u multirank
Universities compared. Your way.

A TOOLKIT FOR BENCHMARKING

Tailor made analysis and benchmarking for national policy makers.

Regional Engagement

Teaching + Lea

International Orientation

www.umultirank.org

info@umultirank.org

Introduction

U-Multirank has a wealth of information on the performance of higher education institutions and programmes. Presenting data on more than 1,700 higher education institutions from all over the world, U-Multirank has developed the largest global data base on institutional performance in higher education, combining data from bibliometric and patent data bases with unique data on more than 30 indicators. One of the major assets of U-Multirank is the broad set of indicators not only covering research, but also teaching and learning, knowledge transfer, international orientation and regional engagement. U-Multirank includes a broad range of institutions with different missions and profiles, making the diversity in higher education visible. Its unique mapping tool allows to identify similar institutions based on 12 empirical indicators describing institutional profiles. For a number of countries, the coverage of national institutions in U-Multirank is high to (almost) full coverage. On this basis U-Multirank can offer useful empirical analysis and benchmarking to national policy makes and authorities.

The existing U-Multirank web tool opens up all of these options but it is mainly geared towards students and individual institutions. We have learned that other user groups experience a steep learning curve to extract the information they are looking for. This paper demonstrates additional options that U-Multirank can provide to national policy makers to tap into the wealth of information U-Multirank holds.

U-Multirank offers a tool-kit that provides tailor made instruments and analysis, taking into account the particular needs and contexts of individual countries. This tool-kit can particularly be applied in countries with a high coverage of institutions.

In order to define a tailor-made analysis, national authorities/policy makers have several options:

(i) Decide whether you wish to compare HEIs at national level or internationally.

(ii) Identify the purpose of the analysis: are you interested in benchmarking your national *institutions* against similar or different individual institutions (in your own system or from various other countries) or would you like to compare your higher education *system* with particular other national systems or regions (e.g. EU, Europe).

(iii) Specify the level of analysis (institutional, subjects) and the dimensions and indicators you wish to compare out of the full range of 5 dimensions and more than 30 indicators.

Levels of Comparison

There are two general patterns of comparison which we will customise to individual requirements:

I. Institutional benchmarking:
    With its rich data set U-Multirank offers unique benchmarking opportunities on the level of individual institutions. U-Multirank offers both an in-depth *national* analysis and *international* comparisons of the performance of institutions, their strengths and weaknesses across the five performance dimensions covered by U-Multirank. This can be done either for individual institutions or on an aggregated level for specifically defined institutional profiles or types of institutions (i.e. UAS, specialised universities, research intensive universities). This analysis can inform the development of strategies to improve institutional performance and quality, identify possible weaknesses and further existing strengths.

Comparing national universities with global/European top performers on certain aspects and indicators allows the identification of profile characteristics linked to such a top performance and can thus help to develop the performance of an institution further.

II. System benchmarking:
For some higher education systems with high coverage U-Multirank allows for comparisons at the system level as well – either for full systems or disaggregated by profiles and types of institutions (for example, universities and polytechnics/universities of applied science). Which dimensions are strong in your country compared to other individual countries or in comparison with the total of global/European higher education institutions?

For both approaches U-Multirank offers unique data on a wide range of more than 30 indicators from five dimensions, both on institutional and subject level (see appendix). In addition, unpublished data from the U-Multirank data base can be analysed, as well as additional national data (provided by national authorities) and international data bases (e.g. ETER).

Example 1: institutional level - Slovenia

U-Multirank started a pilot study in cooperation with the Slovenian Ministry for Education. The aim (formulated by the Ministry) is to benchmark Slovenian universities against a sample of similar universities from other countries. The pilot study illustrates the tailor-made approach of the U-Multirank benchmarking toolkit.

1. The Ministry selected the three public universities to be included.[1] In terms of the U-Multirank mapping indicators, they share some profile characteristics (public, comprehensive, PhD awarding), but differ in size and age.

Name	Age of institution	Legal status	Level of study	Scope	Size of institution
University of Ljubljana	1870-1945	public	bachelor or master or doctorate	comprehensive	very large
University of Maribor	1945-1980	public	bachelor or master or doctorate	comprehensive	large
University of Primorska	post 1980	public	bachelor or master or doctorate	comprehensive	small

---

[1] The fourth, University of Nova Gorica, is classified as private, government dependent. It is not included into this analysis.

2. Based on an analysis of mapping indicators the Ministry selected a set of 5 benchmarking universities for each of the three.

