

## Models to capture and support diversity in European universities

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## Structure of the presentation

1. **Forms of diversity**
2. **Examples of social diversity within institutions (by students)**
3. **Selected models to capture and support social diversity - two examples: classification and added-value approach**
4. **Conclusion and outlook**



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## 1. Forms of diversity

While *differentiation* denotes a dynamic process, *diversity* refers to the level of variety of entities in a system at a specific point in time. Several forms of diversity can be found in the higher education literature, (CHEPS 2009; see also van Vught 2008; Meek 1996; Huisman 1995):

Some crucial forms of diversity are:

- 1.) **Reputational diversity**, which refers to perceived differences in the prestige or status of higher-education institutions;
- 2.) **Programmatic diversity**, relating to the differences between programmes provided by higher-education institutions;
- 3.) **Systemic, structural, or institutional diversity**, referring to differences in types of institutions within higher-education systems.

The 1st indicates **vertical diversity** (related to status or performance of institutions), the 2nd and the 3rd could be understood as **horizontal diversity** (related to different goals of institutions - see e.g. Teichler 2005, Krempkow/Kamm 2011).

⇒ I focus on **institutional diversity** and the **social diversity of students** within the institutions.



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## Social diversity of students

Most discussed aspects in Germany:

- **Background aspects:** occupational/educational background, gender, immigration background, language background (German speaking parent[s], ethnicity, religion – see König 2005)

- **Special environment:** e.g. parenthood, pregnancy, long-term care of family members, frequency of gainful employment / part-time students

Further aspects of diversity discussed in Germany:

- “**Study skills,**” mostly measured by university entrance scores (*Abitur-Noten*)

In the following examples, I will describe one **background aspect** and one aspect of **special environment** of HE institutions in Germany based on the last four Konstanz Student Surveys.



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## 2. Examples of social diversity within institutions

As an example, I use the social diversity of German HEI (universities) according to their students based on the data from the last four Konstanz Student Surveys.

- **Educational family background of students** in HEI varies from about 65% non-academic family background (Kassel, Duisburg-Essen, Oldenburg, Bochum) to about 40% (Freiburg, Berlin-TU, München-LMU, Leipzig).
- Data depends on dominating subjects in HEI, but that does not explain all of the differences, as we can see from the example of the subject **sociology**:  
From about 70% (Kassel, Duisburg-Essen, Rostock, Bochum) to about 40% (Freiburg, followed by Berlin-TU, Potsdam, Leipzig). The differences – separated by universities of technology (TU) and universities (Uni) – are not smaller.
- This is also the case for federal states in GER. (see Krempkow/Kamm [2012/ in preparation])

HEI	Institution 1 (TU)	Institution 2 (TU)	Institution 3 (Uni)	Institution 4 (Uni)	Nationwide (Bargel et al 2011 <sup>1</sup> )
Dimension of diversity					
Students from non-academic parents:	63%	39%	72%	50%	59%
Part-time students	37%	27%	30%	21%	25%

<sup>1</sup> Mean of the data from Konstanz Student Survey, last four samples, n=33.175 / 665 (see Bargel et al 2011, variable education father comb. with occupation).



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## 3. Selected models to capture and support social diversity. Two examples: classification and added-value approach

**Classification:** CHEPS 2009 (CEIHE project, see also Bartelse/ van Vught 2009): is a spatial, temporal, or spatiotemporal segmentation of the world' (Bowker & Star 2000). Or in simpler terms, it is '... the general process of grouping entities by similarity' (Bailey 1994). The objective is to improve the **knowledge about diversity in European higher education and to support a positive image** (see CHEPS 2009), based on six main dimensions – teaching and learning; student profile; knowledge exchange; international orientation; research involvement; and regional engagement – to characterise all participating European higher-education institutions (HEI). In 2011, information on 67 HEI were incorporated in the data base – see Krempkow/Kamm (2011).

**Warning:** The description of institutional profiles and the (partly implicit) construction of performance classes causes an incentive for HEI to imitate the HEI class with the highest reputation. Accordingly, the intended transparency of diversity can lead to an increase in similarities. (Wissenschaftsrat 2010: 116).

**A potential answer to this:** **Added-value approach** from the Australian LTPF can capture the produced "added value" (in relation to the initial conditions) – and make it possible to support it by incentives.



