

Overeducation and economic recovery: The case of Spanish university graduates

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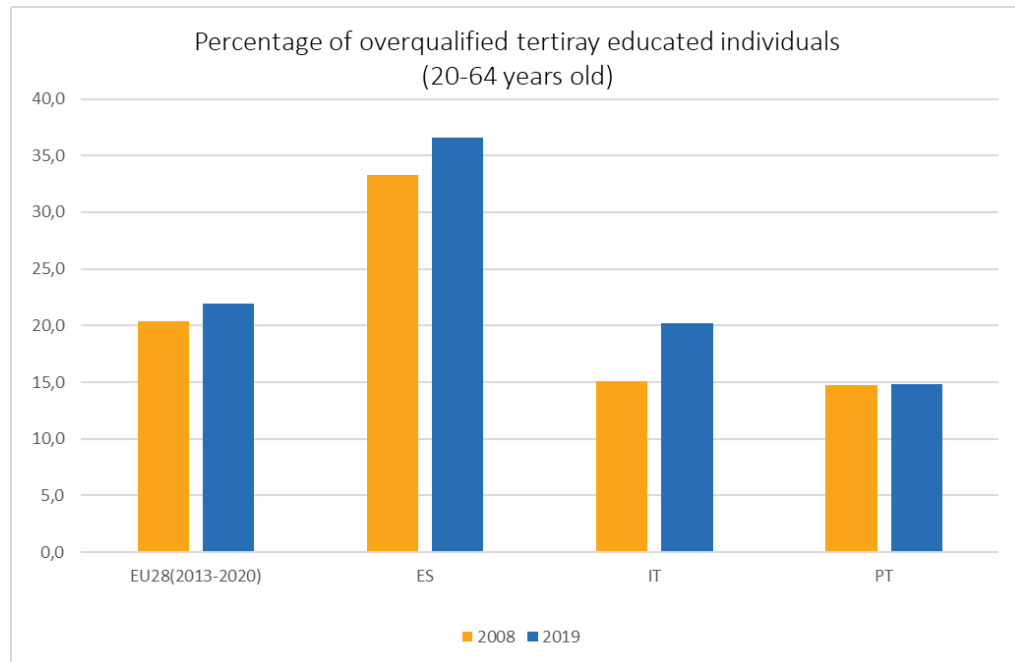
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Motivation

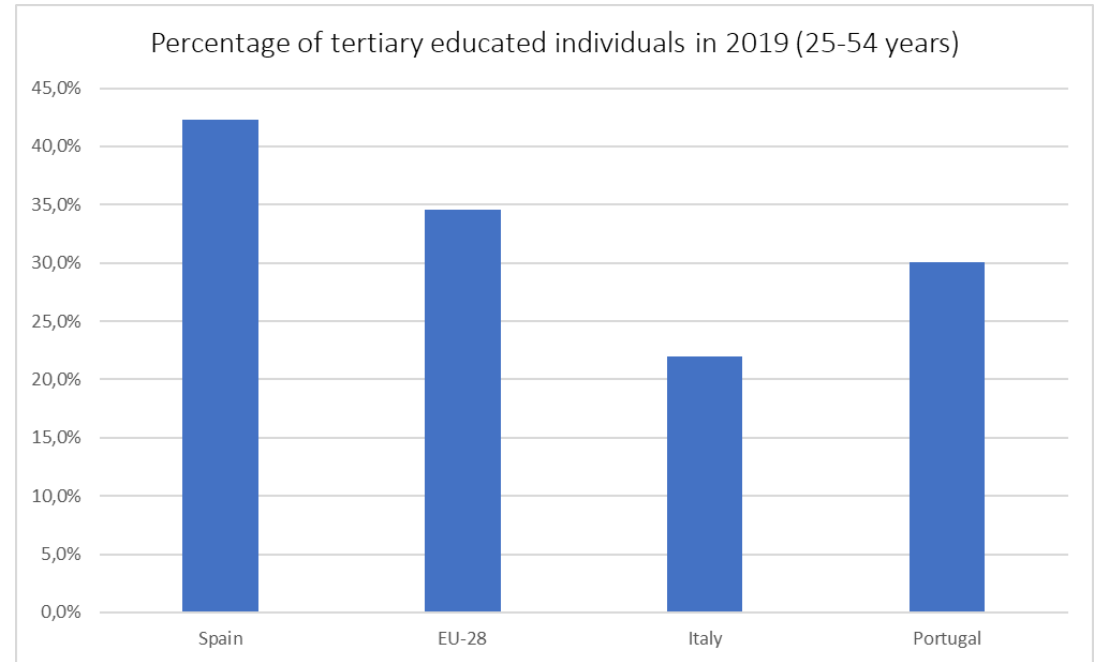
- What are job-education mismatches?
- Two main types of mismatch:

{	Vertical mismatches (Overeducation)
	Horizontal mismatches
- Mismatches are especially relevant for young tertiary educated individuals. This is why we will focus on recent university graduates.

Why should we pay attention to Spain?



Source: Own elaboration (Eurostat)



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Literature review

- **Traditional literature on this topic:**

- Freeman, R. B. (1976). *The overeducated American*. New York: Academic Press.
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355-374.
- Thurow, L. C. (1975). *Generating inequality*. Basic Books: New York.

- **Recent literature:**

- Boudarbat, B., & Chernoff, V. (2012). Education–job match among recent Canadian university graduates. *Applied Economics Letters*, 19(18), 1923-1926.
- Congregado, E., Iglesias, J., Millán, J. M., & Román, C. (2016). Incidence, effects, dynamics and routes out of overqualification in Europe: A comprehensive analysis distinguishing by employment status. *Applied Economics*, 48(5), 411-445.
- Erdsiek, D. (2017). Dynamics of overqualification: evidence from the early career of graduates. *ZEW-Centre for European Economic Research*, Discussion Paper 17-020.
- Frei, C., & Sousa-Poza, A. (2012). Overqualification: permanent or transitory? *Applied Economics*, 44(14), 1837-1847
- Roodman, D. (2011). Fitting fully observed recursive mixed-process models with cmp. *The Stata Journal*, 11(2), 159-206.
- Somers, M. A., Cabus, S. J., Groot, W., & van den Brink, H. M. (2019). Horizontal mismatch between employment and field of education: Evidence from a systematic literature review. *Journal of Economic Surveys*, 33(2), 567-603.

Literature review

- **Recent literature concerning the Spanish case:**

- Acosta-Ballesteros, J., Osorno-del Rosal, M. D. P., & Rodríguez-Rodríguez, O. M. (2018). Overeducation of young workers in Spain: how much does the first job matter? *Social Indicators Research*, 138(1), 109-139.
- Alba-Ramírez, A. (1993). Mismatch in the Spanish labor market: overeducation? *Journal of Human Resources*, 259-278.
- Alba-Ramírez, A. and M. Blázquez (2002), Types of Job Match, Overeducation, and Labour Mobility in Spain, in Büchel, F., A. de Grip and A. Meitens (eds), *Overeducation in Europe: Current Issues in Theory and Policy*. Edward Elgar Publishing: Cheltenham, UK.
- Albert, C., & Davia, M. A. (2018). Job search strategies and underemployment in recent graduates first jobs in Spain. *Revista de Economía Aplicada*, 26(78).
- Albert, C., Davia, M. A., & Legazpe, N. (2021). Educational mismatch in recent university graduates. The role of labour mobility. *Journal of Youth Studies*, 1-23.
- Montalvo, J. G. (2013). Temporary or permanent overqualification? Evidence from young workers in the Spanish labor market. Universitat Pompeu Fabra. Manuscript
- Sánchez-Sánchez, N., & Puente, A. C. F. (2020). Overeducation, persistence and unemployment in Spanish labour market. *Journal of Economic Studies*.
- Turmo-Garuz, J., Bartual-Figueras, M. T., & Sierra-Martinez, F. J. (2019). Factors associated with overeducation among recent graduates during labour market integration: The case of Catalonia (Spain). *Social Indicators Research*, 144(3), 1273-1301.

