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# FUNDING SYSTEM OF FULL- TIME HIGHER EDUCATION AND TECHNICAL EFFICIENCY – *CASE OF UNIVERSITY OF LJUBLJANA*

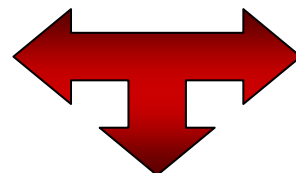
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# Funding system of higher education in Slovenia

## **FUNDS ALLOCATION**

Nr. of students enrolled



Nr. of yearly graduates

Field of education

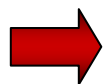


Study groups

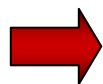


Study group factors

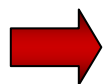
## Purpose of the paper



**To assess the relative (in)efficiency of individual institutions, regardless of their differences in operations**



**To assess the relative (in)efficiencies of individual educational institutions in alignment with their classification into study groups**



**To test whether the relative value of SGF is aligned with the relative differences between technical efficiencies of a specific study group**

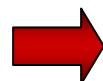
## Data and methodology - 1

➔ **Research sample: 26 “members” (schools and faculties) of the University of Ljubljana**



**Six study groups**

➔ **Deterministic method for measuring efficiency: DEA – Data Envelopment Analysis**



**Input - oriented**



**Assumption of constant returns on scale**

## Data and methodology - 2

60 YEARS

	Nr. of full-time employees				Value of fixed assets	Utilized area	Share of students repeating the study year	Share of students progressing from 1st to 2nd study year	Library activity	Nr. of students per computer	Nr. of full-time students		Nr. of graduates finishing
	All	All lecturers	Lecturers - by their titles	Administrative workers							With graduates	Without graduates	
TE1	I				I								0
TE2		I		I	I								0
TE3	I				I						0		0
TE4		I		I	I						0		0
TE5	I				I		I				0		0
TE6			I	I	I						0		0
TE7			I	I	I		I	I	I	I	0	0	0
CE	I				I						0		0

# Results – Efficiency of individual institutions

Members of UL	TE 1	TE 2	TE 3	TE 4	TE 5	TE 6	TE 7	average	CE
FACULTY OF ECONOMICS								1,0000	1,0000
FACULTY OF SOCIAL WORK								1,0000	0,8608
FACULTY OF RELIGION STUDIES								1,0000	0,4161
FACULTY OF LAW								0,9981	1,0000
FACULTY OF SOCIAL SCIENCES								0,9752	0,8972
FACULTY OF ADMINISTRATION								0,9552	1,0000
FACULTY OF COMPUTER AND INFORMATION SCIENCE								0,9262	0,7189
FACULTY OF PHARMACY								0,8516	0,6444
FACULTY OF EDUCATION								0,8376	0,5982
FACULTY OF MARITIME STUDIES AND TRANSPORT								0,7902	0,6378
UNIVERSITY COLLEGE OF HEALTH STUDIES								0,7895	0,6372
FACULTY OF PHILOSOPHY								0,7874	0,4890
ACADEMY OF MUSIC								0,7706	0,3278
FACULTY OF ARCHITECTURE								0,6124	0,4498
FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING								0,5870	0,3283
FACULTY OF ELECTRICAL ENGINEERING								0,5775	0,4602
FACULTY OF CIVIL AND GEODETIC ENGINEERING								0,5702	0,4470
NATURAL SCIENCES AND TECHNICAL FACULTY								0,5195	0,3947
FACULTY OF MECHANICAL ENGINEERING								0,5146	0,3313
FACULTY OF SPORTS								0,4671	0,3770
BIOTECHNICAL FACULTY								0,4590	0,2979
FACULTY OF ART								0,4428	0,2377
FACULTY OF MATHEMATICS AND PHYSICS								0,3248	0,2527
FACULTY OF MEDICINE								0,2750	0,1136
ACADEMY FOR THEATRE, RADIO, MOVIES AND TELEVISION								0,2705	0,0806
VETERINARY FACULTY								0,1083	0,0454

