The influence of education on social mobility in Croatia and Greece: a comparative analysis

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Abstract

This paper explores social mobility in Greece and Croatia among individuals born between 1950-2000, focusing on the role of education in occupational and educational mobility. We draw information on both dimensions from the European Union Statistics on Income and Living Conditions (EU-SILC) survey. When intergenerational educational mobility is examined our findings show a downward trend of upward mobility with the outcomes being better for women in both countries. They also suggest that individuals whose parents have a low level of education are significantly less likely to complete tertiary education than those whose parents have higher levels of education. Exploring intergenerational occupational mobility as an indicator of relative mobility reveals a growing persistence of the influence of parental occupational status on children's outcomes. Although the influence of education is slightly stronger in Greece, higher educational levels increase the probability of upward occupational mobility in both countries.

Keywords: social mobility, educational mobility, intergenerational occupational mobility, human capital, Croatia, Greece

1 INTRODUCTION

Social mobility is movement within the social hierarchy as people have the possibility to change their class. Groups can be defined according to income or occupational/educational/social status. An open society provides opportunities for its citizens to move upward, while social mobility can also lead in the opposite direction for those who lack the capabilities to maintain their status. Intergenerational mobility is often defined by the degree to which the status of parents is transmitted to their descendants. It is an indicator of equality in opportunities for success in a society (Aydemir and Yazici, 2019; Wilkinson and Pickett, 2010). According to Council of Europe (2012) social mobility is linked to social cohesion. The expectations and aspirations of different generations that their life's outcomes are associated not only with the socio-economic background but, and mainly, with their efforts and merit, can reinforce the sense of justice in a state (Fields and Ok, 1999; Yang and Qiu, 2016). The prospects of social mobility, which affect economic and political evolution, are hidden behind the salient pattern of intergenerational educational attainments (Torul and Oztunali, 2017).

A researcher into social mobility must clarify the question: social mobility in terms of what? Research into social mobility over time includes economic, educational and occupational elements. To understand the real opportunities and barriers to mobility in a country, it is essential to study these data historically. It is also important to investigate the different dimensions of mobility, for two reasons. Firstly, they may show different trends in social mobility depending on which element the researcher is taking into account while individuals experience absolute and relative changes subjectively. Secondly, in order to prevent the social reproduction of inequalities of opportunities in all dimensions, it is necessary to present the whole picture of social mobility. Each dimension of social mobility can reveal

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different aspects of this issue within a country and lead to analogous conclusions and policy suggestions. Eurofound (2017) underlines the necessity of considering additional indicators of social mobility beyond income to better measure equality of opportunity. To our knowledge, limited research has been conducted regarding these topics in the countries of Southeast Europe.

Motivated by the lack of evidence on intergenerational mobility in Greece and Croatia, we investigate the situation in both countries for birth cohorts after 1950. Over the past decades, both countries have undergone tremendous changes, including their integration into the European Union. Exploring social mobility in Greece and Croatia simultaneously could be valuable for several reasons. The two countries transitioned from different political and economic systems (Greece from a state-interventionist democracy to a Western-style economy, Croatia from the Yugoslav socialist economy to a mixed economy) and faced significant restructuring. Comparing them could reveal insights into how different paths affected social mobility and provide a comparative analysis of post-transition economies. Both countries are EU members but joined at different times (Greece in 1981, Croatia in 2013). In addition, they have struggled with similar challenges in economic development (high unemployment, reliance on tourism, and slow industrial growth). In terms of mobility and the role of education, Croatia and Greece have strong educational traditions but suffer from brain drain. Cultural and social structures like family networks and informal support systems play a big role in the opportunities of the citizens in Balkan countries. Finally, both countries experience significant internal regional disparities (Athens vs. rural Greece; coastal vs. inland Croatia). Studying social mobility in these contexts could reveal patterns and opportunities related to it.

The aim of this study is to investigate the social mobility in Southeast Europe by comparing Croatia and Greece (going back in the past as far as reliable data sources allow). The major research questions are to examine how educational attainment impacts two dimensions of social mobility (intergenerational educational and occupational mobility) and what lessons can be drawn from these findings for similar countries. In addition, in what ways have educational policies in Croatia and Greece influenced social mobility patterns over the previous decades? The intention is to explore whether social mobility follows specific patterns across these dimensions and to identify the barriers to social mobility. We employ three rounds of the European Union Statistics on Income and Living Conditions (EU-SILC) household survey conducted by Eurostat in 2011, 2019 and 2023.

The rest of the paper is organised as follows. In section 2, we review the literature on the measures of mobility, the challenges in measuring it, and its determinants. In section 3 we describe the educational background and occupational changes in both countries. Sections 4 and 5 discuss the data and methodology used in our analysis. Section 6 presents the main findings for all dimensions. Section 7 provides discussion before the main findings are concluded.

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2 RELATED LITERATURE

Intragenerational mobility indicates changes in an individual's social class within the span of their lifetime, while intergenerational mobility compares their status to that of their parents, reflecting changes between two generations. Both types of studies require at least two observations over time. The most common standard measure of income mobility is intergenerational earnings elasticity – IGE (Björklund and Jäntti, 1997; Blanden, 2015; Corak, Lindquist and Mazumder, 2014). Comparing the earnings of parents and children allows us to compute the extent to which the latter's income depends on that of the first. However, the challenges/restrictions in the measurement of IGE make the other dimensions (educational and occupational mobility) more reliable in terms of unbiased estimations.

Educational mobility is defined as an improvement in educational achievements during the lifetime of a person or among different cohorts due to the explosion of education. Intergenerational mobility/persistence in education corresponds to the trajectories from the preceding generation to the next generation. It is seen in the transmission of parental educational attainment to their offspring (Symeonaki, Stamatopoulou and Michalopoulou, 2016). High mobility in education indicates that everyone, regardless of their family background, has a fair chance of attaining a high level of education. In addition, educational attainment is the main predictor of income inequality (De Gregorio and Jong-Wha, 2003), as well as non-pecuniary outcomes such as health (Ross and Wu, 1995) and crime (Lochner, 2004). Affluent parents can invest more in the education of their offspring. As a result, educational attainment can maintain the status quo in society (Hout and DiPrete, 2006). Therefore, understanding this mobility and its mechanisms helps us to design policies that achieve greater income equality and success (Wilson, Timothy and Haveman, 2008). An open and mobile society should set itself the target of an egalitarian system in education (Daouli, Demoussis and Giannakopoulos, 2010). Moreover, certain occupations require specific qualifications. A person who as a result of low educational mobility does not receive an education similar to or better than that of his (her) parents has little opportunity to move up the occupational ladder.

