Intergenerational Social Mobility and Skill Formation

BIGSSS International Conference 2015, Bremen, 4-25.9.2015

Stefan Vogtenhuber & Jakob Hartl, IHS Vienna

Motivation

- Building an international status attainment model to bring in the comparative perspective

- Opening the back box Educational Achievement in the Status attainment model and relate it to theory

- Do country differences in these effects (and in the parental effects) are associated with education system characteristics?

- Which one of the middle range theories better explains status attainment effects of education in which institutional context?

Theoretical approach

- Mechanisms explaining the education-job-link
  - *Human Capital theory*: skills acquired through education enhance productivity, which is valued by employers/ in the LM
  - *Credential theory*: education is a positional good, rewards are independent of productivity, meritocratic selection is a myth, but institutional and structural elements are crucial in job assignment
- The institutional context
  - *Educational systems*: vocational specificity, level of standardization, level of tracking, expansion and differentiation of HE
  - *Labor market institutions*: bargaining coordination, employment protection, industrial relations, market segmentaion

Data

- Individual level: PIAAC (20-34 year old workers, n=22,305)
  - Outcome: Socio-economic status measured by ISEI based on 2-digits ISCO08
  - Mediators: *Numeracy skills* measured by a latent variable approach using pv1-pv10, *education attainment* measured in years of education, *learning motivation* uses the PIAAC readiness to learn index
  - Social origin: highest parental education
- Country level (21 countries)
  - Education system characteristics: vocational enrolment, young adults with HE (OECD, EAG), students with HE parents (PIAAC)
  - Economic coordination (ICTWSS)
  - Economic wealth (per capita GDP in PPP, OECD)
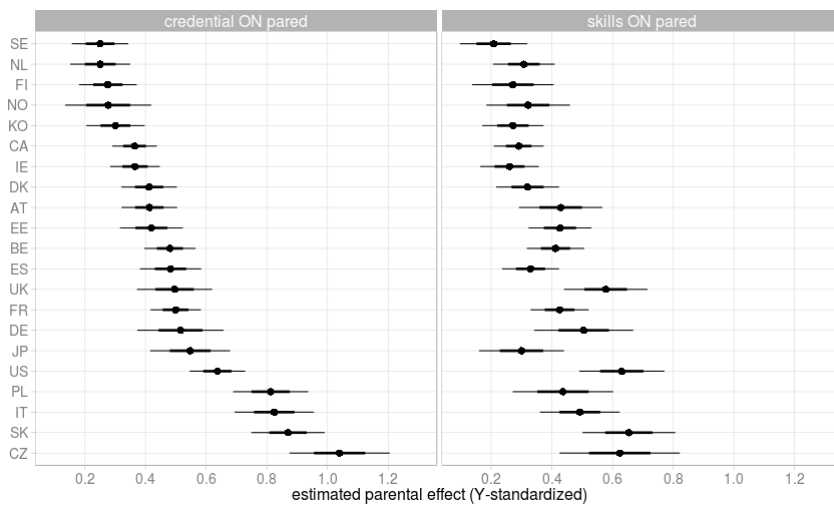
The individual level model (within part)
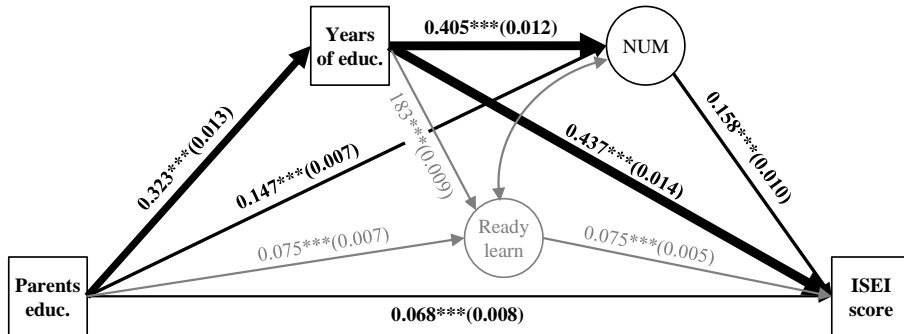
Source: OECD PIAAC 2011/12, GESIS 2014, Statistik Austria; *** p<.001, ** p<.01, * p<.05, + p<.1.
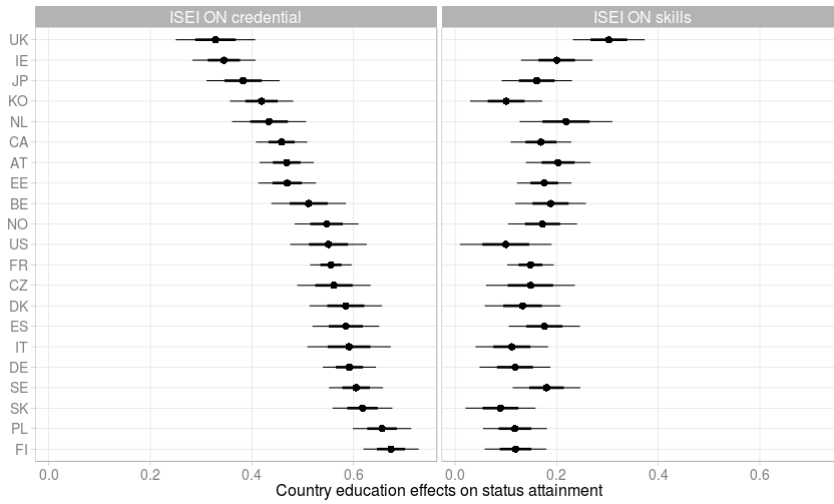
Individual level controls:
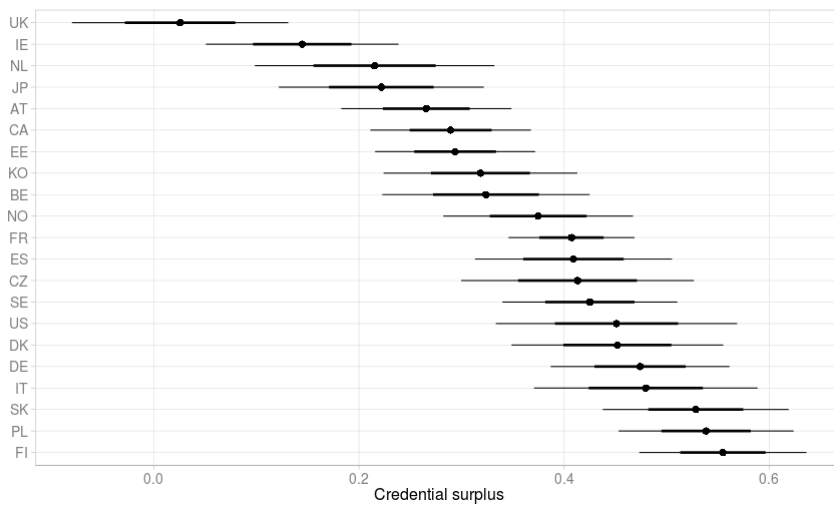 age, age squared, male
  foreign born parents

