

The Greek Higher Education Institutions in the world rankings

Universities, Technical Institutions, Private
Structures
2013

Study 8, 2013
English version

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Foreword

Whether or not one should concern oneself at all seriously with international ranking lists is a controversial issue.

On the one hand, doing so legitimizes a debate which proves to be manifold as far as its scientific adequacy and its seriousness are concerned. On the other hand, to ignore it leaves the field open for political and communicational maneuverings with various objectives.

The truth is that a ranking is a 'catchy' journalistic subject which attracts the interest of the public. This observation leads one inevitably to contemplate the reasons for such interest. These reasons can be divided into 'macro' and 'micro'.

The former concern international competition to attract foreign students, to the extent to which this translates into a financial stake of growing importance. Beyond the short term financial benefit for the duration of studies, however, the competition between the globe's largest states concerns long term and multilevel interests which have to do with political, financial and cultural influence and prestige.

The latter are linked to two needs;

- One is objective, the need for non-specialists to understand a specialized reality. The ultimate goal is the rapid and effort-free updating of these non-specialists, and the consequent taking of relevant decisions.
- The other, in the spirit of popular culture, is rather more gossipy, and is promoted by the mass media.

For the first, it would be worth examining the extent to which it reflects what can at times be an agonizing question: *what should we do?* An understandable question. However, as history has demonstrated, it cannot be answered, or at least not with a 'recipe' for action, or an automated response.

The next question would have to do with whether a ranking list of all the institutions on a global level would be feasible or not. In other words, if it would be possible to find all those 'good' criteria which would reflect the reality of each institution with credibility. This has yet to be seen. What we do know is that, a concerted effort is being made on the part of a growing number of researchers and various interested parties to compile ranking lists. We also realize that those who draw up the lists are not themselves satisfied with the results since literally every year the criteria change in such a way as to render any long term comparison impracticable, scientifically speaking. Ever more complex and fanciful

collections of criteria are to be observed, which means that those involved in the matter really are concerned with arriving at a respectable result. At the same time, and which is also of interest, an attempted shift from the perception of a collection of a number of criteria to a more multi-level – and more qualitative – approach in the course of creating ranking lists is to be observed. The most characteristic case is that of the OECD AHELO programme which recently published its two first volumes and which is essentially an attempt to put together evaluation and ranking approaches <http://www.oecd.org/edu/highereducationandadultlearning/AHELOFSReportVolume1.pdf>.

The aforementioned, understood within a narrow scientific context not only cannot be judged negatively, but are clearly part of the expected experimental and intellectual work of the scientific community. The problem is created by their marked political and particularly instrumental use. Indeed, the intensity of the interest on the part of the mass media, and their use in current politics is what transforms a charming scientific occupation into a major political and economic stake.

As far as we are concerned, on the one hand we do not believe it is possible to create a reliable ranking of all institutions, worldwide. Something like that would mean firstly that all the institutions being compared could be considered homogenous regarding their aims and operation, and secondly that the societies and economies which these institutions address, have the same needs. However, neither of these preconditions holds true. Indeed, what does the comparison between and ranking of the Aristotle University of Thessaloniki and the Athens School of Fine Arts actually mean? What useful conclusions could it lead us to regarding the two institutions, since obviously the Aristotle University of Thessaloniki would take precedence over the Athens School of Fine Arts? In addition, what is the point and the usefulness of a comparison (and ranking) between Harvard or MIT, institutions of a global economic and military superpower, and an institution of higher education in Mali or Tuvalu? Despite, then, whatever doubts we may have, we decided for the third consecutive year to publish this study.

Part One

Greek universities, institutes of technology and other educational structures in international ranking lists

1.1. Introduction

The new Laws for higher education supported the need for its existence and laid the foundations for its legalization not so much in the development and improvement of a satisfactory institution, but in the more generalized discrediting of the Greek public university. The argument over the incompetent and corrupt public university has been reproduced and multiplied by the media.

As a result the question arises of whether the criticism that the Greek public university comes in for is well-founded or not. It should be stressed that the answer to this question is not sought in order to silence the existing problems that the institution faces, or to question the need for changes aimed at its progress and improvement. On the other hand, the habit of the political leadership of the day to run down an institution, first and foremost socially and ethically through the friendly Mass Media, a habit aimed at the legitimization of an attempted political intervention, can be no more than one more manifestation of a problematic political system (and its staff) which led the country to its present situation. This may constitute a Greek peculiarity to the extent that the state is expected to protect its institutions and endeavor to improve them so as to ensure continuity and long term development.

Consequently, the value of the inquiry lies in the substantiation of the actual performance of Greek institutions of higher education, and in the pains taken to bring about their gradual improvement.

For this purpose, the ranking of world ranking universities (<http://www.webometrics.info/>) will be used for the simple reason that it includes the 'whole' of the respective structures on a worldwide level, a fact which could provide an overall picture of the situation (within the context of the reasoning of a listing). In total, 21,250 institutions appear in this list in 2013.

1.2. Webometrics listing: What is it? What does it do?

Listings naturally raise questions and problems. This is why the first concern of their users, and more so of those who compose and recommend them, is to show not so much that they do not have weaknesses, but rather that they have fewer weaknesses than others. One of these rankings is the world ranking universities (<http://www.webometrics.info/>) which has in recent years been put forward by a team of Spanish researchers at the Cybermetrics laboratory (a research team which belongs to the Spanish centre for scientific research CSIS)¹.

The researchers use a composite indicator index, made up of:

Visibility (50%)

IMPACT. The quality of the contents is evaluated through a "virtual referendum", counting all the external inlinks that the University webdomain receives from third parties. Those links are recognizing the institutional prestige, the academic performance, the value of the information, and the usefulness of the services as introduced in the webpages according to the criteria of millions of web editors from all over the world. The link visibility data is collected from the two most important providers of this information: [Majestic SEO](#) and [ahrefs](#). Both use their own crawlers, generating different databases that should be used jointly for filling gaps or correcting mistakes. The indicator is the product of the **square root of the number of backlinks** and the **number of domains** originating in those backlinks, so not only is the link popularity important, but even more so the link diversity. The maximum of the normalized results is the impact indicator.

Activity (50%)

PRESENCE (1/3). The total number of webpages hosted in the main webdomain (including all the subdomains and directories) of the university as indexed by the largest commercial search engine ([Google](#)). It counts every webpage, including all the formats recognized individually by Google, both static and dynamic pages and other rich files. It is not possible to have a strong presence without the contribution of everybody in the organization as the top contenders are already able to publish millions of webpages. Having additional domains or alternative central ones for foreign languages or marketing purposes penalizes in this indicator and it is also very confusing for external users.

¹ The researchers set out their reasoning in a series of articles. Some examples:

OPENNESS (1/3). The global effort to set up institutional research repositories is explicitly recognized in this indicator that takes into account the number of rich files (pdf, doc, docx, ppt) published in dedicated websites according to the academic search engine [Google Scholar](#). Both the total files. Both the total records and those with **correctly formed file names** are considered (for example, the Adobe Acrobat files should end with the suffix .pdf). The objective is to consider recent publications that now are those published between 2008 and 2012 (new period).

EXCELLENCE (1/3). The academic papers published in high impact international journals play a very important role in the ranking of Universities. Using simply the total number of papers can be misleading, so we are restricting the indicator to only those excellent publications, i.e. the university scientific output being part of the **10% most cited papers** in their respective scientific fields. Although this is a measure of high quality output of research institutions, the data provider [Scimago group](#) supplied non-zero values for more than 5200 universities (period 2003-2010). In future editions we intend to match the counting periods between Scholar and Scimago sources.

