www.tje.uvt.ro   tje@feaa.uvt.ro

Timişoara Journal of Economics

Volume 4   Issue 1 (13) | 2011

Table of content

THE BUDGET FUNDING OF THE PUBLIC HIGHER EDUCATION IN SOME EUROPEAN COUNTRIES

Dorin COSMA *
Suzana SCHNEIDER**

This comparative study concerning public superior education system finance has been accomplished in order to highlight the main public superior education system financing mechanisms used in a few European countries considering a future financing model projection, able to make the public financing allocation for superior educational system more and more efficient.

In the past, in Europe, the financing mechanisms have involved negotiations between the public or private superior education institutions on the allocated funds, their calculation on the real costs supported by institutions and grants awarded, divided on budgetary categories. Nowadays, the public superior educational system financing mechanisms have suffered important changes, if we consider the granted sums calculation formulas, as well as the measures for correlation of public financing quantum with the financed university performance.

Each financing model presents strong points as well as weak ones, as there isn't any perfect financing model which can be adapted to any country, because the choosing of the model usually implies a compromise between the different objectives that have to be reached by the higher education.

Owed to public superior educational system financing system analysis from a few European countries (Romania, Great Britain, France, Denmark,), we may conclude that a perfect adaptable financing system for each European country doesn't exist; the adaptability degree of these mechanisms depends on a different factors number, of a historic, social, legal, political and economical nature.

Key Words:

Superior Education System financing, financing mechanisms, financing on formulas, performance criteria, input criteria, performance contract.

JEL Classification: I22.

1. Introduction

The countries in which I have studied public superior education financing have not been chosen randomly; the arguments for this choice are the following: firstly, these countries have a main common purpose, they want to create The European space of Superior Educational System; all these countries belong to the European Union; secondly, these countries have quite different financing mechanism for the public superior educational system.

The optimal allocation of necessary resources for public superior education in a context of an international financial crisis has determined the different countries' governments to adopt various financial mechanisms for the interest of the public superior educational system.

The main objectives of this comparative study concerning public superior educational system are: identification of public superior educational system financing formulas in different European countries; settlement of performance criteria used, if there is any; identification of another criteria used in public funds allocation dedicated for public superior educational system.

---

* *Professor, PhD., West University of Timişoara, Romania, Faculty of Economics and Business Administration, Timişoara, Romania*

** *PhD. candidate, West University of Timişoara, Romania, Faculty of Economics and Business Administration, Timişoara, Romania*

Timişoara Journal of Economics

ISSN: 1842-7340 (print)
1844-7139 (online)

Volume 4
Issue 1 (13)
2011

27

1. The Romanian superior public educational system financing mechanism

Since 1999, the procedure of financing the public educational system is in a continuous change; the methodology of the basic formula budget allowances allocation (*quantitative component*) was released and it has got the basis of the fundamental principle named *the resources are tracing the students*.

Beginning from 2002, in order to remove the global financing negative effects, the budget allowances allocation per methodology units, afferent to basic financing, is completed by a qualitative component, too, which is permanently updated in the next period.

In 2003, the qualitative indexes system, with a role in the basic universities financing quantum determination, has become more complex, aiming at many aspects directly or indirectly regarding didactic activity and institutional performances.

Romanian public universities *basic financing* is insured both due to the number of students and PhD-s who are studying at the public form with no fees to pay, as well as depending on other factors, specific for the educational act, especially those concerning the quality of performance in education.

The Ministry of Education, Research and Sports will insure basic financing for public universities by study grants, based on the equivalent of average cost per student per domain, on study series.

Romanian public universities *complementary financing* is allocated by the Ministry of Education, Research and Sports on CNFIS (National Financing Board of Superior Educational System) recommendation of public universities and it will be accomplished on institutional development projects.

Complementary financing is allocated on competition principles, based on an additional contract, the amounts are meant for investments and capital restorations, also for didactic and research equipment endowment or for some development projects (new specializations, new educational forms), as well as for some scientific research projects financing.