University of Maribor	University of Primorska	University of Ljubljana
U Bergen (Norway)	U Mons (Belgium)	Sofia U (Bulgaria)
RUDN U (Russia)	Maynooth U (Ireland)	Aarhus U (Denmark)
U Rijeka (Croatia)	Klaipeda U (Lithuania)	U of Belgrade (Serbia)
U Tromsø (Norway)	U Luxembourg	Comenius U (Hungary)
Pedagogical U of Krakow (Poland)	U Lleida (Spain)	A. M. U Poznan (Poland)
		VU Amsterdam (Netherlands)
		Saratov State U (Russia)

3. Out of the full set of 35 U-Multirank ranking indicators the Ministry defined a subset of 16 indicators across the five U-Multirank performance dimensions that are particularly relevant for national analysis and evidence-based decision making regarding the development of the national higher education system.

Indicators selected for the pilot study

Based on this selection of benchmark institutions and indicators, U-Multirank provides a tailor made analysis with tables and graphic illustrations. Here are some examples:

Example 1: Comparison on single indicators

University of Primorska has the highest bachelor graduation rate among the three Slovenian universities. Within its benchmarking sample it is only outperformed by University of Klaipeda. The other two universities have lower bachelor graduation rates than most of their peer institutions.

Example 2: Relation between two indicators
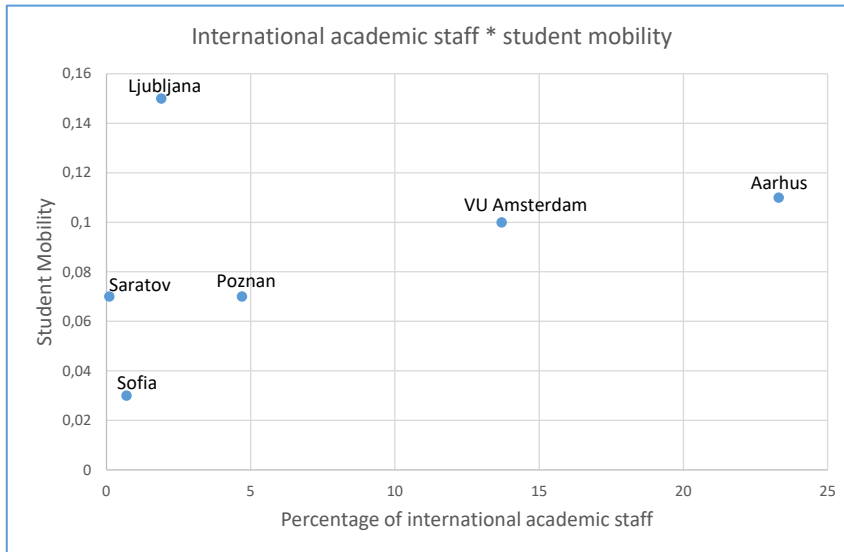
Results: U-Multirank data for the three benchmarking samples show that in general universities with a higher percentage of international academic staff tend to have higher levels of student mobility. But this is not the case for the Slovenian universities. Compared to their low percentages of international academic staff they score high on student mobility, in particular University Ljubljana.

Example 3: At a glance view on performance profiles

The U-Multirank sunburst chart provides an at a glance illustration of institutional performance across all indicators. The colours mark the different dimensions; each bar represents one indicator. The length of the bar indicates the performance group; a full length bar meaning top performance group, a small (one-unit) bar bottom group (an empty bar means that data are missing). Compared to University of Maribor the two Norwegian universities (Tromsø, Bergen) perform better on international orientation. Maribor shows strong performance in the research dimension and for selected indicators in knowledge transfer and international orientation. On the other hand the Maribor results in teaching fall behind most of its benchmark institutions.

