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## Funding Higher Education in a few EU Countries: Implications for Competition and Competitiveness in Higher Education

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*Public funding of higher education is an important topic within European governmental agenda, especially in times of budgetary austerity. Thus, given the challenges higher education industry faced in the last decades, the present paper aims at identifying the strengths and weaknesses of a few national funding patterns of higher education institutions (HEIs) within the European Union. Using the method of content analysis, the study conducted in Finland, Greece and Romania also reveals the effects the national funding patterns might have on the competition and competitiveness of national HEIs in the European higher education market. The issue of performance funding of HEIs is also addressed. Moreover, the authors argue for the necessity of integrating institutional performance indicators as an important criterion for allocating public resource to HEIs, in order to raise quality, competition and competitiveness of national HEIs on the European market of higher education.*

**Keywords:** *performance funding, public resources, higher education, competitiveness, competition, Finland, Greece, Romania.*

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## Introduction

The same way it influenced every other sector of the national economies, even within the field of higher education, „globalisation has increased competition, as evidenced by the growing attention that is paid to an ever-expanding number of international ranking schemes” (Sursock, 2012) [1].

Nowadays, competition “has become a major driving force in higher education. Higher education institutions increasingly compete for funds, students, teachers, for reputation in general” (Hopbach, 2012) [2]. As a result of this driving force, the stakeholders within this field, namely the state, the students, the employers and the society as a whole, ask for competitiveness within higher education industry, both at system and institutional level. But, as some researchers underline university” autonomy is framed as a precondition of competitiveness” (Nokkala, 2012) [3]. Thus, within a national legal framework the level of autonomy universities enjoy is playing an important role in fostering the competitiveness of each university.

Moreover, competitiveness within higher education seems to be strongly related to quality and performance. Thus, ”in a highly competitive field quality in higher education has become a core success factor for higher education institutions, to be more precise: a core factor for institutional success” (Hopbach, 2012) [2]. Also, the performance of the higher education system depends on the degree of universities’ autonomy (de Boer et al., 2010 [4]; Jongbloed et al., 2010 [5]). Furthermore, researchers underlined the importance the national funding mechanism plays in designing a competitive industry of higher education. Though this issue stands on the agenda of most of the EU member states, some researchers claim that higher education funding mechanisms appear to be ”mostly a domestic national affair, meant to increase competition both within and between systems and institutions” (Miroiu and Vlasceanu, 2012) [6].

The attractiveness of a higher education system or of a university within the students, staff and potential investors is quite often seen as a proxy for the competitiveness of a higher education system or institution. In the international literature there is evidence on the fact that researchers tried to measure the attractiveness of a higher education system, within the international frame, by the flows of foreign students and staff into each analysed country (Nokkala, 2012) [3]. According to the results of the study conducted by Nokkala (2012) [3] in 26 European countries, all members of

the Bologna process, excluding Romania, countries like UK, Austria, Switzerland, France and Germany managed to attract the largest proportion of international students, while states as Greece, the Netherlands, the Czech Republic, Slovakia, Estonia, Italy and Spain have more than doubled the number of foreign students attracted within the period between 2000 and 2008.

The issues of competition and competitiveness in the educational sector are now hot points on the public agenda at both national and international level, mainly because of significant financial, political, technological and demographic changes occurred in the last few decades. In order to face the challenges of the actual socio-economic context, higher education institutions (HEIs) have to reshape their missions and objectives, enhance their quality and even diversify their resources, both human and financial.

As a consequence, policy makers, researchers and managers of both public and private universities developed a set of qualitative and quantitative indicators as a tool for measuring the quality and performance of each university and also as an instrument to compare higher education institutions at national and international level. All these indicators (completion rates, research output, degree of match between higher education and labour market, financial efficiency and effectiveness) designed within the higher education industry, but without resuming strictly to higher education, help on one hand universities to perform in the actual socio-economic context and, on the other hand, higher education beneficiaries to evaluate the results delivered by each university.

But, independently on the degree of university autonomy, no mission, strategy, objective and result can be obtained without proper resources. If we set our discussion on one hand on human resources, high quality human resources claim for an appropriate salary. Depending on the autonomy each university has in negotiating and establishing the level of salaries, high quality academic staff will contribute to improving quality and performance within the university. On the other hand, besides the human resource, within a public university the level of financial resources represents a real challenge, since the financial resources of many European public universities still depend in an overwhelming percentage on public funds.

