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# Ranking & Efficiency



Can we use rankings to indicate efficiency?

# What is ARRA?



- **Academic Ranking and Rating Agency** is an independent NGO (civic association) – founded in September 2004
- Aims:
  - providing the public with information on the quality of individual universities in Slovakia,
  - introducing a method of assessing the quality of education provided by universities in Slovakia,
  - regularly ranking universities, the affiliated faculties and sections by the quality of the education they provide and the quality of their research and development ("ranking"),
  - assigning universities a rating based on the level of quality of their individual activities,
  - attempting to stimulate competition between individual universities and their faculties.

# What is ARRA?



- Steps for creating a ranking:
  - the **selection of indicators** for the quality of education and research in individual universities and the assignment of a certain number of points to each faculty for the performance in this or that indicator (indicators are arranged into groups and each group of indicators gained a certain number of points),
  - the **division of faculties into six groups** according to the so-called Frascati Manual (OECD 2002) in order to compare only faculties that have the same orientation and similar working conditions,
  - **assigning points scores** to faculties,
  - the calculation of the points score for universities.

# Ranking criteria/indicators

From: Report 2006



Field	Label	Title	
Science and research	Publications and citations	VV1	Number of scientific publications in WoK database in 1996 – 2005 per number of creative workers (CW)
		VV2	Number of citations in 1996 - 2005 per CW according to the WoK database
		VV2a	Number of citations per one scientific publication in the WoK database published 1996 – 2005
		VV3	Number of scientific publications from VV1 with more than 5 citations per CW
		VV3a	Number of scientific publications from VV1 with more than 25 citations per CW
	PhD. Studies	VV4	Number of PhD students in full time study (year 2005) in proportion to the number of professors and associate professors
		VV5	Average annual number of PhD graduates in 2003 – 2005 in proportion to the number of associate professors and professors
		VV6	Number of PhD students in full time study in proportion to the number of full-time bachelor/master students
	Grant success	VV7	Grant funding from the VEGA and KEGA agencies per one creative worker in 2005
		VV8	Grant funding from the Research and Development Agency (APVV) per one creative worker in 2005
VV9		Funding from foreign grants and state programmes per CW	
VV10		Overall grant funding per one creative worker	
Study and education	Students and teachers	SV1	Number of students (full-time and part-time) per number of teachers in 2005
		SV2	Number of students divided by the number of professors and associate professors in 2005
		SV3	The ratio of professors, assoc. professors and other teachers with a PhD to the total number of teachers
		SV4	The ratio of professors and assoc. Professors to the total number of teachers
		SV5	Average age of professors holding a functional position (active professor)
	Interest in study	SV6	Admissions proceedings: ratio of actual number of applications received to the planned number in 2005
		SV7	Admissions proceedings: number of registered students in proportion to the number of offers in 2005
		SV8	The ratio of students with foreign state citizenship
	University-level criteria	SV9*	Number of university graduates unemployed for over 3 months (graduation in 2005)
		SV10*	Students taking part in study abroad (ERASMUS, bilateral agreements and programmes scholarships)
Financing	F1*	Overall costs for main activities of HEI per student	
	F2*	Success of the university's business activities (in proportion to the overall costs for main activities)	
	F3*	The proportion of grant funding to the university's budget for its main activities	

# Ranking criteria/indicators



- Data – official (from ministry, public databases such as WoK, other official statistics)
- Points (note: no weights)
  - per indicator (best result = 100)
  - per category (average of indicators in the categ.)
  - per faculty (average of categ. points)
  - per university (in a „Frascati group“; average points of respective faculties)

# Challenges of a ranking



- A ranking must be always looked at in terms of criteria (indicators) used
- Best information on the level of indicators
  - The higher level you go, the “foggier” may the information look like; though each level can give different kind of information and can be useful.
- Ranking based on study/research fields vs. ranking of institutions

# Ranking & Efficiency of public spending



- Example 1 – Quality point and running costs

	Total points	Ranking	Number of students (recalculated)	Overall expenditure on main activities	<b>expenditures points*students</b>
Pavol Jozef Šafárik University	49,0	2	5 408	525 705	<b>1 984</b>
Catholic University	26,9	7	3 942	189 717	<b>1 791</b>
Comenius University	51,7	1	21 812	1 860 390	<b>1 650</b>
University of St. Cyril and Methodius	24,0	8	3 134	115 919	<b>1 544</b>
Constantine the Philosopher University	29,9	5	8 156	361 244	<b>1 480</b>
Matej Bel University	29,6	6	9 483	408 509	<b>1 457</b>
University of Prešov	35,5	4	7 539	375 840	<b>1 405</b>
University of Trnava	41,9	3	4 161	206 848	<b>1 187</b>

