Job Mismatch and Skill Mismatch in Graduate Employment in Four New EU-member States

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Outline of the presentation

- Research issues and questions
- Conceptual / institutional background
- Data
- Hypotheses, assumptions
- Variables and methods
- Results from multivariate modeling
- Discussion and further plans

Research objective: Early career and mismatch

Match between education and current job:

- job mismatch: working in an occupation which does not require a diploma (also called vertical mismatch)
- skill mismatch: working in an occupation which requires a different field of study (also called horizontal mismatch)

Determinants of mismatch

- Graduate's characteristics: gender, age, social origin
- Education: field of studies, work experience during studies (study-related / not study-related)
- Early career experiences: job mobility, number of jobs, type of contract, unemployment incidence

Conceptual background: Macro level: OLM / ILM and EPL

- Internal vs. occupational markets; production vs. training approach; organisational vs. qualificational mobility space (Maurice et. al. 1986; Müller and Shavit 1998; Marsden 1999)

  - tracking in the school system, vocational specificity, (Allmendinger 1989), signalling function (Spence 1974)

- Employment protection legislation

  - insider vs. outsider labour market, closed and open positions (Sorensen and Kalleberg 1981)

Institutional hypotheses: The effects of OLM / ILM and EPL at meso level

Direct impact of OLM / ILM

- Better match between qualifications and jobs is expected under OLM as the study program is more vocational oriented, signalling function operates stronger

Indirect impact of EPL

- Stronger EPL, insider labour market decreases vacancies and makes LM entry more difficult as insiders are better protected; there are more needs for compromising in job match during early career; there is also less mobility for correcting job mismatch; employees can be trapped in first occupation

Data

HEGESCO project (http://www.hegesco.org)

- Follow-up of the REFLEX project
- Fielded in 2008 / 2009
- Covers graduates 5 years after completing university in 2002 /2003
- Countries: Slovenia, Poland, Lithuania, Hungary, (Turkey)
- Identical questionnaire, same topics as in REFLEX project
- Field work: on-line and personal questioning
- Data are weighted to equal size (4*2000 cases) and the sample is corrected according to available register data for gender, fields of studies

Country level context and hypotheses

	Slovenia	Lithuania	Poland	Hungary
Education and LM	OLM	Closer to ILM	Closer to OLM	Closer to ILM
EPL	strict	strict/weak	weak	weak
Signalling function	high	low	high	low
Vocational specificity	strong	weak	strong	weak
Job mobility	less frequent	less/more frequent	more frequent	more frequent
Unemployment	less frequent	less/more frequent	more frequent	more frequent
Match between education & occupation	stronger	weaker	stronger	weaker

Dependent variables and methods

- Match between qualification and current job

  - Job mismatch dummy (objective)

  1 if R works in a job that does not require diploma (based on ISCO title: ISCO code > 2)

  - Skill mismatch dummy (subjective)

  1 if R feels that working in a job which requires a completely different field of studies

- Methods

  binary logistic regression (given the dependent variables)

  * main effects: independent variables:
    - student-, study-, early career features
    - country dummies (ref. = Hungary)

  * interaction terms between independent variables and country

Independent variables

- Demographics:
  - gender (female =1)
  - age (measured in years)
- Parental education (Intergenerational mobility)
  - Primary: ISCED 1-2
  - Secondary: ISCED 3-4
  - Tertiary: ISCED 5-6 (reference)
- Fields of study
  - social sciences, humanities, art, education
  - business, economics, law (reference)
  - life sciences
  - engineering, manufacturing, construction
  - agriculture
  - health
  - services (tourism, catering, transport)
- Work experience: study-related, not study-related (in months)
- Early career
  - Left first employment (=1)
  - Number of jobs
  - Unemployment incidence (measured in months)
  - Type of contract (permanent contract =1, flexible employment= 0)