Example 2: System level -Spain

For countries with high coverage of institutions U-Multirank offers analysis on the *system* level as well. In Spain U-Multirank has reached a coverage of over 90 % (75 HEIs) among all public, private and catholic universities. Both in our country analysis as part of the U-Multirank media packages and on our new "Study in…" section on the U-Multirank website, we already presented an aggregate analysis of the country's performance on the five dimensions by showing the percentages of rank groups of all Spanish universities above global average (rank groups "A" and "B") and below average (groups "D" and "E").
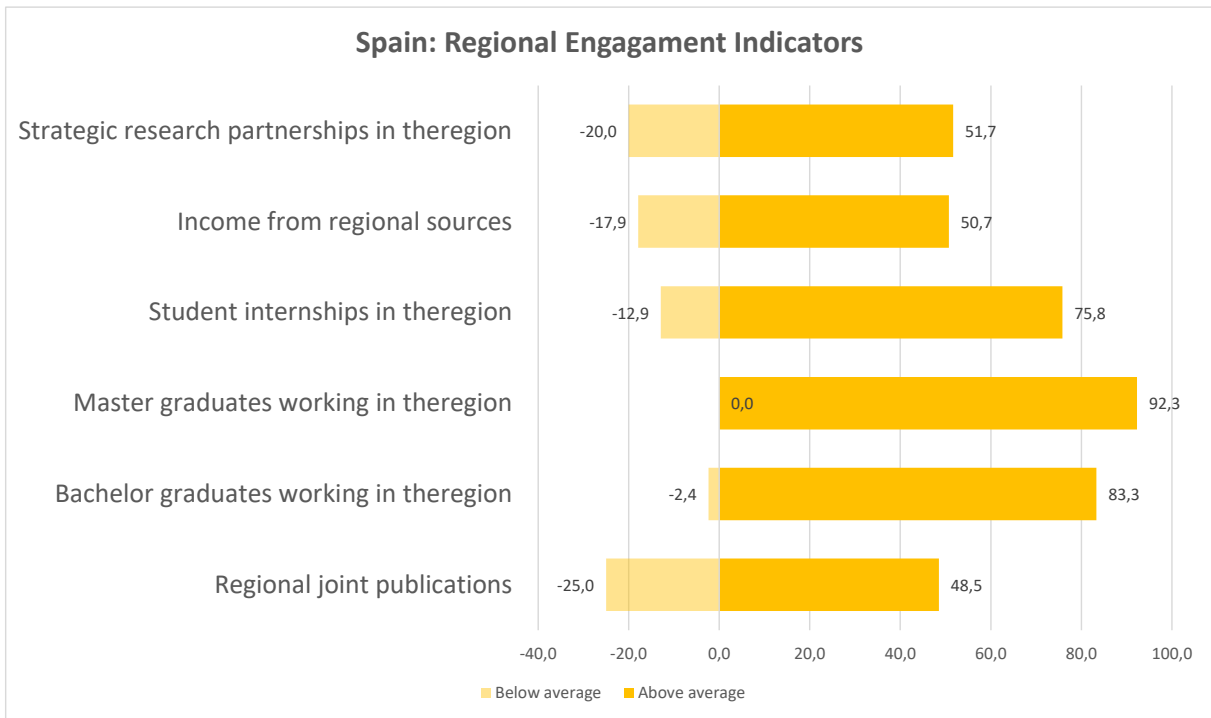
Spain: Country performance by dimensions

