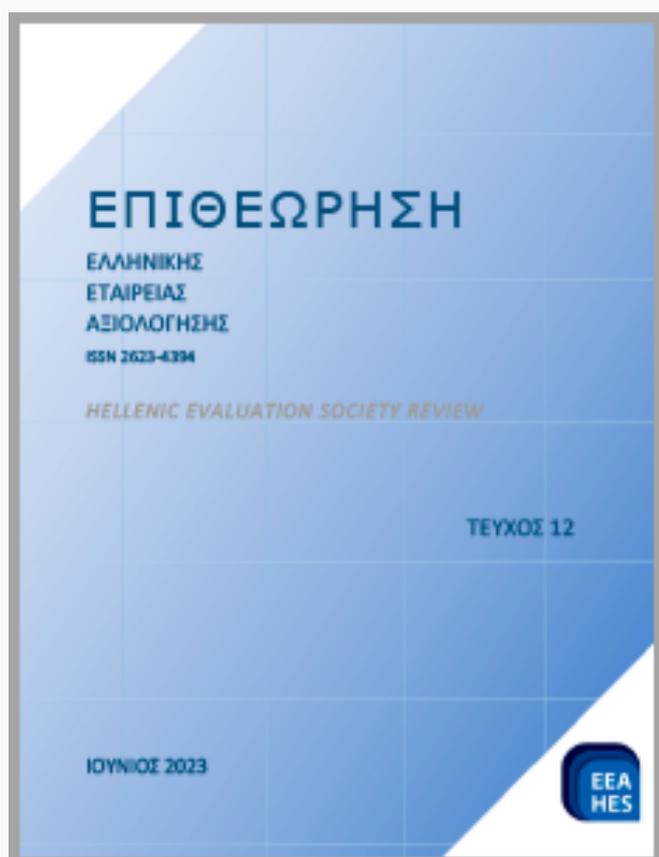


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ΑΡΘΡΟ

Allocation of public funding for greek universities according to qualitative criteria

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Abstract

Universities play a crucial role in fostering knowledge creation, education, innovation, and human development. To ensure their sustained growth and effectiveness, it is imperative to establish robust evaluation mechanisms and equitable fund allocation systems. The scope of the current research is to present an overall view of the fund allocation of greek universities. The whole analysis underlines all the criteria and indicators related to the allocation of public funding to higher education institutions, according to objective (size related) and qualitative criteria. Embedding the assessment of qualitative criteria in the funding procedures is an important and innovative way of fund allocation that enhances the promotion of a new mentality for constant improvement at Greek universities.

Keywords: Universities, Higher Education, Evaluation, Fund Allocation, Qualitative Criteria.

1. Introduction - Fund Allocation of Universities

Universities worldwide receive funds from diverse sources, including government allocations, tuition fees, research grants, philanthropic donations, and industry partnerships. The availability and distribution of these funds significantly impact the financial stability and capacity of universities to fulfill their missions. Fund allocation decisions consider multiple factors such as institutional performance, research productivity, teaching quality, social impact, regional development, student demographics, and the economic needs of the country or region. Balancing these factors is essential to ensure fair distribution of resources and to promote equitable access to quality education.

The budget allocation of public university funding is generally determined through one or more of following three key methods (OECD 2019):

- Historical trends: The amount allocated is based on the amount of funding that has been provided in previous years, which may vary annually according to certain parameters.
- Negotiations between government and higher education institutions: The amount allocated is an agreed sum negotiated between government and higher education institutions. The negotiations may be set out in performance agreements or funding agreements.
- Formula funding: The amount allocated is calculated through one or more formulas based on a set of predefined parameters and indicators.

Although formula-based subsidies are the most common method of funding allocation, negotiated block grant and historical allocation remain important mechanisms in some jurisdictions. Some funding systems combine these elements. A funding formula is “a mechanism to determine the amount of funding allocated to a higher education institution using a mathematical formula which includes variables based on indicators, such as student numbers, etc. This can be differentiated from other ways of determining the amount such as negotiation or historical allocation” (Benetot Prutot et al 2015). Competitive allocation of funds is a tool used in all systems. A defined budget is allocated on the basis of success criteria and only a certain number of applicants receive a share of these funds). Competitive funding is frequently associated with research. However, other funds can also be awarded competitively. Performance based funding is used to cover mechanisms that distribute core public funding according to parameters that are related to performance, like the process of learning/teaching, research or interaction with external stakeholders (e.g. business, industry, society) and other criteria (Benetot Prutot and Estermann 2022).