We conducted an in-depth policy and document analysis of higher education systems and funding systems for higher education, for the academic year of 2014/2015, focusing on a comparative perspective within three national higher education systems and underlining on one hand the overlaps and differences between the architecture of the educational systems, and on the other hand the strengths and weaknesses of the national public funding patterns of HEIs. For our study we have selected Finland, Greece and Romania as among these countries we find consistent overlaps and differences in shaping the funding system of HEIs. We also emphasized the effects the national funding patterns might have on the competition and competitiveness of national HEIs, pointing out differences and similarities between the degree of integrating institutional performance indicators as an important criterion for allocating public resource, in order to raise quality, competition and competitiveness of national HEIs on the European market of higher education.

## **Analysis of national patterns in public funding of HEIs - comparative study**

The funding policy of higher education across most of the European Union member states has continuously changed under the pressure of several national and international factors, such as: the role each society assigns to higher education; the interests of the whole range of higher education stakeholders and customers; the level of economic development of each state; the restructuring of national economy; the political regime and political decisions within the sector of higher education; the globalization of the economy; the internationalization of higher education; the massification process of higher education; the demography within each state; the development of technologies as well as the development of knowledge based economy and society.

Based on these factors, the governmental allocation process of public funds to HEIs takes various forms, depending on what is really funded (input versus output) and how is it funded (centralized versus decentralized approach, non-competition versus competition, individuals versus programs), thus on the mixture of characteristics according to which higher education funding mechanisms could be classified as budget

oriented, program oriented, supply driven or student centered (Jongbloed, 2004) [7].

A budget oriented funding model is a high degree centralized and input-oriented funding system - negotiated funding - based rather on determining the level of public resources allocated by the government according to previous allocations, considering cost projections and resulting in a line item budget based on cost units or capacity, while a program oriented funding model is indeed a performance based funding, where the funds allocated to HEIs are determined through a funding formula considering mostly the results of each universities (in terms of number of credits accumulated by students, enrolment number of students and number of diplomas conferred, number of employed graduates, research quality indicators). The other two market-oriented funding systems defined by Jongbloed (2004) [7] encourage competition between HEIs, both in the case of a supply driven funding model where universities receive public funds according to results and to the number of students they have obtained on competitive basis, as well as in the case of a student centered funding model where public funds are attracted by universities indirectly, proportionally with the number of students obtained as a result of competition with other universities and/or program studies.

### *Similarities and differences between higher education systems and between funding patterns*

The funding models of the three countries under analysis differ in terms of centralization degree and income versus outcome orientation, as the research conducted underlined significant similarities and differences between the higher education systems, in terms of tradition, structure, dimension, latest reform, administration, steering, internationalization and other criteria.

The table below shows the particular characteristics of the three national higher education systems.

**Table 1:** Synthetics of similarities and differences between higher education systems

		<b>Finland</b>	<b>Greece</b>	<b>Romania</b>
<b>basic right to higher education recorded in the Constitution</b>		X	X	X
<b>individuals paying or not for higher education services</b>	free higher education at any level	X	-	-
	free higher education only at Bachelor's level	-	X	-
	free higher education for a certain number of students and charged higher education services for extra students, at every level	-	-	X
<b>structure</b>	polytechnics and universities	X	X	-
	only universities	-	-	X
	technology educational institutes		X	-
<b>dimension</b>	less than 40 HEIs	X	X	-
	more than 80 HEIs	-	-	X
<b>proportion of private HEIs</b>	less than 10% of total HEIs are private institutions	X	-	-
	more than 40% of	-	-	X

	total HEIs are private institutions			
<b>legal status of HEIs</b>	public and private institutions	X	-	X
	only public institutions	-	X	-
<b>mission of HEIs</b>	universities – joint mission: teaching and research	X	X	X
	Universities mission: teaching	-	-	X
	Polytechnics and technology educational institutes - train professionals in response to labour market needs and conduct R&D which supports instruction and promotes regional development in particular.	X	X	-
<b>latest reform</b>	University autonomy	X	X	X
<b>degrees conferred by universities</b>	Bachelor`s, Master`s and Doctoral degrees	X	X	X
	postgraduate licentiate degree	X	-	-
<b>degrees</b>	Bachelor`s and	X	X	-