In brief:

Table 1: Composition of the webometrics indicator				
Indicator	Meaning	Coverage	Source	Weight
Impact	Number of back links, Number of backmains	Current (historical)	majestic SEO ahrefs	50%
Presence	Number of webpages (all)	Current (historical)	google	20%
Openness	Number of papers (pdf, doc, docx, ppt)	2007-2011	google scholar	15%
Excellence	Number of papers in the 10% top cited	2003-2010	scimago	15%

The most significant factor is that with these criteria, webometrics manages to include all the higher education institutions in the world, giving a more global picture.

Then, table 2 compares the webometrics criteria with the Shanghai criteria (the definition of the Shanghai criteria is dealt with more analytically in appendix 1).

Table 2: A comparison of the Webometrics and Shanghai indicators			
(Indicators) webometrics indicators	Weight	(Indicators) Shanghai indicators	Weight
Impact	50%	Alumni	10%
Presence	20%	Award	15%
Openness	15%	HiCi	25%
Excellence	15%	PUB	25%
		TOP	25%

1.3. Greek education in webometrics.info ranking

According to the latest edition of webometrics.info (2012), Greek institutions present the following picture. Let's begin with the unexpected evidence: Private education is there, it is evaluated and it is placed in the international rankings.

Let's begin with what will shock the Greek reader most. Private education exists, is evaluated and appears in the world rankings.

In this ranking, 64 institutions or structures appear (as many as in 2012, 13 more than 2011) of which, 23 are universities, 16 Technological Educational Institutions, 20 private structures, 2 military academies, 2 schools of music and one 'other'.

Based on the evidence in table 3, one can ascertain:

Regarding the universities

- A. The first 30 places in the table are occupied by state higher education institutions.
- B. In the first 12 places there are only state universities.
- C. Five (5) universities (The Aristotle University of Thessaloniki, the National and Kapodistrian University of Athens, the National Technical University of Athens, and the Universities of Crete and Patras) are in the top 3% of the world ranking. In fact, the Aristotle University of Thessaloniki is in the top 1%.
- D. A further three (3) universities (the University of the Aegean, the University of Ioannina and the Democritus University of Thrace) are in the top 5% of the world ranking.
- E. A further seven (7) Greek state universities (the Technical University of Crete, Athens University of Economics, the Universities of Thessaly, Macedonia and Piraeus, the Open University and the Agricultural University of Athens) are in the top 10% of the world ranking.

- F. Between 2012 and 2013, 10 out of the 23 Greek state universities improved their position. Despite that, in relation to a comparison with a year earlier, this number has become restricted to almost the half. Consequently, in total, it would appear that in the last year Greek state universities have been facing difficulties. In fact, between 2011 and 2012, 18 out of the 23 Greek state universities actually improved their position in the global ranking.

Regarding the Technological Educational Institutes (TEI)

- A. For the first time since we started presenting this ranking two Greek TEI appear in the top 10% of the world ranking. They are the Technological Educational Institutes of Thessaloniki (7.49%) and Larissa (9.17%).
- B. The Technological Educational Institute of Messolonghi also demonstrates a significant, continuing improvement as it is now in 3rd place for the Technological Educational Institutes, and is in the top 10 – 15%.
- C. A total of five (5) TEI are to be found in the top 15 – 20% (Crete, Athens, Kozani, Pirea, Kavala).
- D. In total, half of the TEI improved their placing, more than last year.
- E. Several TEI are ranked above some universities. Despite this though, the last TEI are extremely low down in the world ranking. This points to a widening of the gap between the better and not so good TEI.

For the private structures

- A. No private structure is to be found in the top 20% of the world ranking.
- B. Only three (3) are to be found between the top ¼ and 1/3 of the world ranking.
- C. The majority are to be found extremely low down in the world ranking.

Table 3 will be analysed according to the type of institute – university, TEI, or private educational structure

		World Ranking 2013	World Ranking 2012	World Ranking 2011	Position Fluctuation (2013-2012)	Type of Institution	Absolute % in world ranking	Grouping % in world ranking
1	The Aristotle University of Thessaloniki	194	158	407	-36	University	0,91	0-3%
2	The National and Kapodistrian University of Athens	268	351	430	83	University	1,26	
3	The National Technical University of Athens	417	369	340	-48	University	1,96	
4	The University of Crete	460	516	631	56	University	2,16	
5	The University of Patras	556	327	685	-229	University	2,62	3-5%
6	The University of the Aegean	726	865	920	139	University	3,42	
7	The University of Ioannina	802	731	1047	-71	University	3,77	
8	The Democritus University of Thrace	831	867	1306	36	University	3,91	
9	The Technical University of Crete	1255	1125	1904	-130	University	5,91	5-10%
10	Athens University of Economics and Business	1269	1043	1151	-226	University	5,97	
11	The University of Thessaly	1318	1041	1639	-277	University	6,20	
12	The University of Macedonia	1358	1263	978	-95	University	6,39	
13	TEI of Thessaloniki	1591	2951	1809	1360	Technological Educational Institute (TEI)	7,49	
14	Piraeus University	1608	1379	1745	-229	University	7,57	
15	The Greek Open University	1735	2560	2652	825	University	8,16	
16	The Agricultural University of Athens	1869	1382	2179	-487	University	8,80	
17	TEI of Larissa	1948	2973	2183	1025	TEI	9,17	10-15%
18	Haropio University of Athens	2440	2584	4316	144	University	11,48	
19	TEI of Messolonghi	2587	3635	4557	1048	TEI	12,17	
20	University of the Peloponnese	2593	2214	2648	-379	University	12,20	
21	The University of Central Greece	2928	7695	9371	4767	University	13,78	
22	The University of Western Macedonia	3030	2780	4094	-250	University	14,26	
23	The Ionian University	3074	2637	2060	-437	University	14,47	15-20%
24	TEI of Crete	3406	2316	2768	-1090	TEI	16,03	
25	TEI of Athens	3497	2329	2436	-1168	TEI	16,46	
26	TEI of Kozani	3658	3738	2505	80	TEI	17,21	
27	The Panteion University of Social and Political sciences	3802	4020	3403	218	University	17,89	
28	TEI of Piraeus	3946	3237	2970	-709	TEI	18,57	
29	TEI of Kavala	4014	3098	3852	-916	TEI	18,89	20-25%
30	TEI of Serres	4460	3929	3111	-531	TEI	20,99	
31	American College of Greece	4717	9101	11835	4384	Private Education	22,20	
32	The American School of Classical Studies at Athens	5279	5610	7144	331	Private education	24,84	25-33%
33	TEI of Patras	5629	4899	3530	-730	TEI	26,49	
34	Athens School of Fine Arts	6494	7374	6809	880	University	30,56	
35	International Hellenic University	6725	8054	9810	1329	University	31,65	
36	American Farm School Thessaloniki	6748	6104	9801	-644	Private Education	31,76	33-50%
37	TEI of Epirus	6837	5915	4368	-922	TEI	32,17	
38	Alba Graduate Business School	7124	6351	7487	-773	Private Education	33,52	
39	City College International Faculty of the University of Sheffield	7407	13544	XXX	6137	Private Education	34,86	
40	TEI of Halkida	7723	7723	5893	0	TEI	36,34	33-50%
41	TEI of Lamia	7768	8110	5797	342	TEI	36,56	
42	School of Pedagogical and technological Education	7784	9367	8541	1583	TEI	36,63	
43	Athens Information Technology	8514	7299	8402	-1215	Private Education	40,07	
44	TEI of the Ionian Islands	8846	10839	8001	1993	TEI	41,63	
45	American College of Thessaloniki	9416	9803	9076	387	Private Education	44,31	
46	Hellenic Military Academy	9706	8407	7162	-1299	Military Academy	45,68	
47	New York College	10626	9555	9206	-1071	Private Education	50,00	

