



# Research mobility or job stability? Challenges to the ERA

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\* The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.



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# Outline

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3. SIM-ReC project
4. Taxonomy of international mobility
5. Methodology
6. Descriptive statistics
7. Econometric results
8. Policy implications
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## **1. Aim of the paper**

Analyse the impact of researchers' international mobility on career consolidation.

¿Mobility ↔ tenure track?



## 2. Background and policy context

- International mobility has been encouraged by EU policy:
  - Mobilizing researchers is at the core of the ERA Green Paper (2007) and Europe 2020 (2011)
  - EC Communication (2012): Priority 3: An open labour market for researchers – to ensure the removal of barriers to researcher mobility, training and attractive careers.
- Strong evidence on the scientific benefits of international mobility
- Little evidence exist on other consequences of international mobility
- ...the three authors are mobile researchers without a tenure track!



### 3. SIM-ReC Project

- ERAWATCH: European Commission's information and intelligence platform on European, national and regional research and innovation systems and policies.
- ERAWATCH monitors and analyses the progress towards achievement of the ERA and its five priorities (Forthcoming publication: "ERA Communication Synthesis Report").
- SIM-ReC was a project developed under ERAWATCH aiming at collecting of data on researchers' career consolidation and international mobility.
- It was conducted by JRC-IPTS in collaboration with NIFU, Logotech & University of Athens.



### 3. SIM-ReC Project

- Scope: 10 European countries: Belgium, France, Germany, Italy, the Netherlands, Poland, Spain, Sweden, Switzerland and the UK.
- Time frame: September 2011 - July 2012.
- Methodology: Survey on international mobility of researchers and their consequences on researchers' patterns of collaboration, academic performance and career consolidation.
- Target: researchers working at universities with a tenure track position or a minimum of five years of research experience after PhD.



## 3.SIM-ReC Project

- Questionnaire: 28 questions organised in 4 dimensions:
  - i. Basic information on researchers and mobility
  - ii. Overview of the research career
  - iii. Factors influencing the move and its consequences
  - iv. Scientific production (publications and inventions)
- Original dataset



### 3. SIM-ReC Project

- Data collection organised in two waves (preceded by a Pilot):
  - a) First wave: France, Germany, Italy, the Netherlands and the UK
  - b) Second wave: Belgium, Poland, Spain, Sweden and Switzerland
- Response rate: 17.6%
- Sampling: two stage stratified cluster sampling with two stratifications variables – country (10) and field of science (3)





## 4. Taxonomy of international mobility

Based on two variables:

- Country where the researcher is currently working and
- Country where the PhD was awarded.

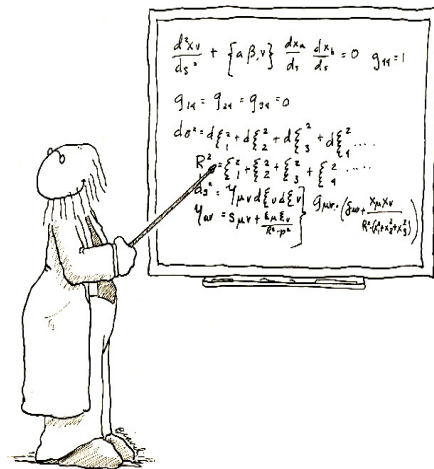
Country of PhD = Country of Reference for migration

Proposed taxonomy:

- **Stayers**
- **Migrants: Stable & First time**
- **Returners**
- **Repeat migrants**

## 4a. Taxonomy of mobility: Stayers

- **Stayers:** never moved country after the PhD



Professor X  
 Graduated in Country X  
 Developed all of her/his career in  
 Country X

## 4b. Taxonomy of mobility: Migrants

- **Stable migrants:** moved to a new country and have held at least their last two jobs in the same country.
- **First time migrant:** are in their first position abroad



- PhD in the Netherlands
- Several positions in UK



- PhD in Italy
- Position in Spain

## 4c. Taxonomy of mobility: Returners

- **Returners:** moved at least once and then came back to country of PhD.



- PhD in Spain
- Positions in various countries
- Return to Spain

## 4d. Taxonomy of mobility: Repeat migrants

- **Repeat migrant:** have moved at least twice in their career and their current job is in a different country than their previous one.