In Greece the performance based funding has been strengthened through the set of criteria, quality indicators and issues for allocating the annual regular grant to higher education institutions, specified by the Ministerial Decision (Greek Government Gazette, 2128, Issue B, 31st March 2023). According to this, 80% of the budget for public fund allocation to universities is distributed according to objective criteria (mostly size related) and 20% according to qualitative criteria that relate to a) the continuous improvement of the basic academic activities of the University, b) the research activity, excellence in research and performance of scientific staff, c) the links with society and the labour market and exploitation of generated knowledge, d) the internationalisation and e) the quality of the university environment. Those qualitative criteria have been followed for the past 3 years and represent also a performance based funding that may enhance the continuous improvement of greek universities.

2. Fund Allocation of Greek Universities – 80% of budget according to objective criteria (mostly size related)

Eighty percent (80%) of fund allocation of greek universities relies to objective criteria related mainly to the size of the organization. In particular, 80% of funding is distributed according to the following criteria:

Table 1. Objective Criteria for 80% of Budget Allocation

Criteria	Description	Weighting Coefficient
C. 1	Number of University's Departments	10%
C. 2	Total number of registered students per University	25%
C. 3	Duration of study programs (Number of semesters of undergraduate study)	7%
C. 4	Laboratory equipment requirements of the departments	15%
C. 5	Geographical distribution of the University	10%
C. 6	Permanent Staff (Faculty members and administrative staff)	15%

C. 7	Temporary support staff (cleaning staff, security crew, maintenance staff etc.)	15%
C. 8	Allocation of the Ordinary Budget from the previous financial year	3%

Each Criterion is described in detail as followed:

Criterion 1: Number of departments per University

This is calculated as the ratio of the number of departments of the higher education institution to the total number of departments of the higher education institutions in the country. Departments operating without providing an undergraduate degree (e.g. general departments which operating in some higher education institutions) are not counted.

Criterion 2: Total number of registered students per University

It is calculated as the share of active students of the undergraduate programs of study of the higher education institution to the total number of active students of all higher education institutions. Active undergraduate students are defined as students who have not exceeded the maximum limit of attendance per program of study, as applicable.

Criterion 3: Duration of study programs (Number of semesters of undergraduate study)

It is calculated as the total number of semesters offered by the university (8,10 or 12 semesters). The total number of semesters of the undergraduate studies offered by the university (8,10 or 12) is calculated as a percentage of the total number of semesters of undergraduate programs for the whole country. This indicator provides a strong indication of the distribution of teaching load and requirements in terms of classrooms and teaching staff per university.

Criterion 4: Laboratory equipment requirements of the departments

The different curricula have differentiated laboratory equipment requirements. Each department is assigned to one of the following categories with the corresponding coefficients:

- a. Humanities and Social Sciences 1,0
- b. Mathematics, Statistics, Business Administration 1,5
- c. Computer Sciences, Archaeology, Fine Arts, History, Architecture, Archaeology, Humanities, History of Art, History of Architecture, Archaeology, History of Science, etc. 2,0 (with special requirements, sports, art labs, computer labs, etc.)
- d. Natural Sciences (with laboratories) 3,0
- e. Engineering Sciences (with laboratories) 3,0
- f. Life and Environmental Sciences (with laboratories) 3,0
- g. Applied Health Sciences (with laboratories) 3,0
- h. Health Sciences (with laboratories and clinics) 4,0

The weighted average for each institution is calculated and is expressed as a percentage of the total number of higher education institutions.

Criterion 5: Geographical distribution of the University

It is calculated taking into account the dispersion of departments of universities in different cities of Greece and counted as a percentage of the total number of universities. The departments of the universities operating in Attica and the regional unit of Thessaloniki will be considered to operate in the same city, irrespective of whether they have facilities in different municipalities.