48	TEI of Kalamata	10722	11076	10818	354	TEI	50,46	50-75%
49	Hellenic Naval Academy	11603	13923	11444	2320	Military Academy	54,60	
50	College Year in Athens	13234	11755	XXX	-1479	Private Education	62,28	
51	City University Athens	13528	11310	XXX	-2218	Private Education	63,66	
52	Alpine Centre for Hotel and Tourism Management Studies	13587	12408	XXX	-1179	Private Education	63,94	
53	University of Indianapolis	13934	12222	10093	-1712	Private Education	65,57	
54	IST College	14145	11854	XXX	-2291	Private Education	66,56	
55	Akto Art & Design	14151	12936	XXX	-1215	Private Education	66,59	
56	Bca Business Studies	15147	12768	XXX	-2379	Private Education	71,28	
57	ICBS Business School	15418	13960	XXX	-1458	Private Education	72,56	
58	State Conservatory of Thessaloniki	15559	14027	XXX	-1532	Conservatory	73,22	75%-100%
59	Hellenic American University	15720	14648	XXX	-1072	Private Education	73,98	
60	Athens School of Management	16987	12504	XXX	-4483	Private Education	79,94	
61	National and Kapodistrian University of Athens Medical School	16994	14201	XXX	-2793	University Structure with autonomous (or independent) site	79,97	
62	Conservatoire of Northern Greece	18318	17783	XXX	-535	Conservatory	86,20	
63	American University of Athens	18571	14681	XXX	-3890	Private Education	87,39	
64	Didacta educational group	20216	18967	XXX	-1249	Private Education	95,13	

*Note: The comparison of the development over time should be read with care because the criteria are not the same and nor is their weighting

1.3.1. Greek universities on webometrics.info

A more detailed analysis reveals that;

- A. some Greek state universities are among the global elite universities (top 3%).
- B. the majority (15 out of 23) is in the top 10% of the world ranking
- C. with the exception of the last two (2), the rest is in the top 1/5 of the world ranking.
- D. despite that, it should be noted that over the last year many Greek state universities fell in the world ranking (13 out of 23).

More analytically:

Position between Greek Universities	Absolute position between Greek Institutions	University	World Ranking 2013	World Ranking 2012	World Ranking 2011	Position Fluctuation (2013-2012)	Absolute % in world ranking	Grouping % in world ranking
1	1	The Aristotle University of Thessaloniki	194	158	407	-36	0,91	0-3%
2	2	The National and Kapodistrian University of	268	351	430	83	1,26	
3	3	The National technical University of Athens	417	369	340	-48	1,96	
4	4	The University of Crete	460	516	631	56	2,16	
5	5	The University of Patras	556	327	685	-229	2,62	
6	6	The University of the	726	865	920	139	3,42	3-5%
7	7	The University of Ioannina	802	731	1047	-71	3,77	
8	8	The Democritus University of Thrace	831	867	1306	36	3,91	
9	9	The Technical University of	1255	1125	1904	-130	5,91	5-10%
10	10	Athens University of Economics and Business	1269	1043	1151	-226	5,97	
11	11	The University of Thessaly	1318	1041	1639	-277	6,20	
12	12	The University of	1358	1263	978	-95	6,39	
13	14	Piraeus University	1608	1379	1745	-229	7,57	
14	15	The Greek Open University	1735	2560	2652	825	8,16	
15	16	The Agricultural University of Athens	1869	1382	2179	-487	8,80	
16	18	The Harokopio University of Athens	2440	2584	4316	144	11,48	10-15%
17	20	The University of the	2593	2214	2648	-379	12,20	
18	21	The University of Central Greece	2928	7695	9371	4767	13,78	
19	22	The University of Western Macedonia	3030	2780	4094	-250	14,26	
20	23	The Ionian University	3074	2637	2060	-437	14,47	
21	27	The Panteion University of Social and Political Sciences	3802	4020	3403	218	17,89	15%-20%
22	34	The Athens School of Fine Arts	6494	7374	6809	880	30,56	25-33%
23	35	The International Hellenic University	6725	8054	9810	1329	31,65	

*Note: The comparison of the development over time should be read with care because the criteria are not the same and nor is their weighting

A second table is presented (4a), which adds interesting detailed data on the performance of the Greek universities according to particular indicators.

Table 4a: World Ranking of Greek State Universities (2013): by webometrics indicator

Position between Greek Universities	Absolute position between Greek Institutions	University	Presence Rank	Impact Rank	Openess Rank	Excellence Rank
1	1	The Aristotle University of Thessaloniki	114	279	306	294
2	2	The National and Kapodistrian University of Athens	416	261	811	232
3	3	The National technical University of Athens	664	652	386	411
4	4	The University of Crete	351	523	1155	515
5	5	The University of Patras	799	1272	370	431
6	6	The University of the Aegean	900	726	1307	1130
7	7	The University of Ioannina	869	1702	1287	493
8	8	The Democritus University of Thrace	1264	724	2206	976
9	9	The Technical University of Crete	3387	1538	2307	1017
10	10	Athens University of Economics and Business	1608	2126	1675	1282
11	11	The University of Thessaly	1995	2514	2167	826
12	12	The University of Macedonia	1091	1458	2794	1854
13	14	Piraeus University	836	3473	2674	1381
14	15	The Greek Open University	2286	1580	3493	2391
15	16	The Agricultural University of Athens	6294	4443	1303	1110
16	18	The Harokopio University of Athens	5263	4878	3755	1321
17	20	The University of the Peloponnese	4140	5207	3685	1705
18	21	The University of Central Greece	3191	989	6526	5203
19	22	The University of Western Macedonia	3357	4610	4237	2827
20	23	The Ionian University	5462	3718	3634	3231
21	27	The Panteion University of Social and Political Sciences	1353	2846	6952	5203
22	34	The Athens School of Fine Arts	2995	5063	10219	5203
23	35	The International Hellenic University	3291	8357	6362	5203

*Note: The comparison of the development over time should be read with care because the criteria are not the same and nor is their weighting

** In green the three (3) best

This table is of interest since it presents with clarity the particular characteristics of the Greek state universities. For example, it is apparent how well some universities on the one hand promote themselves, and use their international recognition to their advantage (first and foremost the Aristotle University of Thessaloniki), while others, though possessing a strong name (impact rank) fall in the ranking because they do not manage to promote themselves. A characteristic example is the National and Kapodistrian University of Athens which slides down the ranking since some of its webdomains in the Medical School, function independently, and consequently based on the definition of the indicator they are ranked independently, separate from the NKUA (see 61 in table 14).

Finally, a very characteristic case is also the University of Patras which falls down the ranking since it has trouble with its brand name (impact rank). Hence, while it gains positions in its attempt to promote its work (openness rank) it falls about 900 positions in the criteria of its recognisability in the wider community. These elements deduct positions in the ranking. As a consequence, the body responsible for the institute's policy formation should perhaps bear this in mind.

1.3.2. Greek institutes of technology on webometrics.info

A more detailed analysis of the data reveals that:

- A. Two TEI (Thessaloniki, Larissa) are to be found in the top 10% of the world ranking.
- B. One TEI (Mesolonghi) is to be found among the top 10 – 15% of the world ranking.
- C. A further five (5) (Crete, Athens, Kozani, Pireas, Kavala) are in the top 15 – 20% of the world ranking.
- D. there are some TEI to be found very low down in the world ranking. The distance between the better and the less good TEI would appear to be widening.

