Staying or leaving? Patterns and determinants of Italian researchers' migration

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Introducción. ¿Qué movilidad para la investigación?

Table 5 – The six priorities of ERA in the ERA Roadmap

1	**Effective national research systems** – 'Effectively designed and efficiently functioning national research and innovation systems responsive to the specific objectives of each individual Member State are central to ERA implementation' (ERAC)
2	**Optimal transnational co-operation and competition**
2a	**Jointly addressing grand challenges** – 'At the European level, the Commission and Member States should work together to clarify the division of labour between the EU, Member States and transnational levels' (GPC)
2b	**Research Infrastructures** – 'Make optimal use of public investments in RI by setting national priorities compatible with the ESFRI priorities and criteria taking full account of long term sustainability' (ESFRI)
3	**An open labour market for researchers** – 'In an ERA which achieves this goal, research is an attractive career option across Europe and researchers are properly equipped with flexible skills matching current and future needs' (SGHRM)
4	**Gender equality and gender mainstreaming in research** – 'Translating national equality legislation into effective action to address gender imbalances in research institutions and decision making bodies and integrating the gender dimension better into R&D policies, programmes and projects' (Helsinki Group)
5	**Optimal circulation and transfer of scientific knowledge** – 'Fully implementing knowledge transfer policies at national level', 'Promoting Open access to scientific publications' (new group replacing the Working Group on Knowledge Transfer)
6	**International cooperation** – 'Develop and implement appropriate joint strategic approaches and actions for international STI cooperation on the basis of Member States' national priorities' (SFIC)

Data source: Council of the European Union (2015).

Introducción. ¿Qué movilidad para la investigación?

Objetivo de la Prioridad 3

Objective:

A truly open and excellence-driven ERA in which highly skilled and qualified people can move seamlessly across borders to where their talents can be best employed.

Deliverables:

Governments and stakeholders should consider how the rules for national funding schemes could better support the principles of openness, transparency and merit-based recruitment and remove legal barriers to open recruitment of researchers in research performing organisations and define new ways to researcher career development.