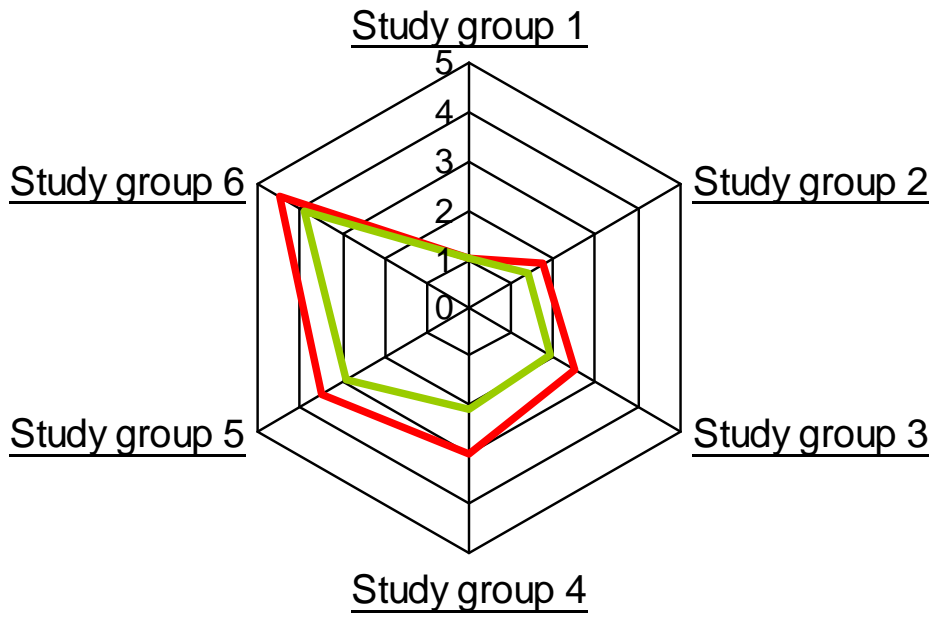
## Key findings and conclusions - efficiency

- ➔ 1. Inefficient UL members should look upon the Faculty of Economics as the model of technical efficiency.
- ➔ 2. Institutions are operating below their optimal size
- ➔ 3. UL members are least efficient regarding employment of part-time professors, size of utilized area, share of students progressing from first to second year of studies and library activity
- ➔ 4. Inefficient UL members should look upon the Faculty of Economics and the Faculty of Administration for models of cost-efficiency
- ➔ 5. Prices of inputs do not influence their utilization and/or interfere with the efficiency

# Results – Study groups

CURRENT							Members of UL	SUGGESTED						
SG area						Study Group		Study Group	SG area					
1	2	3	4	5	6				1	2	3	5	6	
						1	FACULTY OF ECONOMICS	1						
						1	FACULTY OF SOCIAL WORK	1						
						2	<i>FACULTY OF RELIGION STUDIES</i>	1						
						1	FACULTY OF LAW	1						
						1	FACULTY OF SOCIAL SCIENCES	1						
						1	FACULTY OF ADMINISTRATION	1						
						3	<i>FACULTY OF COMPUTER AND INFORMATION SCIENCE</i>	2						
						2	FACULTY OF MARITIME STUDIES AND TRANSPORT	2						
						2	FACULTY OF PHILOSOPHY	2						
						2	FACULTY OF EDUCATION	2						
						4	<i>FACULTY OF PHARMACY</i>	2						
						6	<i>ACADEMY OF MUSIC</i>	2						
						2	UNIVERSITY COLLEGE OF HEALTH STUDIES	2						
						5	<i>FACULTY OF CHEMISTRY AND CHEMICAL ENGINEERING</i>	3						
						3	FACULTY OF ARCHITECTURE	3						
						3	FACULTY OF ELECTRICAL ENGINEERING	3						
						3	FACULTY OF MECHANICAL ENGINEERING	3						
						3	FACULTY OF CIVIL AND GEODETIC ENGINEERING	3						
						3	NATURAL SCIENCES AND TECHNICAL FACULTY	3						
						6	AKADEMIJA ZA LIKOVNO UMETNOST	5						
						4	<i>BIOTECHNICAL FACULTY</i>	5						
						2	<i>FACULTY OF SPORTS</i>	5						
						6	FACULTY OF MEDICINE	6						
						6	ACADEMY OF THEATRE, RADIO, MOVIES AND TELEVISION	6						
						5	FACULTY OF MATHEMATICS AND PHYSICS	6						
						6	VETERINARY FACULTY	6						

# Results – Study group factors




— Weights that determine funding level

— Relative differences between calculated average efficiencies

# Key findings and conclusions – study groups and study group factors

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- ➔ 1. Technical efficiency among study groups varies and therefore confirms the heterogeneity of study groups
  - ➔ 2. Fourth study group has been formed inappropriately and members of this group should be reclassified
  - ➔ 3. Classification of members of the University of Ljubljana into study groups according to their relative technical efficiency is overall inaccurate
  - ➔ 4. The values of the SGFs are relatively too high according to the value of the base study group
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- ➔ 5. Less efficient UL members (study groups 2, 3, 4, 5, and 6) are financed to a greater extent than they should be, or the first study group should get more funds.