The funds from the national budget for basic financing are differently allocated per superior educational institutions on the following criteria:

- number of students unitary equivalent (70%);
- qualitative indicators (17 indicators structured on 5 groups) determined for each university (30%).

In the institutional contract agreed between the university and the Ministry of Education there are stated, besides basic financing, the allocated sums from the national budget for scholarship and students' social protection, as well as the sums allocated for investments.

The number of unitary equivalent students is calculated for every single university and educational domain as it follows:

$$SEU^U = \sum_{d=1}^{D} C_d \cdot SE^U{}_d \qquad (1)$$

where:

SEU^U = number of students unitary equivalents of U university;

C_d = cost coefficient correspondent to educational domain d; SE^U

$SEU^U{}_d$ = number of students from D domain of U university;

D = total number of educational domain financed from the national budget

In *Table 1* the educational forms with equivalent coefficients corresponding in accordance with Ministry decision are presented.

		Table 1
Educational forms with equivalent coefficients		

No.	Education Form -f-	Equivalent coeficient -ef-
	License university studies	
1	Studies in Romanian language (1), (5)	1,00
2	Studies in Hungarian language – as a mother tongue	2,00
3	Studies in German language – as a mother tongue	2,50
4.1	Studies only in international languages (2)	1,50
4.2	Studies partially developed in international languages, but in Romanian language, too	1,25
5.1	Studies developed only in restricted circulation languages	2,00
5.2	Studies developed only in restricted circulation languages, but in Romanian language, too	1,50
6	Studies developed on university extensions – abroad	2,50
7	University studies – evening education	0,80
8	University studies with a reduced frequency	0,25
9	University studies at distance (3)	0,15
	Master university studies (4) (or thorough studies)	
10	Master university studies in Romanian language (1), (5)	2,00
11	Master university studies in international languages	3,00
12	Master university studies developed on university extensions – abroad	3,00
	Doctoral studies	
13	Doctoral university studies with a reduced frequency (except for technical, agronomic, sciences and medicine domain)	3,00
14	Doctoral university studies with a reduced frequency in technical, agronomic, sciences and medicine domain	4,00
15	Doctoral university studies with no frequency (started before the academic year 2006/007)	1,00
	Other preparation forms	
16	Residency stage (6)	1,20
17	Preliminary preparation for the foreign students (preparatory academic year)	1,25
18	Supplementary pedagogic preparation	0,12
19	School activities associated to didactic degrees award in the pre-university system	0,40

Source: CNFIS, 2010:7.

In *Table 2* the educational domains with cost coefficients are presented.

	Table 2
Domains with cost coefficients	

No.	Education Domain -d-	Equivalent coefficient -Cd-
1.	Technical	1,75/1,9 (1)
2.	Architecture	2,50
3.	Agronomic	1,75
4.	Sciences	1,65/1,9 (1)
5.	Mathematics and applied mathematics	1,65
6.	Socio-human	1,00
7.	Psychology	1,00
8.	Medicine	2,25
9.	Economic(2)	1,00
10.	Theatre	5,37
11.	Film	7,50
12.	Musical interpretation	5,37
13.	Music	3,00
14.	Arts	3,00
15.	Sports	1,86

Source: CNFIS, 2010:13

(1) Coefficient applied for Physics, Chemistry and Biology, on the domains Sciences and Technical.

(2) All the students from all the public universities in Romania, registered on special educational forms (preliminary preparation for all the foreign students, supplementary pedagogical preparation, activities associated to didactic degree allocation in the pre-university educational system), are all considered with the value 1 (one) of cost coefficient.

The *quality indicators* are used both in order to rank the universities and to allow a better correlation between the allocations received from the national budget as a basic financing and the way that universities' needs are satisfied as well thanks to the sums received from the national budget and from other incomes, too.