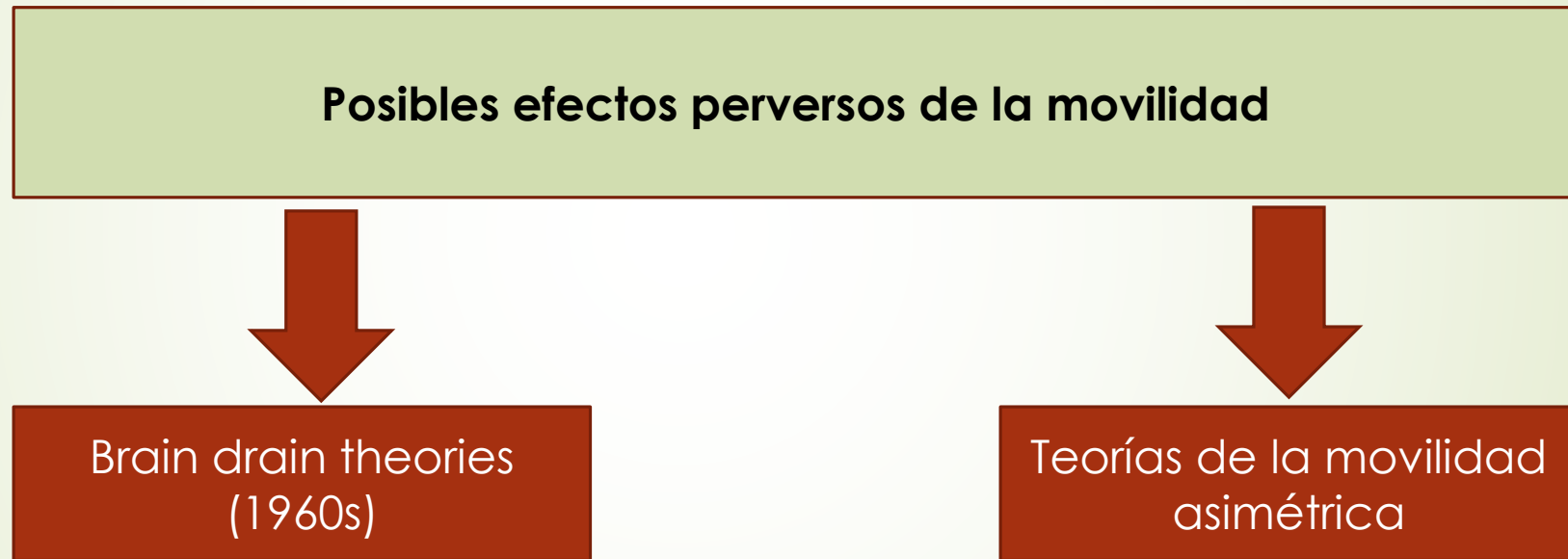# Introducción. ¿Qué movilidad para la investigación?
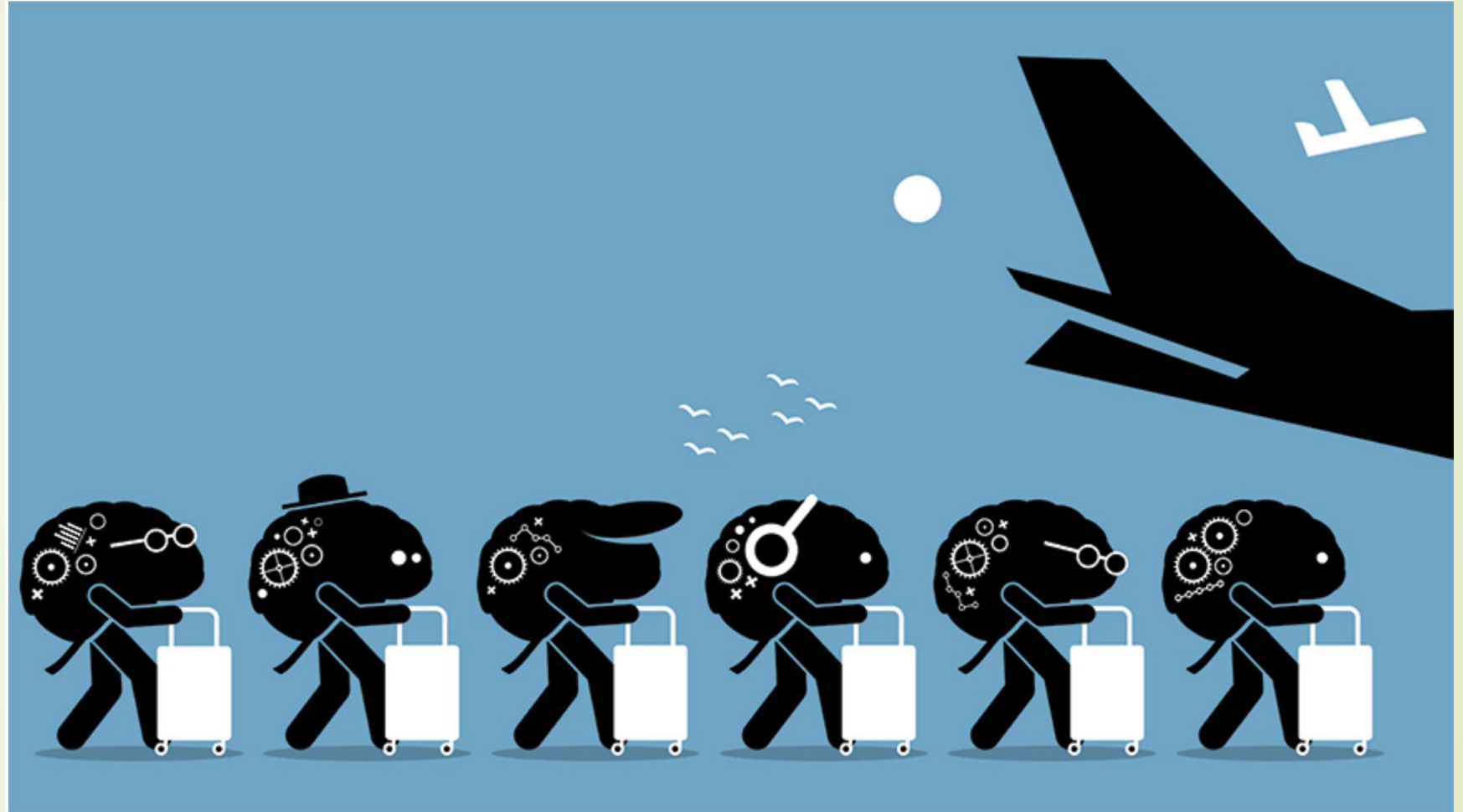
Objetivos

Identificar los principales factores que influyen en la decisión de los investigadores de realizar una carrera investigadora en Italia o en el extranjero.

