Institute of Public Finance

Public Sector Economics

The Influence of Education on Social Mobility in Croatia and Greece: Comparative Dimensions and Policy Impacts.

Dr. Georgios Kitsoleris
Sara Culo

georgios.kitsoleris@dmu.ac.uk
sara.culo@ijf.hr

DE MONTFORT UNIVERSITY LEICESTER

Table of contents

- Dimensions of social mobility - Motivation
- The background in Greece and Croatia
- Data and methodology
- Results
- Conclusions-Discussion

Public Sector Economics
Current issue Vol. 49 No. 1(2025) March, 2025

Introduction

Dimensions of social mobility

- Income mobility
- Educational mobility
- Occupational mobility

Motivation: To investigate the patterns of these dimensions of social mobility in Croatia and Greece over time and to what extent different approaches of social mobility were affected by education.

Very limited empirical research has been conducted on social mobility in both countries.

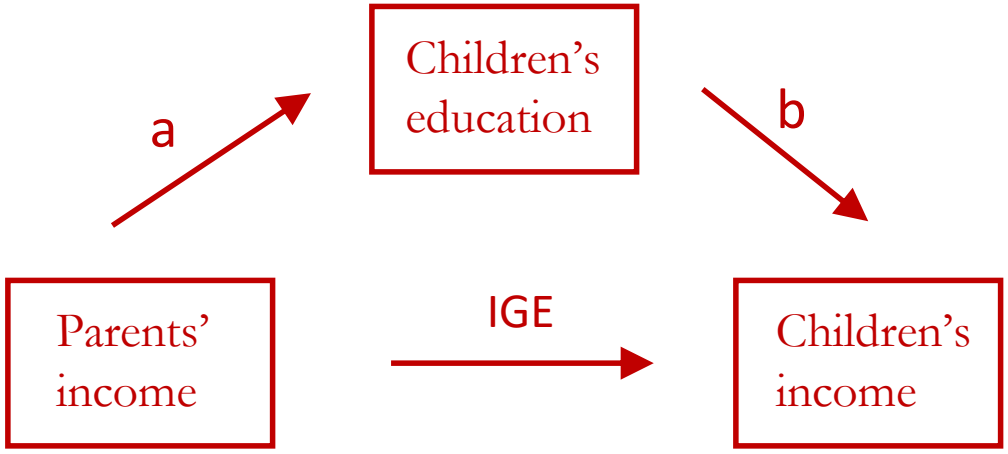
Background (1)

Past research has shown that:

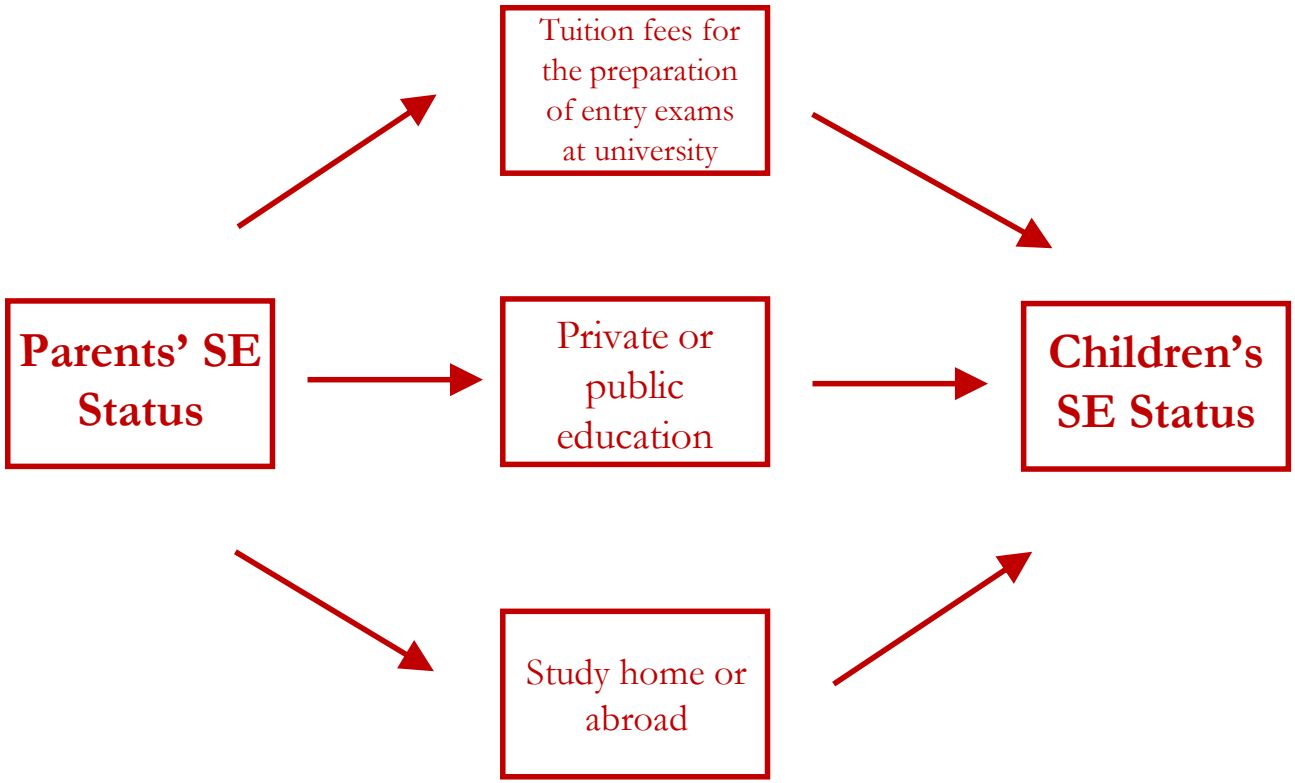
- ***Intergenerational income mobility***

There is not an optimal level of persistence that could be valued for the policymaker.

A society can be more tolerant to higher inequality in earnings whether the citizens believe that having the same opportunities to move up in the social elevator (Blanden, et al 2011; Corak et al., 2014). The standard measure of intergenerational income persistence is the intergenerational elasticity (IGE).



Does Education Promote Social Mobility?



Institute of Public Finance

Background (2)

- ***Intergenerational educational mobility***

High mobility in education indicates that everyone, regardless of their family background, has a fair chance to attain high level of education. In addition, educational attainment is the main indicator of predictor of income inequality (De Gregorio & Jong-Wha, 2003) as well as non-pecuniary outcomes such as health (Ross & Wu, 1995) and crime (Lochner, 2004).

- ***Occupational mobility***

The improvement in social class of the previous generations affects the rates of occupational mobility due to economic transformation. Different cross-country trends can be noticed in the ongoing transformation of economies (OECD, 2018).
Intragenerational occupational mobility ***is usually horizontal,*** but it is affected by labor market shocks, such as a downturn in economic activity.
Intergenerational occupational mobility informs about the occupational class of the children compared to their parents. It is important to be checked whether it is obtained through ***their efforts, skills and achievements*** or if inherited by the occupational background of their family.

Background (3)

A key determinant of occupational mobility is the ability to transfer acquired skills and knowledge to other occupations. Cumulative human capital is mostly job-oriented or industry-specific and it does not allow for other career paths but promotions in the same existing firm or career.

The Great Recession in Europe in 2008 disintegrated the labour market in many countries. The unemployment rate increased and the recovery was slow.