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## The added-value approach:

### Adjusted indicators for different initial conditions for teaching in Australia

- **Background** (DETYA 1998: 70f.): "The simplistic use of performance indicators can produce misleading impressions of institutional performance. Institutions have diverse missions, backgrounds, course offerings and students."
- "In the **methodology**, we attempt to adjust for the influence of a wide range of factors (...)." These factors include 11 aspects ("age, gender, non-English speaking background (NESB) status, Indigenous Australian status, socio-economic status, rural status, isolated status, broad field of study, level of course, basis of admission and type of enrolment")
- "**Regression analysis** to control for the effect of these factors" (for similar analyses in Germany, see Krempkow 2008, Kamm/Krempkow 2010)
- "The **approach** taken here is, in essence, a comparison of institutional performance against a set of national averages (...) of student characteristics." (for the use of this approach with data from a German federal state, see Krempkow/Kamm [in preparation])

=> Next: This **method** as an example for **(low) socio-economic background (SEB) status**



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## Calculation example for the added-value approach:

### Method-adjusted indicators for the example of Australia (3 Steps)

#### 1. Percentage of "low socio-economic background status" (SEB) vs. other (SEB)

	Institution 1	Institution 2	Total
low SEB	20%	70%	45%
other SEB	80%	30%	55%

#### 2. Completion rate (CR) as "crude performance indicator" (Perf.)

	Institution 1	Institution 2	Total
low SEB	70%	75%	74%
other SEB	85%	95%	88%
Total	82%	81%	81,5%

#### 3. Calculation: expected completion rate (exp. CR) and „adjusted performance“

Exp. CR = low SEB-perc.1 \* low SEB-Perf. + other SEB-perc.1 \* other SEB-Perf.

Exp. CR = 20% \* 74% + 80% \* 88% = 85%

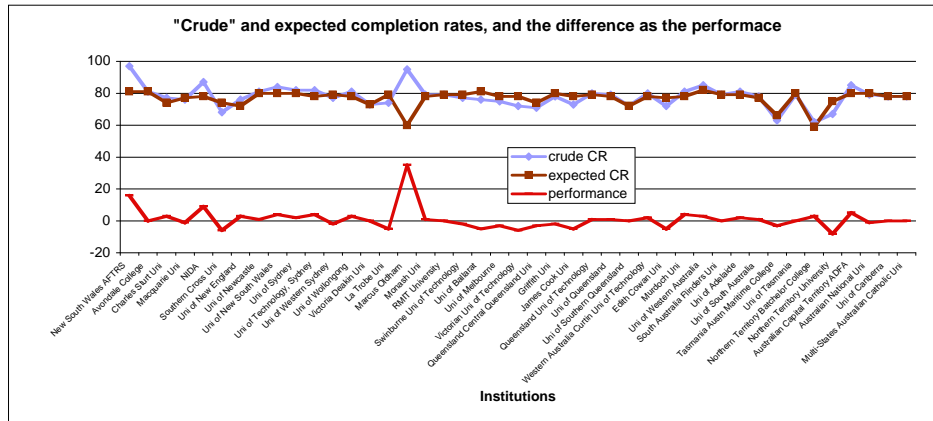
	Institution 1	Institution 2	Total
Total exp. CR	85%	78%	81,5%
crude - exp. CR	82-85	81-78	81,5-81,5
= adj. Perf.	= -3%	= +3%	= 0%



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Rechenbeispiel angelehnt an DETYA (1998)

## Example of Australia: 43 HEI



Principally, no major differences except a few HEI of higher "added value."



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Daten: DETYA 1998

### Review of the model:

- "Review of Higher Education Outcome Performance Indicators," a report by *Access Economics* (2005):

"**The overall concept** attempting to create a 'level playing field' by removing differences in university performance due to exogenous factors **is a sensible and fair approach**. The set of exogenous variables used is also sensible and covers a good range of social and demographic factors that are beyond the control of the institutions. Importantly, DEST has also been **careful to exclude any factors that are within the control of an university.**"

- Another analysis of the Australian model summarised: "The LTPF is small in absolute terms. However, this rather modest incentive fund has the capacity to significantly influence universities' priorities due to the inevitable league tables that result. Universities are developing strategies to either maintain or improve their scores on the key indicators, and therefore **these indicators and their relative weightings** are set to become **powerful drivers** of institutional policies. (Harris 2007)

- Further development of the model has been in discussion since 2010 (I am in contact with Richard James, an expert from Australia).