Measures of educational attainment are often questioned. Essentially, we can measure attainment either by the number of years of schooling or the highest degree (or qualifications). Both present pros and cons. The former can be treated as a continuous variable which is useful in the regression analysis. However, the return on each year spent in school differs. It is important to precisely measure the impact of each additional year on returns to education. Measurement based on degrees obtained is a categorical variable, but it has its own problems due to the large heterogeneity across different degrees in terms of cost, duration, and prestige. It also cannot distinguish between qualifications of the same level that require different years of schooling (Aydemir and Yazici, 2019). For instance, a bachelor's degree in medicine requires at least 6 years of studying in Greece, compared to 4

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years for a bachelor's degree in economics or 5 years for architecture. Similarly in Croatia, it takes at least 6 years of studying to become a doctor of medicine followed by many more years of education in order to specialize in a specific field of medicine, compared to 3 years of studying to earn a bachelor's degree and 5 years to complete a master's degree in economics. These merits motivated academics to use both when all information can be extracted from a database. Different segments along the educational distribution may present different degrees of persistence because coefficients summarize the dependence on average. Marital sorting and the highest level of schooling in a couple as an indicator of family origin is often used for determining the background of a child (Wilson, Timothy and Haveman, 2008). Educational measures of intergenerational mobility are more reliable and comparable than income-based approaches. Therefore, research in this field can follow commonly accepted methodological standards.

Intergenerational occupational mobility presents the occupational class of children compared to that of their parents. It is important to check whether it is obtained through personal efforts, skills and achievements or inherited from the occupational background of their family (OECD, 2018). Gender differences play an important role in this aspect of mobility, as they inform us about the extent to which societies provide equal opportunities for men and women and assess whether women are able to achieve upward mobility in their careers. The economic impact of these disparities is the utilization of the full human capital potential, because if women face barriers to upward mobility, it can hinder growth and lead to economic inefficiencies. The variation of mobility between sons and daughters in the same country emerges from the hypothesis that parents make different decisions about individual children and these affect the educational investments or support. A general pattern among the OECD countries shows a slightly higher absolute mobility for sons.

In order to obtain results that are comparable with similar studies and other countries, it is essential to follow a detailed occupational classification and avoid restrictions of differentiating codes. This approach typically reveals that the majority of people end up in a different occupational class than their parents but in similar skill levels, while immobility is predominant. Cross-country studies have shown that there is a deviation in socio-economic advantage with Nordic countries presenting the highest mobility indicators (Pohlig, 2021). OECD (2018) found greater persistence at the top of the occupational distribution and notable gender differences, with daughters being more influenced by their parents and exhibiting lower mobility. One disadvantage of other approaches to measuring social mobility, which consider levels of earnings and education, is the difficulty in making robust comparisons between countries and over time due to the high dependence on the timing of data collection. Intergenerational occupational mobility seems to be more stable indicator.

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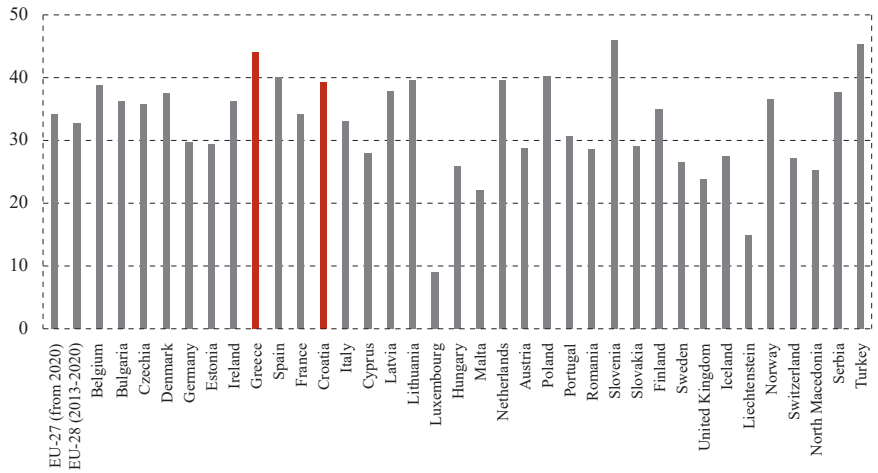
3 THE BACKGROUND OF EDUCATION IN BOTH COUNTRIES AND THE OCCUPATIONAL CHANGES

From the mid-60s, in Greece education was the key mechanism through which policymakers tried to achieve greater social mobility and fairness. Educational equality was introduced in the 1964 reform, when free education was extended to many levels. Unfortunately, the dictatorship put an end to the reforms in 1967. After the stabilization of democracy in 1974, the nine-year compulsory education was voted in again, accompanied by the increase in the number of university departments in all regions, this expansion really taking off in the 80s. Upper secondary education remained optional. Moreover, the division of secondary into general and vocational was introduced (Symeonaki, Stamatopoulou and Michalopoulou, 2016). It was clear that these reforms had a significant impact on our respondents born from 1960 to 1980. Unprecedented enrolments in tertiary education nearly doubled after the 80s. The country, as an EU member, signed the Lisbon Strategy launched by the European Council in 2000, committing to an increase in the opportunities for participating in all levels of education for all citizens.

The education system in Croatia begins with nurseries and preschools, with preschool being compulsory for children a year before they start school, ever since 2014. At the age of six and a half or over, children must take part in compulsory elementary education lasting for eight years since the 1958 reform. After completing elementary education, they may continue to non-obligatory secondary education choosing either gymnasiums, vocational or art schools. Both elementary and secondary education are free in Croatia. In order to enter the higher education system, since 2010, it has been necessary to pass the state graduation exams, similarly to Greece. Higher education is provided through universities and professional studies, both which are aligned with the requirements of the Bologna process that was introduced in 2005 (Ministry of Science, Education and Youth, 2005).

FIGURE 1

Students in tertiary education (share of population aged 20-24)



Source: UNESCO Institute for Statistics (uis.unesco.org). Data as of September 2020.