The effects of such shocks are heterogeneous (young workers, people with part-time contracts etc)

(OECD, 2018; Eurofound, 2017;Symeonaki & Stamatopoulou, 2020)

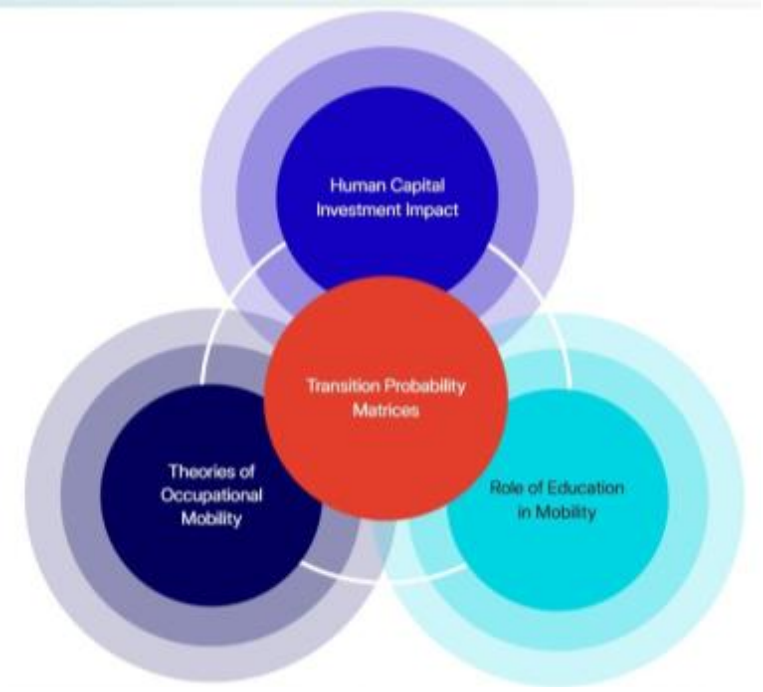
- Pohlig (2021) found that upward and downward movements increased in the MMEs with the exception of Malta and Cyprus and downward polarization occurred.
- Bisello et al (2020) showed that women were at greater risk of leaving the labour market and had fewer opportunities to enter it.
- Anastasiadou et al (2015) highlighted a strong correlation between unemployed people' mindset/openness in different occupations and employment rates.

Background (4)

Factors affecting occupational (employment) mobility:
Business cycle of the economy is linked with the mobility rates

The human capital of a society
The sector of economic activity
The type of employment contracts
The unemployment level
The laws affecting the labour market
Cultural factors (mother role model)
Mobility of workers between countries

(Erdsiek, 2021; McGuinness et al.2018; Plewis and Bartley, 2014; Sicherman, 1991)



Background (5)

Educational expansion in Croatia and Greece

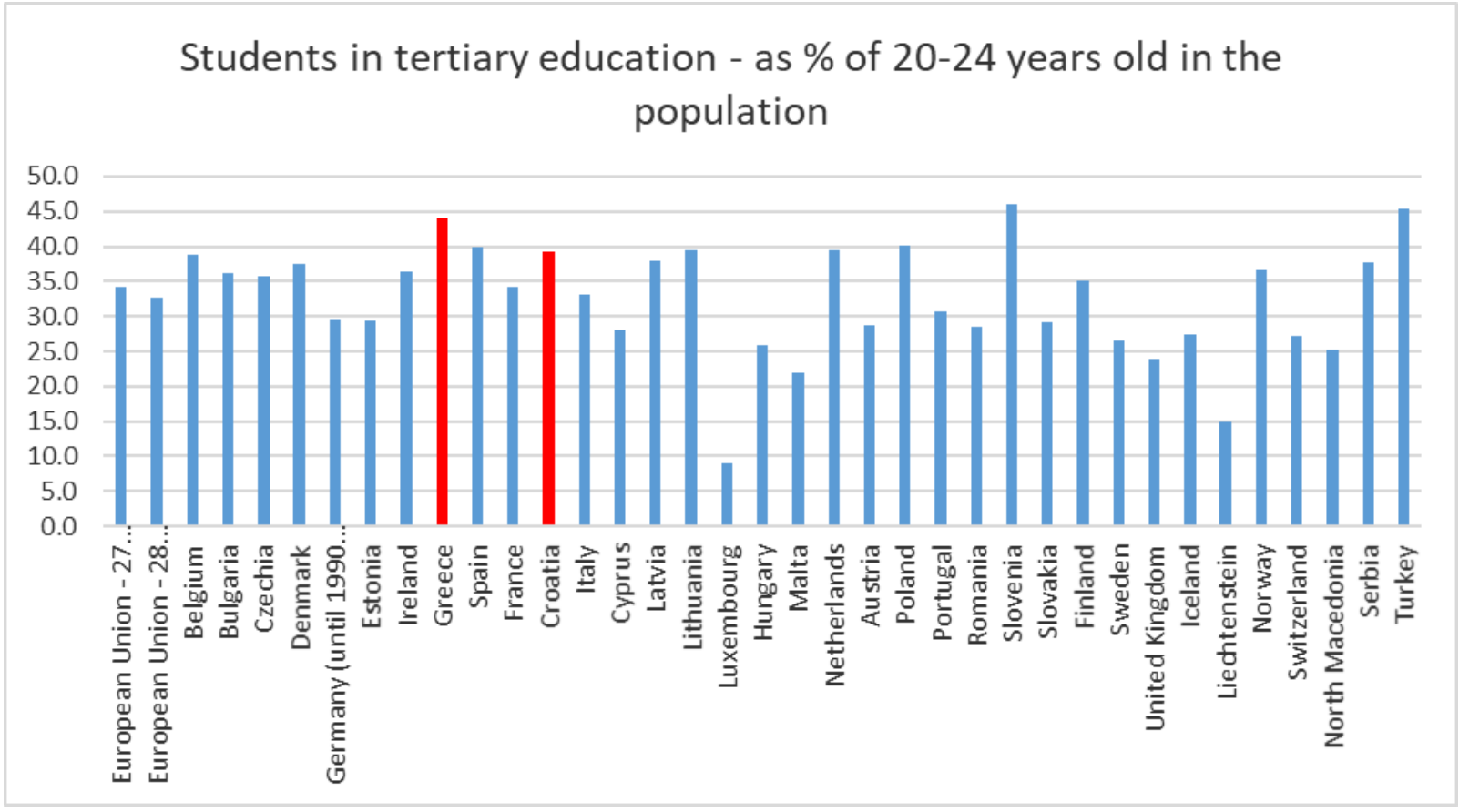


Figure 1: Enrolments in tertiary education among European countries

Source: UNESCO Institute for Statistics

Background (6)

Financial crisis in Greece (2010-2018)

- Economic crisis affected the country in 2009 and after signing three memorandums (2010, 2012 and 2015), remained in Eurozone and exited from the crisis in 2018. Thousands of citizens immigrated abroad especially the youngest and more educated.

Research questions

- What are the patterns of **intragenerational occupational/employment mobility** during the three bail-out programs (2010-2018)?
- Higher education and over-education continue to be linked to specific opportunities for occupational mobility and undereducation with risks of downgrading?
- What are the characteristics of people who are overeducated workers compared to people who are adequately educated workers?

Data (1) – Skill level classification

Combine three rounds of EU-SILC survey in 2011, 2019 and 2023 due to changes from ISCO-88 version to ISCO-08 (since 2011) for labour force between 17-67 and 30-60 years old. Overqualified - underqualified labour force based on the ILO. Data limitations.