Global financing supposes the increase of decision substantiation degree concerning sizing of sums allocated from the national budget for each superior educational institution as well as financial autonomy increase, both for budget allocation use and the own incomes, according to the objectives in the strategic institutional plan and the income and expenditure budget.

3. The public superior educational system financing mechanism in Great Britain

In Great Britain each institute of higher education has allocated a part from the total of the public funds designated to higher education. This amount is taken by the universities as a subvention which can be used according to their needs and priorities but respecting the council's regulations for the financing of the teaching, researching activities and the connected ones. Every 3 years the government is establishing the level of public expenditure for each department. The public funds reach the universities only after a funding agreement is signed, between the university and the Higher Education Funding Council (HEFCE), which stipulates a series of demands which the universities must fulfill in order to receive the funds. These demands are mostly referring to the efficient utilization of the funds and for the designated purpose. The institutions of public higher education from Great Britain can obtain, in addition to the basic funding, other funds for different purposes (covering an inherited debt from the institutions that were prior under the control of local authorities, maintaining of libraries, museums, galleries, covering some operational costs inside London etc). The Higher Education Funding Regional Council gives the universities annual grants which are determined through a funding mechanism. The grants are allocated as a form of global funding and are given internally in an autonomic way.

a. Gathering data and calculating the standard resources per institution

The determination of standard resources is made for each higher education institution by having as basis the number of students and the area of education. For the quantification of the number of students, the number of students and their course attendance is taken into account.

A student with part-time attendance is quantified through the comparison of his educational activity with the educational activity of a regular student. The students who are performing an internship activity for one year outside the university's premises are quantified at a rate of 0,5 per student in comparison to a regular student for the same year. For the calculation of the standard financing per institution in the next year, the number of existing students and the number of potential students admitted through the competition for next year are taken into account.

The student's type and the nature of the learning environment are influencing different level of resources as not all students are receiving the same proportion of funding. When considering these factors in the calculation of the standard resources, each institution is receiving bonuses which are taking into account:
- The learning environment
- The student
- The institution

b. The calculation of the given resources

The given resources are calculated based on the grant that was given to the higher education in the previous year, adjusted at different factors such as: inflation plus the income received from student's school taxes estimated by the Higher Education Funding Council.

The starting point for each institution of public higher education is the grant given in the previous year by the Higher Education Funding Council. This amount is adjusted as explained below:

- The funds allocated by the government are adjusted with the inflation;
- The financing is adjusted in the case in which the institution did not fulfill the requirement of the funding agreement. This appears due to the fact that the institutions are not capable of maintaining the number of students for whom the grant was allocated in the previous university year;
- The increase of the funds allocated for the additional students. The government wants an increase of the higher education sector. The additional places for students are funded by the Higher Education Funding Council at the level of standard resources (excluding school taxes).

c. The results comparison for phase 1 and phase 2

In this phase the comparison of the results from phase 1, standard resources results and from phase 2, given resources results takes place.

The difference in percents (DP) is calculated as shown below:

$$DP = \frac{\text{given resources} - \text{standard resources}}{\text{standard resources}} \times 100 \qquad (2)$$

The difference in percents cannot be greater than 5%.

The funding method is taking into account the financing of similar activities, at similar levels, in all universities and colleges. Thus, it is not intended to allocate to the institutions more or less money than the standard resources. But, at the same time, the Higher Education Funding Council, in order not to apply a standard level to all institutions, is permitting some deviations from the standard level according to different circumstances and content of courses existing in different institutions.

d. The assessment of the final grant for the higher

The last step is calculating the subvention allocated to each university, mentioning the fact that for the universities that are exceeding the 5% tolerance the funding must be adjusted or the number of students is adjusted so that these universities can be situated under the tolerance for a specific period.

In the case in which the difference between the standard resources and the actual resources is not exceeding 5%,

then the Higher Education Funding Council is transferring the grant each year. In other words, the Higher Education Funding Council will allocate the amount calculated in step 2 except the estimated income from the school taxes.