Research objectives and contribution

- Study the determinants of overeducation in the current job, focusing the discussion on the field of study.
- Analyse the persistence of overeducation.
- Evaluate the effects of the recent economic cycle in Spain, comparing labour outcomes in 2014 and 2019, corresponding respectively to the early career of graduates in 2010 (in a recession period) and graduates in 2014 (in a recovery period). We will analyse this effect on both the incidence and persistence of overeducation.
- Analyse how the impact of the field of study changes before and after the recovery period.

Database

Dataset	Labour Insertion Survey for Recent University Graduates (EILU) in Spain performed by National Statistics Institute (INE)
Available waves	2014 (University graduates in 2010) 2019 (University graduates in 2014)
Type of data	Pooled cross section
Sample size	30 379 individuals (2014) 31 651 individuals (2019)

Job-education mismatch indicators

Job-education mismatch indicator	Definition
Overeducation*	Self-perceived overeducation in his/her job (1 if the individual perceives overeducation, 0 otherwise), built from the survey question: “Which is the most appropriate level of education for this job?”

**The indicator has been constructed for the first and current jobs*

Descriptive evidence

Incidence of overeducation (Employed individuals at the moment of the interview)

<i>2014</i>	
First Job	34.57%
Current job	26.19%
Diff. current and first job	-8.38 pp
<i>2019</i>	
First Job	24.33%
Current job	11.18%
Diff. current and first job	-13.15 pp

Incidence of overeducation in the current job by field of study

Year	Arts and Humanities	Science	Social and Legal sc.	Engineering and Architect.	Health Sciences
2014	30.91%	21.98%	33.76%	20.11%	7.08%
2019	20.65%	9.94%	14.56%	5.79%	3.95%

Source: Own elaboration from EILU (INE)

Model specification

Let y_1 and y_2 be the indicators of overeducation in the first job and the current job, respectively.

Potential source of endogeneity: since unobservable individual characteristics can play a role in the incidence of overeducation both in the first and the current job, leading to the endogeneity of y_1 in the equation for y_2 .

$$y_1^* = \lambda x_1 + u_1$$

$$y_2^* = \alpha_1 y_1 + \beta x_2 + u_2$$

$$y_1 = 1(y_1^* > 0)$$

$$y_2 = 1(y_2^* > 0)$$

Conditional on the explanatory variables, u_1 and u_2 are assumed to follow a bivariate normal distribution, with zero mean, unit variances and correlation coefficient ρ .

Potential sample selection bias: since overeducation is only observed for workers, selection into employment can play a role.

Model specification

Set of variables included in the models:

- *IC* : Individual characteristics
- *SV* : Study-related variables
- *JV* : Job-related variables (available information at the first job (fj) and the current job(cj))
- *FoS* : Field of study
- *year*: 1 if 2019, 0 if 2014.

$$y_1^* = \lambda_0 + \lambda'_1 IC_i + \lambda'_2 SV_i + \lambda'_3 JV_{i,fj} + \lambda_4 year_i + \lambda'_5 FoS_i + \lambda'_6 (year * FoS)_i + u_1$$

$$y_2^* = \beta_0 + \alpha_1 y_{1i} + \beta'_1 IC_i + \beta'_2 SV_i + \beta'_3 JV_{i,cj} + \beta_4 year_i + \beta'_5 FoS_i + \beta_6 (year * y_1)_i + \beta'_7 (year * FoS)_i + \beta'_8 (y_1 * FoS)_i + u_2$$