Position between Greek Universities	Absolute position between Greek Institutions	University	World Ranking 2013	World Ranking 2012	World Ranking 2011	Position Fluctuation (2013-2012)	Absolute % in world ranking	Grouping % in world ranking
1	13	TEI of Thessaloniki	1591	2951	1809	1360	7,49	5-10%
2	17	TEI of Larissa	1948	2973	2183	1025	9,17	
3	19	TEI of Messolonghi	2587	3635	4557	1048	12,17	10-15%
4	24	TEI of Crete	3406	2316	2768	-1090	16,03	15-20%
5	25	TEI of Athens	3497	2329	2436	-1168	16,46	
6	26	TEI of Kozani	3658	3738	2505	80	17,21	
7	28	TEI of Piraeus	3946	3237	2970	-709	18,57	
8	29	TEI of Kavala	4014	3098	3852	-916	18,89	
9	30	TEI of Serres	4460	3929	3111	-531	20,99	20-25%
10	33	TEI of Patras	5629	4899	3530	-730	26,49	25-33%
11	37	TEI of Epirus	6837	5915	4368	-922	32,17	
12	40	TEI of Halkida	7723	7723	5893	0	36,34	33-50%
13	41	TEI of Lamia	7768	8110	5797	342	36,56	
14	42	ASPAITE	7784	9367	8541	1583	36,63	
15	44	TEI of Ionian Islands	8846	10839	8001	1993	41,63	
16	48	TEI of Kalamata	10722	11076	10818	354	50,46	

*Note: The comparison of the development over time should be read with care because the criteria are not the same and nor is their weighting

1.3.3. Private education on webometrics.info

As far as Greek private education is concerned, a detailed analysis reveals that:

1. it is to be found especially low down in the world ranking, and the downward trend appears to be continuing.
2. Only three (3) of those are to be found in the top 1/3 of the world ranking, but none in the top 20%.

Position between Greek Private Institutions	Absolute position between Greek Institutions	Private Institution	World Ranking 2013	World ranking 2012	World Ranking 2011	Position Fluctuation	Absolute % in World Ranking (2013)	% grouping
1	31	American College of Greece	4717	9101	11835	4384	22,20	20-25%
2	32	The American School of Classical Studies at Athens	5279	5610	7144	331	24,84	
3	36	American Farm School Thessaloniki	6748	6104	9801	-644	31,76	25%-33%
4	38	Alba Graduate Business School	7124	6351	7487	-773	33,52	33-50%
5	39	City College International Faculty of the University of Sheffield	7407	13544	XXX	6137	34,86	
6	43	Athens Information Technology	8514	7299	8402	-1215	40,07	
7	45	American College of Thessaloniki	9416	9803	9076	387	44,31	
8	47	New York College	10626	9555	9206	-1071	50,00	
9	50	College Year in Athens	13234	11755	XXX	-1479	62,28	50-75%
10	51	City University Athens	13528	11310	XXX	-2218	63,66	
11	52	Alpine Center for Hotel and Tourism Management Studies	13587	12408	XXX	-1179	63,94	
12	53	University of Indianapolis Athens	13934	12222	10093	-1712	65,57	
13	54	IST College	14145	11854	XXX	-2291	66,56	
14	55	Akto Art & Design	14151	12936	XXX	-1215	66,59	
15	56	Bca Business Studies	15147	12768	XXX	-2379	71,28	
16	57	ICBS Business School	15418	13960	XXX	-1458	72,56	
17	59	Hellenic American University	15720	14648	XXX	-1072	73,98	
18	60	Athens School of Management	16987	12504	XXX	-4483	79,94	75-100%
19	63	American University of Athens	18571	14681	XXX	-3890	87,39	
20	64	Didacta Educational Group	20216	18967	XXX	-1249	95,13	

*Note: The comparison of the development over time should be read with care because the criteria are not the same and nor is their weighting

1.4. Provisional Conclusions

Based on the world ranking data it would appear that neither the mass attack on Greek higher education, nor the biting criticism of the media are grounded on sound evidence.

By extension, it doesn't seem that the picture presented so far legitimizes the substantiation put forward for a new legal framework.

On the other hand, it appears that the majority of Greek state universities have been facing problems over the last year, while at the same time, it seems that the distance between the better and the less good TEI is widening. This means that over time the systemic attitude towards higher education is lost and we are moving towards an outlook based on each institution individually, in other words, towards a logic of 'excellence'. This evidence raises questions in the case of Greece, a country with a particular economic character.

In any case, the need for interventions for support and improvement is substantiated. In fact, since a country's GNP is a fundamental indicator (see the second part of the study), then the negative consequences of the continuing recession and the drastic reduction in public expenditure will most likely appear with greater intensity in the next yearly presentation.

This, in connection with, on the one hand, the shift from a systemic outlook, and on the other, the chronic problem of the Greek educational system's lack of a 'bottom line', so one could wonder about the consequences of the deterioration in the performance of the weaker institutions.

Finally, this particular world ranking substantiates the view that a strange relationship exists between Greek society and the legislative framework it functions within. Private institutions exist, and are beginning to be noticed overseas and are evaluated despite constitutional and other bans. At the base of this evaluation the view that these are low level educational structures is substantiated, with a tendency towards further deterioration and in every case they have a much worse ranking than the public higher education institutions.

Part Two

Making sense of the results or constructing a measure of comparison

2.1. Introduction

One could claim that the data so far presented are disappointing for Greek institutions to the extent that not one of the institutions is in the top 100, and only one (1) is among the top 300.

What then is to be the measure of comparison? In other words, *how are we to understand the position of the Greek institutions?*

The question is serious and requires examination.

The desire to be first, or at least among the first, to not be satisfied with the best 3 or 5 or 10% in the world, to want to be in the 1% is an indication of a purpose and a desire entirely worthy of respect. However, to move from the desire, to its realization requires strategic planning, and consequently a rational approach to many separate issues. The evaluation of a position within a ranking therefore requires some rational kinds of criteria. What could these be?

We propose three.

1. Let's say that one central indicator would be the comparison of the position of an institution with the equivalent position of Greece in terms of her gross national product (GNP), in the sense that the university is considered to be directly connected to the market, its development and its needs. In other words, a ('good') University can only reflect its social context and the needs of the economy within the framework of which it operates. In fact, we will propose four different country rankings based on their economic development, based on their GNP (UN,IMF, World Bank, CIA).

2. A second indicator would be the comparison of the position of an institution with spending per student, to the extent to which this comparison would aid the better understanding of the quality of education offered, as much on a level of infrastructure as on a level of staff competence. Here data from OECD will be used for the international comparison and data from the national Hellenic Quality Assurance and Accreditation Agency

for the Greek data since Greek governments have ceased to provide such data to international organizations.

3. A third indicator could be the position of the country based on the number of scientific publications, in accordance with a reliable, independent and international source of information (scopus) (<http://www.scimagojr.com/countryrank.php>).

Let's consider this data.

2.2. Greek GNP and the ranking of Greek institutions

According to international data Greece is to be found:

- According to the UN, in the 34th position for 2011, out of a total of 195 states (or, in the top 18% of the world (specifically 17.4%))
- According to the International Monetary Fund (2012 estimate), in the 35th position globally out of a total of 185 states (or the top 19% (18.9%))
- According to the World Bank, in the 34th position for 2011 out of a total of 190 states (or in the top 18% 18.1%).
- According to the CIA World Fact Book (2011 data), in the 35th position globally out of a total of 193 states (or in the top 18% (18.1%)).

(source: http://en.wikipedia.org/wiki/List_of_countries_by_GDP_%28nominal%29)

Based on this data, one could advance towards the initial evaluation that Greek institutions which are to be found in the top 15 to 20 % of the world ranking institutions reflect the position of the country in the world ranking based on its GNP, to the extent to which all the major international organizations and the current politics at an international and national level directly link higher education with level of development. In contrast, on the one hand, the institutions which are ranked in the top 15% have achieved a better ranking in relation to the country's ranking, while on the other hand, institutions placed higher than the top 20% have achieved a worse ranking.