Marco teórico: promover una movilidad sostenible de lo investigadores

Efectos positivos de la movilidad de los investigadores

Difusión de conocimientos

Rendimiento académico

Innovación

Varia según la disciplina

Marco teórico: promover una movilidad sostenible de lo investigadores

Posibles efectos perversos de la movilidad

Brain drain theories (1960s)

Teorías de la movilidad asimétrica

Marco teórico: determinantes de la movilidad individual de los investigadores

Consolidar una red professional + experiencias de alto nivel

Aumentar productividad e impacto

Acelerar progression profesional

Movilidad forzada

Variables Socio-demográficas (edad, género)
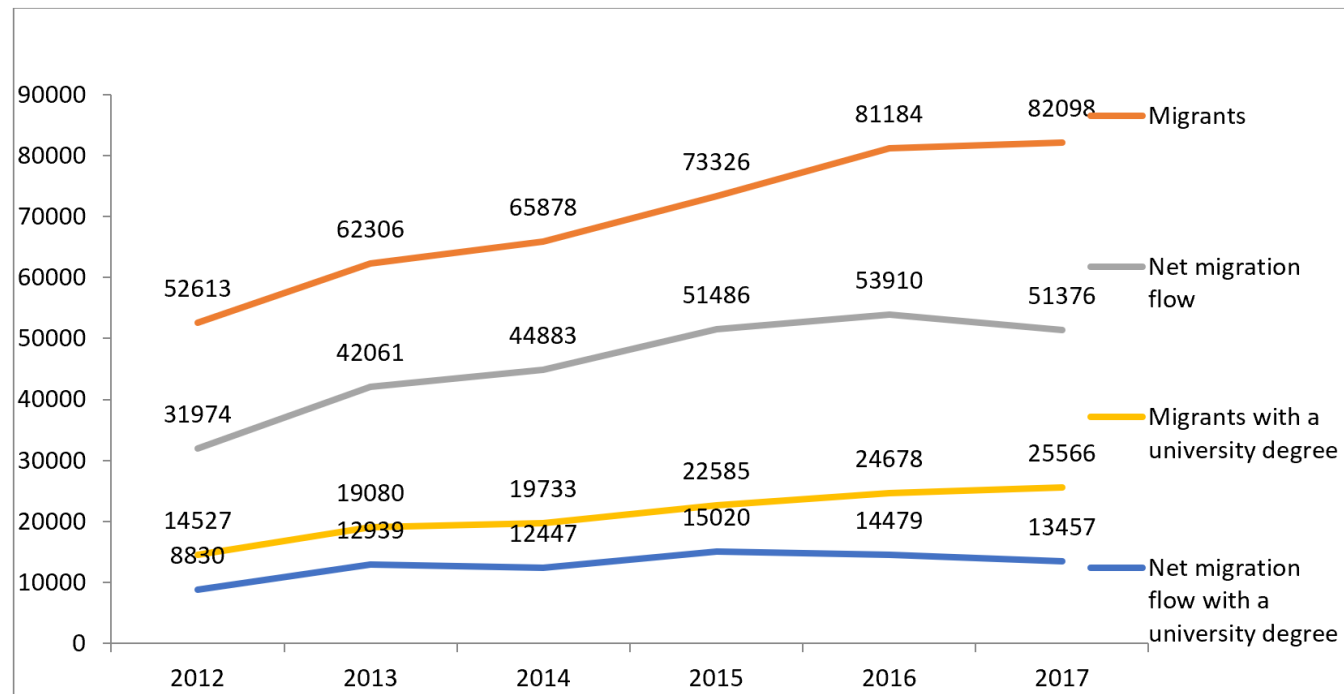
Movilidad de los investigadores en Italia

Desde 2008: Flujos asimétricos debidos al aumento de la emigración de investigadores + bajada de presupuestos nacionales de i+d

Figure 1. Italian citizens above 25 years : citizens migrating abroad, net migration flows of Italian citizens, citizens migrating with a university degree, years 2012-2017.

Source: Istat surveys on migrations (2017)

Preguntas de investigación

- On the basis of the above evidence, the present article aims to complement existing knowledge on mobility patterns of Italian researchers by identifying possible factors influencing the decision to conduct a research career in Italy or abroad and by assessing its impact on researchers' career progress. It will evaluate perceptions of working conditions, career prospects and confidence in the Italian R&I system and compare it with other national systems.