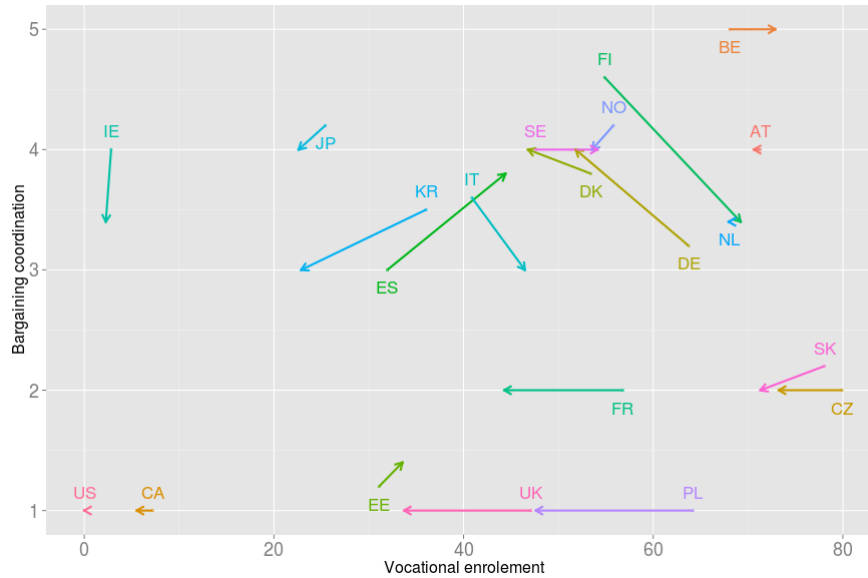# Family effects on educational achievement