- PhD in the Japan
- Position in UK
- Position in Spain



## 5. Methodology – 3 Binomial logit models

### Model 1

$\Pr(Y = \textit{Permanent})_i(\textit{Mobil}, \textit{Abil}, \textit{Multidis}, \textit{Part} - t, \textit{Teach\_load}, \textit{FactorPR}, \textit{FactorRA},$   
 $\textit{Publ\_prod}, \textit{Indiv}, \textit{Country})$

**Mobil:** migratory behaviour.

**Abil:** Ability, i.e. PhD Completion time

**Multidisc:** multidisciplinary work

**Part-t:** Part-time work

**Teach\_load:** Teaching load

**Factors – PR:** role of personal/family reasons in job-change decisions. 5-level Likert scale.

**Factors – RA:** role of the personal research agenda has influenced job-change decisions. 5-level Likert scale.

**Publ\_prod:** publication productivity

**Indiv:** individual control variables such as Age and Gender,

**Country:** country fixed effects.

## 5. Methodology – 3 Binomial logit

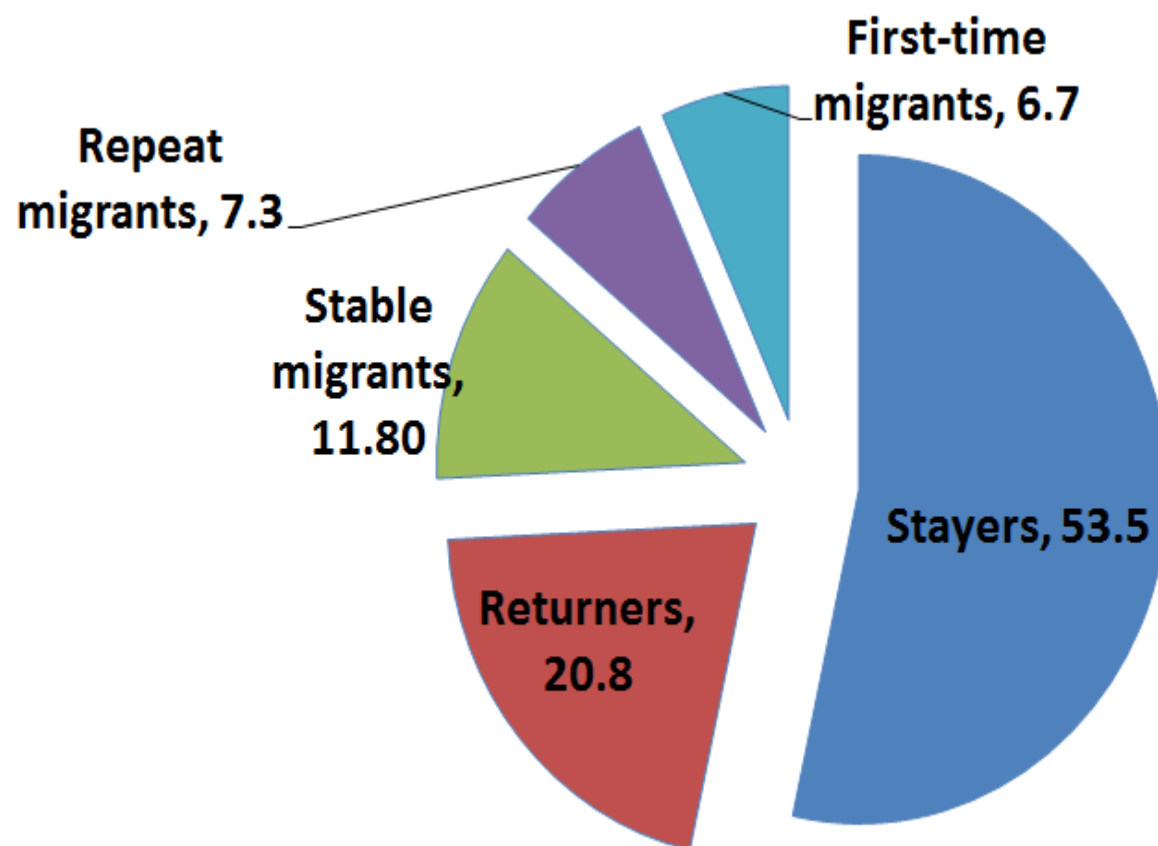
### Model 2

$\Pr(Y = \textit{Permanent})_i(\textit{Mobil}, \textit{Abil}, \textit{Multidis}, \textit{Part} - t, \textit{Teach\_load}, \textit{FactorPR}, \textit{FactorRA},$   
 $\textit{MobilXAbil}, \textit{Publ\_prod}, \textit{Indiv}, \textit{Country})$