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As education is the main mechanism of social mobility, it is essential to identify some similarities between Greece and Croatia. Based on the European Commission's report (Canzonieri and Giamboni, 2024) on efficiency of public expenditure in education, European Union countries have increased their efficiency in the recent years. Greece and Croatia stand out as top performers in the EU. Efficiency scores related to tertiary educational attainment and tertiary education expenditure per student show improvements in both countries, scoring above 90% in Croatia and above 100% in Greece in 2022, compared to around 50% in both countries in 2008. Overall changes in the efficiency of education spending in the period 2006-2022, according to the Malmquist index, place Croatia and Greece among the seven EU countries that have improved their efficiency the most. As reported by UNESCO Institute for Statistics[1], Greece shows the highest gross enrolment ratio in tertiary education (142%). The average ratio in the EU is 71% and only 39% worldwide. Along similar lines, Croatia shows a gross enrolment ratio in tertiary education of 81%, which is above the EU average. In the last two decades, Greece and Croatia show constantly higher enrolment rates in tertiary education than other European countries (figure 1).

The post-modernization era created different compositions of occupations. For instance, Greece witnessed a decline of 29% in the number of farmers from previous generations and an increase in heavy industry jobs. The delay in industrialization suggests that Greece was not corresponding through all the cycles of modernization. Economic activity has been transferred from the primary sector to services. This expansion, particularly after Greece joined the EU, combined with urbanization, facilitated the absorption of women into tertiary employment, replacing many services formerly provided within the household (Anastasiadou, Batiou and Valkanos, 2015; Nicolitsas, 2006). Over the past three decades, Croatia has undergone several major transitions that have led to significant changes in its social, political, and economic landscape. These changes started happening after the Homeland War, followed by a period of transition characterized by a process of social diversification, resulting in even deeper social stratification and the virtual disappearance of a middle class. The transition process also included a transformation from social to private ownership and from a one-party to a multi-party-political system (Doolan, Puzić and Baranović, 2018) as well as a change from an agrarian to an industrial society followed by urbanization and changes in the structure of households (Potočnik, 2012). This caused a transfer of workforce from manual to non-manual occupations, leading to an increased employment in secondary and tertiary sectors. It meant that the share of employment in agriculture decreased (from 20% to 7%) as well as in the industrial sector, while it grew in the service sector from 50% to around 70%. Since the 1990s, Croatian women's participation in the labour force also grew with greater involvement in the service sector and rising educational attainment. The most recent changes Croatia has gone through include entering the European Union (2013) and the Eurozone (2023).

[1] According to UNESCO the definition of Gross enrolment ratio is "the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Differences between the gross enrollment ratio and the net enrollment rate show the incidence of over-age and under-age enrollments."

External shocks like a crisis, or political decisions like accession to the European Union, may change the trends of social mobility through the new policies applied. The way in which economic and political shocks are reflected in the process of intergenerational social mobility depends on the individual characteristic of a country. Cross-national evidence indicates that higher intergenerational mobility is positively associated with both stronger institutional quality and higher GDP per capita, suggesting that the promotion of mobility is not only socially but also economically advantageous (Bešić, 2023). This supports the view that improving social mobility is not merely an equity issue, but a structural driver of long-term economic performance and democratic stability.

4 DATA AND LIMITATIONS

Our analysis is based on three special ad-hoc modules (2011, 2019, and 2023) on the intergenerational transmission of disadvantages from the European Union Statistics on Income and Living Conditions (EU-SILC) household survey, compiled by Eurostat. These ad-hoc modules provide data on the respondents and their parents as well as retrospective information about the respondents at the age of 14. We restrict the sample to people over the age of 30 with information about parental education. Our assumption is that people have completed tertiary education or the highest level of education at the age of 30 and have started establishing their career. After removing the respondents with missing parental information, our final sample consists of 52,406 parent-child pairs for the educational dimension and 36,496 observations for the occupational approach. The descriptive statistics and national distributions of respondents and their parents across the three modules are exhibited in tables A1 and A2 in the appendix.

The EU-SILC dataset used the International Standard Classification of Occupations (ISCO-08) to describe the occupation of the respondents and their family members. The nine occupational classes are shown below (table 1). Our purpose is to exploit all the available information of the survey so as to compile a hierarchical occupational classification. Following the group definitions of International Labor Office, they arrange occupations in skilled groups[2] as the second column in table 1 presents (ILO, 2012). Hospitality managers belong in skill level 3, while other types of managers belong in skill level 4. In terms of mobility, this interprets mobility from managers to technicians and associates as "downward" and mobility from hospitality managers to professionals as "immobility". Regarding the armed forces, we chose to exclude them. Pohlig (2021) coded all soldiers as skill level 1 as there are fewer officers than ordinary soldiers and this likely produces fewer classification errors. To keep the educational attainments consistent between the generations, we create a dummy variable for educational background corresponding to 3 educational levels: primary or lower education; lower and upper secondary education; tertiary education[3].

[2] Definition of skill levels: "The nature of the work performed in an occupation with respect to the characteristic tasks and duties defined for each ISCO-08 level. The level of formal education required for the competent execution of the relevant tasks. The amount of informal on-the-job training and/or prior experience in a related position necessary for the competent performance of duties."

[3] EU-SILC survey provides information for 3 educational levels regarding the parental educational background.

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Table 1

Mapping of ISCO-08 groups to skill levels and skill levels to education

ISCO-08 major groups	Skill level	Levels of education (ISCED-97)
1. Managers, senior officials and legislators	3-4	Second stage of tertiary (leading to an advanced research qualification) First stage of tertiary, first degree (medium duration)
2. Professionals		
3. Technicians and associate professionals	3	First stage of tertiary education (short or medium duration)
4. Clerks	2	Post-secondary, non-tertiary education Upper secondary level Lower secondary level
5. Service and sales workers		
6. Skilled agricultural and fishery workers		
7. Craft and related trades workers		
8. Plant and machine operators, and assemblers		
9. Elementary occupations	1	Primary level

Source: Prepared by the authors based on ILO, 2012.

Although it seems inevitable that some kind of classification error will be made, the key is consistency in coding the data over time when studying mobility. To address the problem of life-cycle fluctuations, we consider the occupation and highest educational level of a person when she/he is in her/his productive years. In both countries, we keep adults between 30-60 years old for both dimensions.

5 METHODOLOGY

5.1 EDUCATIONAL MOBILITY

To examine whether educational mobility changes over time in Greece and Croatia, absolute measures will be used. Due to the lack of information about the years of schooling, the highest level of attainment for parents and offspring will be the base of our analysis, imposing analogous measurement approaches (Symeonaki, Stamatopoulou and Michalopoulou, 2016). Absolute mobility indices measure the total number of children who surpass the educational level of their parents (upward mobility) or show lower educational attainments (downward mobility) or reach the same educational outcome (immobility). The sum of the previous ratios is equal to one.