<b>conferred by polytechnics</b>	Master`s degrees			
<b>administration of HEIs (decision-making process)</b>	large autonomy and freedom of research	X	X	X
<b>university steering</b>	the resort Ministry ensures appropriate administration and steering of university administration, annually.	X	X	X
	annual data collection on a whole range of topics (applicants and admitted, new students, students, foreign students, degrees, graduate placement, median graduation times, teachers, other staff, annual accounts, expenditure by performance areas, university premises, continuous professional	X	-	-



	education, open university instruction, teacher and researcher visits, scientific publication, foreign first degree education, international student mobility (over 3 months), teacher training schools.)			
	annual data collection on only a few topics	-	X	X
<b>performance agreements</b>	annual	-	X*	X*
	multi-annual	X	X	-
	set operational and qualitative targets for the university and determine the resources required	X	X**	X
	used for the monitoring and evaluation of target attainment and the development of operations	X	X**	X
<b>university core funding</b>	supports higher completion of studies rates	X	-	-

	supports quicker transfer to work	X	-	-
	supports enhanced administration	X	X	X
	supports improvement in the quality of education and research	X	-	-
	supports internationalisation	X	-	-
	supports profiling of higher education institutions in their own areas of strength	X	X	X
<b>Structure of university global budget</b>	Government budget over 50% - 60%	X	X	X
	Private funding (donations, sponsoring, paid services- tuition fees and other).....	X	X***	X
<b>funding model</b>	Funding formula	X	X	X
	Negotiated funding		X	X
	Public funds are received only by public universities	-	X	X
	Public funds are received by both	X	-	-

	public and private universities			
<b>Funding formula</b>	Covers strategic funding, funding of education and research	X	-	-
	Covers funding of education and research	-	X	X
	Based more on input measures	-	X	-
	Based rather on output measures	X	-	-
	Based on both input and output measures	-	-	X
<b>Research funding</b>	on competitive basis	X	X	X
	on non-competitive basis	X	X	-

Source: developed by the authors using data from the national ministries of education, or other organizations, from Finland [8], Greece [9, 10] and Romania [11, 12].

\* financial agreement for additional funding

\*\* each university selects the groups of indicators on which are assessed its results

\*\*\* mainly for research

Thus, comparing the features of the three higher education systems we have noticed that part of the higher education services are free of charge; Greece grants free studies only for bachelor's degree and Romania, only for a few students enrolled, at any level, in public universities. HEIs are mostly universities, excluding Finland where only 36% of total HEIs are universities. Significant differences appear in terms of dimension of the higher education system expressed in number of institutions providing services. The Romanian higher education system offers the same educational services through a more than doubled number of HEIs than both Finland and Greece. Regarding the legal status of HEIs, the Greek higher education system comprises only public institutions, while Finland and Romania also recognise private universities. Even though, while the proportion of private

Finnish HEIs in total Finnish HEIs is under 10%, Romanian private universities represent more than 40% of total Romanian HEIs.

The three higher education systems faced recent national reforms (2010-2011), reshaping the mission of HEIs, granting large autonomy and freedom of research, enforcing public accountability within HEIs.

Annually, the resort ministry within the analysed states collects data and information from national HEIs on a various range of topics, using them in administrative purposes like: steering HEIs and measuring quality of services provided. All the three national governments conclude performance agreements with HEIs in exchange of the resources allocated. The performance agreements are signed annually in Romania and Greece, for additional funding. Every three years, the Finnish government concludes a performance agreement with each university, in which they set operational and qualitative targets for the university and determine the resources required. As a different feature arises the completion of multiannual agreements, at every four years, between the Greek government and universities regarding the development program of the university, namely: its mission, objectives, resource, annual number of students.

In the field of university core funding two different patterns are identified. While in Greece and Romania the core funding is allocated on a negotiation basis, according to cost projections by fields of study and number of students enrolled, in Finland core funding is allocated by the government according to a funding formula, based mainly on output measures, such as: for education – number of master's degrees, bachelor's degrees, master's degrees awarded to foreign nationals, student mobility to and from Finland, study credits in open university and in non-degree programmes, number of students who have gained more than 55 study credits and number of employed graduates; for research – number of PhD degrees, PhD degrees awarded to foreign nationals, international teaching and research personnel and scientific publications, competed research funding and policy objectives for strategic development.