4. Public superior educational system financing mechanism in France

Public superior educational institutions financing is developed on contracts negotiated with the Ministry of Education, beginning with 1994.

In the process of public funds allocation for superior education financing there is a contract between the state and the superior educational institutions on a 4 years length which is based on a lot of *performance criteria* that universities must accomplish; in such a way, the contract provides the objectives to be targeted (the quality of educational act, of scientific activity, too), as well as the performance indicators used in obtained results evaluation.

The global subsidy for operating activities are there allocated considering the *calculation formula*. The purpose of this policy is to strengthen the share of contractual credits assigned on the basis of a qualitative evaluation of results, comparative to the assigned credits, considering only the quantitative elements.

The SANREMO model (Monetary Fund Allocation Analytic System) is a superior educational system financing model which has been introduced in 1993. It is typical to this financing model that funds are allocated to superior educational institutions on the basis of the number of students and the standard costs per student. The Ministry of Education is calculating the multiplication between the costs per students and the number of students for each study domain from superior educational institutions (Kaiser F., 2001).

Financing methodology is based on 18 different costs categories per student which derive from the standard number of study hours per student on each discipline (*Table 3*). Besides these basic funds, the superior public educational institutions may receive supplementary funds for certain projects, on a contract.

The research is financed from public funds allocatedby the Ministry of Education through grants and funds for personnel or obtained on a contract on the first hand, funds allocation having on its basis the research evaluation, and, on the second hand, funds allocated on the contracts set with research national organizations, obtained by research units from the universities.

The contract set on 4 years length between the state and public superior educational institutions includes a section concerning research, which contains criteria which

stipulates that the teams benefit of subsidies and a Bonus Qualité Recherche (BQR).

Table 3
The standard number of study hours per student, according to the discipline and the nature of study program in France

No.	Discipline/study program nature	No. of hours/ student
1.	Law School and Economics (DEUG)*	5,8
2.	Law School and Economics (L&M)**	7,2
3.	Social Sciences (DEUG)	6,6
4.	Social Sciences (L&M)	7,0
5.	Foreign Languages, Pedagogical and Geography (DEUG)	8,5
6.	Foreign Languages, Pedagogical and Geography (L&M)	8,6
7.	Nature Sciences and Computers (DEUG)	13,0
8.	Nature Sciences and Computers (L&M)	15,0
9.	Mathematics (DEUG)	9,0
10.	Mathematics (L&M)	18,5
11.	Law School, Economics and Social Sciences (Technological University Institute)	27,3
12.	Engineering (in Technological University Institutions)	36,5
13.	Law School, Economics and Social Sciences (in Professional Training University Institutions)	27,3
14.	Engineering (in Professional Training University Institutions)	36,5
15.	Engineering	40,0
16.	Master Studies	10,0
17.	Specialization in Law School, Economical and Social Superior Studies	12,0
18.	Specialization in Engineering Superior Studies	20,0

Source: Maassen P., 2003:26

Note: *University General Knowledge Diploma
       **License and Master

The contract set on 4 years length between the state and public superior educational institutions includes a section concerning research, which contains criteria which stipulates that the teams benefit of subsidies and a Bonus Qualité Recherche (BQR).

Bonus Qualité Recherche is a annual financial support form that is awarded to a university for its research policy. This bonus comes from the operational credits and the ones for the equipment, provided by the Ministry.

Linked to research activity financing, the performance contracts provides a lot of selection criteria for the research projects, based on an auction. These criteria refer to: the number of academic publications in specialist magazines, the use of scientific research results in didactic activity, the number of PhD-s etc.

5. Superior public Educational system financing mechanism in Denmark

In Denmark, there are performance contracts between the state and the educational institutions, which establish strategic objectives, means and interests area for the universities, divided into four main activity categories: education, research, information spread and information exchanges. However, the result of these universities, compared with performance contracts, have no influence on the quantum of public funds that are received by the universities.

