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Moving or remaining: international mobility and careers of PhD holders in Social Sciences and Humanities

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BACKGROUND

- European labour market is experiencing an increasing pressure towards international experience and mobility. (Auriol, 2010).
- Recent literature on the determinants of international mobility has considered several items on the list of explanatory variables including the economic advantages, improvement of working conditions and international educational mobility (Waibel et al. 2017).
- Choices made in the early steps of career condition the ranks of opportunities within which develops the hereinafter of PhDs' career (Enders, 2002; Steijn et al., 2006).

AIM OF THE WORK

We want to deepen the capability of choices made at an early stage are influential factors also for international mobility.

The aim of this analysis is to investigate whether the mobility during the studies and before the very early stage of career influence the *international mobility* of a PhD in Social Sciences and Humanities (SSH) during the rest of her/his career.

THEORETICAL FRAMEWORK

- According to human capital theories participation in international programs for students helps to improve some skills (like languages and adaptability to different contexts) that reduces difficulties in international mobility during the working life (Parey and Waldinger, 2011; Di Pietro, 2012).
- Literature highlights as international mobility allows to create a network of contacts and those ties are decisive in the international mobility after the end of the studies, especially for PhDs students (Franzoni et al., 2012; Cantwell 2011).

THEORETICAL FRAMEWORK

- The reasons for the permanence abroad of workers, and researchers in particular, are still little explored but several contributions have shown that this is more likely to occur if researchers are already working in a country other than the homeland and if a large part of their activities involve collaborations with researchers from other countries (Scellato et al., 2015; Mugabushaka et al., 2013; Gaulè, 2014)
- Mobility implies an idiosyncratic cost in terms of radical change in habits, interpersonal relations and management of a re-location in a different place: this cost is more difficult to sustain the first time that occurs while it becomes relatively easier to handle in the subsequent changes of location (Braun, 2012).

INTERNATIONAL MOBILITY

To operationalize international mobility we consider three groups of doctorate holders:

- PhDs which always work in the same country during their working career (Stayer workers).
- PhDs whose career is started and finished in the same countries but has had intermediate steps in other countries (Convergent workers).
- PhDs whose career starts and finishes in different countries (Divergent workers).
- Both Convergent and Divergent are international mobile PhDs.

HYPOTHESES

Hp1 – International mobility in working career is related with mobility during the course of studies (between Master and PhD)

Hp2 – Workers are more likely to be divergent if they start their career in a country other than that in which they completed PhD studies. Divergent effects are stronger for PhD holders in academia

Why are these hypotheses relevant?

understanding conditions affecting international mobility of PhDs in SSH, especially in academic careers

DATA DESCRIPTION

The analysis relies on the survey data developed by the POCARIM project funded by EUFP7, which investigates career opportunities, mobility and impact of PhD holders in the SSH.

Data refer to PhD graduates between 2000 and 2011 in thirteen European countries (UK, ES, IT, HU, LV, FR, CH, TK, DE, PL, PO, SK, NO).

The dataset collects information about 2652 PhD holders, from the graduation year to current job at the moment of the survey (2012).

For the aim of this paper, we selected only PhDs (801) who, at the time of the survey, having concluded the doctorate from three years or more, and for which complete information on the characteristics of each job is available.

DESCRIPTIVE STATISTICS

Explanatory variable description		
Group of feature	Variable description	Type of variable
Studies mobility	Difference between Master Degree Country and Phd Country	Dummy variable
First step	Difference between PhD Country and First Job Country	Dummy variable
Personal characteristics	Gender	Dummy variable
	Age of attainment of PhD	Continue variable
Family conditions	Presence of a stable partner	Dummy variable
	Presence of children	Discrete variable on three levels
Characteristics of the study course	Disciplinary area	Discrete variable on three levels
	Ranking of the university where the doctorates held the PhD (limited to SSH)	Discrete variable on three levels
Career	Length	Continue variable
National context	GERD/GDP	Continue variable

DESCRIPTIVE STATISTICS

Sample composition		
	Whole sample	Of which Researchers
Stayer	624	550
Mover	177	160
<i>Of which Divergent</i>	124	110
<i>Convergent</i>	53	50
Total	801	710

Studies mobility and first step		
	Whole sample	Of which Researchers
Studies mobility	58	54
First Step	93	81
<i>Involved in both groups</i>	25	24

METHODOLOGY

- Being our dependent variable categorical variables, we use logistic regressions to test our hypothesis. These models estimate the probability of being part of one of the groups represented in the dependent variable based on the characteristics outlined by the set of explanatory variables.
- The first hypothesis is tested using a Logit model: a binary logistic regression appropriate to investigate dichotomous variables
- To investigate the second hypothesis we use a Multinomial Logistic Regression, equivalent to simultaneous estimation of multiple logit models where each of the categories is compared to one selected base category.