Results

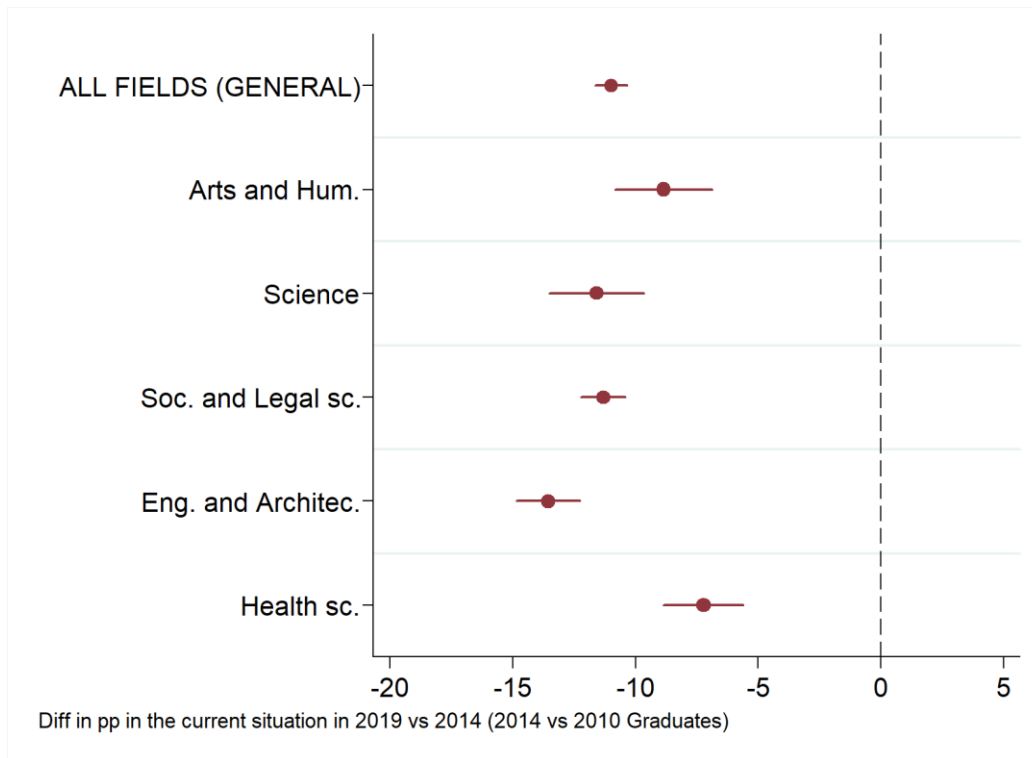
Overeducation determinants

- Almost no gender differences (women show slightly higher probability of overeducation). Older individuals also experience more chances of suffering overeducation.
- Regarding study variables, we obtain that individuals who have studied in a private university or have postgraduate studies reduce their overeducation risk.
- Job-related variables have the highest explanatory power. Being employed part-time increases the chances of being overeducated, while being a trainee reduces it.
- The inclusion of skills related to the chances of getting the current job is especially relevant, since they allow us to overcome the sample selection problem.

