

# The Network of International Student Mobility

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# Research question

1. **Bologna process** created a new “education space”, not only in Europe.
2. Do countries become increasingly linked to each other by exchanging students?
3. Optimistic view on student mobility:  
**democratization** - do young persons move from less democratic to more democratic countries?  
→ social remittances / diffusion of values

# Theoretical Framework

- *homophily* (McPherson et al. 2001)
  - cultural similar countries tend to build up ties
- *complementarity*
  - Migration from poor to rich countries (econ. theory of migration)
- *hegemony*
  - central position in the international system and having the lingua franca as teaching language in higher education
- *geographic proximity*
  - Shared border as a rough indicator

# Theoretical Framework

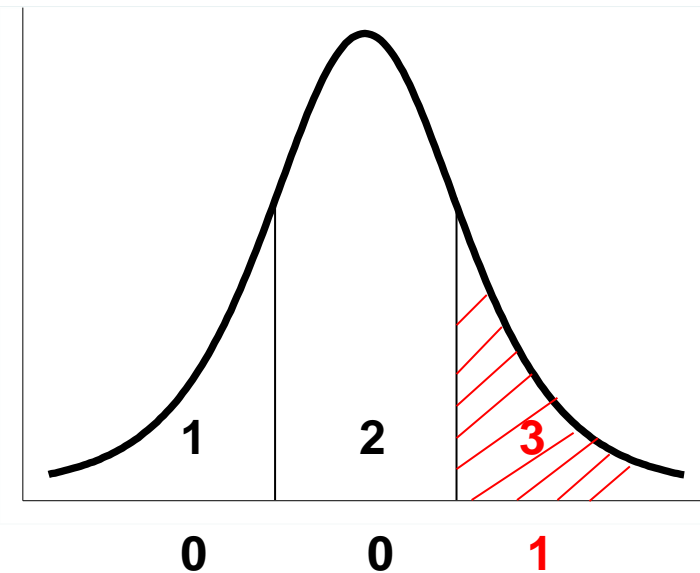
- *governance*: Bologna declaration in 1999
  - informal arrangement at the beginning, than a global „suction effect“, increasing participation over time
- *democratization*:
  - young persons with higher education seek liberal environments. But how do authoritarian states regulate student migration?

# Sample & data

- Bologna participants and non-participating OECD members (current status)
- Period of ten years (2000, 2004, 2010)
- Outgoing long-term (whole degree cycle) student mobility
- Data base: UNESCO and OECD online- resources (dependent variable)

# Dependent variable

- *outbound students in alter from ego, by all students enrolled in ego*: number of students that *alter* receives from *ego*, divided by the number of students enrolled in higher education (same level) in *ego*
- This variable has been dichotomized by setting the highest quartile to one and the lower three to zero
- Loss of information by making continuous data discrete
- Motivation of *logit* in econometrics: Latent continuous variable, but only discrete measurement.



# Independent variables: country specific and dyadic variables

## actor characteristics, similarity:

- structural similarity of higher education policies between countries (similarity in the **usage of ECTS** or a comparable system)
- **socio-economic similarity**: absolute difference in GDP per capita
- **cultural similarity**: common language branch and geographic proximity
- common membership in transnational institution, (increasing) similarity in higher education policies: **Bologna-Process membership**

## actor characteristics:

- GDP per capita (in- and out-degree)
- English speaking country (in-degree), multi-lingual country (in- out-degree)
- democracy index (Economist intelligence unit): 1. full democracies, 2. flawed democracies, 3. hybrid regimes, 4. authoritarian regimes  
→ **authoritarian regimes** (in- out-degree, `nodematch`)

## dyadic characteristics:

- shared border

# Analyses

- *Social Network Approach*: to identify positions of countries in the network of cross-national student exchange
- *Exponential Random Graph Models (ERGM)*: to test which factors determine patterns of transnational student mobility