TABLE 1

Mapping of ISCO-08 major groups to skill levels and skill levels to ISCED-97 levels of education

ISCO-08 major groups	Skill level	Levels of education
1. Managers, senior officials and legislators	4	Second stage of tertiary (leading to an advanced research qualification)
2. Professionals		First stage of tertiary education, first degree (medium duration)
3. Technicians and associate professionals	3	First stage of tertiary (short or medium duration)
4. Clerks	2	Post-secondary, non-tertiary
5. Service and sales workers		
6. Skilled agricultural and fishery workers		Upper secondary
7. Craft and related trades workers		
8. Plant and machine operators, and assemblers		Lower secondary
9. Elementary occupations	1	Primary

Source: ILO (2012).

Data (2) - Wages based approach

Mapping of the three job quality tiers based on average annual salaries

ISCO-08	Job quality tiers	Mean annual wages in 2011 (in thousand €)
2 Professionals	High-paid jobs (ISCO 1-2) Upper-middle income	19.4
1 Managers		18.5
3 Technicians and associate professionals	Mid-low paid jobs (ISCO 3-4-5-7-8) Middle income	16.3
8 Plant and machine operators and assemblers		14.6
4 Clerical support workers		14.0
7 Craft and related trades workers		11.6
5 Services and sales workers		11.2
6 Skilled agricultural, forestry and fishery workers	Low-paid jobs (ISCO 6-9) Lower middle income	8.9
9 Elementary occupations		8.3

Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

Table 2: Mapping of ISCO to wages classes following OECD (2019) definition of the middle class of income.
It defines as "middle-income class" incomes ranging between 100% and 150% of medium.
Correspondingly, upper-middle class includes incomes between 150% to 200% of median and lower middle-incomes class (75% to 100% of median).

Institute of Public Finance

Data (3) - Employment approach

Table A2
Structure of i x j design matrices[6]

		Status/Skill level in year t+1			
Year t	**Unemployed**	**Level 1**	**Level 2**	**Level 3**	**Level 4**
Unemployed	i1j1	i1j2	i1j3	i1j4	i1j5
Level 1	i2j1	i2j2	i2j3	i2j4	i2j5
Level 2	i3j1	i3j2	i3j3	i3j4	i3j5
Level 3	i4j1	i4j2	i4j3	i4j4	i4j5
Level 4	i5j1	i5j2	i5j3	i5j4	i5j5

[6] *These matrices are presented as outflow tables with columns representing destination statuses and rows representing origin statuses. The immobility design matrix includes a parameter for the diagonal, indicating occupational immobility or stability. The upgrading (U) and downgrading (D) matrices each have one parameter for cells above the diagonal (upward mobility) and below the diagonal (downward mobility), respectively. Here, ikjl represents the transition probability from state k at time t to state l at time t+1.*
Source: Pohlig (2021).

Methodology (1)

To establish specific patterns of mobility during the three bail-out programs (2010-2018) we use ***absolute mobility indices.***

The following equations estimate the absolute mobility indices:

Upward Mobility= $\frac{1}{N}\sum j > i\, n_{ij}$

Downward Mobility=$\frac{1}{N}\sum j < i\, n_{ij}$

(Symeonaki et al, 2016)

Methodology (2) – The role of education

To investigate the effects of a set of individual and job-related characteristics on mobility patterns, using multinomial logit analysis with regard to mobility.

Dependent variables: We define three possible states: not mobile (the reference category), upward and downward mobile following a model suggested by Plewis & Bartley (2014).

As a multiple logit thus ignoring the ordering using mlogit in STATA:

$$\log[\frac{\pi_m}{\pi_M}] \text{ m} = 1. . .\text{M} - 1$$

The explanatory variables consist of a set of individual specific characteristics such as:

- human capital is captured by the completion of tertiary education
- experience and whether the worker is in educational training
- dummy variables for over- or undereducated.
- marital status, age and gender

Methodology (3)

The characteristics of overeducated people

Logit regression: ***Dependent variable*** = 1 if the worker is overeducated, 0 if he/she is Adequately educated- correctly allocated workers, undereducated workers excluded

$Log[Prob(being\ overeducated)/Prob(adequately\ educated)]it = X_{it}\beta + \varepsilon_{it}$

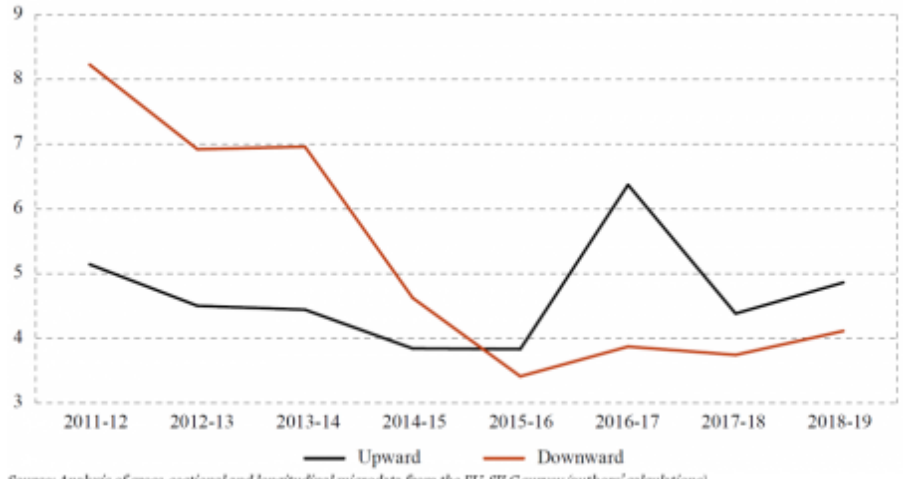
where X is a vector of variables including individuals' characteristics and family background variables like parental education and occupation

Results (1) - Changes in intragenerational occupational mobility

Figure 1
*Patterns of intra-generational occupational mobility (skilled levels) across the 3 bailout programs (in %)**

**Absolute occupational mobility (workers 17-67).*
Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

Figure 2
Patterns of intra-generational occupational mobility (paid-job tiers) across the 3 bailout programs (in %)



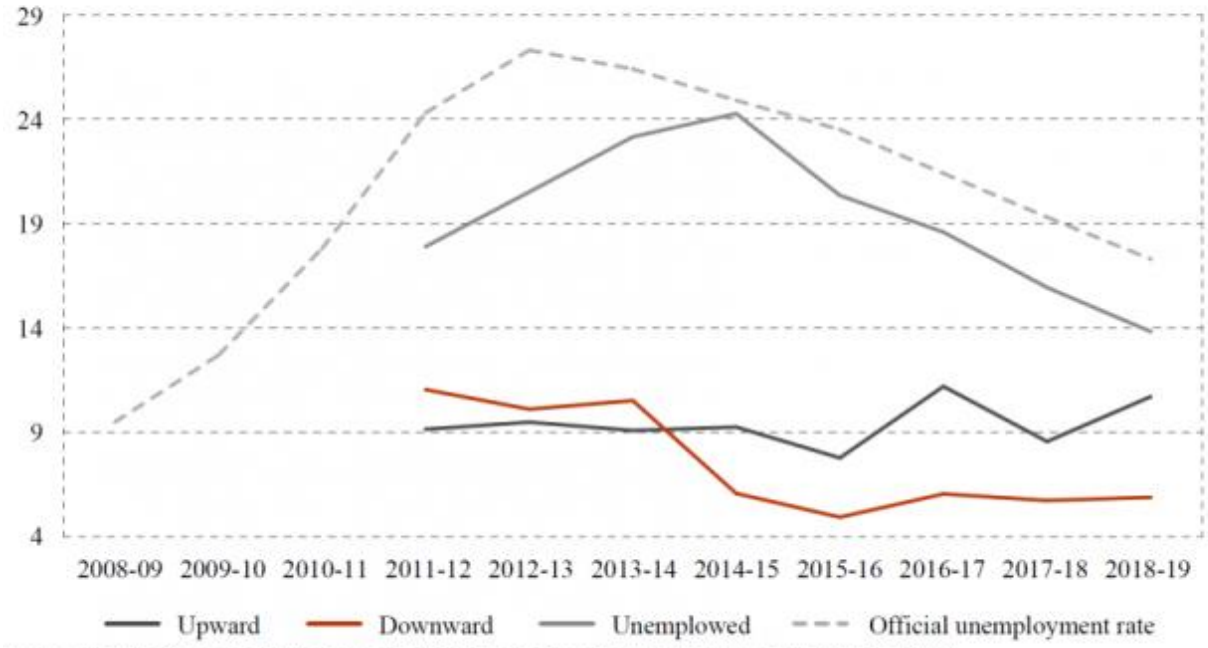
Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

