects;

The funding of the institutions of higher education is done based on funds coming from the state budget, on own revenues and on other sources (external loans or non refundable funds). The universities make use of these funds autonomously in order to reach the objectives that they have received, coming from the state's policy regarding education and scientific research. The funding of these institutions of higher education is provided on a contract between the Ministry of Education and Research and each individual institution.

Basic funding and complementary funding are both provided out of the budget of the Ministry of Education and Research.

In order for base funding to be granted, an institutional contract between the Ministry of Education and Research and the respective institution of higher education is being signed, establishing the strategic plan of each institution. The base funding is granted according to the number of enlisted students and Ph. D's that are not subject to taxation, along with other indicators coming out of past activity.

Complementary funding requires an additional contract between the Ministry of Education and Research and the respective institution of higher education and focuses on subventions for meals and accommodation, funds being granted according to priority and specific norms concerning infrastructure, funds covering costs of general repairs and funds for university and scientific research.

Starting from 1999, Romania effectively switched to a policy of global funding, in which the base funding is granted according to the principle of "resources follow the student".

There are several advantages coming with this new funding system:

- the base funding received by the universities via the institutional contract are directed by the institution's management to cover the personnel and material expenses;
- the institution's own revenues can be used according to the law of increased investments as well as for the covering of personnel and maintenance costs, scholarships and subventions for students, etc;
- the increase of budgetary funds is not conditioned by the size of the institution's own funds, but instead comes to complement them and allows the institution to grow, therefore becoming more appealing to both students and teaching staff;
- Upon the end of the financial year the rest of the base funding, the investment and capital repairs funds are not returned to the state budget, but instead remain to be managed by the institution of higher education and will be included in next year's budget, thus stimulating the universities to make efficient use of the given funds.

According to the requirements of the reformation program, an essential criterion of evaluation, programming and allocation of funds is the equivalent cost per student.

This indicator allows comparisons to be made between the institutions of higher education, between various fields of education and is being calculated within each institution and overall in the public higher education system. According to the indicator number of equivalent students the annual budget plan is being made both within the institution and within the Ministry of Education and Research.

Also, series of basic indicators can be calculated: the gross coverage rate, the average time of attendance, the age distribution, the access rate of undergraduates, and the graduation rate.

The case of the increase of participation in the higher education process is the large absorption capacity of the industry for university graduates, which inherently produced a much lowered risk of unemployment for those that have been certified as.

Also the alternative of the private system played an important part in the increase of participation. Throughout 2002-2003 the weight of the students pursuing a degree in mathematics, science and technology was of 25.4%, putting Romania in a better position than most European countries. Thus, the gross coverage rate grew systematically, reaching its most spectacular level of growth in 2004/2005 (42.2%, table 5).

Table 5

**Gross coverage rate in the higher education system,
Compared tot the population aged 19-23 years**

	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
Total	27.7	31.2	35.3	37.9	40.2
Female	30.2	34.6	39.3	42.6	45.1
Male	25.2	28.0	31.4	33.5	35.4

Source: Compiled data from the National Institute of Statistics, 2000-2005

This indicator is a part of the system of indicators based on which the fulfillment of targets coming out of the Lisbon strategy for 2010 is being tracked.

The increase of the gross coverage rate in the higher education system was reflected also onto the average time of attendance, which grew in the period of 2000-2005 from 0.9 years in 2000 to 1.3 years in 2005 (table 6).

Table 6

The average time of attendance in the higher education system (years)

	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005
Total	0.9	1.0	1.2	1.3	1.3
Female	1.0	1.2	1.3	1.4	1.5
Male	0.8	0.9	1.0	1.1	1.1

Source: Compiled data from the National Institute of Statistics, 2000-2005

Another indication that can be calculated is the specific age coverage rate in the higher education system (fig. 1).

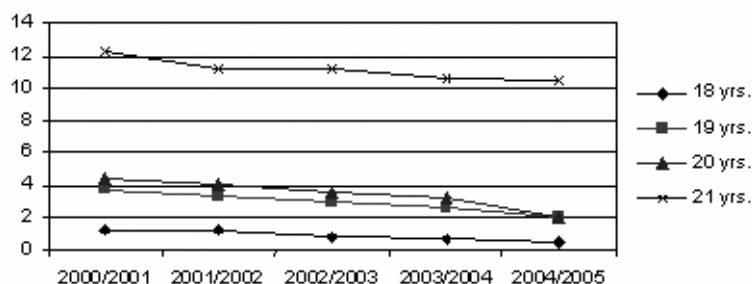


Fig.1 Specific age coverage rate in the higher education system

Source: Compiled data from the National Institute of Statistics, 2000-2005

One can easily note the growing specific rate for all ages specific to the higher education system, but this is particularly true for the population of 19, 20 and 21 years old.