In order to explore potential changes in educational inequalities over a long period, we estimate **conditional probability ratio** (as the educational opportunities reflected in the probability of completing a specific educational level). Equality of educational opportunity is estimated by the probability that descendants born into families with less educated parents (1st or 2nd educational category) will attain tertiary education, compared to the probability of those with the highest parental background (tertiary education) reaching the same level. The conditional probability ratio chosen to determine the inequalities in Croatia and Greece for tertiary education is:

$$Ratio = Pr(ChEd=3|P=3)/Pr(ChEd=3|P\neq 3) \quad (1)$$

A higher number indicates unequal opportunities, while a number close to 1 suggests equal chances regardless of their family's educational background.

5.2 INTERGENERATIONAL OCCUPATIONAL MOBILITY

We use an ordered logit model[4] to explore the effect of parental skill level on children's skill level of occupation. It is an index model for a single latent variable y^* (which is unobservable, we only know when it crosses thresholds). In this model, the outcome is determined by the propensity y^* (Plewis and Bartley, 2014).

$$y^* = \beta^* X + u \quad (2)$$

The dependent variable has 4 categories/alternatives: skill levels of children. The explanatory variables are the highest skill level of the parents, the gender and the age of the offspring. There will be one set of coefficients with three intercepts. There will be four sets of marginal effects, one for each occupational category.

Finally, we aim to capture the determinants of intergenerational occupational mobility and the influence of education on that dimension of mobility. We estimate a multinomial logit model in regards to upward and downward mobility. We define three possible states: not mobile, upwardly (if Skill level of child > Skill level of parent) and downwardly mobile (if Skill level of child < Skill level of parent) following a model suggested by Ruiz (2016).

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

$$\log[\frac{\pi_m}{\pi_M}]\, m = 1. . .M-1 \quad (3)$$

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

6 RESULTS

6.1 INTERGENERATIONAL EDUCATIONAL MOBILITY

Table 2 outlines the educational mobility rates, showing the percentage of children with educational level higher (upwardly mobile), lower (downwardly mobile) than or the same (immobile) as the educational level of their parents. In both countries, there is a downward trend in upward mobility, especially noticeable in Croatia. 70.8% of individuals born between 1950-1959 in Croatia and 59.5% of the ones born in Greece, achieved a higher level of education than to their parents, while for the youngest

[4] An ordered logit $\log[\sum_{i=1}^{m} \frac{\pi_i}{(1-\sum_{i=1}^{m}\pi_i)}]$, m = 1. . .M − 1 (1). M is the highest category (M = 4) and π is the probability of being in category i.

cohort studied, only 40.7% of individuals in Croatia and 47.9% in Greece managed to surpass their parents. The highest percentage of upward mobility in Greece was observed for the birth cohorts 1970-1979, which can be explained by the significant efforts of policymakers in the mid-60s, who used education as a means of increasing social mobility. A possible explanation for the decrease in upward mobility in Croatia is that older generations experienced significant social and economic changes, which resulted in them surpassing the educational levels of their parents. This left less room for their children to move up, resulting in lower percentages of upward mobility as well as the higher immobility rates among younger generations. If the available data allow for a more granular classification of educational attainment, the observed trends – particularly concerning the lower upward mobility of younger cohorts – may slightly differ from the previous patterns. Nevertheless, upward mobility rates are significantly higher than downward mobility rates, which have slightly increased in both countries.

Comparing mobility rates between men and women (tables A3 and A4 in appendix) in Croatia, the trend in educational mobility is similar for both genders. Specifically, there has been an increase in immobility and downward mobility rates, alongside a decrease in upward mobility for both men and women. However, the changes over time are more favourable for women, as upward mobility rates have been higher for women starting with the 1960s birth cohort. On the other hand, in a comparison of genders in Greece, while men's mobility rates follow a similar trend to those observed in Croatia, female patterns differ – particularly in terms of immobility and upward mobility. Since the 1970s birth cohort, women's upward mobility rates have been higher than men's.

Table 2

Absolute mobility indices

Birth cohorts of children	Immobility	Upward	Downward	Observations
		Croatia		
1950-1959	0.269	0.708	0.024	2,438
1960-1969	0.273	0.700	0.028	7,262
1970-1979	0.403	0.547	0.050	6,308
1980-1989	0.492	0.450	0.059	4,353
1990-1999	0.516	0.407	0.077	1,855
		Greece		
1950-1959	0.386	0.595	0.020	1,931
1960-1969	0.310	0.659	0.031	9,880
1970-1979	0.287	0.674	0.039	9,615
1980-1989	0.339	0.615	0.046	6,477
1990-1999	0.440	0.479	0.081	2,287

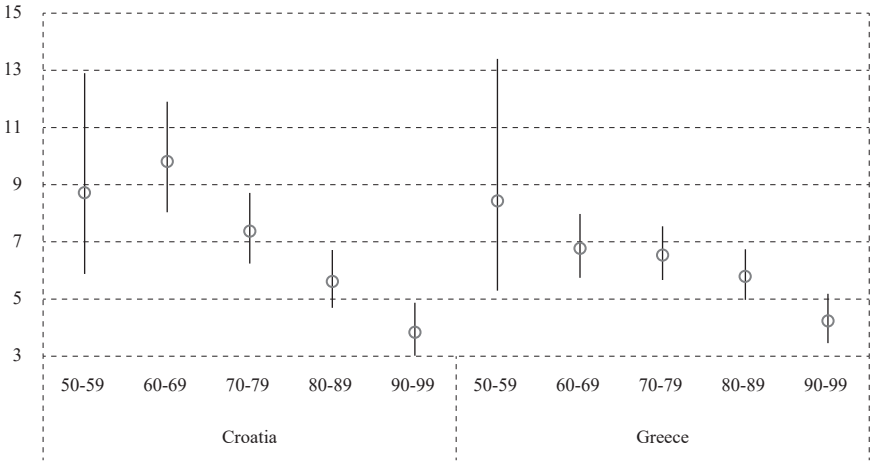
Source: Authors' own calculations based on the EU-SILC data.