Education effects on status attainment

Credential Surplus ($\beta_{eduyears} - \beta_{skills}$)

Bargaining coord. & vocational education

Country level estimates (standardized)

	Numeracy	Years of educ.	Ready to learn	ISEI Score
Vocational Enrolment	-0.270* (0.119)	0.445***(0.073)	0.125 (0.089)	0.003 (0.072)
Bargaining Coord.	0.131 (0.095)	0.350***(0.082)	-0.606***(0.123)	-0.022 (0.070)
GDP per capita	0.192* (0.086)	-0.096 (0.087)	0.850***(0.113)	0.193* (0.087)
% ISCED 5A/6 (25-34)	0.291** (0.088)	0.119 (0.072)	-0.211* (0.103)	-0.020 (0.068)
% Students w. HE parents	-0.393***(0.109)	0.321***(0.067)	-0.549***(0.110)	-0.080 (0.072)
Intercept	12.352***(1.229)	18.764***(2.052)	8.462***(0.920)	6.854***(0.844)
R2 (between level)	0.546***(0.075)	0.823***(0.047)	0.475***(0.089)	0.807***(0.049)

Moderating effects (cross-level interactions)

	Credential ON PE	Skills ON PE	Credential ON Skill
Random slope ON			
Vocational Enrolment	0.000 (0.027)	0.581** (0.212)	0.068 (0.083)
Bargaining Coord.	-0.148** (0.055)	-3.086***(0.535)	-0.634** (0.200)
GDP per capita	0.009 (0.060)	1.938** (0.595)	0.581** (0.181)
% ISCED 5A/6 (25-34)	-0.261***(0.068)	-3.559***(0.754)	-1.127***(0.256)
% Students w. HE parents	-0.194** (0.057)	-1.002* (0.464)	0.358* (0.170)
Intercepts			
Random slope	3.131***(0.378)	33.654***(3.725)	9.218***(1.364)
Dependent variable	12.967***(0.647)	225.557***(6.42)	101.385***(21.60)
Residual correlation			
Random slope x DV	-0.009 (0.030)	-6.147[+] (3.438)	-21.145***(4.803)

Moderating effects (cross-level interactions)

	ISEI ON PE	ISEI ON Cred.	ISEI ON Skills
Random slope ON			
Vocational Enrolment	0.324** (0.111)	0.209***(0.038)	0.004[+] (0.002)
Bargaining Coord.	-0.721** (0.220)	-0.051 (0.091)	-0.003 (0.004)
GDP per capita	-0.192 (0.273)	0.180[+] (0.097)	0.003 (0.004)
% ISCED 5A/6 (25-34)	-0.993** (0.335)	-0.021 (0.112)	-0.015* (0.006)
% Students w. HE parents	-0.827***(0.223)	0.138 (0.088)	0.000 (0.004)
Intercepts			
Random slope	13.911***(1.991)	1.820** (0.688)	0.141***(0.027)
Dependent variable	35.988***(2.359)	12.623 (8.995)	39.407***(3.030)
Residual correlation			
Random slope x DV	-1.196 (0.765)	-3.254** (0.982)	0.015 (0.014)

Summary – main findings

- Family effects on both credentials and skills are strong, but direct effects on status are low
- Socio-economic outcomes are largely determined by credentials while skills only make minor differences
- Thus, family influence on status attainment mainly works through credentials
- Country variation is substantial, and can be explained in part by the institutional variables
- Vocational specialization: higher worker skills, higher parental effects, higher effects of credentials on ISEI
- Coordination mitigates the family effect on education achievement

Some Limits

- Numeracy and literacy are generic skills with varying relevance in vocational/occupational contexts
- BUT they are a prerequisite of professional skills and the two are closely related to each other!
- Sample selectivity (only 60% of total sample are in jobs)
  - How to model that in a multilevel framework (Heckman correction at individual level)?
  - Preliminary analysis shows that the probability of selection (job=1) is independent of country variation in our contextual variables

Thank you!

www.equi.at
www.ihs.ac.at