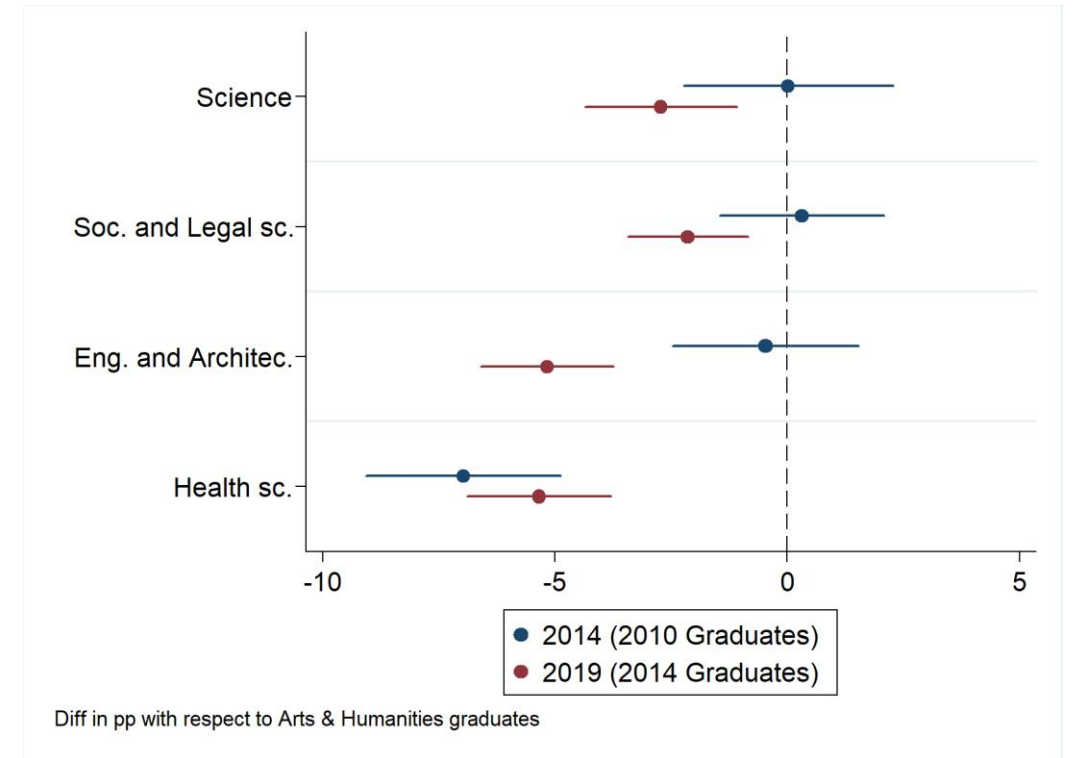
Results

Recovery period and field of study impact

Impact of the recovery period (APE)



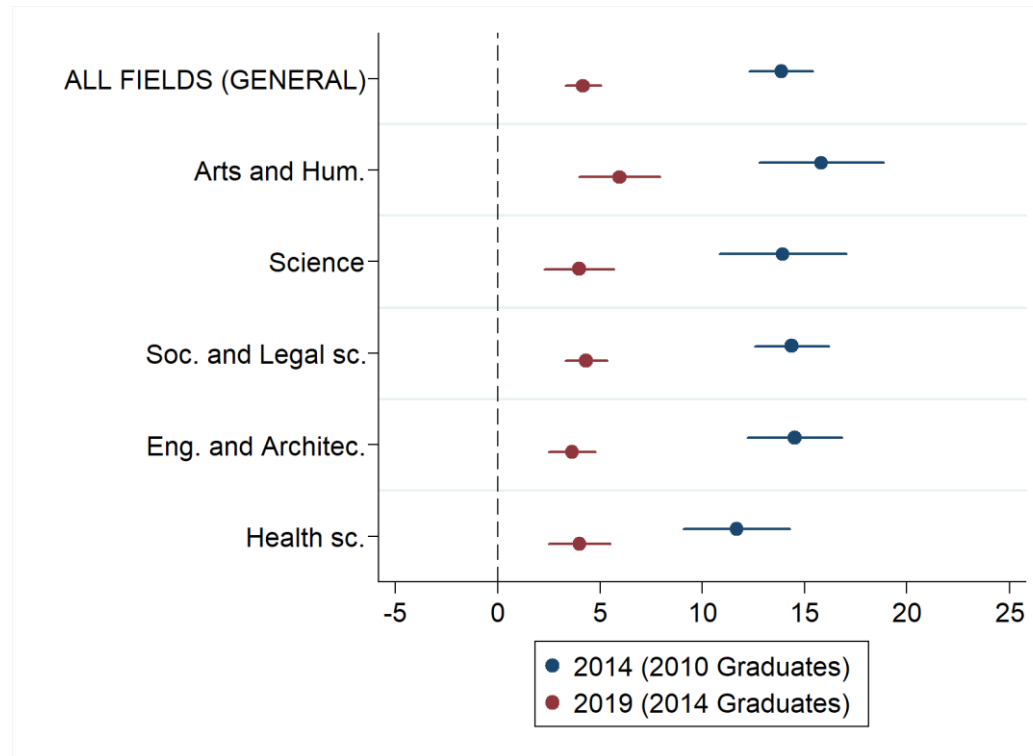
Impact of the different fields of study (APE)



Results

Persistence and comparison among fields

Impact of being overeducated in the first job (APE)



Conclusions

- The recovery period decreased the probability of overeducation in 11.0 pp for university graduates in Spain, compared to graduates interviewed in 2014 (graduated in 2010).
- The persistence of overeducation is also reduced, from 13.9 pp in 2014 to 4.2 pp in 2019.
- The impact of the field of study on the probability of overeducation differs in 2014 and 2019:
 - Health Science graduates seem to be less affected by the recovery period, while conserving the most advantageous position. Overeducation incidence for graduates in other fields seems to be much more dependent on the economic cycle.
 - The persistence of overeducation across fields of study is affected by the economic situation.
- Our results have policy implications regarding education and labour market.

Thank you for your attention!