Table A5 in the appendix and figure 2 present the probability ratios of completing tertiary education. In Croatia, older birth cohorts show higher odds ratios, indicating greater inequality in educational opportunities among those cohorts. In the

youngest cohort, a child whose parent has a tertiary degree has 3.83 times greater chances of attaining that level of education than a child whose parent has a primary or lower level of education, whereas for individuals born in the 1960s those chances are 9.81. The trend is the same in Greece, with the highest ratio of 8.43 for people born in the 50s and the lowest ratio of 4.23 for the youngest cohort. A gender-based comparison may indicate greater gender equality in Greece compared to Croatia, given that in Croatia, women exhibit higher odds ratios than men in all but the youngest cohort, while the reverse pattern is seen in Greece. Therefore, these results confirm that the changes have been more favourable for women, as in the youngest cohort in both countries, women are more likely to attend tertiary education regardless of the family educational background.

FIGURE 2

Probability ratios (with 95% confidence intervals) of educational inequalities by birth cohort

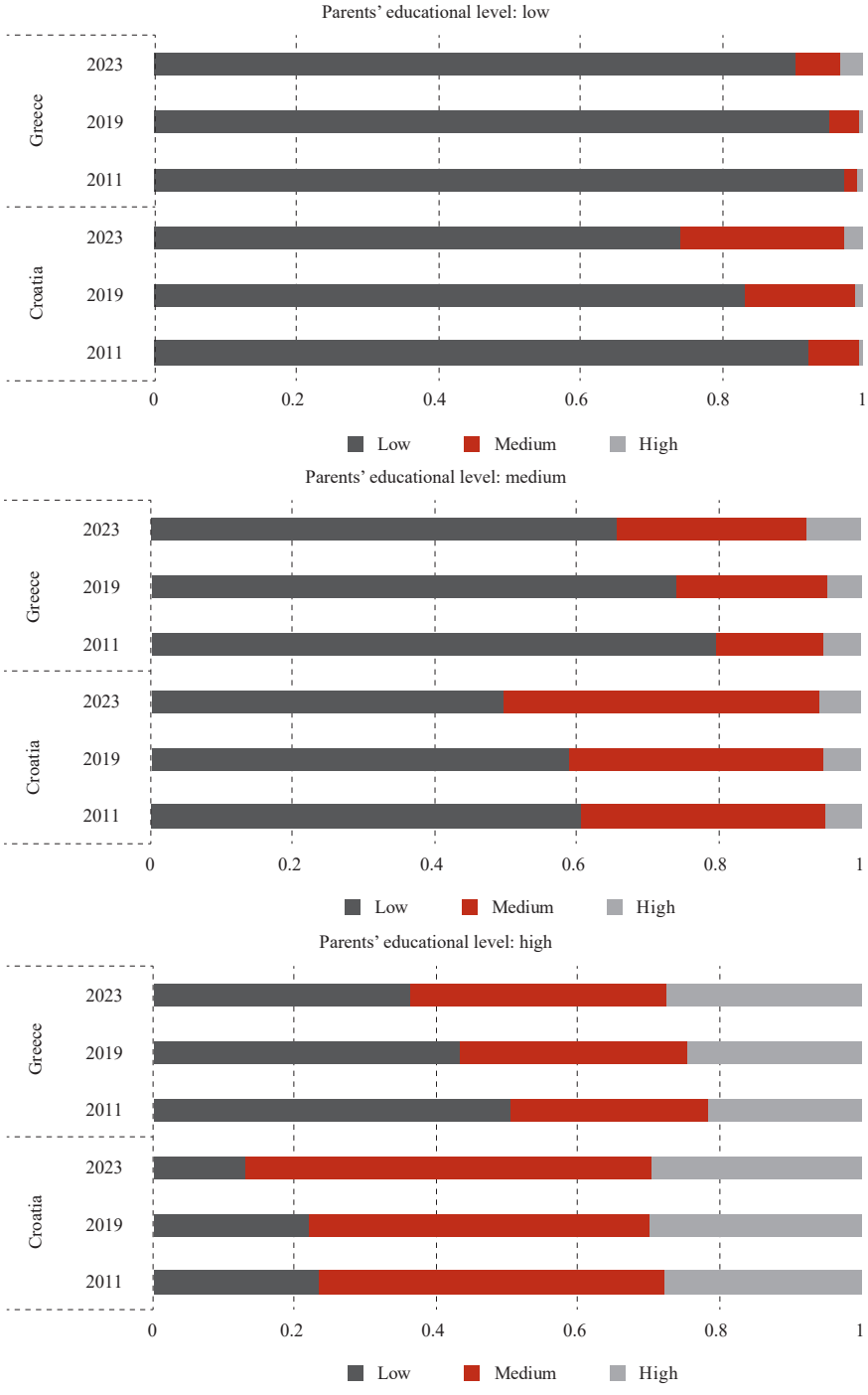


Source: Prepared by authors based on the EU-SILC data.

As a robustness check, tables A6 and A7 in the appendix present the absolute mobility indices per ad-hoc module to verify that the reported results are not influenced by differences across the observed surveys. The results can be interpreted as reflecting average movements in transition matrices and average mobility rates as well as odds ratios among birth cohorts in both Croatia and Greece. The absolute mobility indices and corresponding odds ratios are very similar across all ad-hoc modules. Both countries show a slight downward trend in upward mobility, accompanied by an opposite trend in downward mobility and immobility rates. The lowest odds ratios occur in the most recent ad-hoc module, suggesting an improvement in the equality of educational opportunities in both countries. Figure 3 provides an overview of the transition probabilities of individuals based on their parents' educational background. It is evident that individuals whose parents have a low level of education are significantly less likely to complete tertiary education than those whose parents have a medium or high level of education. In both countries, there has been an improvement in the equality of access to tertiary education.

FIGURE 3

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



Source: Prepared by authors based on the EU-SILC data.

6.2 INTERGENERATIONAL OCCUPATIONAL MOBILITY

6.2.1 The impact of parent's class on children's class

Tables 3 and 4 present the effects of parental occupational class on their children's class, controlling for the children's age and gender. The marginal effects demonstrate a strong and positive association between parents' and children's occupational skill levels. For the earliest birth cohort (1950-1959) in Croatia, children whose parents belong to the highest occupational skill level are 27.1% more likely to attain the same level themselves, 15.3% more likely to reach level 3, 30.5% less likely to end up in level 2, and 12% less likely to be in level 1 than the reference category (children whose parents worked in skill level 1 occupations). A similar pattern is observed in Greece, where children with parents in level 4 are 22.7% more likely to attain that level, 11.3% more likely to reach level 3, and 22.1% and 11.8% less likely to fall into levels 2 and 1, respectively. This pattern remains consistent across all birth cohorts in both countries.