The changes were made in the first 4-5 years of the crisis (up to 2015-2016, in the first 2 memoranda) while then a reverse adjustment to the distribution at the beginning of the crisis is observed.

Institute of Public Finance

Results (2) - Patterns of employment mobility

Figure 3
Patterns of intra-generational employment mobility (%)



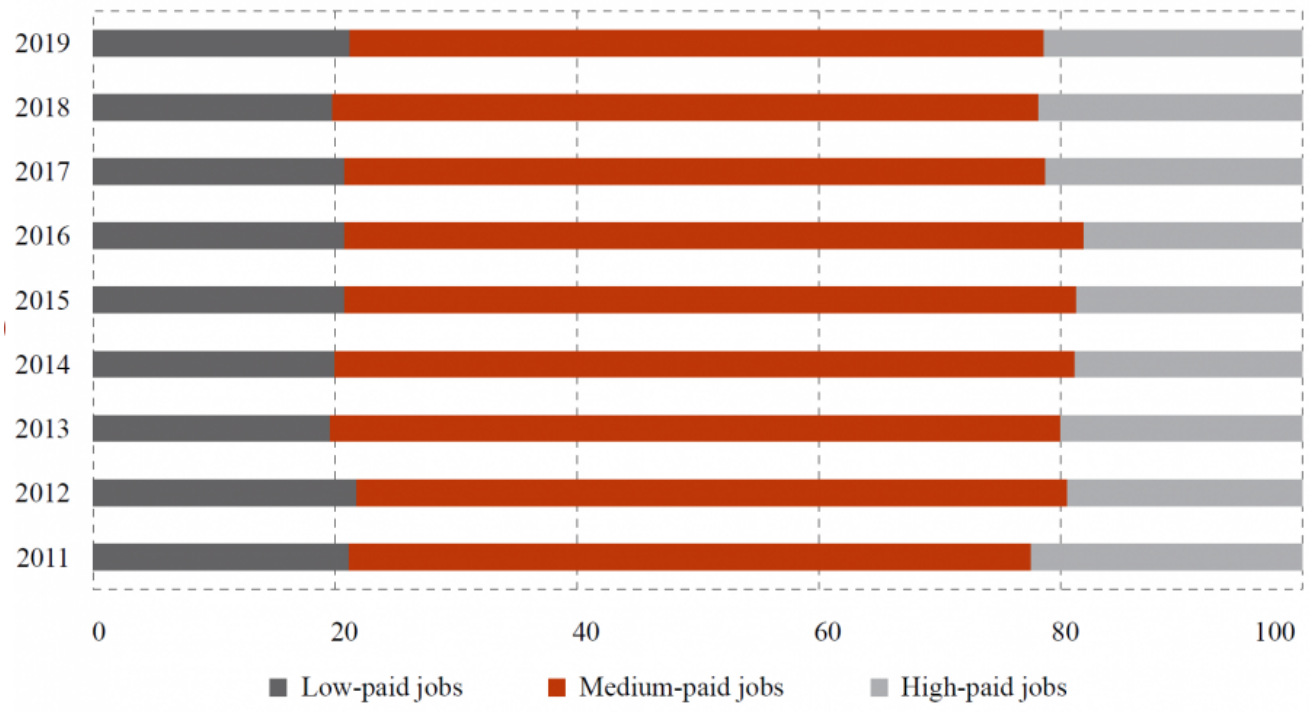
Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

Higher rates of downward mobility and "trapped" in unemployment until 2015.
This graph show a differentiation in the effects of the memorandums on the labour market. During 2011-2015, many workers experienced a downward occupational mobility as a result of high unemployment as well.

Institute of Public Finance

Results (3) - The direction of these movements among paid-jobs (polarization)

Figure 4
The distribution of wage-job levels between 2011-2019 (%)



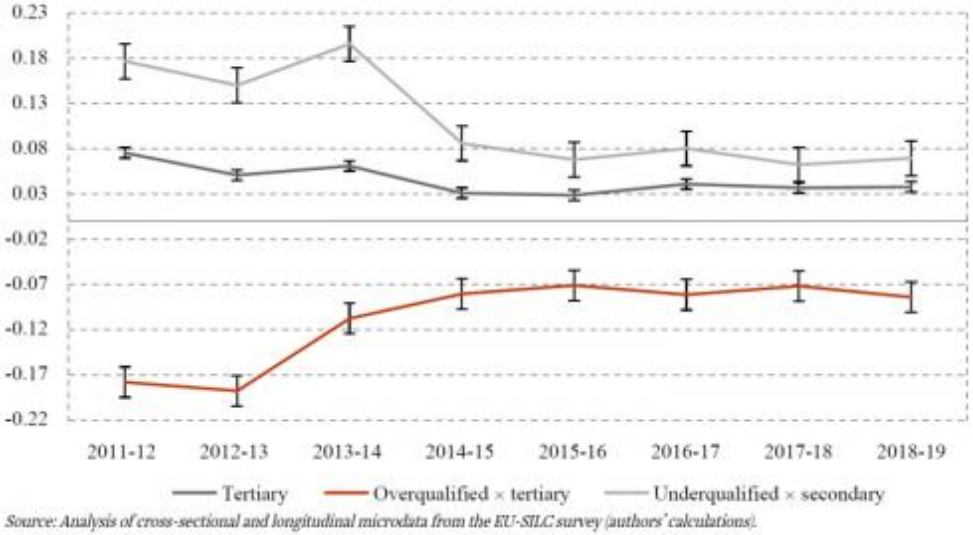
Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

Between 2011 and 2016, middle-wage jobs grew from 56% to 61%, while high-wage jobs fell from 22% to 18%. Since 2016, more jobs have been created with higher wages, and the pre-crisis situation has returned since.