2.3. Cost per student and the ranking of Greek universities

A second reliable indicator for comparison could be cost per student. In a search for data for this index, one discerns that Greece has ceased to send data to the big international

organizations. Hence, in the most recent publications of OECD² and UNESCO³ there are no data for Greece. On the other hand, one of the project teams at the Hellenic Quality Assurance and Accreditation Agency published a report entitled 'The Cost of University Operation'

(<http://www.hqaa.gr/data1/%CE%91%CE%BD%CE%AC%CE%BB%CF%85%CF%83%CE%B7%20%CE%9A%CF%8C%CF%83%CF%84%CE%BF%CF%85%CF%82%20%CE%9B%CE%B5%CE%B9%CF%84%CE%BF%CF%85%CF%81%CE%B3%CE%AF%CE%B1%CF%82%20%CE%A0%CE%B1%CE%BD%CE%B5%CF%80%CE%B9%CF%83%CF%84%CE%B7%CE%BC%CE%AF%CF%89%CE%BD.pdf>) from which we have analytical data concerning the cost per student per institution. This data is for 2009. With this data, which, it should be noted, is from before the economic crisis and before the reduction of university budgets by 50%, we could attempt a comparison with the international data which exists in the latest OECD publication, which is also for 2009 (tables B1.1a and B1.2, pp. 228, 229).

2.4. Constructing a comparison: the indicators

So far, the Greek situation has been examined as it is portrayed through a series of data. There will follow an attempt to make comparisons. The question once again lies in the issue of what criteria are to be employed for the choice of countries to be compared to Greece. Considering a central criterion to be the development of the economy as this is seen in that country's GNP, we start with that. Hence, we initially isolated three European countries with a slightly greater GNP than Greece, and three with a relatively lower GNP. Let's see which these countries are:

² Regards sur l'éducation 2011 : Les indicateurs de l'OCDE, http://www.oecd.org/document/2/0,3746,fr_2649_39263238_48645475_1_1_1_1,00.html

³ GLOBAL EDUCATION DIGEST 2011 Comparing Education Statistics Across the World http://www.uis.unesco.org/Library/Documents/global_education_digest_2011_en.pdf

Table 7: European Union Member States or Associated Countries with GNP comparative to the Greek GNP, in various global classifications, based on GNP

Countries	Position in UN ranking (2011)	Position in IMF ranking (2012 estimate)	Position in World Bank ranking (2011)	Position in CIA ranking (2011)
Norway	25	24	24	24
Austria	27	28	26	28
Denmark	32	32	30	32
Greece	34	35	34	35
Finland	36	37	36	37
Portugal	41	42	40	42
Ireland	44	45	44	44

In the four global rankings presented in table 7, Greece occupies the 34th position (in the UN and World Bank rankings) and the 35th position in the IMF and CIA rankings.

The three European countries nearest to Greece, with a greater GNP are Norway, Austria and Denmark.

On the other hand, the three European countries nearest Greece with a smaller GNP are Finland, Portugal and Ireland.

It should be noted that despite Greece's drop in ranking due to the current crisis, these six countries remain unchanged over time. Consequently, they constitute a stable measure of comparison based on GNP.

Based on the evidence in table 8 which follows, it appears that all the European countries that have either a comparatively greater or a comparatively smaller GNP than Greece reveal expenditure per student from 72% (Portugal) to 216.3% (Norway) greater than that for Greece. Consequently, Greek state universities, compared with those in European countries with similar economic development are being deprived of essential funds.

Countries	Spending per student (2009)	% of expenditure with regard to Greek expenditure
Norway	19.269	316,3
Austria	14.257	234,0
Denmark	18.556	304,6
Greece	6.092	100,0
Finland	16.569	272,0
Portugal	10.481	172,0
Ireland	16.420	269,5

Finally, if a comparison is made of the scientific performance of these countries, based on the publication of their scientific output as this is represented in scopus, we have table 9.

Rank	Country	Documents	Citable documents	Citations	Self-Citations	Citations per Document	H index
23	Austria	188.440	177.324	2.688.324	387.884	16,51	355
24	Denmark	183.880	173.771	3.444.509	514.632	21,17	399
25	Finland	170.476	165.195	2.771.982	462.377	18,28	352
26	Greece	160.760	152.000	1.589.963	289.460	11,93	247
31	Norway	141.143	133.311	2.021.938	339.172	17,19	308
33	Portugal	117.469	113.411	1.150.280	234.405	12,77	218
39	Ireland	91.125	85.341	1.149.729	141.683	16,18	254

This table illustrates two points: a) Greece gains relative to her position in terms of GNP by 8 or 9 positions in the world ranking, b) in relation to the countries Greece is compared to, her placing doesn't change. In fact, the order of the countries remains comparatively stable, the only differentiation being the significant improvement made by Finland and the fall of Norway. If however within this result we also calculate cost per student, then one can see that Greece's result is significant in terms of the comparison 'cost – performance'.

2.5. Constructing a comparison: the analysis

Based on the data, one can now form a substantiated comparison between, on the one hand, Greece, and, on the other, the nearest European countries (3 with a greater GNP, 3 with a smaller GNP).

Table 10: World Ranking of Institutions in european countries with GNP close to the Greek GNP (2013)

Countries	Total number of Institutions	Best 1%	% of the total number of institutions	Best 1- 3%	Best 3-5 %	Best 5-10 %	Total of 10%	% of the total number of institutions	Best 15%	Best 20 %	Best 25%	Best 33%	Total of best 1/3	% of the total number of institutions
Norway	66	3	4,5	1	0	6	10	15,2	8	5	4	9	36	54,5
Austria	77	2	2,6	3	5	5	15	19,5	3	3	9	9	39	50,6
Denmark	86	3	3,5	2	2	1	8	9,3	2	1	1	9	21	24,4
Greece	64	1	1,6	4	3	9	17	26,6	6	6	3	5	37	57,8
Finland	49	1	2,0	6	2	2	11	22,4	5	6	7	8	37	75,5
Portugal	110	3	2,7	5	2	12	22	20,0	7	3	4	6	42	38,2
Ireland	49	0	0,0	5	2	1	8	16,3	3	1	2	5	19	38,8

Based on the data in table 10, one can ascertain:

- A. In this particular world ranking, the seven (7) countries present great diversity in the number of institutions. The fewest, 49, are in Finland and Ireland, and the most, 110, are recorded in Portugal. Greece, with 64 institutions, is in 5th place out of the seven countries (Here it should be pointed out that the institutes of private education are not exactly what is referred to as private education in general in other countries).
- B. In the 1% of the world ranking 6 of the 7 countries have at least one of their institutions. The exception is Ireland.
- C. The most institutions – three (3) – are possessed by Denmark, Norway and Portugal. Greece has one institution, as does Finland.
- D. In the top 10% the data reveals strong quantitative fluctuations. Greece is the only country with more than 1 in 4 of her institutions (26.6%) in the top 10%. Finland and Portugal have 1 in 5. On the other hand, Denmark has less than 1/10 of her institutions in the top 10%.
- E. Finally, in the top 1/3 of the world ranking, the differentiation among the particular states becomes more marked. At the one extreme is Finland, with 75% of her

institutions in that category, and at the other extreme is Denmark with just ¼ (24.4%) of her institutions.

- F. Greece (57.8%) is in second place after Finland and together with Norway (54.4%) and Austria (50.6%) these are the countries with 50% of their institutions in the top 1/3.

Then, for a fuller analysis, we propose table 11 which recalls the data from 2012.