When comparing the probability of attaining the highest occupational skill level, children of parents in level 4 are far more likely to reach the same level than those whose parents are in the lowest skill group. In Croatia, for example, the likelihood of a child attaining level 4 is 27.1% higher when the parent also belongs to that level, as against only 4.4% when the parent is in level 2 in relation to the reference category. The same trend is evident in Greece. These findings confirm that a higher parental occupational skill level is associated with a greater likelihood of children attaining levels 3 and 4, and a lower likelihood of ending up in levels 1 and 2. Figure 4 shows the trend in occupational mobility in Croatia and Greece. A comparison between the earliest (1950s) and the most recent (1980s) birth cohorts in both countries reveals an increased likelihood that children of parents in the highest occupational skill level also attain the highest level themselves. This suggests growing persistence, as it indicates that the influence of parental occupational status on children's outcomes has strengthened over time.

The effect of gender on children's occupational outcomes appears to be consistent in Croatia and Greece. Women born in the 1950s were more likely to be employed in occupations classified within skill levels 1 and 2. A similar pattern is observed among women born in the 1960s in Croatia. However, for the 1980s cohort, women were more likely to be employed in occupations at skill levels 3 and 4 in both countries, with an additional increase in representation at skill level 2 in Croatia (statistically significant for the 1950s and 1980s birth cohorts in both countries, as well as for the 1960s cohort in Croatia). The effect of age is not statistically significant in most cases, with the exception of the youngest birth cohort in Greece, in which age has a positive effect on the likelihood of being in the highest occupational skill levels, possibly attributed to greater work experience accumulated over time.

TABLE 3

Ordered logit model marginal effects (cohorts 1950-1989) – Croatia

Birth cohort	**1950-1959**				**1960-1969**				**1970-1979**				**1980-1989**			
Skill levels																
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Female	0.015*	0.020*	-0.017*	-0.018*	0.021***	0.017***	-0.016***	-0.021***	0.005	0.008	-0.006	-0.008	-0.038***	0.078***	0.043***	0.073***
	(0.007)	(0.009)	(0.008)	(0.008)	(0.006)	(0.001)	(0.005)	(0.006)	(0.001)	(0.008)	(0.006)	(0.008)	(0.007)	(0.015)	(0.008)	(0.014)
Age	0.001	0.002	-0.002	-0.002	0.001	0.001	-0.001	-0.001	-0.001	-0.001	0.001	0.001	0.001	0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Parental class																
2	-0.058***	-0.034***	0.048***	0.044***	-0.069***	-0.018***	0.042***	0.045***	-0.078***	-0.031***	0.054***	0.055***	-0.075***	-0.036***	0.052***	0.060***
	(0.011)	(0.007)	(0.008)	(0.007)	(0.010)	(0.003)	(0.005)	(0.006)	(0.013)	(0.005)	(0.007)	(0.007)	(0.021)	(0.008)	(0.012)	(0.013)
3	-0.103***	-0.168***	0.121***	0.150***	-0.126***	-0.102***	0.096***	0.132***	-0.128***	-0.137***	0.113***	0.152***	-0.130***	-0.174***	0.114***	0.191***
	(0.012)	(0.029)	(0.014)	(0.024)	(0.011)	(0.016)	(0.009)	(0.016)	(0.013)	(0.020)	(0.011)	(0.018)	(0.021)	(0.027)	(0.015)	(0.027)
4	-0.120***	-0.305***	0.153***	0.271***	-0.168***	-0.271***	0.130***	0.310***	-0.157***	-0.289***	0.143***	0.304***	-0.149***	-0.283***	0.129***	0.304***
	(0.011)	(0.035)	(0.012)	(0.034)	(0.009)	(0.020)	(0.007)	(0.023)	(0.013)	(0.019)	(0.009)	(0.021)	(0.021)	(0.024)	(0.014)	(0.026)
Obs.	2,018				4,436				3,287				1,544			

Source: Authors' own calculations based on the EU-SILC data.

TABLE 4

Ordered logit model marginal effects (cohorts 1950-1989) – Greece

Birth cohort	**1950-1959**				**1960-1969**				**1970-1979**				**1980-1989**			
Skill levels																
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Female	0.044***	0.064***	-0.043***	-0.066***	-0.002	-0.003	0.001	0.004	-0.002	-0.004	0.002	0.004	-0.022***	-0.047***	0.017***	0.052***
	(0.080)	(0.010)	(0.007)	(0.010)	(0.003)	(0.006)	(0.002)	(0.007)	(0.003)	(0.006)	(0.002)	(0.006)	(0.004)	(0.009)	(0.003)	(0.009)
Age	-0.001	-0.001	0.001	0.001	0.001	0.001	-0.001	-0.001	-0.001	-0.001*	0.001	0.001*	-0.001***	-0.003***	0.001***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Parental class																
2	-0.058	-0.026***	0.037*	0.047**	-0.059***	-0.035***	0.030***	0.064***	-0.061***	-0.036***	0.034***	0.063***	-0.109***	-0.037***	0.047***	0.099***
	(0.038)	(0.004)	(0.018)	(0.020)	(0.015)	(0.003)	(0.006)	(0.011)	(0.014)	(0.003)	(0.006)	(0.010)	(0.027)	(0.008)	(0.007)	(0.013)
3	-0.134***	-0.382***	0.118***	0.398***	-0.120***	-0.235***	0.076***	0.278***	-0.119***	-0.211***	0.084***	0.246***	-0.162***	0.212***	0.088***	0.285***
	(0.038)	(0.073)	(0.021)	(0.089)	(0.016)	(0.038)	(0.007)	(0.043)	(0.015)	(0.003)	(0.007)	(0.035)	(0.027)	(0.036)	(0.009)	(0.039)
4	-0.118***	-0.221***	0.113***	0.227***	-0.127***	-0.291***	0.077***	0.340***	-0.129***	- 0.285***	0.088***	0.326***	-0.171***	-0.287***	0.090***	0.368***
	(0.038)	(0.034)	(0.020)	(0.037)	(0.015)	(0.016)	(0.006)	(0.020)	(0.014)	(0.015)	(0.007)	(0.018)	(0.027)	(0.019)	(0.008)	(0.022)
Obs.	1,954				7,945				7,736				4,561			

Source: Authors' own calculations based on the EU-SILC data.