Metodología

Datos: MORE 3. 31 países europeos, 10.394 investigadores, 2016.

Muestra

Italianos en Italia (374)

Italianos fuera (207)

Italianos fuera (99)

Non-Italianos fuera (557)

AT
CH
NL
LU

Resultados – resultados descriptivos

Table A4.

View on mechanisms for recruitment and career progression

A. Mechanisms by career stage

Career Stage	Recruitment		Career progression	
	Transparent	Advertised	Transparent	Merit based
Italy				
R1	53.3	66.7	53.3	53.3
R2	52.9	74.5	62.7	48
R3	59.6	71.8	60.9	56.4
R4	59.4	74.3	51.5	54.5
Total	57.5	**73**	58.6	53.5
Abroad				
R1	81.5	81.5	74.1	77.8
R2	69.6	71.4	71.4	71.4
R3	85.1	82.1	68.7	70.1
R4	83.3	90	80	86.7
Total	79.7	**80.2**	72.5	74.9

Resultados – resultados descriptivos

Self assessment of remuneration

A. Assessment by career stage

Self assessment of wages

Career stage	Badly paid	Paid sufficiently to only make ends meet	Paid a reasonable remuneration	Well paid
Italy				
R1	6.7	66.7	26.7	0
R2	10.8	49	37.3	2.9
R3	6.4	35.3	51.9	6.4
R4	9.9	28.7	54.5	6.9
Total	**8.6**	**38.5**	**47.6**	**5.3**
Abroad				
R1	1.9	7.4	51.9	38.9
R2	5.4	14.3	37.5	42.9
R3	0	11.9	55.2	32.8
R4	6.7	13.3	56.7	23.3
Total	**2.9**	**11.6**	**49.8**	**35.7**

Resultados – resultados descriptivos

Confidence on the future prospects of research career

A. Confidence by career stage

Career Stage	I very much lack confidence	I lack confidence	I feel somewhat confident	I feel very confident
Italy				
R1	40	20	26.7	13.3
R2	25.5	35.3	27.5	11.8
R3	10.3	21.8	52.6	15.4
R4	10.9	24.8	41.6	22.8
Total	**15.8**	**26.2**	**41.7**	**16.3**
Abroad				
R1	3.7	25.9	55.6	14.8
R2	5.4	33.9	50	10.7
R3	3	10.4	67.2	19.4
R4	0	10	50	40
Total	**3.4**	**20.8**	**57**	**18.8**

Resultados – Análisis comparativo

A major limitation of the MORE3 data is the lack of information on actual research performance and publication records. For privacy reasons, data of MORE3 cannot be matched to bibliometric databases for individual scholars (e.g. Scopus).

Analísis comparativo 1. Determinantes de la confianza en el futuro profesional en Italia y en el extranjero.

- Var. Dependiente: Nivel de confianza
- Var. Independiente: País de trabajo, género, satisfacción con el nivel de remuneración, percepción de meritocracia.
- Análisis: regresiones logit
- Estimations are first carried out on the total sample, then separately for researchers in the R2, R3, R4 career stages and finally for the three fields of science

Table 3. Determinants of Italian researchers' confidence on their career prospects in Italy and abroad.

Logit Estimates

Dependent Variable: Confidence of researcher (Values: High or very high=1; Low or very low=0)

*significant at the 90% level; **significant at 95%; ***significant at 99%

Variables	Total ODDS RATIO	R2 ODDS RATIO	R3 ODDS RATIO	R4 ODDS RATIO	Health ODDS RATIO	Natural ODDS RATIO	Social ODDS RATIO
Working abroad	2.019***	2.258**	1.943	4.580**	1.459	1.988	2.417**
Gender (Male)	1.648**	1.700	1.571	1.318	0.639	4.392***	1.000
Satisf. for wage and remuneration	2.595**	3.693**	4.752	2.263	4.177	2.400	3.336
Presence of merit-based tenured career	3.533***	3160***	5.777***	2.603**	5.449***	4.390***	2.569***
No. of Observations	512	158	223	131	99	227	186
LR chi2	72.5220	24.6846	40.0334	16.4849	20.8795	49.7582	20.6617
Prob>chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Log likelihood	666.385	218.401	257.693	159.535	133.574	286.612	244.243
Pseudo R2	0.1321	0.1446	0.1643	0.1182	0.1901	0.1968	0.1051
% of Correctly Predicted Cases	72.1%	71.6%	76.7%	72.5%	75.6%	76.0%	67.3%