Countries	Total number of Institutions	Best 1%	% of the total number of institutions	Best 1-3%	Best 3-5%	Best 5-10%	Total of 10%	% of the total number of institutions	Best 15%	Best 20%	Best 25%	Best 33%	Total of best 1/3	% of the total number of institutions
Norway	66	2	3,0	2	0	3	7	10,6	9	7	5	10	38	57,6
Austria	77	3	3,9	3	3	6	19	24,5	3	4	11	8	45	58,3
Denmark	91	2	2,2	3	2	1	10	11,2	2	1	2	7	22	24,4
Greece	64	1	1,6	4	3	6	16	24,3	9	6	1	4	36	55,6
Finland	49	1	2,0	5	1	3	12	24,6	5	12	3	7	39	79,7
Portugal	111	2	1,8	5	5	7	21	18,7	11	2	1	8	43	38,6
Ireland	49	0	0,0	4	3	2	9	18,4	2	2	5	4	22	44,9

Comparing the data from the two tables one can ascertain a tendency which seems to constitute a common coordinated policy. Indeed, if the 1/3 of the global ranking can constitute an indication of a systemic approach to a country's higher education system, then what is observed is a shift of interest towards so-called 'excellence' with a parallel increase in the distance between the better and less good institutions. In other words, these countries seem to be moving towards the American model of higher education, although at different rates, of course. For example, Denmark seems to have the most elitist perception of her higher education, followed by Portugal and Ireland.

Based on the proposed analysis then, one can claim that Greek higher education institutions, and moreover the state institutions, are by no means inferior to those in European countries with GNP comparable to Greece's. Even better, the state institutions are in a very satisfactory position.

If indeed these particular results were to be compared with the economic data in table 9, then one could argue that the Greek state higher education institutions achieve the

particular ranking having started economically from a difficult, even extremely difficult position.

On the other hand, and this should be noted, there seems to be a tendency which changes the outlook on a country's higher education from a system to a new outlook where each institution is conceived of as an individual structure which should strive for its excellence (its survival (?)).

2.6. Constructing a comparison: paradoxical comparisons

Despite this, the Greek institutions, mainly the universities, are under extremely great pressure and face powerful criticism. Therefore, to be able to understand this situation one must, first of all, make a paradoxical comparison. To compare the Greek institutions with corresponding institutions in the most powerful countries in Europe and the world. We will now move on to just such a comparison. Greece will be compared with the following countries: the USA, Germany, France, the United Kingdom, Italy and Spain.

Table 12: The great European states, the USA and Greece, based on their GNP				
Countries	Position in UN ranking (2011)	Position in IMF ranking (2012 estimate)	Position in World Bank ranking (2011)	Position in CIA ranking (2011)
USA	1	1	1	1
Germany	4	4	4	4
France	5	5	5	5
United Kingdom	7	6	7	6
Italy	8	8	8	8
Spain	13	13	12	13
Greece	34	35	34	35

At the same time, the following table (13) presents expenditure per student in these states.

Countries	Expenditure per student (2009)	% of expenditure in relation to Greek expenditure
USA	29.201	479,3
Germany	16.569	272,0
France	14.642	240,3
United Kingdom	16.338	268,2
Italy	9.562	157,0
Spain	13.614	223,6
Greece	6.092	100,0

Based on the data in table 13, all of the countries show expenditure per student from 57% (Italy) to 379.3% (USA) greater than Greece.

Next, the ranking of the same countries is presented, according to scopus, based on their published works.

Rank	Country	Documents	Citable documents	Citations	Self-Citations	Citations per Document	H index
1	United States	6.149.455	5.738.593	114.546.415	54.226.872	20,51	1.305
3	United Kingdom	1.711.878	1.550.373	27.919.060	6.703.673	18,03	802
5	Germany	1.581.429	1.490.140	23.229.085	6.171.727	16,19	704
6	France	1.141.005	1.073.718	16.068.688	3.749.874	15,58	646
8	Italy	851.692	803.004	11.279.167	2.639.721	15	550
9	Spain	665.977	623.236	7.640.544	1.958.835	13,66	448
26	Greece	160.760	152.000	1.589.963	289.460	11,93	247

An almost identical ranking of states is observed, with the exception of the United Kingdom, which improves its position. Consequently, one could observe more generally that the position of the country in the global ranking for development based on GNP, determines to a large extent its position based on the scopus ranking. This is something we had discovered in the data in table 10. Consequently, a country which gains 8 -9 positions in the scopus ranking, as Greece did, should be valued positively.

Next, the following table provides information with the analytical ranking of the higher education institutes of the particular countries.

Table 15: World ranking of institutions in large European countries and the USA in relation to the corresponding Greek institutions (2013)

Countries	Total number of Institutions	Best 1%	% of the total number of institutions	Best 1-3%	Best 3-5%	Best 5-10%	Total of 10%	% of the total number of institutions	Best 10-15%	Best 15-20%	Best 20-25%	Best 25-33%	Total of best 1/3	% of the total number of institutions
USA	3.254	89	2,7	97	80	229	495	15,2	263	246	232	487	1723	53,0
Germany	408	15	3,7	36	10	18	79	19,4	22	35	40	41	217	53,2
France	620	0	0,0	11	26	62	99	16,0	34	22	33	36	224	36,1
United Kingdom	313	13	4,2	28	33	26	100	31,9	20	15	12	19	166	53,0
Italy	235	5	2,1	13	16	25	59	25,1	8	3	2	13	85	36,2
Spain	232	6	2,6	24	14	13	57	24,6	9	6	6	12	90	38,8
Greece	64	1	1,6	4	3	9	17	26,6	6	6	3	5	37	57,8

Based on the data in table 15:

- A. The domination of the USA is obvious as much in the absolute number of institutions (3,254) as in the absolute number of institutions in the top 1% of the world ranking (89 out of a total of 213, or 41.8%). Despite this, the percentage in terms of the total number of institutions in the USA is not high. In fact, as a percentage, the United Kingdom and Germany surpass the USA. Finally, it is surprising that no French university is in the top 1%
- B. In the top 10% the picture appears greatly differentiated. Here, the United Kingdom is in first place with 31.9%. Second is Greece with 26.6% while Italy and Spain are very close (25.1% and 24.6% respectively). Conversely, the USA is in last place with just 15.2% of its institutions.
- C. In the top 33% the situation is again differentiated. Greece is the best (57.8%), while together with the USA, Germany and the United Kingdom form a distinct group of states with 50% of their institutions in the top 1/3. Conversely, Spain, Italy and France form another group with just over 1/3 of their institutions in the top 1/3 of the global ranking.

Consequently, one can conclude that within the context of this paradoxical comparison Greek institutions – and indeed the state institutions of higher education – are not inferior to the large European states, or the USA. Of course, this comparison does not take into

consideration either the numerical domination of the American institutions in the global elite of institutions (1%) or the strong presence of the United Kingdom's institutions across the whole of the top 10%.

If to what is, in any case, a borderline comparison, the economic data from tables 12 and 13 are added, then, one could argue that the Greek state higher education institutions achieve this particular ranking starting from a clearly difficult position. Still, it is necessary here too for one to see the same tendency towards a widening of the gap between the better and not so good institutions, despite whatever partial variations may exist. A characteristic example is the United Kingdom, which while it almost doubles the number of institutions in the top 1% compared with 2012, conversely the institutions in the top 1/3 fall from 66.8% to 53%. The same holds true for the top 10% where from 40.7% it falls to 31.9%. More information is contained in the next table.

Finally, the great increase in the number of institutions in the United Kingdom in a year, should be noted. From 241 in 2012, 313 are ranked in 2013.

