

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 in RSZ | 37.7% |
| no. of students | 35.8% |
| utilisation of study programmes | 29.2% |
| no. of graduates in RSZ | 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 ZLV | 75.0% | 68.4% | 57.7% |
| Internal LOM | 96.3% | 84.2% | 81.8% |

Source: LeimU Online-Questionnaire

→ dissemination of internal ZLV and internal LOM 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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