Career Paths of Higher Education Graduates:
The Role of Internal Labour Markets and Career Mobility for Income Growth

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Motivation

Higher education and labour markets

- Massification of HE and crowded graduate labour market (Tomlinson 2012)

- New forms of Higher Education institutions and degree provisions lead to more heterogeneity by graduates (Scott 2005)

- Globalisation and flexibilisation of work (Blossfeld et al. 2006)

- Concept of boundaryless career emphasizes that career is not bound to a single organization (Arthur/Rousseau 1996)
Motivation

Higher education and labour market in Germany

- Strong link between higher education system and the labour market
- Important role of professions for career success (e.g. medicine, law)
- Low mobility between labour market segments
- Great differences concerning the career outcomes of higher education graduates due to fields of study
Motivation

What we know about careers of higher education graduates:

- Higher proportion of graduates of the humanities in status-inadequate jobs (Fehse/Kerst 2007; Leuze/Strauß 2008)

- Precarious labour market entry of graduates of the humanities (Falk et al. 2007)

- Low unemployment rate of higher education graduates (Schomburg/Teichler 2007)

- Great income differences between graduates of different fields of studies (Reimer et al. 2008; Leuze/Strauß 2009; Haak/Rasner 2009)
Research questions

1. Which mechanisms explain careers of higher education graduates?

2. Role of job-related characteristics for income growth?

3. Which type of career paths are highly rewarded in the labour market? Careers within an organisation or with changes between employers?
1. Occupation-specificity of education (Werfhorst 2002; 2011)

- Differentiation between general, firm-specific and occupation-specific human capital (Becker 1983)
- Amount of general and occupation-specific human capital differs between fields of study
- Graduates whose educational resources match the type of job have a wage benefit
Theory

2. Search theory and job mobility (Burdett 1987; Mortensen/Neumann 1984)

- Matching between workforce and workplace under incomplete information
- Job search will continue until the qualification fits the characteristics of the workplace
- On-the-job-search is correlated with other variables (e.g. income). Lower income of graduates motivates to seek after a better paid job
3. Career paths in internal labour markets (Doeringer/Piore 1971; Leuze 2010)

- Access to entry positions in internal labour markets determines career paths.
- Professions in the public sector and in large private companies (as prototypes of internal labour markets) have the strongest continuity and the lowest mobility.
- Non-professions especially in the private sector have higher rates of mobility.
Hypotheses

1. **Occupation-specificity hypothesis**: Lower occupation-specificity leads to lower income

2. **Job mobility hypothesis**: Lower incomes/fixed-term contracts foster employer changes which lead to income growth

3. **Internal labour market hypothesis**: Graduates of professions and from high occupation-specific fields of study benefit from internal labour markets through income growth
Bavarian Graduate Panel (German: BAP):

- Longitudinal Survey of Higher Education graduates in Bavaria (Universities and Universities of Applied Sciences)
- Graduation cohort 2005/06
- First and second wave (approx. 1 and 6 years after graduation)
- Data for employment characteristics on a monthly basis
- N = 2,243

Dependent Variable:

- Income during the first years after graduation
Results

- replication of previous results:
  - already at career start lower incomes especially for humanists and social scientists
  - less often permanent contracts in first job, compared to >85% for engineers
  - differences in professional adequacy
  -> more complicated situation for fields of study with low occupation-specificity
Results

- Significant, but comparatively small effects of study-related variables; job characteristics dominant

**RE panel regression on log. hourly wage**

**selected independent variables**

- male
- academic background
- work experience (years)
- work experience²
- employed during studies
- studies abroad
- university
- by FoS: std. grade (higher=better)
- number of semesters
- permanent contract
- public service
- executive position
- multinational company
- reference: medium firm
- small firm
- large firm
- reference: manufacturing
- banks, insurance, consulting services
- media, education, associations
- employer change
- employer change * experience

**coefficients and 95% CIs**

- -0.2
- -0.1
- 0
- 0.1
- 0.2
Results

- Wage disadvantage for graduates of humanities and social sciences partly explained by gender and occupational sectors
Furthermore, employer changes of particular importance for all graduates
Results

- If internal labour market is entered right after graduation (e.g. many engineers), employer changes are less common
- Humanists achieve wage gains more often by changing employer
  → Significant gains for all groups
Conclusion

1. **Occupation-specificity hypothesis**: Great income differences between 1) humanists and social scientists and 2) engineers, natural scientists and economists. No compensation of low wage levels at entry job.

2. **Job mobility hypothesis**: Higher job mobility of humanists and social scientists due to scarcer presence in internal labour markets.

3. **Internal labour market hypothesis**: Internal labour markets offer higher starting salaries, but lower income growth. Graduates of all fields of study benefit from employer changes.