Table 15a: World ranking of institutions in large European countries and the USA in relation to the corresponding Greek institutions (2012)

Countries	Total number of Institutions	Best 1%	% of the total number of institutions	Best 1-3%	Best 3-5%	Best 5-10%	Total of 10%	% of the total number of institutions	Best 10-15%	Best 15-20%	Best 20-25%	Best 25-33%	Total of best 1/3	% of the total number of institutions
USA	3,277	87	2,7	93	76	181	437	13,3	353	316	291	450	1847	56,4
Germany	409	15	3,7	36	11	16	78	19,1	60	24	23	31	216	52,8
France	619	0	0,0	11	28	62	101	16,3	23	23	17	42	206	33,3
United Kingdom	241	8	3,3	30	29	31	98	40,7	16	16	10	21	161	66,8
Italy	211	7	3,3	15	18	22	62	29,4	6	2	4	13	87	41,2
Spain	237	5	2,1	25	14	10	54	22,8	5	8	11	12	90	38,0
Greece	64	1	1,6	4	3	6	16	24,3	9	6	1	4	36	55,6

Based on the previous data, one wonders why there is so much negative criticism of the Greek universities.

2.7. Constructing a comparison: internal differentiations

Beyond however the international comparisons it would be interesting for one to ascertain differentiations within Greece, since the HQAA data reveal significant variations in the cost per student per institution.

In table 16 below the ranking of Greek universities according to webometrics is presented and at the same time the cost per student and per institution is quoted.

Position between Greek Universities	Absolute position between Greek Institutions	University	World Ranking 2013	World Ranking 2012	World Ranking 2011	Position Fluctuation (2013-2012)	Absolute % in world ranking	Grouping % in world ranking	Expenditure per student
1	1	The Aristotle University of Thessaloniki	194	158	407	-36	0,91	0-3%	8.750
2	2	The National and Kapodistrian University of	268	351	430	83	1,26		7.799
3	3	The National technical University of Athens	417	369	340	-48	1,96		11.813
4	4	The University of Crete	460	516	631	56	2,16		5.047
5	5	The University of Patras	556	327	685	-229	2,62		5.299
6	6	The University of the	726	865	920	139	3,42	3-5%	3.810
7	7	The University of Ioannina	802	731	1047	-71	3,77		5.137
8	8	The Democritus University of Thrace	831	867	1306	36	3,91		4.246
9	9	The Technical University of	1255	1125	1904	-130	5,91	5-10%	8.290
10	10	Athens University of Economics and Business	1269	1043	1151	-226	5,97		3.780
11	11	The University of Thessaly	1318	1041	1639	-277	6,20		7.300
12	12	The University of	1358	1263	978	-95	6,39		3.989
13	14	Piraeus University	1608	1379	1745	-229	7,57		2.763
14	15	The Greek Open University	1735	2560	2652	825	8,16		XXX
15	16	The Agricultural University of Athens	1869	1382	2179	-487	8,80		10.596
16	18	The Harokopio University of Athens	2440	2584	4316	144	11,48	10-15%	8.802
17	20	The University of the	2593	2214	2648	-379	12,20		2.335
18	21	The University of Central Greece	2928	7695	9371	4767	13,78		2.806
19	22	The University of Western Macedonia	3030	2780	4094	-250	14,26		2.617
20	23	The Ionian University	3074	2637	2060	-437	14,47		6.285
21	27	The Panteion University of Social and Political Sciences	3802	4020	3403	218	17,89	15%-20%	3.464
22	34	The Athens School of Fine Arts	6494	7374	6809	880	30,56	25-33%	12.994
23	35	The International Hellenic University	6725	8054	9810	1329	31,65		XXX

*Note: The comparison of the development over time should be read with care because the criteria are not the same and nor is their weighting

To read the information in the previous table, one should place all the data in one framework. Generally speaking, and based on what has been ascertained so far, the question would be: Systemic approach or 'excellence' approach? The two approaches would lead to different projects.

Despite this, there are universities which attract positive attention, first and foremost the University of the Aegean, the Democritus University of Thrace and also the Universities of Crete and Patras. Also worthy of attention is the presence of the Athens University of Economics and Business, and the universities of Pireas and Macedonia.

2.7. Forming a perspective

Arriving at the end of the present study the question concerning the value of global rankings returns.

We will not place emphasis on the usual criticisms of the undertaking in question: favorable treatment of Anglophone (mainly Anglo-Saxon) institutions, inequality between the sciences and technological sciences on the one hand and the humanities and social sciences on the other, since the latter are more closely associated with a national context and a national language.

Conversely, it would be worth one's while to focus on the dangers inherent in the transformation of global rankings into political tools. In other words, if the ranking criteria are transformed into the base for an institution's strategy, then they run the risk of becoming dangerous. Indeed, if the criteria of 'visibility' are relatively painless and an administration could relatively easily improve it with the appropriate attention, more elitist criteria are hazardous. If for example the improvement of an institution's position in a ranking constitutes an intermediate objective with ultimate goal the attracting of more students and hence more income from fees, then the scientific thoroughness of a programme of studies takes second place. In other words, this institution may be tempted to fire a number of teachers in order to create 1 or 2 highly paid positions in order to attract Nobel laureate researchers or researchers with exceptional CVs. The improvement of visibility, as much as the acquisition of Nobel prizes have little obvious relation to the quality of studies which in theory the criteria in question record. Indeed, the second criteria (Nobel prizes) is reduced to nothing more than a surreal objective for countries like Greece whose economy produces so little...

However, let's return to the specific data from our study. It is clear that the data presented hold surprises. The issue is to understand the data with the objective on the one hand of substantiating different models, and, on the other hand, of forming suitable strategies for Greek public institutions.

The basic question remains: *why is a ranking compiled and what kind of quality is being promoted?*

There are at least three interpretations:

Firstly, if the objective is the promotion of excellence, then the only percentile that has any significance is the top 1%, while the top 20,25 or 33% have no meaning. Hence, for example, the USA, having 87 institutions in the top 204 in the world (the elite 1%), becomes a model and dominant centre of excellence, a fact which is consistent as much with the needs of its economy (first GNP in the world) as it is with the objectives that befit the most powerful nation on the planet. Despite that though, this particular model appears to hide huge internal inequalities. Indeed, based on the data from the ranking, a large number of the many American institutions are ranked low to very low.

Secondly, if the objective is not only elitist and the target focuses on the education of a wider elite which goes beyond the national context, then the attestation of the top 10% suddenly has meaning (to the extent to which globalization can serve the needs of the particular nation). In this case, the USA ceases to be a model, with just 13.3% of its institutions in the top 10% in the world. In contrast, the United Kingdom, with 40% of its institutions in the top 10% appears to be the most credible. In this way, global attention to its higher education system is assured and it is transformed into an interesting pole of attraction for students from all over the planet.

Thirdly, for countries with a limited GNP, and hence with limited opportunities for their economies and with comparatively low higher education funding, the issue could be the diffusion of as much existing knowledge as possible and the satisfactory education of a significant part of their population. In this case, inclusion in the top 1/3 of the world ranking could have powerful meaning. In this interpretation, the case of Greece could be worth attention as much for countries with a similar GNP as for the most powerful countries in the world.

It would be interesting to investigate what would happen if in countries like Greece higher education were to over-perform in relation to the existing operation of its economy and its needs. Two pieces of evidence will be given:

Firstly, within the context of research recently completed on the subject of Interdisciplinarity

in the university⁴, a professor on the postgraduate programme ‘The Science and Technology of Polymers’ in which the Departments of Material Science, Physics, Chemistry and Chemical Engineering participate, mentions in an interview: “*They (our students) should have better luck, but there are no companies in Greece, there aren’t any...most (students) chase nothing post-doc, and even then, after that they finish after a few years.[...], but from what I’ve seen (in industry) most of them are told that they are over-qualified. They have more qualifications than are needed and they want to employ them on a basic salary and stuff like that*”.