Romanian and Greek governments allocate public funds to universities, as additional funding, based also on a funding formula. Romanian HEIs receive additional funding according to both input and output indicators, such as: for teaching – report between number of students and teaching staff, report between number of master and bachelor students, percentage of young teaching staff in total teaching staff, percentage of total

PhD supervisors in total teaching staff; for research – human resource quality, impact of scientific activity, performance of scientific activity, attracted funds for scientific research; for international visibility – percentage of international ERASMUS and ERASMUS MUNDUS students, percentage of students enrolled in international language study programs; for regional visibility and social equity – capacity of integrating students from socio-economic disadvantaged backgrounds in educational programmes, university contribution to scholarships, practice activity for bachelor degree and number of places in student hostels. Also, Greek HEIs receive additional public funding based on both input and output indicators, like: for teaching – report between the number of graduates and entry students, satisfaction of students regarding teaching, number of excellence centres, the employment of graduates; for research - number of publications per year per academic staff, number of citations per academic staff, number of academic staff involved in international funded research grants, number of academic staff involved in the management of academic and research international organisations; for internationalization – number of foreign students, number of international and agreements with other HEIs.

### *Strengths and weaknesses of national patterns in funding HEIs*

As previously shown, the funding patterns used by the three EU member states support, in different proportions, the enhancement of competition between national HEIs in receiving public and private funds based on the results obtained. Moreover, the funding patterns used by the governments also determine HEIs to act towards raising the competitiveness of HEIs, requesting performance in the field of education, research, internationalization and social equity, also promoting international competition and competitiveness of national HEIs on the European market of higher education.

In the following lines we will present the results of a synthetic analysis regarding the strengths and weaknesses of each national funding pattern in fostering competition and competitiveness of national HEIs.

Table 2

State	Strengths	Weaknesses	Effects on competition and competitiveness of national HEIs in the European higher education market
<b>Finland</b>	- linking core funding with performance, even in funding teaching according to the results obtained in the employment of graduates; - formula based funding covers strategic funding, as well as funding of education and	- in the absence of a healthy academic environment, allocating public funds according to the number of students who have gained more than 55 study credits, might lower the quality of the educational process;	- funding both public and private HEIs encourages competition between national public and private HEIs, since they are competing for funds; - funding according to performance fosters the competitiveness of national HEIs, so that Finnish HEIs become attractive for national and foreign students as well as for national and

	<p>research;                  - public funds are received by both public and private universities.</p>		<p>international research funding organisations.</p>
<p><b>Greece</b></p>	<p>- allocating even a small part of public funding according to quality and performance measures.</p>	<p>- linking only additional funding with quality and performance;                  - using mainly input indicators to measure quality and performance within teaching, research and internationalisation;</p>	<p>- funding according to performance boosts the institutional performance of national HEIs, so that Greek HEIs become attractive for national and foreign students as well as for national and international research funding organisations, thus competitive.                  - since there is no competition for core funding between HEIs, raising the competitiveness of each HEI is not stimulated enough.</p>

<p><b>Romania</b></p>	<p>- allocating even a small part of public funding according to quality and performance measures.</p>	<p>- linking only additional funding, representing 26,5% of total university public funding, with performance;                  - using mainly input indicators to measure quality and performance;                  - allocating core funding, representing 72,5% of total university public funding, based on the number of students enrolled and negotiated with the ministry (negotiated block-grant) and on cost indicators</p>	<p>- funding according to performance and quality stimulates the institutional performance of national HEIs, so that Romanian HEIs become attractive for national and foreign students as well as for national and international research funding organisations, thus competitive.                  - since there is no competition for core funding between HEIs, raising competitiveness of each HEI is not boosted at maximum.</p>
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Source: developed by the authors based on data from the national ministries of education, or other organizations, from Finland [8], Greece [9, 10] and Romania [11, 12].

Thus, in these states where higher education is mainly public funded, governments embraced, in different proportions, both funding based on a formula and performance funding, looking for allocating public resources in accordance with the degree of quality and efficiency HEIs



deliver in accomplishing their missions and objectives. A few decades ago Finland took a few steps forward in reforming higher education funding national pattern, compared to Romania and especially Greece who recently introduced quality and performance funding. So, the Finnish pattern could serve as a successful model for both Romania and Greece, but still requiring adjustments to national specificity of the higher education system.

## **Performance funding – a driving force to competitiveness or not?**

While trying to identify the relations between performance funding or formula based funding and the competitiveness of HEIs, arises the need for an argued definition of performance funding and formula based funding. As shown in practice, performance funding is done through formula based funding, but formula based funding does not necessarily require performance indicators. Thus, “formula-based resource allocation mechanism might tie funds to input measures, [...] performance-based funding, in contrast, would attempt to link resource allocation to performance-indicators or output-measures” (Herbst, 2009) [13].