Institute of Public Finance

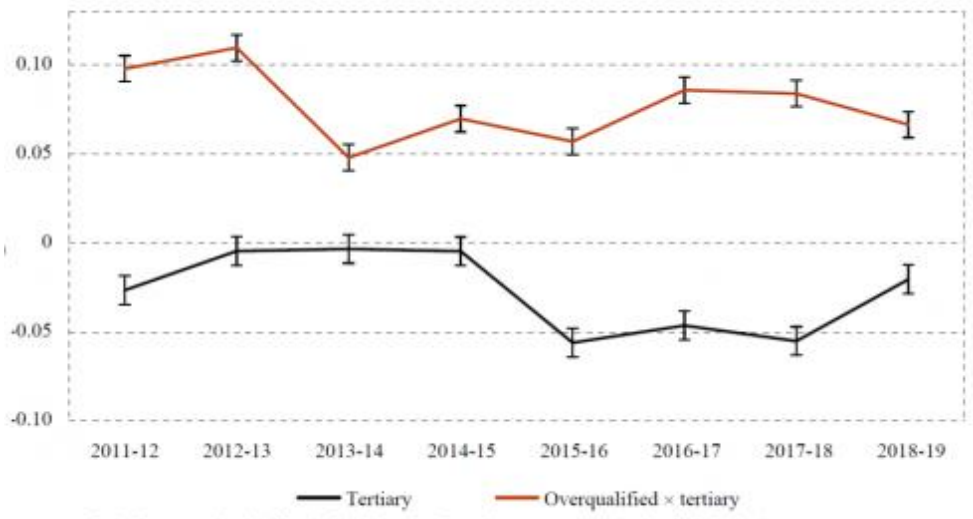
Results (4) - The determinants of mobility

Figure 6
Coefficients for educational variables of downward mobility with standard deviations (reference group immobility)



Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

Figure 7
Coefficients for educational variables of upward mobility with standard deviations (reference group immobility)



Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

The role of education as a determinant of occupational mobility has changed

Institute of Public Finance

Results (5) - The phenomenon of overeducation in Greece

TABLE A12

The percentages of each skill level of occupation and the proportion of graduates from each educational level

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Skill level 1	8.1	8.2	8.8	9.9	10.4	9.3	8.9	8.4	8.4
Primary	19.3	18.3	14.8	14.1	13.8	13.7	13.8	13.1	14.6
Mismatch in low level	-11.2	-10.1	-6.0	-4.2	-3.4	-4.4	-4.9	-4.8	-6.3
Skill level 2	62.6	66.4	63.3	63.1	62.8	65.7	64.4	63.6	64.1
Secondary-Post Secondary	53.8	54.5	54.2	54.0	53.9	54.3	54.9	55.4	54.5
Mismatch in medium level	8.8	11.9	9.1	9.1	8.9	11.4	9.4	8.2	9.7
3rd – 4th level	29.2	25.3	27.8	26.9	26.8	25.0	26.7	28.0	27.5
Tertiary	26.8	27.0	31.0	31.4	31.5	31.3	30.5	30.4	29.9
Overeducation in high level	2.4	-1.7	-3.2	-4.4	-4.8	-6.3	-3.7	-2.3	-2.4

Source: Analysis of cross-sectional and longitudinal microdata from the EU-SILC survey (authors' calculations).

There is a mismatch in all sectors.

The crisis and the educational expansion reinforce the unsatisfactory match in the labour market

Results (6) - The characteristics of overeducated people

Table 4
Logit regressions of overeducated workers

	Overeducated		Long-term overeducated	
Young<35	0.242	0.186	**0.370****	**0.343***
	(0.159)	(0.179)	(0.177)	(0.199)
Female	**-0.293*****	**-0.340*****	**-0.269****	**-0.330****
	(0.102)	(0.118)	(0.116)	(0.135)
Marital	**0.337*****	**0.285****	**0.364****	**0.323****
	(0.130)	(0.144)	(0.146)	(0.160)
Secondary	-0.450***	-0.294	-0.606***	-0.407***
	(0.170)	(0.205)	(0.198)	(0.242)
Bachelor	**2.259*****	**2.548*****	**2.403*****	**2.688*****
	(0.175)	(0.215)	(0.201)	(0.251)
Master	**1.278*****	**1.580*****	**1.175*****	**1.395*****
	(0.232)	(0.272)	(0.271)	(0.325)
In education	0.422	0.174	0.505	0.169
	(0.281)	(0.322)	(0.323)	(0.369)
Experience	**-0.018****	**-0.021****	**-0.018****	**-0.018***
	(0.007)	(0.008)	(0.008)	(0.009)
Employees	**0.581*****	**0.680*****	**0.454*****	**0.535*****
	(0.105)	(0.124)	(0.117)	(0.139)
Age began the first job	**-0.027***	**-0.046****	**-0.046****	**-.0585*****
	(0.014)	(0.018)	(0.177)	(0.022)
Parental education (reference: primary)				
Secondary	**-0.321****	**-0.284****	**-0.461*****	**-0.351****
	(0.125)	(0.140)	(0.140)	(0.156)
Tertiary	**-0.339***	-0.338	-0.273	-0.221
	(0.197)	(0.222)	(0.211)	(0.242)
Parental occupational (reference: skill level 1)				
Skill level 2	-0.093	-0.355	-0.044	**-0.334***
	(0.127)	(0.173)	(0.143)	(0.198)
Skill level 3	0.191	0.085	0.115	-0.015
	(0.260)	(0.349)	(0.276)	(0.381)
Skill level 4	-0.252	-0.451	**-0.577****	**-0.923*****
	(0.257)	(0.297)	(0.288)	(0.344)
Living in cities		**-0.292****		**-0.335****
		(0.126)		(0.142)

The symbols *, ** and *** denote statistical significance at 10%, 5% and 1%. Robust standard errors in parentheses.

Institute of Public Finance

Key takeaways

- Downward mobility was the common trend in intra-generational occupational mobility during the first period of the crisis. No significant mobility differences noticed among occupational, employment, paid-jobs mobility.
- The recovery is apparent after 2015 translating as higher upward occupational and employment movements but with a polarization of middle paid professions and destroying of high skilled job positions.
- Tertiary education did not protect from downward mobility during the first period of the decade
- Overeducation and undereducation are associated strongly with mobility. Contrary to previous career mobility literature, overqualified employees are not mainly females
- The overeducation in Greece was a sum of increasing tertiary graduates, demolition of high-skilled job positions and creating more positions requiring lower skills.

Discussion - Suggestions

- The state should intervene to provide educational knowledge and **skills transferable in labour market** and not just qualifications through the free entry in tertiary faculties.

- In order to deal with the phenomenon of mass migration of educated people, we could attract companies that want to benefit from the country's educated workforce **(foreign direct investments**), as well as create conditions for the development of companies by natives in an easier way **(ease of doing business).**

- Strengthening **vocational education** and changing parental attitudes towards so-called "safe" education options should be achieved.

- **International labour mobility** is one of the benefits of European integration. The EU can be developed by reallocating highly skilled workers through intercultural tolerance that drives innovation, but this should not happen at the expense of the poorest/underdeveloped countries. This transition **must be bilateral rather than unilateral.**

Working paper - Research questions

- How does educational attainment impact intergenerational educational and occupational mobility? What lessons can be drawn from these findings for countries with similar contexts?
- Does social mobility follow specific patterns within intergenerational educational and occupational mobility? What are the barriers to social mobility?
- In what ways have educational policies in Croatia and Greece influenced social mobility patterns over the previous decades?