- The HEI ranked on place 3 produces the same quality as the HEI ranked on place 8 for less „price“

From: Report 2005

# Ranking & Efficiency of public spending



- Example 2 – Quality point and salary

	Total points	Ranking	Average salary of a creative worker (in SKK)	Payroll expenditures per quality point (in SKK)
Constantine the Philosopher University	29,9	5	25 308	845
University of St. Cyril and Methodius	24,0	8	19 602	818
Catholic University	26,9	7	19 893	740
Matej Bel University	29,6	6	20 731	701
University of Prešov	35,5	4	23 488	662
University of Trnava	41,9	3	24 490	585
Pavol Jozef Šafárik University	49,0	2	22 447	458
Comenius University	51,7	1	22 363	433

- For the same level of quality the remuneration of teachers from the HEI ranked on place 3 is lower than at the HEI ranked on place 8

From: Report 2005

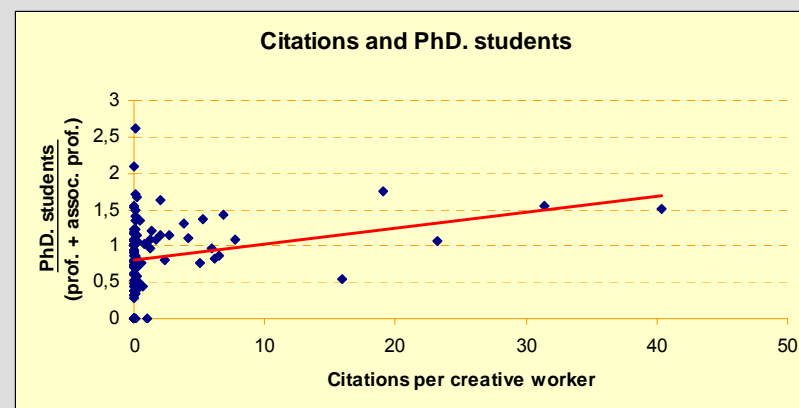
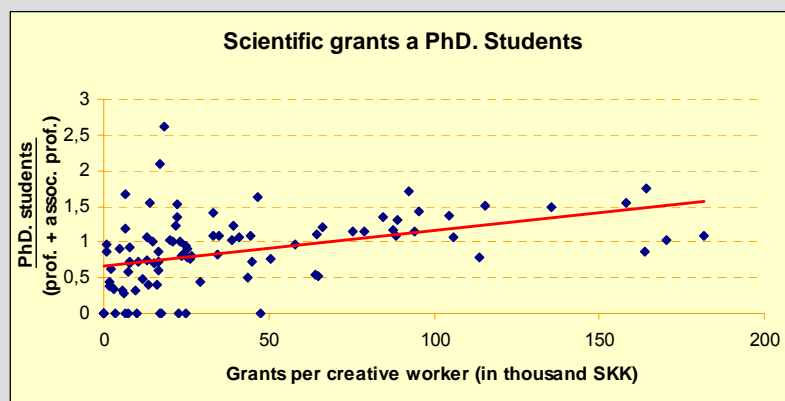
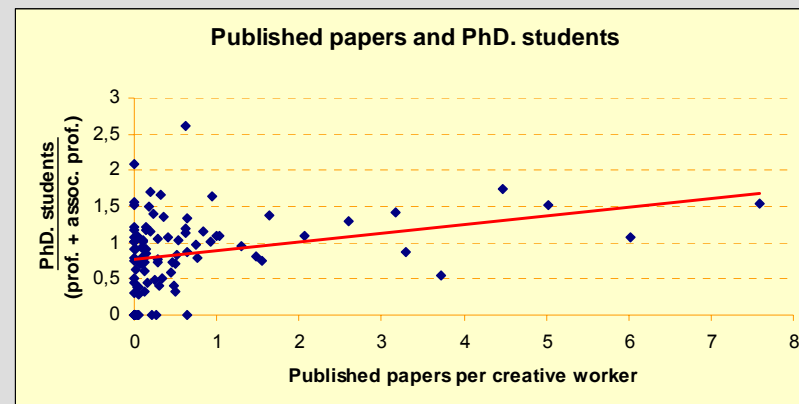