Percent of all Universities	100%	80%	60%	40%	< below	Average	above >	40%	60%	80%	100%
Teaching & Learning	26%										56%
Research	29%										36%
Knowledge Transfer	57%										27%
International Orientation	43%										36%
Regional Engagement	15%										64%
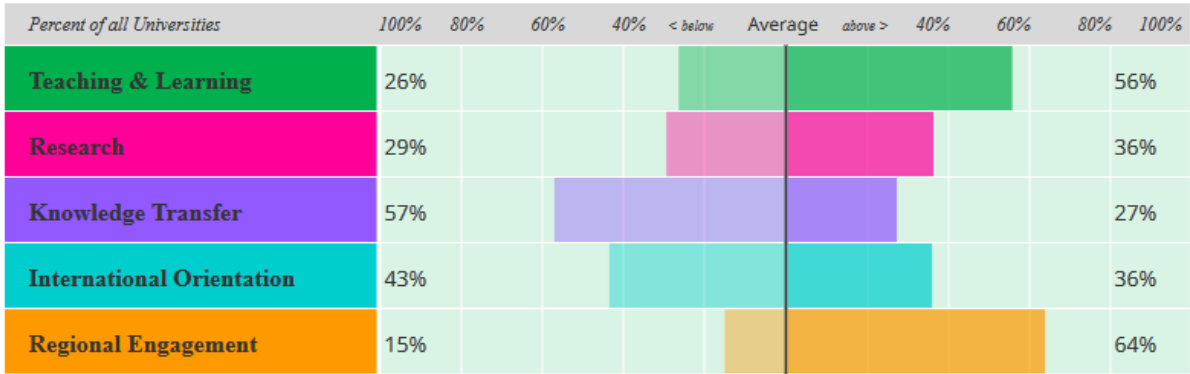
Compared to the whole U-Multirank sample (of 1,600+) institutions Spanish universities score a high number of top positions (groups A and B) in teaching and learning and in regional engagement, and - to a smaller degree - in research. In international orientation and, particularly, knowledge transfer the number of rank group positions below average (D and E) is higher than the number of positions above average.
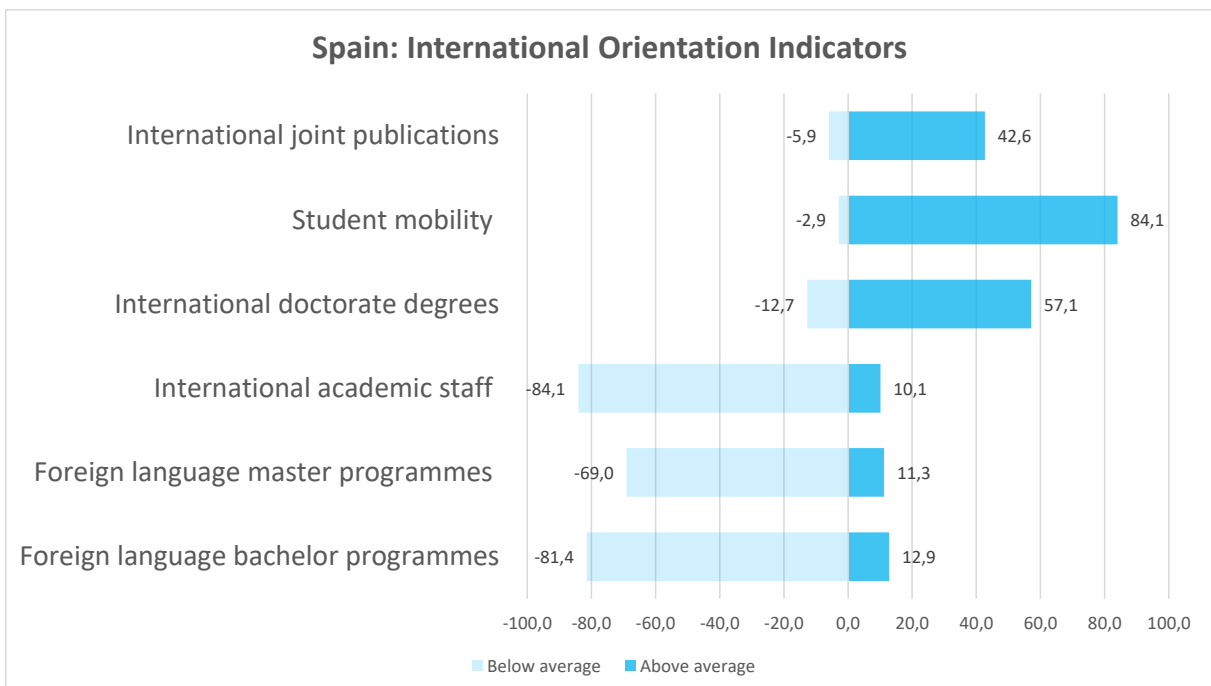
A detailed analysis of the regional dimension indicators (see illustration below), one of the strong dimension of performance of the Spanish system, shows strong connections to the regions in terms of teaching and regional employability issues. Spanish universities are very strong in producing graduates, both on bachelor and master level, for regional labour markets. In addition, internships in regional companies play a major role. But the linkages between universities and their region are also strong with regard to research (as indicated by joint-publications with co-authors from the region and by regional strategic research partnerships).

Spain: Regional Engagament Indicators

Indicator	Below average	Above average
Strategic research partnerships in theregion	-20,0	51,7
Income from regional sources	-17,9	50,7
Student internships in theregion	-12,9	75,8
Master graduates working in theregion	0,0	92,3
Bachelor graduates working in theregion	-2,4	83,3
Regional joint publications	-25,0	48,5

An analysis by single indicators of the international orientation dimension show that the overall below average results on the dimension level (see above) are mainly linked to the small numbers of English language degree programmes (both Bachelor and Master) and international academic staff, while student mobility (including at the PhD level) is a particular strength of the Spanish higher education system (which is also confirmed by ERASMUS mobility data). In addition Spain performs strong in international joint publications.