In a 20 years overview of European higher education governance, performance funding served rather as a new governance tool governments used in steering public universities, especially in times of limited resources. Moreover, the implementation of performance funding in many European higher education systems came bundled with a higher degree of financial autonomy and public accountability towards the use of public resources in achieving strategic objectives within the national policy on higher education. As a consequence, HEIs faced the challenges driven by the results orientation and reshaped their missions, strategies and structure to meet the quality and performance criteria settled by decision makers in order to maintain and even strengthen their position, at least on the internal market of higher education services.

Besides the positive effects performance funding patterns of HEIs generate, such as: an increased efficiency in allocating and using public funds, increased competition between universities on future students and extra funding (public and or private), fostering attractiveness of HEIs within international future students and research private funding organisations, depending on the particularities of each national environment, public

resource allocation based on performance indicators might fail to reach its main objective - improving performance. Thus, the way the funding authorities establish and integrate the importance of each indicator, considering the correlations between selected indicators can raise questions on issues like the quality and reliability of indicators.

As pointed out by Herbst (2009) [13], linking resource allocation within HEIs to graduation rates, to student satisfaction statistics or comparing sets of indicators might lead to undesired results, as long as the same funding formula based on the same input, process, output or outcome indicators (Burke, 1998) [14] is applied to determine the amount of public resources allocated to a certain HEI, independently on its specific mission and objectives.

Also in times of budgetary austerity, when the higher education industry faces important cuts in resources, allocating funds on performance base might compromise the quality of the services delivered, in order to reach the targets set by each university.

Furthermore, using performance based funding might be a powerful driving force to enhancing competitiveness within HEIs, depending on the way in which both the funding authorities and HEIs apply the funding pattern, either for additional funding, or for core funding. As the results of two studies show (Dougherty et al., 2010 and Fröhlich et al., 2010, apud. Orosz, 2012) [15], among publicly funded European universities with a joint teaching and research mission, there are much greater chances for stakeholders to oppose to performance based funding than other academic or non-academic stakeholders; academic stakeholders considering funding allocations based on performance rather as an additional source of income, than a tool used for increasing efficiency. Also, research shows that the impact of performance-based funding policy on the behaviour and performance of the higher education institution is, at best, modest.

## Conclusions

As previous sections made clear, the issues of competition and competitiveness within higher education industry represent important targets of the public agenda. Thus, the public funding model designed by each national government ensures, in different percentage, the distribution

of public funds to HEIs on indirectly competitive bases, allocating funds on quality and performance criteria.

National public funding patterns of HEIs across the three European states under analysis ensure the premises for raising competition between national public universities for public and private funding, either for education or for research. Moreover, the Finnish funding model strengthens competition even between public and private HEIs since the public funding mechanism is applied to both public and private HEIs. Competitiveness of HEIs is also boosted by the Finnish funding mechanism, at national and international level, as core funding is determined on performance base, using mainly output and outcome indicators.

Even if they are relatively new beginners in implementing a performance based funding, and only for allocating additional funding to public universities, Romania and Greece have taken major steps towards fostering competition between HEIs as well as the competitiveness of national HEIs.

As long as public resources are allocated for funding higher education and since the competitiveness of a HEI is related to quality and performance, the institutional performance of universities has to be properly measured and rewarded. As the results of the research conducted in this paper show, the funding methodologies applied in the analysed states integrate in different proportions institutional performance indicators as an important criterion for allocating public resource to HEIs, in order to raise quality, competition and competitiveness of national HEIs on the European market of higher education, as these indicators cover issues like teaching, research, internationalisation, equity and strategic objectives. Boosting the competitiveness of national HEIs will automatically lead to obtaining a better level of national competitiveness. As (Iosif, 2014) [16] pointed out, “human resources and intellectual assets have a positive impact on the national competitiveness in EU.”

Also, as the improvement of HEIs' competitiveness is strongly related to the performance of each university and since the results of research within the field of corporate governance show that “implementing the corporate governance principles contributes to sustainable economic development by improving the performance of companies” (Tartavulea, 2014) [17], future research should be developed in order to find out in what

proportion universities respect the good governance principles and what are the effects of this compliance on the performance of that university.

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