Criterion 6: Permanent Staff (Faculty members and administrative staff)

The various categories of staff have different operating costs. The faculty have different coefficients:

- a. The teaching staff with coefficient 1, due to the high scientific/managerial workload
- b. The laboratory staff (EDIP, EEP) with coefficient 0,50
- c. The technological and administrative staff with coefficient 0,25

Criterion 7: Temporary support staff (cleaning staff, security crew, maintenance staff etc.)

The cost of contracts for the provision of cleaning and maintenance services covered by the expenditure of the budget, as well as expenditure for electricity, water and heating.

Criterion 8: Allocation of the Ordinary Budget from the previous financial year

In order to dampen any large fluctuations from the previous year's funding, the percentage of funding from the previous year is also taken into account.

The final calculation of the allocation of 80% according to objective criteria is the following:

$$C1*0,1+C2*0,25+C3*0,07+C4*0,15+C5*0,1+C6*0,15+C7*0,15+C8*0,03$$

3. Fund Allocation of Greek Universities - 20% of budget according to qualitative criteria

Each university submits to the Hellenic Authority for Higher Education an annual report presenting its annual performance on specific set of criteria. The indicators shall be calculated using the data of the year preceding the submission. Performance is presented on the basis of quality and achievement indicators, which correspond to criteria for assessing the quality of the institutions. The set of criteria and indicators of quality and achievements are grouped into five sections as follows:

- (A) continuous improvement of the basic academic activities of the University;
- (B) research activity, excellence in research and performance of scientific staff;
- (C) links with society and the labour market and exploitation of generated knowledge
- (D) internationalisation and
- (E) the quality of the university environment

From each of the five above sections of criteria, indicators and achievements, section (A) is mandatory for all institutions, while from the remaining four sections (B), (C), (D) and (E) institutions must select two, in which they will be assessed. Each criterion has specific indexes specified as followed:

Section A. Continuous improvement of the basic academic activities

The first section of criteria includes some criteria related to the basic academic activities. It is an

obligatory set of criteria that all greek universities must complete. For the better understanding of the first obligatory section of criteria a detailed table is presented in order to clarify better the description and calculation of each indicator along with the respective points.

Table 2. Description of Criteria – Section A. Continuous Improvement

Index	Criterion	Index	Name of indicator	Description and calculation of indicator	Points
A.1	Rate of graduation of undergraduate students	A1.1	Share of graduates of year in terms of new enrolment	The percentage of graduates in the reference year in relation to newly admitted students of the reference year, at institutional level for undergraduate programs.	50
		A1.2	Share of graduates in the normal period of study (n)	The percentage of graduates of the academic year who have completed their studies at regular study time (n) in relation to all graduates in the academic year.	50
		A1.3	Average time to obtain a degree	The average degree time of graduates of the year. It is calculated by dividing the length of study in days for each graduate in terms of the total number of days of normal study duration (365 days × n years).	100
A.2	Provision of postgraduate programmes	A2.1	Number of active postgraduate programs / Number of departments	The proportion of all active postgraduate programs in relation to all departments, at institutional level. It is calculated on the basis of the ratio of the total number of active postgraduate programs of the institution in relation to all the departments of the institution.	40
		A2.2	Postgraduate / Undergraduate Student Ratio	The proportion of all postgraduate students in relation to all active undergraduate students.	40

A.3	Doctoral student provision	A3.1	Proportion of doctoral candidates per faculty member	The proportion of PhDs under preparation in relation to the total number of faculty members at institutional level. It shall be calculated on the basis of the ratio of current doctoral candidates, who have been registered for the last 4 years and retained the status of doctoral candidate, in relation to all faculty members	80
A.4	Quality of the research work produced based on publications and scientific outreach.	A4.1.1	Average number of scientific peer-review publications per faculty member	The proportion of academic papers published in the previous year in scientific journals and conferences with reviewers in relation to faculty members. It is calculated from the annual total of the specific published work in the International Scopus Database in relation to faculty members	100
		A4.1.2	Average number of scientific publications per faculty member (for universities with a focus on humanitarian / social sciences)	The proportion of the academic papers published in the previous year in relation to the faculty members. (on the basis of a list of publications submitted by the university)	100
		A4.2.1	Average number of citations per faculty member	The proportion of citations for the last five years in the publications of faculty members. It shall be calculated from the above total number of citations in the international database Scopus	100
		A4.2.2	Average number of high-impact publications per faculty member (for universities with a focus on humanitarian / social sciences)	The proportion of high-impact publications in the previous year in relation to all faculty members at university level. Such publications are foreign language monographs in series with critics, foreign language articles in judged magazines	100
A.5	Monitoring	A5.1	Position of	The Institution's position in	120