Secondly, and as an outcome of the first, what happens next is for Greece to (re)live a wave of foreign emigration on the part of ‘over-qualified’ young adults⁵ which is evident as much from research as it is from the press (especially from the press). Of course from a humanistic, global point of view, the flight in question is not a major problem. On the contrary, from a pragmatist point of view, the great global economies benefit from this flight, since, at no cost to themselves they exploit the investment Greece made in its young generation. Of course, one could claim that this is due to the country’s failure to wed the needs of the economy to educational provision. This accusation is not ungrounded. However, it should be admitted too that this failure is also due to the pressure Greece (or countries like Greece) is under through multiple ‘harmonizing’ or ‘coordinating’ procedures which are expressed by the systems of one, unified and linear evaluation on either a European level (for example, the Bologna Procedure, the ENQA methodology) or on a global level (for example the world ranking list presented in this work, or the Shanghai list, or the Times list, and so on).

In essence, these exemplary interpretations are no more than a sign of what the specialized bibliography tells us: that the concept of quality in higher education is a very ‘relative concept’⁶. In fact, these writers, in their analysis of the relationship between quality and the models for higher education define four different aspects of the concept of quality: Quality as *excellence*, Quality as *fitness for purpose*, Quality as *value for money* and Quality as *transformation*.

Consequently, on a strategic level, every country has to choose between two models, with potentially an infinite number of variations in between. At the one extreme, an ‘excellence’

⁴ A study of the production processes of scientific-academic knowledge: from monodisciplinarity to the interdisciplinarity of university studies, Karatheodori Programme, University of Patras, (2010-2012).

⁵ Lambranidis, L., 2011. Investing in flight: the drain of scientists from Greece in the age of globalization.

⁶ Harvey L., Green D. (1993). “Defining quality”, *Assessment and Evaluation in Higher Education*, 18(1):9-34.

model and at the other, a 'systemic approach' model. In the first, the reasoning is simply that '*being first is everything while coming second is worth nothing*'. Or, to put it differently, weight is given to the creation of and support of institutions-centres of excellence, while the internal cohesion of the higher education system is marginalised or, worse still, the very existence of the system itself is thrown into doubt and there is talk of (reduced) educational structures. In the second model, the reasoning rests on the assuring of a satisfactory middle level, where there is not a great distance between extreme values, and interventions would concern the whole system and not just particular units. Hence, the political and journalistic rhetoric which suspects both (high participation in excellence, but also a high systemic level) accurately expresses the request. The data however from the rankings and comparisons between crucial dimensions for the assessment of university results, reveal that internationally there is a weakness as far as achieving both objectives at the same time is concerned.

Whether one refers to the work of Harvey and Green or to the two different models, the first thing that one should accept is that there is no point in a blanket world listing! There should be at least as many as there are potential categorizations of quality⁷. In essence, here once again, and in a way which indicates a historical inconsistency there arises the question of whether global development (and at the level of education) can be placed on a vertical line where at the top we find the more advanced nations, and at the bottom the more slow moving ones. In other words, we come back to the argument of Theodore W. Schultz and his ideas *regarding the economic value of education*⁸. And yet, we were under the impression that the criticism that this theory came in for, from the end of the '60's and on, had led to its ultimate rejection. Today, however, we see it dominant. The truth is that this theory includes ideas which are linked to particular countries for which it is multiply profitable. On the other hand, it is clear that this is a theory deeply influenced by social Darwinism.

In conclusion, one could ask: *but is the reality of Greek higher education really so good that no changes are required?*

⁷ Without referring to the various paradoxes of ranking lists, such as: a) in essence lists like the Shanghai list do not measure anything other than the size of the institution, b) in these kinds of lists, Anglophone institutions receive privileged treatment (and the English language publications of its members), so consequently what counts is not so much the quality of the institution but the (taken for granted) dominance of the English language, c) an institution with a medical school has de facto a better position than another which does not have a medical school, but rather humanities, for the simple reason that Medicine has a lot of publications, etc.

⁸ Schultz Th. W., 1972, *The economic value of education*, ed. Papazisis, Athens.

The answer has many levels.

- The nature of the comparison must be defined. In essence this reveals either the non-existence of national choice, or the abandonment of the current model, if one admits that there is some such thing, and the adoption of a new one together with a choice of suitable new criteria
- Improvement is both desired and perpetual, but is linked to certain prerequisites which are tied up with the economic context
- It is obvious that the needs for change of the institutions in the top 5 or 10% are different from the needs of those which occupy the last places
- Finally, the documented statement 'bottom limit' is judged to be of major significance.

Appendix 1

Definition of Indicators

Definition of Indicator

Indicator	Definition
Alumni	<p>indicates the total number of the alumni of an institution winning Fields Medals in Mathematics, Nobel Prizes in Physics, Chemistry and Economics and Turing Awards in Computer Science. Alumni are defined as those who obtain bachelor, Master's or doctoral degrees from the institution. Different weights are set according to the periods of obtaining degrees. The weight is 100% for alumni obtaining degrees in 2001-2010, 80% for alumni obtaining degrees in 1991-2000, 60% for alumni obtaining degrees in 1981-1990, 40% for alumni obtaining degrees in 1971-1980, and finally 20% for alumni obtaining degrees in 1961-1970. If a person obtains more than one degree from an institution, the institution is considered once only.</p>
Award	<p>indicates the total number of the staff of an institution winning Fields Medals in Mathematics, Nobel Prizes in Physics, Chemistry and Economics and Turing Awards in Computer Science. Staff is defined as those who work at an institution at the time of winning the prize. Different weights are set according to the periods of winning the prizes. The weight is 100% for winners after 2011, 80% for winners in 2001-2010, 60% for winners in 1991-2000, 40% for winners in 1981-1990, and finally 20% for winners in 1971-1980. If a winner is affiliated with more than one institution, each institution is assigned the reciprocal of the number of institutions. For Nobel Prizes, if a prize is shared by more than one person, weights are set for winners according to their proportion of the prize.</p>
HiCi	<p>indicates the number of highly cited researchers in twenty categories defined and provided by isihighlycited.com. These highly cited researchers are assigned to relevant subject fields according to the category which they belong to. If a researcher is listed in more than one category, his/her weight for each category is the reciprocal of the number of categories listed.</p>
PUB	<p>indicates the total number of papers indexed by Science Citation Index-Expanded and Social Science Citation Index in 2010 and 2011. Only publications of 'Article' and 'Proceedings Paper' types are considered. Each paper published by an institution is assigned into relevant subject fields according to journals the paper was published in (Classification of Journal Categories). If a paper is published in a multi-assigned journal (which is assigned to more than one ISI category), it is divided into related groups.</p>
TOP	<p>indicates the percentage of papers published in the top 20% journals of each subject field. Top 20% journals are defined as their impact factors in the top 20% of each ISI category according to Journal Citation Report, 2010. Papers in the top journals of each ISI category are then aggregated into subject fields and the TOP is calculated as the number of papers in the top 20% journals of a particular subject field to that in all journals of the field. A threshold was set for the minimum number of papers in each subject field for calculating TOP indicator. The threshold was defined as 10% of the average number of papers by the top three institutions in each subject field. If the number of papers of an institution does not meet the minimum</p>

Indicator**Definition**

threshold, the TOP indicator is not calculated for the institution and its weight is relocated to other indicators. Only publications of 'Article' and 'Proceedings Paper' types are considered.

<http://www.shanghairanking.com/ARWU-SUBJECT-Methodology-2012.html>