Background

Similarities and differences between Croatia and Greece

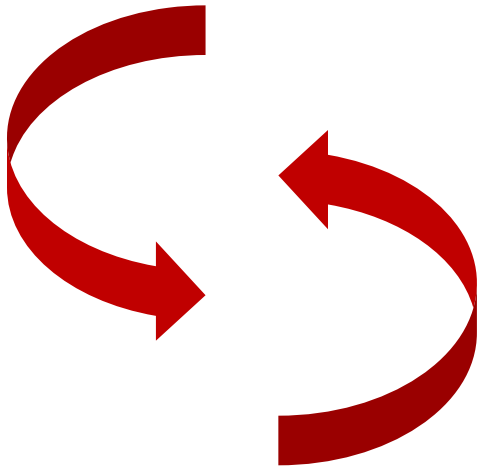
- Transitioning from different political and economic systems alongside significant restructuring
- Joining the European Union at different times (Greece in 1981; Croatia in 2013)
- Similar challenges in economic development (high unemployment, reliance on tourism, slow industrial growth)
- Regional disparities in both countries

Role of education

- Both suffer from brain drain
- Cultural and social structures (family) play an important role in educational and occupational opportunities
- Efficiency of public spending on education (European Commission, 2024) – improvements over 40 pps. in both countries (among the seven EU countries with the biggest improvements)

Methodology

Absolute mobility indices derived from transition matrices



Conditional probability ratios estimate changes in educational inequalities

Ratio 1 = Pr(ChEd=3|P=3)/Pr(ChEd=3|P≠3)

Ordered logit model for analysing occupational mobility

To explore the effect of parental skill level on children's occupation, the outcome is determined by the propensity y:*

$$y^* = \beta^* X + u$$

The dependent variable has 4 categories: skill levels of children - explanatory variables: the highest skill level between the parents, gender and age.

Multinomial logit analysis to capture the determinants of mobility and influence of education

$$\log[\frac{\pi_m}{\pi_M}] \; m = 1. . .M - 1$$

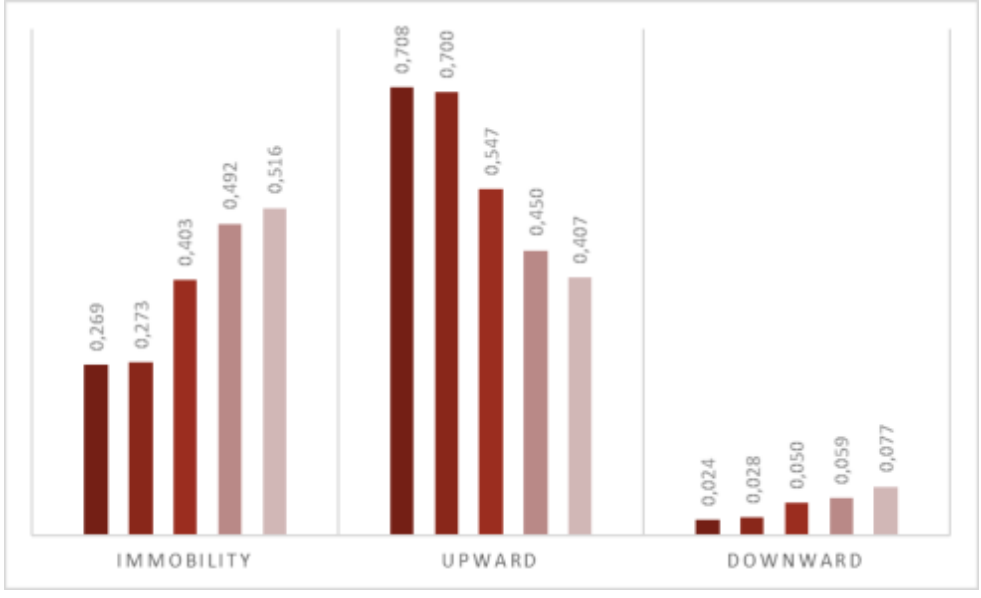
five groups of explanatory variables: socio-demographic characteristics (gender, age, marital status, siblings), human capital (educational attainment level), labour law effects (born after 70's), regional variables (urbanization)

Institute of Public Finance

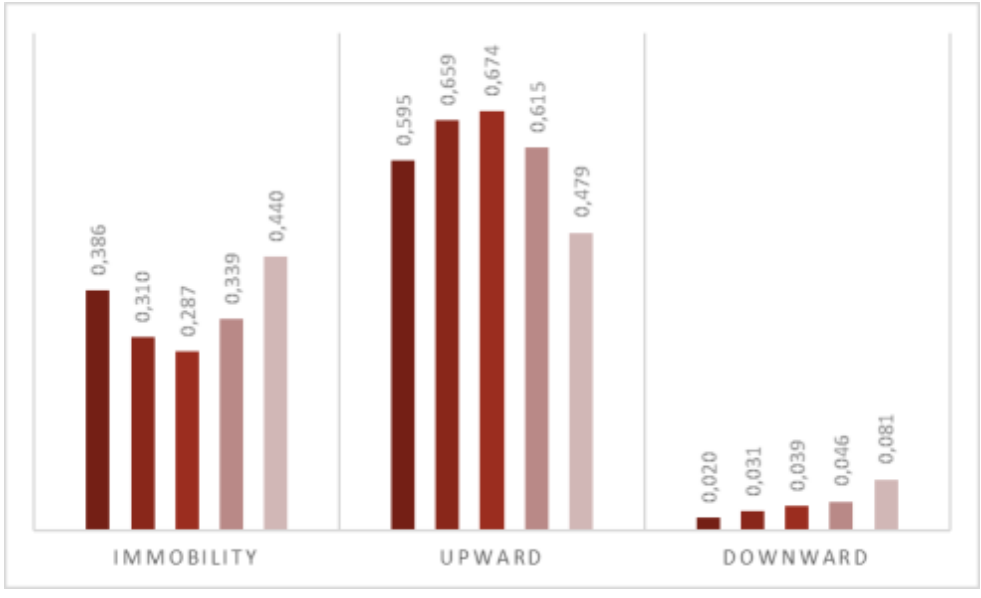
Results – Intergenerational educational mobility (1)

Absolute mobility indices by cohorts (%)

CROATIA



GREECE



Birth cohorts 1950-1959 Birth cohorts 1960-1969 Birth cohorts 1970-1979
Birth cohorts 1980-1989 Birth cohorts 1990-1999

Institute of Public Finance

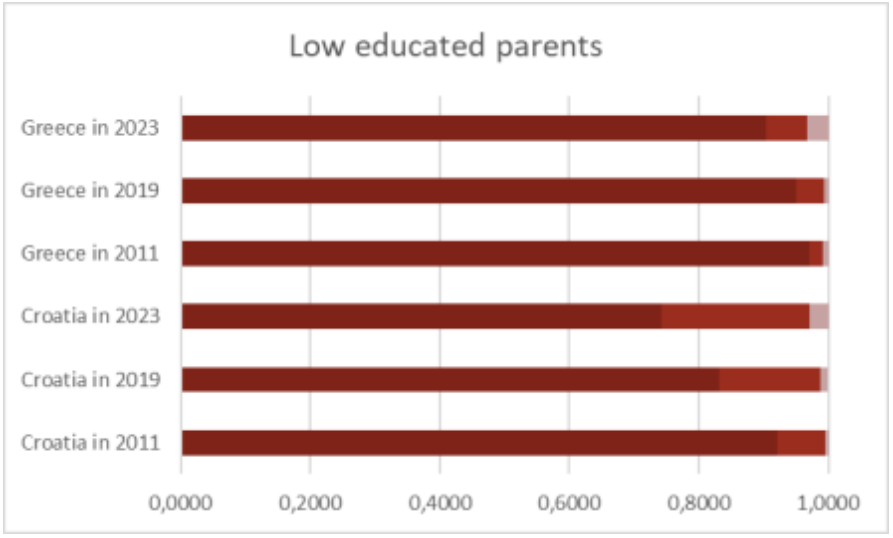
Results – Intergenerational educational mobility (2)