	and improving the Institution's position in international evaluations		the institution in the international rankings	international evaluations based on reliable rating agencies. The highest position of the institution shall be selected among QS, ARWU, THE, SCImago and Webometrics. The ranking among posts 1-300 receives 120 points, the ranking among posts 300-500 receives 100 points, 500-800 receives 80 points, the ranking among posts 800-1000 receives 60 points and the ranking among posts 1000-1200 receives 40 points.	100 80 60 40
		A5.2	Position of institution's scientific areas in international rankings	The relevant position of scientific areas of the institution in international thematic evaluations based on reliable evaluation sites in the reference year. The highest position of some of the Foundation's scientific areas in the most recent assessments of scientific areas of QS, ARWU and THE is selected. The ranking between 1-100 posts receives 80 points, the ranking between posts 100-250 receives 50 points, and the ranking among 250-500 posts receives 30 points.	80 50 30
A.6	Implement curricula with digital skills provision	A6.1	Percentage of undergraduate degrees where students acquire digital skills and a relative certificate is provided	The percentage of undergraduate degrees where students acquire digital skills and a relative certificate is provided	30
A.7	Certification of Internal Quality Assurance	A7.1	Certification score of the Internal System Quality Assurance	The overall score received its evaluation/certification process by the Hellenic Authority for Higher Education. The score with full compliance is 150 points, 100 points satisfactory and 50 points partial.	150 100 50

A.8	Completeness and validity of the Institute's data during evaluation	A8.1	Rate of correct filling data fields	The percentage of the institution's correct entries in relation to all the requested fields, as determined on an annual basis by the Hellenic Authority for Higher Education (the correct entries are those which have been verified by HAHE by electronic means or other public sources).	100
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Section B: Excellence in research and performance of scientific staff

The second section of criteria includes indicators that relate to the research and performance of scientific staff. The first criterion relates to the PhD doctoral programs, namely to the number of PhDs completed per faculty member and the number of publications of each new doctorate PhD holder.

The second criterion relates to the participation of research teams in national and international competitive research programs or participation in major research initiatives. It includes indicators as the total project funding per faculty member, the average annual number of active projects per faculty member, average annual number of european active projects coordinated by the university and the number of university's projects funded by European Research Council (ERC). For those indicators a respective list is sent by the university and other external sources of certification as Horizon, ERC, General Secretariat of Research and Innovation are also used.

The third criterion relates to the international acknowledgement of faculty members and includes two indicators. The first one relates to the faculty international acknowledgement outreach, regarding the number of faculty members that are included in the catalogue published on the Clarivate Analytics website, which includes scientists with an impact on the top 1 % of the Web of Science in the reference year. The second one relates to the faculty members with significant recognition like receiving an award of an international prize for scientific work or a state prize, being a chairman of internationally acknowledged scientific organisations/companies, becoming a member of an academy, or being an Editor in Chief in Journals of the top two quarters of SCImago.

The fourth criterion relates to policies that boost the employment of young researchers and create jobs at the university. The first relative indicator is the percentage of expenditure to cover external partners with research tasks and the second the number of freelance researcher positions created by the university through funded research.

Section C. Links with society, the labour market, and harnessing the knowledge generated

The third section of criteria relate to the links of each university with the society and the labour market along with how it makes use of the knowledge that it generates. It includes 5 specific criteria. The first criterion relates to the participation of departments and students in internship programs and assesses the percentage of university departments participating in internships and the share of active students in traineeships. The second criterion relates to the provision of services to organisations and businesses by accredited laboratories of the university. It assesses the percentage of laboratories certified in accordance with international standards (e.g., ISO) in relation to the total number of laboratories and the percentage of revenues from the provision of laboratory services to

organizations and businesses.