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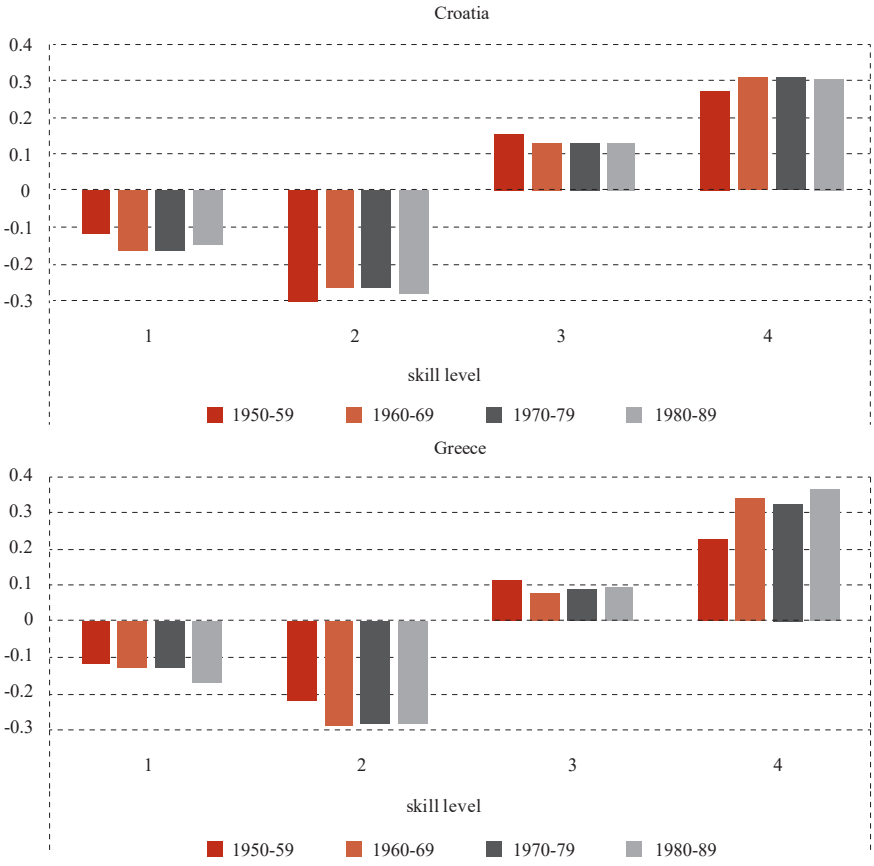
FIGURE 4

The marginal effects of highest parental class on the offspring's class



Source: Prepared by authors based on the EU-SILC data.

6.2.2 Determinants of intergenerational mobility and the role of education

Table 5 presents the possibilities of upward and downward intergenerational occupational movements for the entire sample in both countries. Starting with education, it is evident that higher educational levels increase the probability of upward occupational mobility. Upper secondary education reduces the chance of downward mobility compared to primary education in both countries, while it increases the probabilities for upward mobility but not significantly so in Croatia. Its effect on immobility is small and statistically insignificant in Greece, but slightly positive in Croatia indicating an increasing immobility. Tertiary education has a much stronger impact, positively affecting upward mobility and reducing the chances of experiencing immobility or downward mobility. A university graduate is 34.2% more likely in Croatia and 43% more likely in Greece to experience upward mobility relative to their family occupational background, compared to the reference category of individuals with only primary education. The influence of education is slightly stronger

in Greece, as it increases the likelihood of upward mobility and reduces the probability of immobility to a greater extent than in Croatia.

The ways in which mobility patterns are shaped in relation to gender differ between the countries. In both, women have higher chances of experiencing downward occupational mobility, even though the result is statistically insignificant in Croatia. Females show higher probabilities for immobility than men in Croatia, while in Greece the opposite pattern has been noted. Contrasting results have also been found when looking at upward mobility, where females are more likely to experience it in Greece than men, with the opposite happening in Croatia. In both countries, age increases the probability of experiencing upward mobility and decreases the likelihood of downward mobility, possibly due to the longer work experience.

TABLE 5

Estimates of the marginal effects corresponding to the multinomial logit model

	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.		6,156			11,734	

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

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

The results emphasize other key attributes, such as marital status, number of siblings, citizenship and level of urbanization. Being married increases the likelihood of experiencing upward mobility in both countries. It reduces the chances for downward mobility in Croatia but has the opposite effect in Greece. Citizenship or

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number of siblings do not have a significant effect in Croatia. In Greece on the other hand, people whose parents are native show higher probabilities for upward mobility, while the number of siblings reduces that likelihood. Living in a city increases the possibility of downward mobility in both countries. However, its impact on immobility and upward mobility differs between them. In Croatia, higher levels of urbanization are associated with increased chances of immobility and reduced opportunities for upward mobility. In contrast, in Greece, urbanization appears to promote upward mobility and reduce immobility.

7 DISCUSSION

This section contextualizes our findings in relation to the existing literature, comparable empirical studies, and relevant statistical evidence. According to our findings, both countries exhibit a downward trend in upward educational mobility, a pattern that has also been observed in many other countries over the past 30 years, according to OECD estimations (2018) with the average upward mobility rate in these countries being 39%. Upward mobility rates in Greece and Croatia are above the OECD average and are also higher than rates in most of the countries included, where only a few of them surpassed 50%. International comparisons about educational mobility revealed higher persistence for South American countries, lower persistence for western European countries, while the USA tends to be in the middle. Mediterranean countries indicated lower educational persistence for birth cohorts until 1985, the opposite to the post-communist bloc, while Nordic countries follow a U-shaped trend. The rest of the European countries follow a similar pattern to the Mediterranean ones, with moderate downward persistence (Torul and Oztunali, 2017).

In both Croatia and Greece, the changes over time are more favourable for women. In Croatia, upward mobility rates have been higher for women starting with the 1960s birth cohort. Population censuses also show an increase in the percentage of women that have completed higher education, growing from only 0.8% in 1961 to 25.7% in 2021. Additionally, the percentage of women with a degree has surpassed the percentage of men that have completed higher education in 2011 and has remained higher ever since (CBS, 2021). In Greece, since the 1970s birth cohort, women's upward mobility rates have been higher than men's. According to Eurostat, women show a higher ratio in tertiary education than men (33.6% compared to 30.2%). The estimated odd-ratios around 3-5 for the younger cohorts in both countries indicate that educational inequalities, even though still present, are not too high compared to other countries. Trends in the likelihood of educational attainment if neither parent has attained the level of higher education vary across OECD countries**.** Stamatopoulou and Symeonaki (2023) found that in post-socialist countries, like Hungary and Slovakia, individuals whose fathers have a high level of education are approximately nine times more likely to complete tertiary education than those whose fathers have low educational attainment, and three times more likely than those with moderately educated fathers. In contrast, Nordic countries demonstrate significantly greater equality in access to higher education.