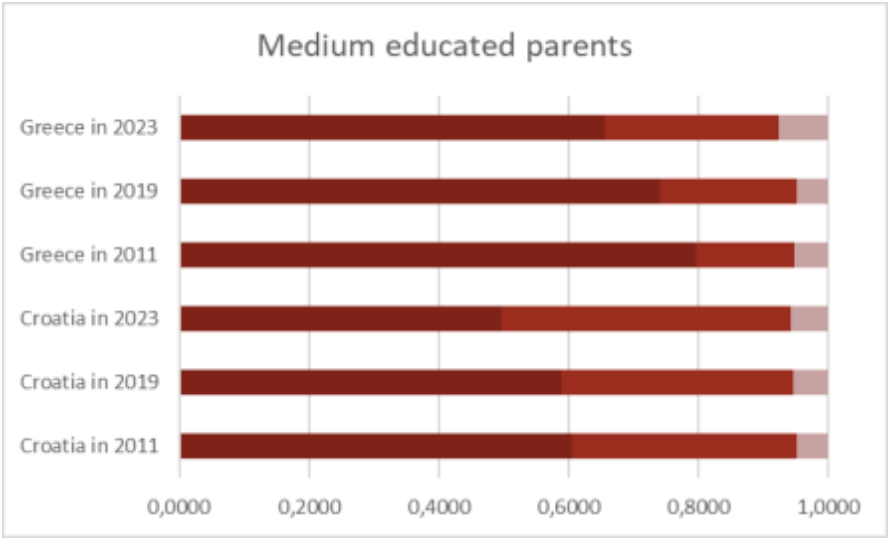
Probability ratios of relative (dis)advantage- educational inequalities by cohort

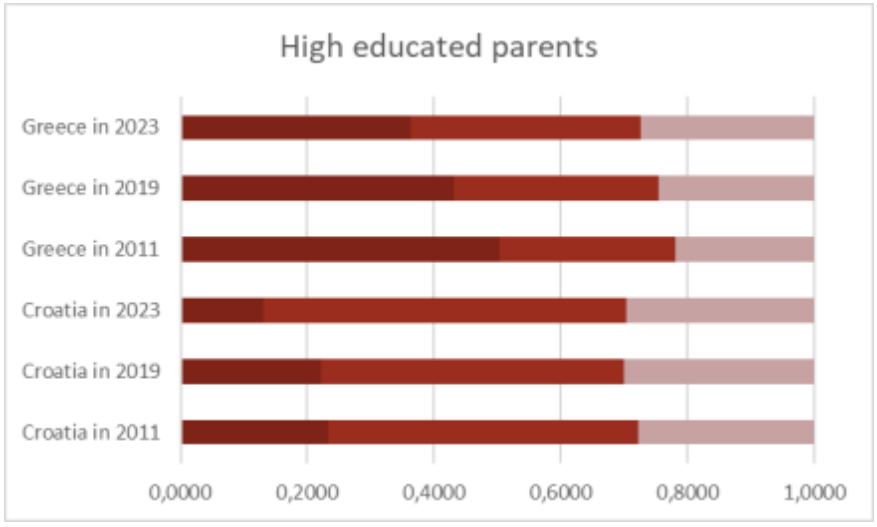
	Odds ratios for both genders	Odds ratios for Sons	Odds ratios for Daughters
Croatia 50-59	8.72	8.26	9.19
Croatia 60-69	9.81	8.22	11.5
Croatia 70-79	7.37	6.85	8.12
Croatia 80-89	5.61	5.83	6.42
Croatia 90-99	3.83	4.51	3.64
Greece 50-59	8.43	12.3	6.89
Greece 60-69	6.77	7.59	6.13
Greece 70-79	6.53	7.46	5.81
Greece 80-89	5.79	5.82	6.27
Greece 90-99	4.23	4.82	3.85

Results – Intergenerational educational mobility (3)

The transition probabilities of people originated from different educational backgrounds, by country and ad-hoc module 2011, 2019 and 2023





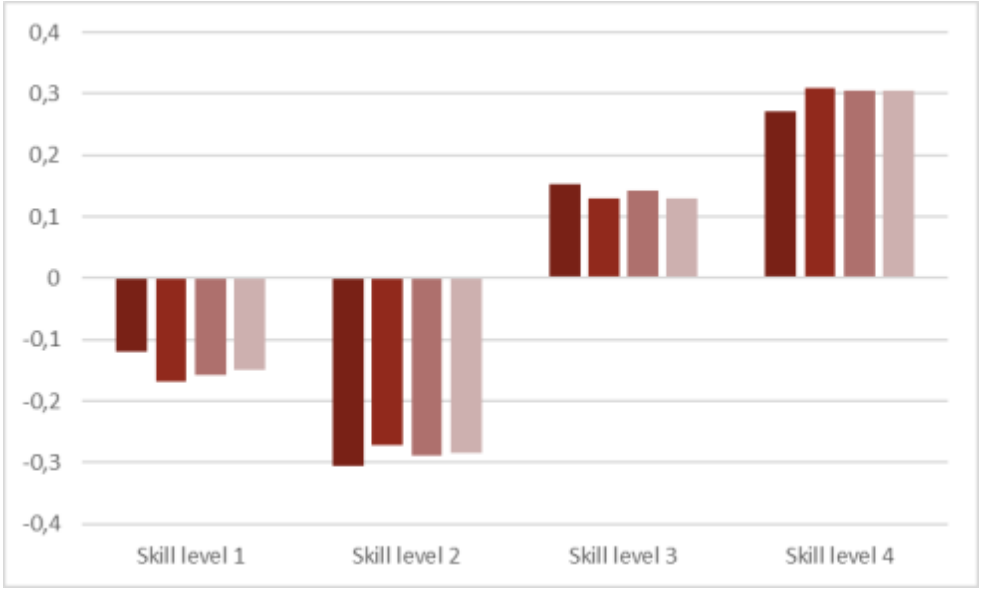


Institute of Public Finance

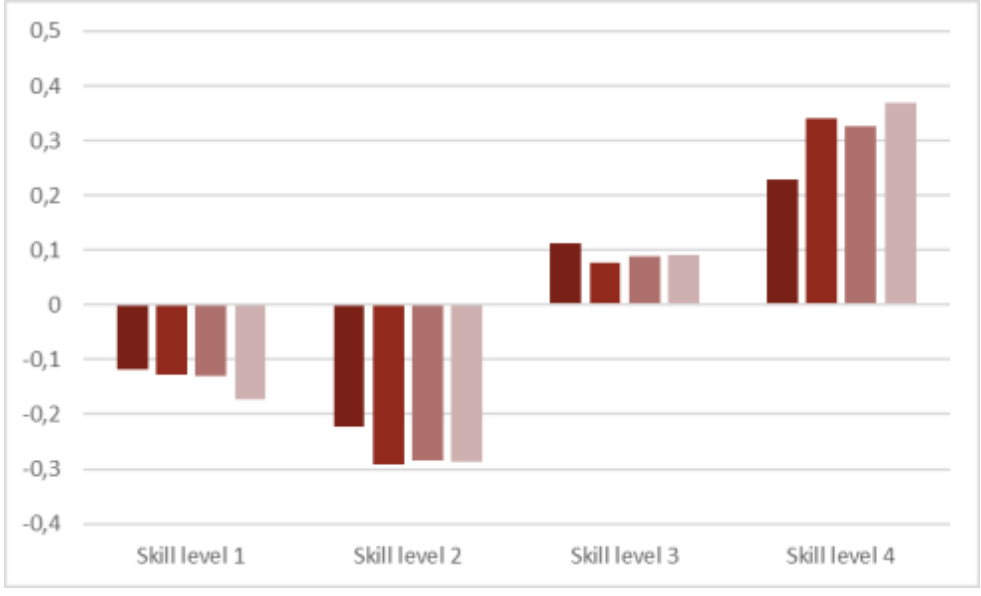
Results – Intergenerational occupational mobility (1)