The third criterion relates to the organization of educational programs for lifelong learning. The first relative indicator measures the number of lifelong learning programs organized by the respective centres for training and lifelong learning. The second indicator measures the number of students of centres for training and lifelong learning in relation to the total number of active students. The fourth criterion relates to the technology transfer and the knowledge valorisation actions. The first relative indicator is the operation of a technology transfer office and/or incubator, the second relative indicator is the number of patents awarded by national, European, or other international bodies, the third relative indicator is the number of spin-offs or start-ups established and the fourth indicator the income from participation in spin-offs/license agreements on the regular budget. The fifth and final criterion relates to the Implementation of actions to interconnect the Foundation with the labour market.

Section D. Internationalisation

The fourth section of criteria includes the international perspective of the university. The first relative criterion is the share of foreign students in the total active number of students. The second relative criterion relates to developing the international mobility of undergraduate and postgraduate students and faculty members through international (e.g., Erasmus) exchange programs. It includes indicators as the share of Erasmus outgoing students, the annual percentage of incoming Erasmus students, the annual percentage of outgoing faculty members with Erasmus and the number of foreign-language courses as a percentage of the total number of courses. The third criterion relates to strategic partnerships with foreign universities for joint programs (bachelor, master, doctorate, and summer schools), exchange of faculty/students, etc. It includes indicators as the number of joint/dual programs, the participation in the European University Association and the number of active international cooperations per department.

The fourth criterion relates to the foreign language study programs and the fifth criterion relates to offering postgraduate study programs in a foreign language and attracting foreign students. The fifth criterion relates to offering postgraduate study programs in a foreign language and to attracting foreign students. The sixth and final criterion relates to attracting professors from foreign institutions, and more specifically to the annual percentage of incoming Erasmus faculty members and the number of visiting professors by department.

Section E. Quality of university environment

The fifth section of criteria relates to the quality of the university environment. The first relative criterion includes a set of indicators as the percentage of administrative staff at the career offices, the number of scientific conferences organised by students and the number of international scientific conferences (co)-organised by the university. The second criterion relates to promoting gender balance and measures the proportion of women/men in the faculty members. The third criterion relates to the services for health and psychological support for students and staff and includes indicators as the existence of a psychological support service and the number of specialized scientific support staff per student.

The fourth criterion relates to the improvement of accessibility and includes indicators as the expenditure for disability/accessibility support actions in relation to the total budget and the percentage of classrooms accessible to persons with disabilities. The fifth criterion relates to the operation of a permanent structure for finding resources through donations from individuals and

organizations and the share of new resources through donations to the total budget. The sixth criterion relates to actions for the development of teaching staff, such as training and rewarding excellence. The seventh and final criterion includes the percentage of administrative staff in the Quality Assurance Department in relation to the total number of administrative staff at the university.

4. Summary – Conclusions

According to all the aforementioned criteria, a specific value is calculated for every university. All universities are being assessed for the Section A criteria, and for two of the other four sections, that they have selected. According to the final value, the 20% of funding is allocated accordingly, with universities that have received a higher overall value receiving more funds proportionally.

Moving away from funding mechanisms that relate only to criteria like the size of the higher education institution and the funding of previous years, may create a new mentality for the continuous amelioration of all universities. Each of the assessed sections of criteria focuses on important issues for the greek universities like the excellence in research and the performance of the scientific staff, the links with society, the labour market and the harnessing of knowledge, along with the internationalization and improvement of the quality of the university environment. Linking all of those issues to the allocation of public funding may improve further the focus of universities on those specific topics. The whole set of criteria is being reassessed annually and improvements are constantly made.

The use of qualitative criteria in the public funding process of greek universities is a new and innovative process that is continuously developing. Greek universities are consistently sending all the required data to the Hellenic Authority for Higher Education and have been following a new process that requires continuous improvement and correct measuring of all relative criteria and indicators. Embedding the assessment of qualitative criteria in the funding procedures is important, because it brings a new mentality of constant improvement for the educational, research and administrative issues of every university. Even though the whole process could be also considered a form of evaluation for the greek universities, the main scope is the constant amelioration of the academic, educational and research activity of the universities through the allocation of funding.

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