# Ranking & Efficiency of public spending



- Example 3 – PhD. Studies vs. Research

	Published papers and PhD. Students	Citations and PhD. Students	Scientific grants a PhD. Students
Correlation coefficient	0,30	0,26	0,42



From: Report 2006

# Ranking & Efficiency of public spending



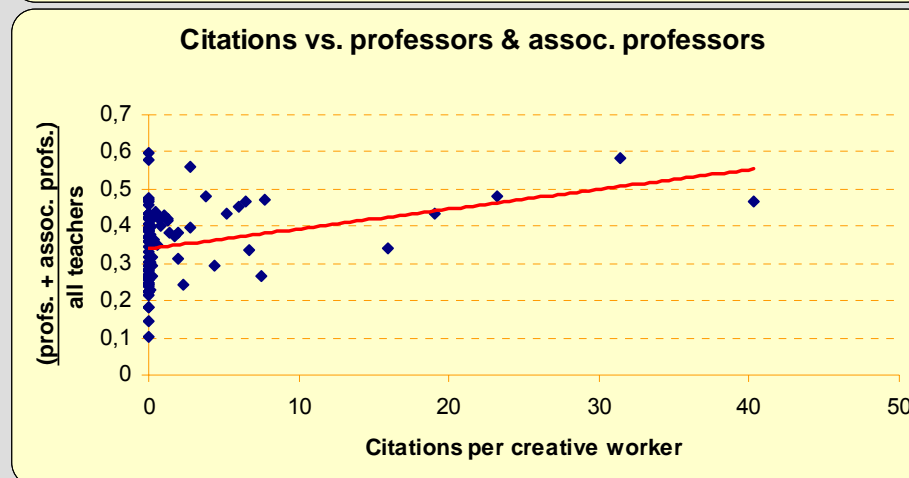
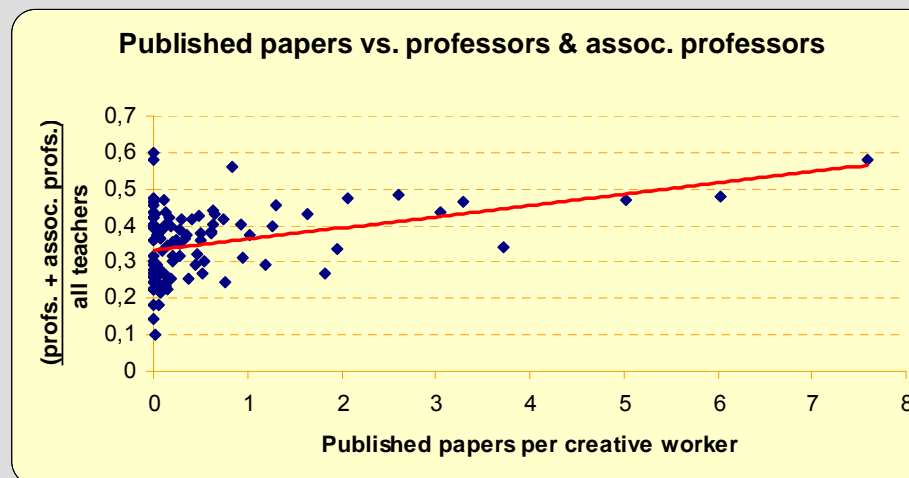
- Example 4 – Research outputs (within 10 years) & creative workers

	Published papers vs. professors & assoc. professors	Citations vs. professors & assoc. professors
Correlation coefficient	0,39	0,34

more qualified stuff

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more and better scientific outputs



From: Based on data from Report 2006

# Conclusions



- Ranking is made:
  - to compare HEIs = to show differences in a transparent way
  - to stimulate competition among HEIs and this way stimulate their quality increase
- The ranking has to be made objectively and independently
  - Independent agency
  - Official & verifiable data
- Relevant indicators have to be picked up
  - ⇒ a ranking must be always looked at in terms of criteria (indicators) used
  - Rankings can be made everywhere; all similar rankings use similar indicators, though they may vary (in relation to specific situation of the education and research discourse of a respective country)
- Best information on the level of indicators
  - These comparisons can give a hint on efficiency of spending

# Thank you for your attention



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