Ordered logit model: The marginal effects of highest parental class on the probability of offspring's' class

CROATIA



GREECE



Birth cohorts 1950-1959 Birth cohorts 1960-1969

Birth cohorts 1970-1979 Birth cohorts 1980-1989

Institute of Public Finance

Results – Intergenerational occupational mobility (2)

Multiple logit model: Determinants of occupational mobility (marginal effects)
The role of education in occupational mobility

	Croatia			Greece		
	Downward	Immobility	Upward	Downward	Immobility	Upward
Age	-0.003***	-0.002*	0.005***	-0.001*	-0.003***	0.004**
	(0.0001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Gender(female)	0.120	0.029*	-0.041***	0.054***	-0.067***	0.013
	(0.010)	(0.012)	(0.012)	(0.005)	(0.009)	(0.008)
Educational level						
Upper secondary education	-0.186*	0.092	0.094	-0.095***	-0.005	0.100***
	(0.089)	(0.086)	(0.070)	(0.011)	(0.013)	(0.008)
Higher education	-0.275***	-0.067	0.342***	-0.142***	-0.287***	0.430***
	(0.089)	(0.087	(0.071)	(0.012)	(0.015)	(0.011)
Marital status (married)	-0.068***	-0.005	0.074***	0.034***	-0.001	0.035***
	(0.011)	(0.014)	(0.014)	(0.060)	(0.010)	(0.009)
Citizenship (Native)	-0.021	0.458	-0.023	-0.106***	0.033	0.073***
	(0.069)	(0.088)	(0.084)	(0.010)	(0.022)	(0.022)
Birth cohorts after 70s	-0.015	0.001	0.015	0.011	-0.036*	0.024
	(0.019)	(0.020)	(0.023)	(0.011)	(0.016)	(0.015)
Number of siblings	-0.070	0.007	0.001	0.003	0.010*	-0.014***
	(0.004)	(0.005)	(0.001)	(0.002)	(0.004)	(0.004)
Urbanization (cities)	0.055***	0.026*	-0.081***	0.017**	-0.030***	0.012
	(0.130)	(0.017)	(0.017)	(0.007)	(0.010)	(0.009)
Obs		6156			11734	

The symbols *, ** and *** denote statistical significance at 10%, 5% and 1%.

Robust standard errors in parentheses.

Institute of Public Finance

Discussion

Croatia and Greece presented high social mobility in terms of educational mobility in the past, but the results indicate high persistence in terms of intergenerational occupational mobility.

Educational mobility – similar findings in Croatia and Greece

- Decrease in upward mobility rates and increase in downward mobility and immobility rates
- Trends are more favorable for women
- Improvements in the access to tertiary education
- Formal educational expansion is not enough to eliminate inequalities if this is not accompanied by policies offsetting the families' background deficits.

Occupational mobility

- The parental skill level status continues to determine the descendants' status significantly and the possibilities to belong to highest occupational classes. This is a signal that the family background continues to shape the occupational future of the child. This is problematic because it is tied to well-paying or low-paying jobs.
- Higher educational levels increase the probability of upward occupational mobility
- Differences in Croatia and Greece: impact of gender, impact of marriage on downward mobility, level of urbanization

Beyond the overall analysis, policies implications are an intriguing puzzle and the suggestions are far from being self-evident.

Exploring Future Research Directions in Education and Social Mobility

Further research is needed to explore the long-term impacts of educational policies on social mobility trends in both countries.	Investigate socio-economic factors	Comparative studies with other Southeast European countries could enhance understanding of regional mobility dynamics.	Develop metrics for educational reforms
Long-term impacts of educational policies	Investigating the effects of socio-economic factors on educational access will provide insights for targeted interventions.	Conduct comparative studies	Developing metrics to assess the effectiveness of educational reforms in promoting social mobility is crucial for future policy decisions.

References

- Anastasiadou, S. D., Batiou, V., & Valkanos, E. (2015). Occupational Mobility Dimensions in Greece. Procedia Economics and Finance, 19(15), 325–331.
- Bisello, M., Maccarrone, V., & Fernández-Macías, E. (2020). Occupational mobility, employment transitions and job quality in Europe: The impact of the Great Recession. Economic and Industrial Democracy, 1–27.
- Blanden, J., Haveman, R., Smeeding, T., & Wilson, K. (2011). Understanding the Mechanisms behind Intergenerational Persistence: A Comparison Between the United States and Great Britain. In Persistence, Privilege, and Parenting: The Comparative Study of Intergenerational Mobility (pp. 169-194). Russell Sage Foundation Publications.
- Corak, M., Lindquist, M.J. and Mazumder, B. (2014). A comparison of upward and downward intergenerational mobility in Canada, Sweden and the United States. Labour Economics, 30, pp. 185-200.
- De Gregorio, J., and L. Jong–Wha. (2003). Education and Income Inequality: New evidence from Cross-Country Data. Review of Income and Wealth, 48(3): 395–416.
- Erdsiek, D. (2021). Dynamics of overqualification: evidence from the early career of graduates. Education Economics. 29. 1-29.
- Eurofound. (2017). Social mobility in the EU. Publications Office of the European Union, Luxembourg.
- International Labour Office. (2012). International Standard Classification of Occupations Structure, group definitions and correspondence tables. International Labour Office, Geneva.
- McGuinness, S., Bergin, A., & Whelan, A. (2018) Overeducation in Europe: trends, convergence, and drivers, Oxford Economic Papers, Volume 70, Issue 4, 994–1015.
- Lochner, L. (2004). Education, work and, crime: A human capital approach. International Economic Review, 45(3).
- OECD. (2018). A Broken Social Elevator? How to Promote Social Mobility. OECD Publishing, Paris.
- Pohlig, M. (2021). Occupational mobility in Europe during the crisis: Did the social elevator break? Research in Social Stratification and Mobility, 72(April 2019), 1–16.
- Plewis, I., & Bartley, M. (2014). Intra-generational social mobility and educational qualifications. Research in Social Stratification and Mobility, 36, 1–11.
- Ross, C., and C. Wu. (1995). The Links Between Education and Health. American Sociological Review, 60(2): 719–745.
- Sicherman, N. (1991). Overeducation" in the labour market. Journal of Labour Economics, 9(2), 101–122.
- Symeonaki, M., Stamatopoulou, G., & Michalopoulou, C. (2016). Intergenerational educational mobility in Greece: Transitions and social distances. Communications in Statistics - Theory and Methods, 45(6), 1710–1722.
- Symeonaki, M., & Stamatopoulou, G. (2020). On the Measurement of Positive Labour Market Mobility. SAGE Open, 10(3).