Hypotheses at individual (micro) level

- Male graduates can have an advantage for a better match between education and occupation
- Graduates with highly educated parents can have an advantage for a better match between education and occupation
- Graduates in more „human (softer)" fields can have difficulties to find a job with a good match between education and occupation
- Accumulated work experience (chiefly study-related) can be an advantage for a better match between education and occupation
- Type of contract can work as trade off between tenancy and job match
- Mobility out of first job can improve the match between education and occupation
- But larger number of jobs is a sign of LM uncertainties and can have negative impact on a good match between education and occupation
- Unemployment experience can decrease the odds of a good match between education and occupation („any job is good")

Individual effects on match between education and occupation (full model)

Demography / Education	Job mismatch	Skill mismatch
Gender: Female	.124	-.040
Age (years)	-.004	-.011
Parent: ISCED 1-2	.265+	-.104
Parent: ISCED 3-4	.491***	355***
Social sci., human. art. educ.	-.582***	364***
Life sciences	-.450*	.356*
Engineering manufact. constr.	-.685***	.191
Agriculture	.445+	.761**
Health	.157	-.763**
Services	.210	.502*

Sig.: *** p<.001; ** p<.01; * p< .05; + p<.1, reference is ISCED 5-6, business, economics, law

Labour market effects on match between education and occupation (full model)

Demography / Education	Job mismatch	Skill mismatch
Work experience (study-relat.)	-.004	-.027***
Work experience (not study-rel.)	.007**	.021***
Left first employment	-.223*	-.132
Number of jobs	.150***	.137***
Type of contract (= permanent)	.311**	.220*
Unemployment in months	.069***	.042***

Sig.: *** p<.001; ** p<.01; * p< .05; + p<.1, reference is no work experience

Country effects on match between education and occupation (full model)

	Job mismatch	Skill mismatch
Slovenia	-.817***	-.457**
Lithuania	-.274	.305*
Poland	-1.677***	.188+
Nagelkerke R^2	.168	.117

Significance: *** p<.001; ** p<.01; * p< .05; + p<.1, reference is Hungary

Discussion: Limitations

- Selection effect: only those analyzed who entered the labor market
- Conceptual background and the institutional assumptions have been developed and tested earlier for a broader population of LM entrants and not only for graduates
- Some facts, events are known (job mobility, unemployment duration) but the reasons (intended or forced) can only be speculative

Discussion: Lessons 1

- Institutional level

  OLM / ILM and EPL as a conceptual framework for interpretation has limitations but part of hypotheses based on country level institutional differences found confirmation

  - Job mismatch is the biggest in Hungary and skill mismatch is the biggest in Lithuania:

    both countries belong to ILM, weak vocational specificity, low signaling function for employers

- Individual level 1

  - No female disadvantage (at least in the full model)

  - No linear effect of social origin: better match if parents have low or high qualification

  - Fields of study: less clear pattern for „soft and hard”

    - Job mismatch is the biggest in business, economics, law & services

      (Maybe due to the emerging private sector?)

      Social sciences, humanities, art, education lead to higher job mismatch

    - Skill mismatch is the lowest in health and is the biggest in social sciences, humanities, art, education and services

Discussion: Lessons 2

- Individual level 2

  - Work experience

  If study-related: helps to avoid skill mismatch.

  If not study-related: leads to bigger job / skill mismatch

  - Job mobility

  Large number of jobs leads to bigger job mismatch

  - Unemployment

  influences negatively the match between education and occupation

  - Work contract

  A trade-off between contract and match seems to be present: permanent contract leads to worse match

Possible further research directions

- Taking labour market entry into account, investigating the determinants of LM entry: what is the impact of gender, social origin or field of studies on
  - the odds finding a first job
  - improving match between first and present job
- Further causal models on the various indicators of job mobility
  - left first employment
  - time spent in first job
  - job mobility: current job differs from first job at ISCO four digit level
- Alternate definitions and measures for objective and subjective match between education and occupation
- Including further explanatory variables in the causal models, e.g.
  - further university level indicators on study program
  - participation in further education
  - public / private sector differences
- Adding income to the whole analysis and testing the trade off in this respect

Thank you!

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