### Model 3

$\Pr(Y = \textit{Permanent})_i(\textit{Mobil}, \textit{Abil}, \textit{Multidis}, \textit{Part} - t, \textit{Teach\_load}, \textit{FactorPR}, \textit{FactorRA},$   
 $\textit{MobilXAbil}, \textit{Publ\_prod}, \textit{MobilXPubl\_prod}, \textit{Indiv}, \textit{Country})$

## 6. Descriptive statistics







## 6. Descriptive statistics

- Italy: most stayers (73.8%) and least returners (14.5%)
- Belgium: most of first-time migrants (15.4%) & least stayers (30.8%)
- Spain: most returners (34.6%)
- Switzerland most stable migrants (24.7%) and repeat migrants (22.5%).

## 6. Descriptive statistics

	Age	Abil	Publication prod	Part- time	High teaching load	Multi- disciplinar- ity	Very- positively - Personal considera tions	Very- positively - Research Agenda
	Mean	Mean	Mean	(%)	(%)	(%)	(%)	(%)
<b>Stayers</b>	46.1	<b>5.6</b>	<b>1.5</b>	7.8	<b>35.2</b>	62	22.6	25.6
<b>Returners</b>	46	4.7	2.2	5	33	49.8	25.2	27.1
<b>Stable migrants</b>	44.6	4.7	2.3	5.5	21.6	53	26.8	25.6
<b>Repeat migrants</b>	45.3	4.4	2.2	4.1	17.5	51.2	25.3	<b>33.7</b>
<b>First-time migrants</b>	<b>43.5</b>	<b>5.3</b>	<b>1.6</b>	<b>12.1</b>	17.2	<b>64.7</b>	<b>31.7</b>	<b>34.8</b>

## 7. Econometric results

	Permanent position		
	Model 1	Model 2	Model 3
Returners	-0.154 (-0.80)	0.141 -0.32	0.395 -0.77
Stable migrants	<b>-0.611***</b> (-2.77)	-0.634 (-1.27)	-0.206 (-0.35)
Repeat migrants	<b>-0.657**</b> (-2.46)	<b>-1.334*</b> (-1.77)	<b>-2.078**</b> (-2.47)
First time migrants	<b>-1.101***</b> (-4.45)	-0.395 (-0.68)	-0.527 (-0.84)

Stayer=base category

	Permanent position		
	Model 1	Model 2	Model 3
Returners	-0.154 (-0.80)	0.141 -0.32	0.395 -0.77
Stable migrants	-0.607 (-2.00)	-0.395 -0.77	-0.527 -0.84
Repeat migrants	-0.527 (-2.46)	-1.101*** (-1.77)	-0.395 (-2.47)
First time migrants	1.101*** (-4.45)	-0.395 (-0.68)	-0.527 (-0.84)

**Repeat migrants: the least likely to consolidate their career...**

Stayer=base category



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	Permanent position		
	Model 1	Model 2	Model 3
Abil	-0.0443 (-1.58)	-0.03 (-0.82)	-0.0251 (-0.67)
Multidisc	<b>-0.534***</b> (-3.61)	<b>-0.523***</b> (-3.52)	<b>-0.508***</b> (-3.39)
Factors – PR	<b>0.124*</b> -1.96	<b>0.122*</b> -1.92	<b>0.121*</b> -1.89
Factors – RA	<b>-0.263***</b> (-2.93)	<b>-0.255***</b> (-2.85)	<b>-0.265***</b> (-2.91)
Part-t	<b>-1.980***</b> (-7.86)	<b>-1.971***</b> (-7.81)	<b>-1.935***</b> (-7.64)
Teach-load	<b>0.417***</b> -5.56	<b>0.416***</b> -5.53	<b>0.418***</b> -5.52
Age	<b>0.0728***</b> -7.71	<b>0.0742***</b> -7.78	<b>0.0734***</b> -7.45
Gender	0.133 -0.85	0.138 -0.89	0.135 -0.85