Spain: Country performance in international engagement

Spain: International Orientation Indicators

Indicator	Below average	Above average
International joint publications	-5,9	42,6
Student mobility	-2,9	84,1
International doctorate degrees	-12,7	57,1
International academic staff	-84,1	10,1
Foreign language master programmes	-69,0	11,3
Foreign language bachelor programmes	-81,4	12,9

Overview: U-Multirank Mapping Indicators

Teaching & Learning

Indicator				
Expenditure on teaching (%)	low	medium		high
Graduate students	none	low	medium	high
Scope	specialised	broad		comprehensive
Level of study	bachelor	master		doctorate
Specialised in	Education	Humanities and arts	Social sciences	Engineering	Science
	Agriculture	Health and social services	Services	Business and law	ICTs

Research

Indicator				
Expenditure on research	none	low	medium	high

Knowledge Transfer

Indicator				
Income from private sources	none	low	medium	high

International Orientation

Indicator				
Foreign degree seeking students	none	low	medium	high

Regional Engagement

Indicator					
New entrants from the region	none	low	lower medium	upper medium	high

General

Indicator				
Size of institution	small	midsize	large	very large
Legal status	public	private		government dependent private
Age of institution	pre 1870	1870-1945	1945-1980	post 1980

Overview: U-Multirank Indicators Institutional Ranking

Teaching & Learning — Select all
- ☐ Student-staff ratio
- ☐ Graduating on time (bachelors)
- ☐ Graduating on time (masters)
- ☐ Academic staff with doctorates
- ☐ Contact with work environment (bachelors)
- ☐ Contact with work environment (masters)

Teaching & Learning (Students' views) — Select all
- ☐ Overall learning experience
- ☐ Quality of courses & teaching
- ☐ Organisation of program
- ☐ Contact with teachers
- ☐ Inclusion of work/practical experience
- ☐ Library facilities
- ☐ IT provision
- ☐ Room facilities

Knowledge Transfer — Select all
- ☐ Income from private sources
- ☐ Co-publications with industrial partners
- ☐ Publications cited in patents

Research — Select all
- ☐ External research income
- ☐ Doctorate productivity
- ☐ Research publications (absolute numbers)
- ☐ Citation rate
- ☐ Top cited publications
- ☐ Interdisciplinary publications
- ☐ Research orientation of teaching

International Orientation — Select all
- ☐ International orientation of bachelor programmes
- ☐ International orientation of master programmes
- ☐ Opportunities to study abroad
- ☐ International doctorate degrees
- ☐ International joint publications
- ☐ International research grants

Regional Engagement — Select all
- ☐ Student internships in the region
- ☐ Regional joint publications

Overview: U-Multirank Indicators Subjects Rankings

Teaching & Learning — Select all
- ☐ Student-staff ratio
- ☐ Graduating on time (bachelors)
- ☐ Graduating on time (masters)
- ☐ Academic staff with doctorates
- ☐ Contact with work environment (bachelors)
- ☐ Contact with work environment (masters)

Teaching & Learning (Students' views) — Select all
- ☐ Overall learning experience
- ☐ Quality of courses & teaching
- ☐ Organisation of program
- ☐ Contact with teachers
- ☐ Inclusion of work/practical experience
- ☐ Library facilities
- ☐ IT provision
- ☐ Room facilities

Regional Engagement — Select all
- ☐ Student internships in the region
- ☐ Regional joint publications

International Orientation — Select all
- ☐ International orientation of bachelor programmes
- ☐ International orientation of master programmes
- ☐ Opportunities to study abroad
- ☐ International doctorate degrees
- ☐ International joint publications
- ☐ International research grants

Research — Select all
- ☐ External research income
- ☐ Doctorate productivity
- ☐ Research publications (absolute numbers)
- ☐ Citation rate
- ☐ Top cited publications
- ☐ Interdisciplinary publications
- ☐ Research orientation of teaching

Knowledge Transfer — Select all
- ☐ Income from private sources
- ☐ Co-publications with industrial partners
- ☐ Publications cited in patents

ABOUT U-MULTIRANK

U-Multirank is developed and implemented on the initiative of the European Commission by an independent consortium led by the Centre for Higher Education (CHE) in Germany, the Center for Higher Education Policy Studies (CHEPS) at the University of Twente and the Centre for Science and Technology Studies (CWTS) from Leiden University, both in the Netherlands, as well as the Foundation for Knoweldge and Development (Fundación CYD) in Spain. The consortium is headed by Professors Dr. Frans van Vught of CHEPS and Dr. Frank Ziegele of the CHE.

Associate partners include specialist organisations (e.g. data collection, web design) and stakeholder organisations.

Lead Partners:

- Centre for Higher Education (CHE)
- Center for Higher Education Policy Studies (CHEPS)
- Centre for Science and Technology Studies (CWTS)
- Fundación CYD

Associate Partners:

- Conference of European Schools for Advanced Engineering Education and Research
- European Student Union (ESU)
- Erasmus Student Network (ESN)
- Folge 3

Financial Partners:

- Bertelsmann Stiftung
- Banco Santander
- Erasmus+