Resultados – Análisis comparativo

Analísis comparativo 2. Determinantes de la progresión profesional

- Var. Dependiente: rapidez de la progresión profesional
- Var. Independiente: País de trabajo, género, satisfacción con el nivel de remuneración, percepción de meritocracia.
- Análisis: regresiones logit
- Estimations are first carried out on the total sample, then separately for researchers in the R2, R3, R4 career stages and finally for the three fields of science

Table 4. Determinants of career speed of Italian researchers in Italy and abroad

Ordered Logit Estimates

Dependent Variable: Years in each career stage

*significant at the 90% level; **significant at 95%; ***significant at 99%

Variables	R2toR3						R3toR4
	Total	R3	R4	Health	Natural	Social	Total
	ODDS RATIO	ODDS RATIO	ODDS RATIO	ODDS RATIO	ODDS RATIO	ODDS RATIO	ODDS RATIO
Working abroad	5.626***	7.326***	4.260***	6.266***	4.846***	6.810***	2.412**
Gender (Male)	1.043	0.705	1.949**	0.456	1.327	1.066	1.006
Satisf. for wage and remuneration	0.429**	0.342**	0.529	1.104	0.290*	0.276**	2.375
Presence of merit-based tenured career	1.189	1.096	1.268	1.825	0.794	1.303	0.475**
No. of Observations	354	223	131	60	150	144	131
LR chi2	65.2452	51.7977	21.4629	14.8636	27.7799	29.2957	11.5511
Prob>chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Log likelihood	1133.388	710.656	417.082	191.793	473.140	456.521	418.274
Pseudo R2	0.1683	0.2073	0.1511	0.2194	0.1691	0.1841	0.0844
% of Correctly Predicted Cases	63.8	67.4	65.0	69.5	66.6	64.0	64.6

Resultados – Análisis comparativo

Analísis comparativo 3. Comparación de investigadores Italianos y de otras nacionalidades en Austria, Suiza, Países Bajos y Luxemburgo

- The analysis compared a sample of 99 Italian researchers residing in Austria, Switzerland, the Netherlands and Luxembourg with a sample of 557 other foreign researchers residing in those countries, with the following distribution: Austria (105 cases), Switzerland (214 cases), the Netherlands (110 cases) and Luxembourg (227 cases).
- Var. Dependiente: Confianza, rapidez de la progresión profesional
- Var. Independiente: País de trabajo, género, satisfacción con el nivel de remuneración, percepción de meritocracia.
- Análisis: regresiones logit

Table 5. The determinants of confidence in career prospects and of the speed of career of Italian and foreign researchers working in Austria, Switzerland, the Netherlands and Luxembourg

Logit Estimates	Dependent Variable: Confidence in career prospects (High or very high=1; Low or very low=0)	Dependent Variable: Years in each career stage
Italian citizens	0.696	1.452
Gender (Male)	1.628**	1.018
Satisf. for wage and remuneration	1.064	0.519**
Presence of merit-based tenured career	2.561***	1.225
No. of Observations	480	292
LR chi2	211.441	78.114
Prob>chi2	0.00	0.10
Log likelihood	460.328	851.631
Pseudo R2	0.0423	0.0264
% of Correctly Predicted Cases	64.6	55.7