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Age	<b>0.0728***</b> -7.71	<b>0.0742***</b> -7.78	<b>0.0734***</b> -7.45
Gender	0.133 -0.85	0.138 -0.89	0.135 -0.85

**Current university systems reward teaching over research autonomy and multi-disciplinarity**

	Permanent position	
	Model 2	Model 3
Interaction_returnXabil	-0.0583 (-0.73)	-0.0695 (-0.86)
Interaction_stableXabil	0.00817 -0.09	-0.0141 (-0.15)
Interaction_repeatXabil	0.157 -1.00	0.174 -1.08
Interaction_first_timeXabil	-0.137 (-1.35)	-0.135 (-1.34)

	Permanent position
	Model 3
Productivity (Publ_prod)	0.0477 (0.73)
Interaction_returnXprod	-0.0974 (-1.01)
Interaction_stableXprod	-0.143 (-1.41)
Interaction_repeatXprod	<b>0.354*</b> (1.84)
Interaction_first_timeXprod	0.0715 (0.50)



	Permanent position
	Model 12
Productivity (Publ_prod)	0.041 (0.73)
Interaction_returnXprod	-0.09 (-1.0)
Interaction_stableXprod	-0.143 (-1.41)
Interaction_repeatXprod	<b>0.354*</b> (1.84)
Interaction_first_timeXprod	0.0715 (0.50)

**More productive repeat migrants have a better chance**



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Commission

	Permanent position		
France	-0.0952 (-0.26)	-0.116 (-0.32)	-0.0567 (-0.16)
<b>Germany</b>	<b>-2.073***</b> (-6.93)	<b>-2.099***</b> (-7.00)	<b>-2.076***</b> (-6.88)
Italy	<b>-0.697**</b> (-2.43)	<b>-0.700**</b> (-2.43)	<b>-0.689**</b> (-2.38)
Netherlands	<b>-1.063***</b> (-3.65)	<b>-1.093***</b> (-3.73)	<b>-1.112***</b> (-3.77)
Belgium	<b>-1.641***</b> (-4.31)	<b>-1.674***</b> (-4.38)	<b>-1.609***</b> (-4.16)
<b>Spain</b>	<b>-1.890***</b> (-6.48)	<b>-1.898***</b> (-6.47)	<b>-1.866***</b> (-6.31)
Sweden	<b>-0.581**</b> (-2.11)	<b>-0.570**</b> (-2.05)	<b>-0.510*</b> (-1.82)
Switzerland	<b>-1.520***</b> (-4.63)	<b>-1.553***</b> (-4.70)	<b>-1.572***</b> (-4.69)
<b>Poland</b>	<b>-2.490***</b> (-5.82)	<b>-2.504***</b> (-5.84)	<b>-2.497***</b> (-5.80)



## 7. Econometric results

	Permanent position		
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Italy	<b>-0.697**</b> (-2.43)	<b>-0.700**</b> (-2.43)	<b>-0.697**</b> (-2.43)
Netherlands	<b>-1.063***</b> (-3.65)	<b>-1.090***</b> (-3.71)	<b>-1.063***</b> (-3.65)
Belgium	<b>-1.641***</b> (-4.31)	<b>-1.670***</b> (-4.38)	<b>-1.641***</b> (-4.31)
Spain	<b>-1.890***</b> (-6.48)	<b>-1.890***</b> (-6.48)	<b>-1.890***</b> (-6.48)
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Poland	<b>-2.490***</b> (-5.82)	<b>-2.504***</b> (-5.84)	<b>-2.497***</b> (-5.80)

**Marked country effects.**

**Mobility may cause winners and losers among nations**

**Need to accelerate the ERA**

## 7. Summary of results

- Geographical stability pays in terms of career consolidation (Permanent position).
- Mobility may generate a trade-off between stability and other career attributes
- High productivity makes up for repeated mobility
- Strong country fixed effects



**Prestige, cohort and vintage effect are not considered!**



## 8. Policy Implications

- Risk that costs of mobility may offset its benefits.
- Policies should be designed accordingly.
- Need to accelerate the ERA to avoid that mobility widens disparities within the EU.



## 9. Future research

- Drivers and motivations of researchers: focus on gender and work-life balance.
- Different career-path of mobile researchers
- Role of mobility at different stages of career



# Thank you

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