**Other models** similar (more or less) to the Australian model:

- in France a simulation comparable to added-value approach (CEREQ 2009)
- in UK Boni for non-traditional students (Orr 2004), "high risk students" (Sörlin 2007)
- in Berlin in 2012 additional funding for students with "migratory background" (Zöllner 2011)



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## 4. Conclusion and outlook

- 1.) **The institutional diversity (of HEI and subjects in HEI) can be captured by surveys like the Konstanz Student Survey, and this could be used to support diversity** (e.g. by performance measurement and incentives such as performance-based funding).
- 2.) **The potential of the added-value approach to capture and support social diversity** seems to be bigger than the classification approach because it can avoid non-intended effects of classifications, and it can be used for the same objectives: also e.g. performance measurement and incentives such as performance based funding.
- 3.) **Data availability for nationwide and statewide data bases:**  
(potentially) influencing factors for the performance of HEI are not completely captured in existing surveys and data bases until now (statewide only for one federal state available until now [Saxony], nationwide Konstanz Student Survey contains social background for 27 HEI, similar HIS Hannover surveys. From the German Federal Office of Statistics, some data such as the student-professor relations are available, but it is not easy to use for single HEI and is relatively expensive).
  - systematic combinations of statistics and surveys are useful for nationwide analyses of the influence of (social) diversity of HEI performance.



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### References (Selection):

- Bartelse, Jeroen/ Vught, Frans van (2009): The European Higher Education Classification: Objectives and Concepts. In: Vught, Frans van (Hrsg.): Mapping the Higher Education Landscape. Towards a European Classification of Higher Education. Springer, S. 57-69.
- CÉREQ (2009): Comparer les universités au regard de l'insertion professionnelle de leurs étudiants. Net.doc 54, Strasbourg: Centre d'études et de recherches sur les qualifications.
- Center for Higher Education Policy Studies (CHEPS) (2009): Mapping Diversity. Developing a European Classification of Higher Education Institutions. Enschede: CHEPS, University of Twente.
- DETYA (1998): Department of Education, Training and Youth Affairs (1998) The Characteristics and Performance of Higher Education Institutions, Occasional Paper Series 98-A
- Harris, Kerry-Lee (2007): A critical examination of a recent performance-based incentive fund for teaching excellence in Australia. In: Longden, Bernard/ Harris, Kerry-Lee: Funding Higher Education: A Question of Who pays? EAIR-Monograph Nr. 2, Amsterdam, S. 62-78.
- Kamm, Ruth & Krempkow, René (2010): Ist leistungsorientierte Mittelvergabe im Hochschulbereich „gerecht“ gestaltbar? In: Qualität in der Wissenschaft (QiW) 3/2010, 71-78.
- Krempkow, René/ Kamm, Ruth (in print): Leistungsklassen oder „Added Value“? Zwei Ansätze zur Berücksichtigung unterschiedlicher Startbedingungen im Wettbewerb von Hochschulen. In: QiW.
- Krempkow, René, u.a. (2010): Absolventenstudien als outcome evaluation. In: Sozialwissenschaften und Berufspraxis (SuB) 1/2010, 43-63. (Themenheft "Die Vermessung der Sozialwissenschaften").
- Krempkow, René / Wilke, Ulrich (2009): Graduate surveys as an outcome evaluation. Paper for the EAIR -The European Higher Education Society Forum: Vilnius. <http://www.eair.nl/forum/vilnius/authors.asp?achternaam=11239&wat=achternaam>
- Krempkow, René (2008): Studienerfolg, Studienqualität und Studierfähigkeit. Eine Analyse zu Determinanten des Studienerfolgs in 150 sächsischen Studiengängen. In: Die Hochschule 1/08, 91-107. [www.diehochschule.de](http://www.diehochschule.de)
- Krempkow, René (2007): Leistungsbewertung, Leistungsanreize und die Qualität der Hochschullehre. Bielefeld: UniversitätsVerlagWeblar
- Wissenschaftsrat (2010): Empfehlungen zur Differenzierung der Hochschulen (Drs. 10387-10). Online: <http://www.wissenschaftsrat.de/download/archiv/10387-10.pdf> (Stand: 10.10.2011).



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**Thank you for your attention!**

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