Now, the public funds allocation for the public superior educational institutions are based on the number of active students and on the ones who are passing their examinations, a fact that leads to the idea that institutional financing in Denmark is oriented towards output.

In Denmark, the funds allocated for education financing are separated by that ones allocated for research financing; in this way, the educational institutions have separate budgets for education and research.

In 1993, the new adopted law offers more financial autonomy to the universities; the universities' incomes may be seen as a lump sum and the universities may take free decisions on them. On the competence domain of Ministry of education there will remain only the decisions for large investments.

The government allocations settled on the principle of the new financing model suppose the introduction of some 4 years long agreements concerning the total number of study positions in an institution (before the reform, these positions have been annual). The universities had the free decision of reallocating the study positions between different study domains.

In 1994, the government had implemented a system in which the financing is made based on the number of active students.

The Ministry of Education uses the principle of the *„taxi driver"*, which correlates financing level with the number of students that pass the examinations (active students). In this way, teaching activity financing had on its basis the principle of the historic determined costs, which differ from a profile group to the other.

The main idea behind the *„taxi"* principle strategy is that decisions concerning efficiency of training classes are best made by the people who are directly confronted with the problems, i.e. the leaders and superior educational institutions executive boards (Eurydice, 2009).

Considering that the subsidy is not deducted on activities and also that the universities have their own autonomy, the superior educational institutions have all the freedom of reallocating these funds according to their own needs.

For each student who graduates an examination a certain sum is allocated for the university. The total number of these so called „active students" determines the available budget. Due to this system, every single examination is there awarded. The universities are not „compensated" for the students who don't pass the examinations.

The annual budget for educational system (*T*) for the *i* institution in *t* academic year is calculated on the following formula (Maassen P., 2003):

$$T_{i,t} = A_{i,1,t} \cdot (TT_{1,t} + TO_{1,t}) + A_{i,2,t} \cdot (TT_{2,t} + TO_{2,t}) + \ldots$$
$$+ A_{i,n,t} \cdot (TT_{n,t} + TO_{n,t}) + PR_{i,1,t} \cdot TP_{1,t} + \ldots$$
$$+ PR_{i,k,t} \cdot TP_{k,t} + PGE_{i,t} + (TTE_t + TOE_t) +$$
$$+ PGN_{i,t} \cdot (TTN_t + TON_t) \quad\quad (3)$$

where:

$T_{i,t}$ - the budget the *i* institution in *t* academic year;

$A_{i,j,t}$ - the number of active students from *i* institution belonging to *j* domain (j=l…n) in *t* academic year;

$TT_{j,t}$ - the rate per active student belonging to to *j* domain in *t* academic year;

$PR_{i,h,t}$ - the number of active students who develop practical activity in *h* domain (h=l…k) in *t* academic year;

$TP_{h,t}$ - the rate per practical activity necessary for *h* domain (h=l…k) in *t* academic year;

$PGE_{i,t}$ - the number of post-university students in domains that require experimental practice inside the laboratories from *i* institution in *t* academic year;

$PGN_{i,t}$ - the number of post-university students in domains that don't require experimental practice inside the laboratories from *i* institution in *t* academic year;

TTE_t - the rate per post-university students in domains that require experimental practice inside the laboratories in *t* academic year;

TOE_t - the supplementary rate per post-university students in domains that require experimental practice inside the laboratories in *t* academic year;

TTN_t - the rate per post-university students in domains that don't require experimental practice inside the laboratories in *t* academic year;

TON_t - the supplementary rate per post-university students in domains that don't require experimental practice inside the laboratories in *t* academic year.

The rates are annually adjusted, according to the Ministry of Education budget balance.

6. Conclusion

In the past, in Europe, financing mechanisms have involved negotiations between the superior educational institutions and the state on the allocated sums, calculation of these sums on the real costs supported by institutions and grants allocations divided on budgetary categories. Now, these public superior educational system financing mechanisms have suffered important changes, if we consider the allocated sums calculation formulas and also the measures for public financing quantum correlation with the performance of financed university.