*significant at the 90% level; **significant at 95%; ***significant at 99%

Discusión

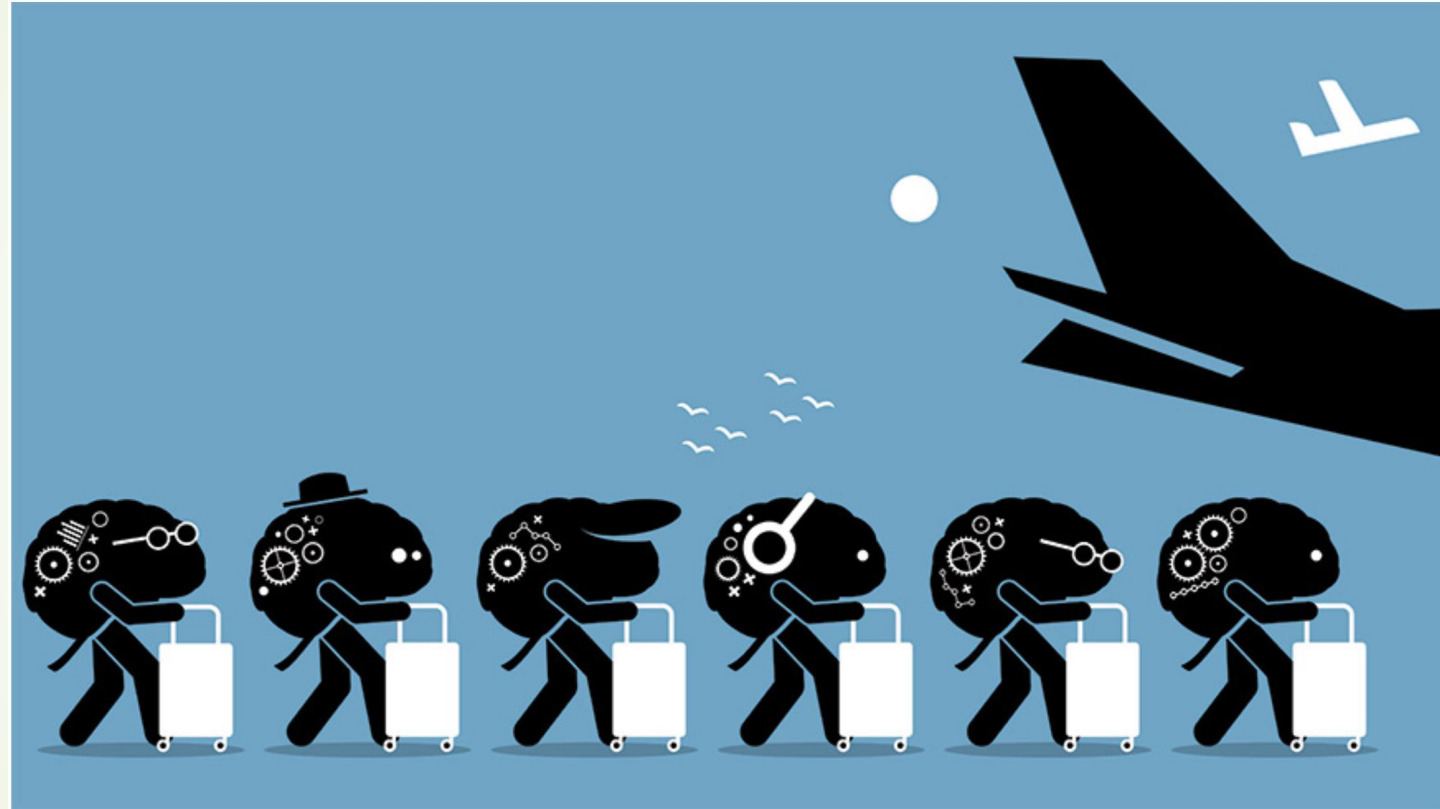**Los análisis destacan dos tipos de resultados:**

1. Data consistently show that **Italian researchers in Italy report significantly worse working conditions than Italian researchers abroad**, as highlighted by lower levels of permanent contracts in most stages of career progression and across fields of study. In addition, Italian researchers located in Italy perceive their national system as fostering untransparent and non-merit based recruitment and are generally dissatisfied by their levels of remuneration. They show low levels of confidence in future career prospect. **This gap appears to be a major determinant of the decision to emigrate abroad.**

2. To explore the factors associated to confidence on future career prospects and to actual career speed, analyses based on logit and ordered logit models were conducted. **Results show that residency abroad is a significant and highly relevant factor**. Other relevant variables include gender, presence of merit-based tenure in the home institution and satisfaction with wages. **Findings highlight that Italians abroad have a higher confidence in future career prospects and experience a faster career progression than their colleagues in Italy.**

Discusión

4 áreas claves para la mejora del sistema italiano de investigación:

- An increase in the amount of resources for the research system and for universities

- A significant increase in the recruitment of university researchers and professors and researchers in public research organisations

- An improvement in the remuneration and career prospects of researchers, which could be facilitated by the above actions, again bringing them closer to EU standards;

- A move towards more merit-based recruitment and career decisions, changing distorted practices of academic power that are discouraging Italian researchers and contributing to their emigration (and lack of return).

¡Gracias!

¿Preguntas?

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