

# University-internal Control Instruments at German Universities

Empirical Findings

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# German Higher Education System

- NPM: change in university governance in the mid-1990s
- ongoing marketization of universities
- introduction of financing and management tools
  - agreements on objectives (AO)
  - performance-based models of funding (PBF)

# Research Questions

- How are AO and PBF constructed?
- How are internal AO and PBF disseminated at German universities?
- What are the challenges of instrument-based internal university funding?

# Methodology (1)

- Online Questionnaire
  - use of quantitative information and management tools
  - invited: 518 members of rectorate of 115 public universities with doctoral rights
  - participated: 158 members of rectorate (30%) of 85 universities (75%)
- Interviews
  - use of information, the tools used and the related challenges
  - 18 interviews with deans and representatives of reporting and information systems

# Methodology (2)

- Screening of instruments and indicators
  - analysis of selected documents (AO and other contracts) on the level university-federal state
  - selection based on federal structure of governance (Hüther 2010)
    - 3 universities in Berlin, 3 universities in Rhineland-Palatinate, 3 universities in North Rhine-Westphalia, 3 universities in Bavaria
    - dimension of research, teaching, transfer and young scholars

# Empirical Findings

## Construction of internal AO within the area of research

research indicators (AO)	total
amount of third-party funding (total)	52.3%
no. of PhDs	44.6%
amount of competitive third-party funding	30.8%
no. of publications in top journals	27.7%
no. of granted applications for third-party funding	26.2%
no. of publications (total)	23.1%
no. of habilitations	21.5%
no. of highly-cited publications	16.9%
no. of ERC-grants	15.4%
no. of Humboldt scholarships & awards	13.8%
no. of science awards (total)	9.2%
other (within research)*	9.2%

→ broad range of indicators in use

→ amount of third-party funding and number of PhDs is used in every second internal AO

Source: LeimU Online-Questionnaire

# Empirical Findings

## Construction of internal AO within the area of teaching

teaching indicators (AO)	total
no. of new students	47.7%
utilization of study programs	44.6%
no. of students within standard period of study	30.8%
no. of students	27.7%
no. of graduates	27.7%
no. of graduates within standard period of study	18.5%
no. of student dropout	18.5%
faculty-student ratio	15.4%
other (within teaching)	6.2%
teaching awards	4.6%

Source: LeimU Online-Questionnaire

- broad range of indicators in use
- concentration on indicators related to number of students
- number of new students and utilisation of study programs are the most used indicators

# Empirical Findings

## Construction of internal PBF within the area of research

research indicators (PBF)	total
amount of third-party funding (total)	68.2%
no. of PhDs	58.9%
amount of competitive third-party funding	42.1%
no. of publications (total)	40.2%
no. of habilitations	39.3%
no. of journals in top journals	26.2%
no. of ERC-grants	25.2%
no. of Humboldt scholarships & awards	24.3%
no. of highly cited publications	21.5%
no. of granted applications of third-party funding	21.5%
no. of science awards (total)	18.7%
other (within research)	9.3%

Source: LeimU Online-Questionnaire

- PBF containing a large number of indicators
- concentration on few indicators: amount of third-party funding and number of PhDs



# Empirical Findings

## Construction of internal PBF within the area of teaching

teaching indicators (PBF)	total
no. of graduates	43.4%
no. of new students	39.6%
no. of students within standard period of study	37.7%
no. of students	35.8%
utilisation of study programmes	29.2%
no. of graduates within standard period of study	23.6%
faculty-student ratio	18.9%
other (within teaching)	12.3%
teaching awards	9.4%
no. of student dropout	7.5%

Source: LeimU Online-Questionnaire

- PBF containing a lower number of indicators
- concentration on indicators related to number of students
- (new) students and graduates are the most used indicators

# Empirical Findings

## Consideration of subject cultures within internal PBF

subject cultures (PBF)	small U	medium-sized U	big U	total
agricultural sciences, forestry & nutritional sciences, veterinary medicine	100.0%	90.0%	51.9%	72.0%
medicine, health sciences	85.7%	83.3%	48.6%	63.9%
engineering	75.0%	57.1%	60.7%	63.8%
mathematics, natural sciences	59.1%	57.9%	50.0%	54.5%
sport	64.3%	46.2%	23.5%	37.7%
law sciences, economics, social sciences	38.1%	15.8%	16.7%	22.4%
humanities	47.4%	10.5%	13.9%	21.6%

Source: LeimU Online-Questionnaire

- high consideration of hard sciences within internal PBF
- low consideration within law, economics, social sciences and humanities
- the smaller the university the higher is the consideration of subject cultures

# Empirical Findings

## Share of budget which is allocated by internal PBF

	small U	medium-sized U	big U	total
< 10%	73.9%	64.7%	58.1%	64.8%
10% to 20%	8.7%	23.5%	22.6%	18.3%
20% to 30%	4.3%	5.9%	0.0%	2.8%
> 30%	13.0%	5.9%	19.4%	14.1%
total	100.0%	100.0%	100.0%	100.0%

Source: LeimU Online-Questionnaire

- low share of budget allocated by internal PBF
- almost 65% reported from a less than 10% share. 14% from a more than 30% share
- smaller universities have a lower share of budget which is allocated by PBF

# Empirical Findings

## Share of teaching and research related indicators within internal PBF

teaching	small U	medium-sized U	big U	total
< 25%	21%	21%	7%	15%
25% to 50%	47%	50%	59%	53%
50% to 75%	26%	7%	21%	19%
> 75%	5%	21%	14%	13%
total	100%	100%	100%	100%

→ at most universities the share of teaching related indicators are between 25% and 50%

research	small U	medium-sized U	big U	total
< 25%	15%	21%	17%	18%
25% to 50%	45%	50%	52%	49%
50% to 75%	30%	7%	24%	22%
> 75%	10%	21%	7%	11%
total	100%	100.0%	100.0%	100.0%

→ at most universities the share of research related indicators are between 25% and 50%

Source: LeimU Online-Questionnaire

# Empirical Findings

## Dissemination of internal AO and PBF

	Survey 2010 Bogumil (2015)	Survey 2014 Bogumil (2015)	Survey 2017 LeimU
internal AO	75.0%	68.4%	57.7%
internal PBF	96.3%	84.2%	81.8%

Source: LeimU Online-Questionnaire

→ dissemination of internal AO and internal PBF have been declining for years

# Empirical Findings

Challenges of internal AO, PBF, evaluation, and performance measurement



Source: LeimU Interviews

Thank you very much  
for your attention!

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# Bibliography

- Hüther (2010): Von der Kollegialität zur Hierarchie? Eine Analyse des New Managerialism in den Landeshochschulgesetzen.
- Bogumil, Jochheim, Gerber (2015): Universitäten zwischen Detail und Kontextsteuerung: Wirkungen von Zielvereinbarungen und Finanzierungsformeln im Zeitvergleich. In Bungarten (Ed.): Hochschulgovernance in Deutschland.