In *Table 4*, the input criteria used inside the analyzed countries are synthesized:

Table 4

Calculation criteria used in public superior educational system financing formulas in a few European countries

	Romania	France	Great Britain	Denmark
Number of recorded students in the previous or the current academic year		X	X	There don't exist legal input criteria in the financing formula
Number of positions financed by the state available in the institution or that one which must be insured by the institution	X			
Another indicators for institutional activities volume		X	X	

Source: Eurydice, 2008:53

Close to the input criteria there are also used some *performance indicators* which are there synthesized in *Table 5*.

In *Table 6* are synthesized the four main superior educational system public financing mechanisms.

Although the financing systems differ from one country to another, there are a few common appropriate objectives on the level of European countries, as it follows:

- The financing formulas are used almost everywhere for public funds allocation;
- Acquirement of a higher autonomy degree for public finance resources management;
- Correlation of public funds allocated to public superior educational institutions with the performances obtained by these institutions.

.

Table 5

Perfrmance criteria used in public superior education institutions financing formulas in a few European countries

	Romania	France	Great Britain	Denmark
Indicators on students' results		The contracts agreed between the state and the institutions establish target objectives and performance indicators thanks to whom evaluation of results will be determined.	X	X
Personnel costs decrease				
Didactic personnel professional training level	X			
Results of institutions evaluation				
Infrastructure, management and services quality offered to university community	X			

Source: Eurydice, 2008:55

Table 6

Public direct financing mechanisms in superior educational institutions

	Romania	France	Great Britain	Denmark
Budget negotiation with the financing organ on the basis of a project proposed by the institution				
The budget settled by the financing organ on the basis of previous costs				X
Financing formula	X	X	X	X
Performance contracts based on strategic objectives	X	X		
Performance contracts based on a default number of specialization bachelors				
Financing for certain research projects allocated by auction	X	X	X	X

Bibliography

1. Kaiser, F. & Vossensteyn, H. & Koelman, J.(2001) *Public Funding of Higher Education. A comparative study of funding mechanisms in ten countries*, University of Twente: Center for Higher Education Policy Studies, available on-line at http://doc.utwente.nl/45235/1/ engreport02publicfunding.pdf (April, 10th, 2011)

2. Maassen, P. (2000) *Models of Financing Higher Education in Europe***,** University of Twente: Center for Higher Education Policy Studies.

3. Lepori, B. (2008), Options et tendances dans le financement de l'éducation supérieure en Europe, *Critique internationale,* 2008/2 (n° 39) Berne: Presses de Sciences Po.

4. Salmi, J. & Hauptman, A.M. (2006) Innovations in Tertiary Education Financing: A Comparative Evaluation of Allocation Mechanisms., Washington: *Education - Working Paper Series* no. 4, available on-line at http://www-wds.worldbank.org/external/default/ WDSContentServer/WDSP/IB/2007/01/04/000310607_20070104143659/Rendered/P DF/383240EWPSno401TertiaryEd1Financing.pdf (April, 10th, 2011)

5. Strehl, F.& Reisinger, S.& Kalatschan, M. (2007) Financing systems and their effect on superior educational systems, Paris: OECD

6. Toulemonde, B. (2009) *Le système éducatif en France*, Paris: La Documentation française

7. ******* (2008), Government of superior educational system in Europe. Policies, financing and academic corps, European Commission, Brussels: Edition Eurydice

8. ******* (2009), National summary sheets on education system in Europe and ongoing reforms, European Commission, Brussels: Edition Eurydice

9. ******* (2009), *Organization of the education system in France 2008/09*, European Commission, Brussels: Edition Eurydice

10. ******* (2009), Metodologia de repartizare pe instituţii de învăţământ superior a alocaţiilor bugetare pentru finanţarea de bază în anul 2010, CNFIS.