RESULTS

Logit regression to test the 1 st Hypothesis			
	Coef.	SE	
Studies mobility	0.809***	0.299	
Gender	0.318*	0.177	
PhD attainment age	-0.044**	0.018	
Career length	0.041	0.033	
PhD Area	Humanities	-0.337	0.427
	Social sciences	-0.484	0.426
Family conditions	Partner	-0.016	0.220
	Child	-0.278	0.239
	Two or more children	-0.625**	0.241
Ranking	From 1 to 150	0.099	0.211
	151 and over	-0.121	0.261
Constant	0.277	0.763	

RESULTS

Multinomial logit regression to test the 2 nd Hypothesis					
		<i>Divergent</i>		<i>Convergent</i>	
		Coefficient	SE	Coefficient	SE
First step		2.453***	0.286	0.117	0.536
Gender		0.399*	0.232	0.256	0.299
PhD attainment age		-0.062**	0.026	-0.040	0.030
Career length		0.022	0.030	0.030	0.054
PhD Area	Humanities	-0.476	0.539	0.743	1.057
	Social sciences	-0.570	0.536	0.384	1.058
Family conditions	Partner	-0.196	0.279	0.445	0.429
	Child	-0.176	0.308	-0.073	0.408
	Two or more children	-0.726**	0.329	-0.011	0.372
GERD		0.744***	0.220	1.295***	0.263
Ranking	From 1 to 150	0.140	0.338	-0.531	0.361
	151 and over	-0.638	1.509	-0.638	1.509
Constant		-0.531	1.043	-3.706***	1.509

RESULTS

Multinomial logit regression to test the researchers					
		<i>Divergent</i>		<i>Convergent</i>	
		Coefficient	SE	Coefficient	SE
First step		2.670***	0.320	-0.150	0.655
Gender		0.460*	0.256	0.667	1.064
PhD attainment age		-0.096***	0.031	-0.038	0.031
Career length		0.020	0.049	0.013	0.058
PhD Area	Humanities	-0.190	0.614	0.667	1.064
	Social sciences	-0.465	0.614	0.335	1.066
Family conditions	Partner	-0.299	0.304	0.339	0.435
	Child	-0.329	0.347	-0.071	0.417
	Two or more children	-0.716**	0.372	-0.078	0.393
GERD		1.029***	0.244	1.333***	0.279
Ranking	From 1 to 150	-0.379	0.320	-0.557	0.373
	151 and over	-0.083	0.373	-0.645	0.490
Constant		0.196	1.231	-3.448**	1.540

CONCLUSIONS

- International mobility in SSH is related to studies mobility
- First step influences divergent careers more than convergent careers. This effect seems to be stronger for academics
- The more PhDs hold the doctorate when they are young, the more the likelihood to have an international mobility, and to have a divergent path of career
- Presence of partner does not seem to be an obstacle for international mobility, while the presence of two or more children might require more stability. However the direction of the effect could be the other way round
- Results for GERD confirm that investment in R&D is one of the factor strongly considered in international mobility decision
- The high value of the GERD coefficient for "Convergent" indicates that national investment in R&D can create conditions for circulation of high skilled across the countries

Open questions for further investigation

- As far as SSH doctorate holders are concerned, there are at least two results that could be relevant for future policy actions about knowledge circulation:
 - The importance of first step producing divergent effects especially visible in the case of Phds which hold the doctorate at a young age
 - Investment in R&D as a factor affecting convergent effects after a period of international mobility
- Need to investigate whether education mobility and first step have the same effects also in other fields
- The relative low relevance of Gender and the high relevance of Children need more investigation to combine the two variables

THANK YOU FOR LISTENING!