## Descriptive presentation of the exchange relationships

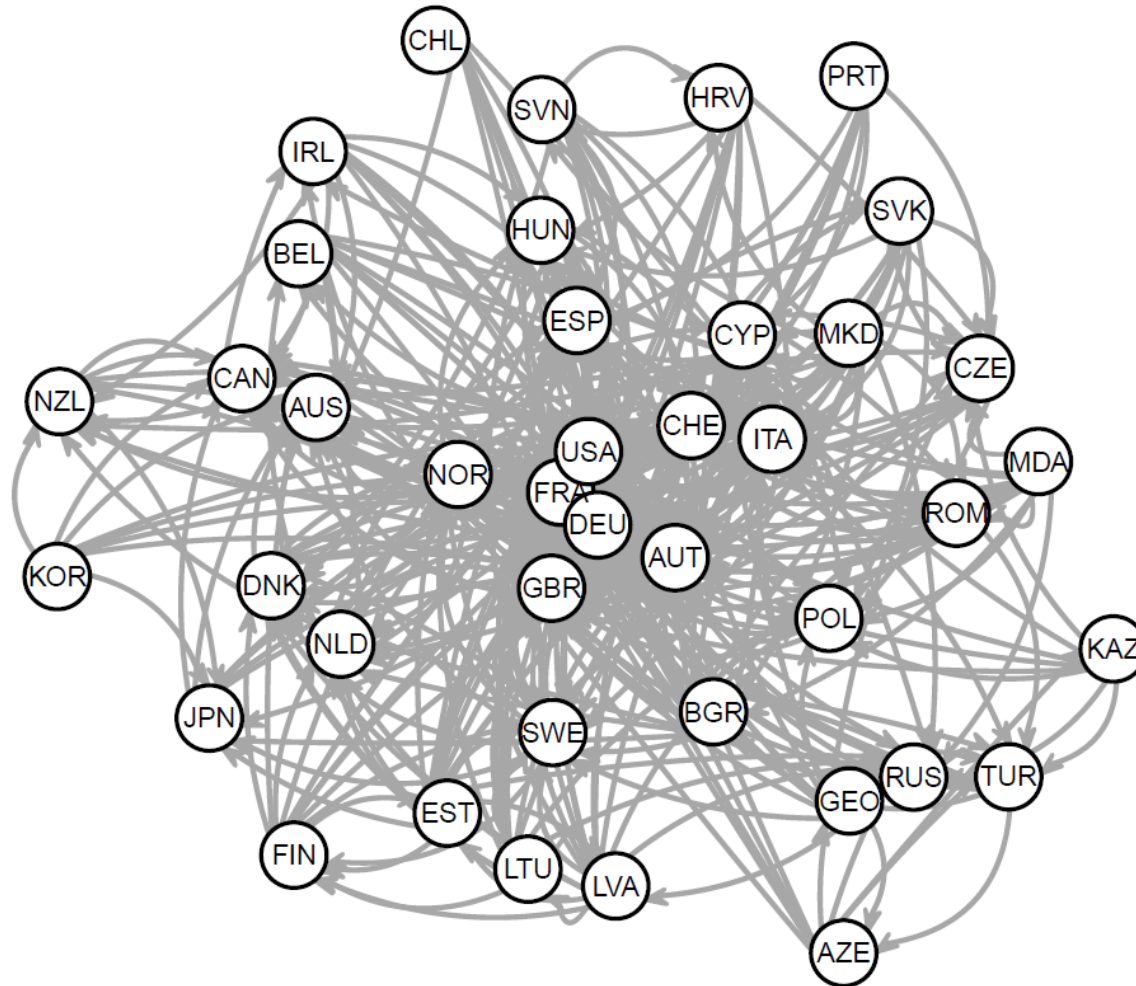


Figure 1: Students sent from ego to alter, by all students enrolled, 2009

## Ties in the network of international student mobility 2000-2009, ERGMs

	network		
	tie 2000 (1)	tie 2004 (2)	tie 2009 (3)
egdes	-3.117***	-3.701***	-3.739***
mutuality	0.087	0.144	-0.418
GWESP (alpha=0.693)	0.788***	0.846***	1.018***
GWDSP (alpha=0.693)	-0.274***	-0.235***	-0.224***
cyclic trip.	-0.131*	-0.129*	-0.159*
<b><i>economic performance</i></b>			
absdiff(GDP/cap.)	0.029*	0.034**	0.043***
IND. GDP/cap.	0.040***	0.042***	0.031***
OUTD. GDP/cap.	0.026**	0.019*	0.014

continued ...

## Ties in the network of international student mobility 2000-2009, ERGMs

	network		
	tie 2000 (1)	tie 2004 (2)	tie 2009 (3)
<b><i>democratization</i></b>			
IND. autho. regime	0.660*	1.032***	0.722**
OUTD. autho. regime	0.464*	0.703**	0.541*
both autho. regime	-0.083	0.093	-0.134
absdiff(democracy index)	-0.352**	-0.473***	-0.493***
<b><i>hegemonic language</i></b>			
IND. English	0.210*	0.423**	0.561***
same language branch	0.435**	0.471**	0.452**
IND. mixed lang.	-0.217	-0.380*	-0.563***
OUTD. mixed lang.	0.143	0.089	-0.205

continued ...

## Ties in the network of international student mobility 2000-2009, ERGMs

	network		
	tie 2000 (1)	tie 2004 (2)	tie 2009 (3)
<b><i>geographic proximity</i></b>			
shared border	2.343***	2.229***	2.254***
<b><i>Bologna process</i></b>			
both ECTS	0.109	-0.213	-0.256
both Bologna	0.346**	0.560***	0.649***
Akaike Inf. Crit.	1,170.671	1,168.946	1,175.945
Bayesian Inf. Crit.	1,273.318	1,271.592	1,278.591
Note:	*p<0.05; **p<0.01; ***p<0.001		

# Results

- Common membership in the Bologna-Process leads to a higher share of international exchanges students (**governance**)
- Patterns of cross-national student exchange are strongly influenced by the existence of a common border; these are the most relevant exchange relationships [but also the most imbalanced (Vögtle and Fulge 2013)] (**proximity**)
- English speaking countries attract the highest share of international students (**hegemony**)
- Countries with a high GDP per capita have greater chances to host students than less prosperous countries. The absolute difference in GDP has a positive effect (**complementarity**)
- Since 2004, students in authoritarian regimes became more mobile (in- and outdegree). But this is not due to migration into democracies! Rather, higher differences in democracy scores reduce ties in the network (**democratization**)

## More research has to be done...

- include **non-OECD countries** with high outbound-mobility rates into sample (e.g. China and India)
- categories of **democracies**: `nodemix`
- **extend cultural similarity** variables: **religious** similarities between countries
- **valued relations**, based on four categories. How to model structural network effects?

# Thanks for your attention!