This category of population also has an important weight (29-31%) in the specific age coverage rate between the years 2000 and 2004.

There is a positive trend also regarding the access rate of undergraduates coming from the current Baccalaureate examination. Judging against the total population this indicator grew from 61.1% in 2001 to 72.3% in 2004 (table 7).

Table 7

**The access rate of undergraduates coming from
The current Baccalaureate examination**

	2001/2002	2002/2003	2003/2004	2004/2005
Total	61.1	59.7	67.3	72.3
Female	61.6	59.9	67.7	73.7
Male	60.4	59.4	66.7	70.7

Source: Data from the National Institute of Statistics, 2001-2005

One of the most important indicators in the higher education system is the graduation rate.

Tracking its evolution (table 8) in the analyzed period we notice a growing trend, as more and more young people successfully finalize their studies.

Thus, the 23 year old graduates from the higher education system in the year 2003 (licensed to practice or not) represented nearly a third of all graduates in that year.

Table 8

Graduation rate in the higher education system

With / out a license diploma					With a license diploma			
	2000	2001	2002	2003	2000	2001	2002	2003
Total	18.9	24.0	28.7	30.9	16.4	20.0	26.3	27.7
Female	21.2	28.1	33.9	36.7	18.8	24.2	32.0	33.7
Male	16.7	20.1	23.7	25.4	14.2	16.0	20.9	22.0

Source: Data from the National Institute of Statistics, 2001-2004

The evolution of this rate can be observed in fig. 2.

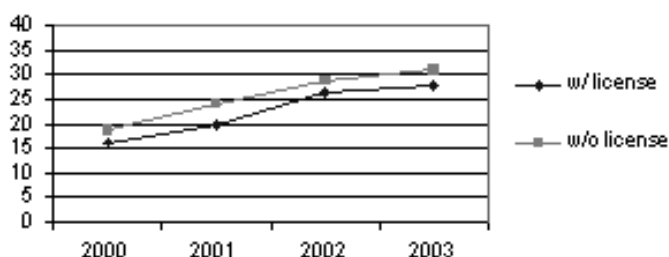


Fig. 2 The evolution of the graduation rate in the higher education system

Source: Compiled data from the National Institute of Statistics, 2001-2004

Undoubtedly, the state's financial effort regarding education is represented by the consumption of public funding resources (coming out of the public taxation) meant for this activity.

Making good use of these public funds is a legitimate claim of the state and implies a great responsibility on behalf of those administering them so that they are used for the benefit of society.

The growing expenditure for education was due both to the economic growth and to the redistribution of public resources in the benefit of education, translated into a larger proportion of the GDP.

Thus, the expenses related to higher education make approximately 20% of the total education related expenses, with the state budget representing the main source of funding.

All throughout 2000-2005 one can notice the changes in the contribution of the state budget to the funding of the higher education system (table 9).

Table 9

**The contribution of the state budget to the funding of the
Higher education system in 2000-2005 (not including the expenses for higher
education within the sectors of national security, public order and defense)**

Indicators	2000	2001	2002	2003	2004	2005
Total expenses in mil. RON, of which %	564.5	835.1	1217.6	1442.6	1805.0	2230.3
coming from:	100	100	100	100	100	100
State budget	69.9	69.6	59.5	61.4	61.1	60.1
Own revenue	30.1	30.4	40.5	38.6	38.9	39.9

Source: Calculated based on data from the Ministry of Public Finance and the Ministry of Education and Research 2005

The main funding source of the educational system, when it comes to higher education, remains still the state budget, which provided 60.1% of the 2005 funds that covered the expenses of the higher education system.

There are an increasing proportion of the expenses being covered out of the institutions' own revenues. There is a visible growth from 30.1% in the year 2000 to 39.9% in the year 2005. For the future there are prospects of further increase, doubled by a more efficient usage of the available funds.

However, the funding system of Romania is based is based on supporting the location and not the individual and is not correlated at all to the stated principle of the state supporting the access to higher education of youngsters coming from low income households.

It is normal to find students from households of all kinds of incomes occupying the places sponsored by the state budget. But today's funding system is not only not tailored according to performance criteria, but quite the contrary, it produces an imbalance that favors those of high income.

In order to increase the number of students paying tax, the institutions of higher education that benefit from generous support from the state budget have redistributed the received public funds.

If in the year 2005, the funds granted from the state budget per student, as part of the base funding (average cost / equivalent student) were of about 26 million lei, the taxes applied per student were of about 14-18 million lei. The marginal cost was presented as an argument in favor of this, a valid argument, but only in the context of today's funding system.

On the other hand, if the target is to have a high performance educational system, where the universities are making revenues based on services rendered, while the state supports the student according to criteria coming from its policies, than the meaning of the marginal cost could be totally different.

This would lower the tuition costs / student, as the number of students is increasing, since the fixed costs of the institution would be spread among a larger number of students.

Furthermore, with today's funding system, while computing the base funding per student, only the number of students that benefit from state sponsorship is considered, since most of the fixed costs are spread among students of this category.

This being the context, the institutions of higher education are interested to maintain the current funding system, since it allows them to set lower taxes for most of their students and thus move most of the tuition costs onto the state budget.

Today's funding system is regulated by law [Law no. 84/1955] and allows the allocation of state funds for the following purposes:

- 1) Base funding (supporting the normal education process) where the quota is sized according to the number of equivalent students;
- 2) Transportation subventions for students;
- 3) Scholarships and social support for the students;
- 4) Financing investments;
- 5) General repairs;
- 6) Infrastructure expenses;
- 7) Meals and accommodation expenses;
- 8) Individual accommodation subventions;
- 9) Scientific research;

Thus, institutional contracts cover the funding of points 1-4, while complementary contracts between the Ministry of Education and Research and the institutions of higher education cover the funding of points 5-9.

Regarding the institutions' own funds, the Law of Education mentions that **“own funds will be autonomously used by the institutions of higher education, for the purpose of reaching the objectives inherited from the state's policy regarding education and scientific research”**.

Inside table 10, we note the state's financial effort regarding the funding of the higher education system during 2000-2005.

Out of the table we can see an increase of the base / institutional funding in the year 2003 (91% versus 87.4% in 2002) due to the justified increase in the salaries of the university professors by 2.7%, but not out of an increase in the investments budget.

In the authors' opinion, today's system of funding the public higher education system is based on the assumption that the state has the obligation to provide the funding, while the institutions and the students carry little responsibility compared to the resources allocated to them.

Without an own financial effort from the students' side comes little responsibility for the quality of the tuition, without financial effort on the institution's side there is little preoccupation for providing a quality service. Thus the universities, public ones included, ought to act in a competitive manner in the market of the services they provide: educational services.

Also, the revenues made by universities should be real and coming out of the quality tuition provided and of proper own management, instead of declaring as own revenue those funds that in reality come out of institutional and complementary contracts.

Table 10

Funding the higher education system - analysis of sources during 2000-2005

Sources of funding	2000	2001	2002	2003	2004	2005
Expenses of the higher education system						
Millions of RON	564.5	835.1	1217.6	1442.6	1805.0	2230.3
%	100.0	100.0	100.0	100.0	100.0	100.0
Funded out of:						
1.Own revenues (mil. RON)	179.1	253.9	493.4	557.2	702.9	889.3
%	30.1	30.4	40.5	38.6	38.9	39.9
2.State funds (mil. RON)	394.4	581.2	724.2	885.4	1102.1	1341.0
%	69.9	69.6	59.5	61.4	61.1	60.1
Of which:						
1.1.Base funding (mil. RON)	345.0	505.9	633.3	805.8	994.4	1199.4
%	87.5	87.0	87.4	91.0	90.2	89.4
1.2. Complementary funding (mil. RON)	42.8	56.0	71.8	79.6	107.7	141.0
%	10.8	9.6	9.9	9.0	9.8	10.6
1.3.Government's contribution to the program „Reformation of the higher education system” (mil. RON)	6.7	19.3	19.1	-	-	-
%	1.7	3.4	2.7	-	-	-

Source: Compiled using data from the Ministry of Education and Research, 2006.

A result oriented funding system could be implemented in a realistic manner, keeping in mind the culture, the traditions, the various levels of development, without losing those performance-generating mechanisms.

If we analyze the contribution of the base funding to the totally allocated budget of the higher education system (table 11), we note the increase from year to year (86.6% in the year 2005 compared to 68.5% in the year 2000).

Table 11

**The contribution of the base funding to the totally allocated budget
Of the higher education system 2000-2005**

Indicators	2000	2001	2002	2003	2004	2005
Allocated budget						
mil. RON	394.4	581.2	724.2	885.4	1102.1	1341.0
%	100.0	100.0	100.0	100.0	100.0	100.0
Base funding						
mil. RON	270.0	380.0	477.5	633.1	847.3	1161.9
%	68.5	68.5	65.9	71.5	76.9	86.6

Source: Compiled using data from the Ministry of Education and Research, 2005

According to the facts presented, it is of the utmost urgency that the present funding system be modified, in a fashion that would allow creating an educational system acting as a competitive educational services market, where the access to state funds should be granted selectively to universities and students depending on the performance demonstrated by certain indicators.

To conclude, it is irrelevant what the amount of funds allocated from the state budget is, while the efficiency of their administration is not sufficiently focused on increasing the system's overall performance.

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