The educational explosion after the Second World War in the majority of the countries encouraged debate on whether previous reforms have affected the opportunities for children from different socioeconomic backgrounds, especially the transition from secondary education to university. According to Keller and Róbert (2016), the effect of father's education on respondents' socioeconomic class and education declined over the decades of the 70s and 80s. Contrarily, Bar-Haim, Blank and Shavit (2013) contend that the educational explosion does not necessarily secure the decline of educational inequalities. There is often a probability that the beneficiaries belong to the same groups, and the losers also come from similar socioeconomic backgrounds. Despite widespread expansion in higher education across Europe, institutional stratification and parental background remain persistent determinants of educational attainment, with stronger effects in Southern and Eastern Europe (Andreou and Koutsampelas, 2015; Sianou-Kyrgiou, 2010; D'Hombres et al., 2024). Finally, Doolan et al. (2018) find that Croatian students from families with higher educational backgrounds and better socio-economic status, remain disproportionately overrepresented in universities.

Regarding occupational mobility, our findings indicate that the influence of parental occupational status on children's outcomes has strengthened over time. The intergenerational transmission of highly skilled jobs and high prestige occupations can be explained by the sectoral composition of these classes (Anastasiadou, Batiou and Valkanos, 2015; Nicolitsas, 2006). The persistence in occupations such as doctors, lawyers, etc. reveals that privileged backgrounds not only create favourable conditions and social networks but also guide their children into these roles (Doolan, Puzić and Baranović, 2018; Patrinos, 1997). OECD (2018) found that there is more persistence at the top of the occupational distribution. The institutional differences among states tend to be crucial for the occupational mobility in Mediterranean countries, considering mixed market economies. The structural features and stricter employment protections in these countries, the significant number of public servants and bureaucratic constraints, and legislation for dismissals can explain the occupational persistence over time (Bisello, Maccarrone and Fernández-Macías, 2020; Pohlig, 2021). In the countries of Southern Europe, the rudimentary welfare state is along similar lines, family bonds and networks being formerly more important factors for transitions to employment. The contemporary notion poses the intensity of the network as an extremely useful tool for workers seeking opportunities in other organizations that require similar skill levels.

In cases of greater occupational mobility, the role of education is prominent. In Croatia and Greece, all levels of education increase the likelihood of experiencing upward intergenerational mobility, with higher education having the strongest impact. Higher education also reduces the likelihood of downward movement and immobility in both countries. Our findings are consistent with those of Ruiz (2016), who found that in Spain, all levels of education increase the likelihood of upward occupational mobility, with the highest education level also having the strongest effect. Education also reduces the likelihood of downward mobility and

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immobility. According to his research, in the birth cohort 1969-1986, higher education increases the likelihood of upward mobility by 25.8%, while for the 1952-1968 cohort, the increase is 26.9%. Therefore, the influence of education is stronger in Croatia and Greece, where a higher level of education increases the chances of upward mobility by 34.2% and 43%. OECD (2018) investigated education as a "mediating" factor of occupational mobility. Countries that experienced an expansion of education and reduced educational attainment gaps between children from different social classes have seen a weakening of the influence of parental background. Lower occupational persistence of educated individuals means that the origin does not shape the destination and this works as an extra motivation for acquiring greater education for everybody in this society.

The ways in which mobility patterns are shaped in relation to gender differ in Croatia and Greece. Women are less likely to experience downward occupational mobility in both countries, which aligns with the findings of Ruiz (2016), as in Spain, men have higher chances of downward mobility. Differences emerge when it comes to upward occupational mobility. In Greece, women show higher probabilities of upward mobility (as in Eurofound's research in 2017), as well as in Spain across all birth cohorts. In contrast, women have lower chances of upward mobility in Croatia. Previous empirical literature invokes family beliefs and social norms as a dominant transmission channel of female labour market behaviour and educational attainment across the generations. Men's cultural models of gender roles have, to some extent, influenced women's increased motivation to invest in their education and human capital in recent decades (Papapetrou and Tsalaporta, 2017). In addition, the decision to quit and emigrate has become more individualized, differing between partners. In earlier decades, such decisions were typically based on the husband's professional opportunities, with wives often acting as "tied movers" and experiencing occupational deterioration. As a result, they had fewer opportunities to build professional networks and demonstrated lower job search intensity, both of which are crucial for securing employment or advancing in their careers. Nevertheless, this incidence does not apply for women in top occupational positions, engaged in gendered jobs like nursing-care specialists, education, or even clerical positions in administration (Crespo, Simoes and Moreira, 2013). Gender-based research on mobility has shown a small association of results across countries. The variation of mobility between sons and daughters in the same country emerges from the hypothesis that parents make different decisions about their individual children and these affect the educational investments or support. A general pattern among the OECD countries is a slightly higher mobility for sons than for daughters.

We also found that being born into younger cohorts penalizes upward mobility without affecting the results of downward mobility. It is important to note that younger generations have more educated parents who found a job after the modernization of the economy. Consequently, it is more difficult to experience upward intergenerational mobility. Marital status influences occupational mobility, as

being married increases the likelihood of experiencing upward mobility. This evidence agrees with the argument that marital sorting can increase the informal social network of the couple helping them find jobs better suited to their needs and skills. The controversial effect in the two countries regarding the effect of marital status in downward mobility could be explained by cultural reasons such as the decreased importance of the large-family mindset, as family commitments are highly correlated with occupational persistence (Crespo, Simoes and Moreira, 2013; Nicolitsas, 2006).

Finally, we acknowledge that family background not only reflects financial resources, social and cultural capital, but may also be correlated with innate abilities and cognitive skills, which can partly explain educational outcomes. Another issue raised in the literature is whether the expansion of higher education leads to overeducation and the erosion of standards (Kitsoleris and Luong, 2025). We recognize this debate and emphasize that future reforms must ensure that broader access does not come at the expense of quality. Strengthening vocational and professional pathways, improving quality assurance in universities, and aligning curricula with labour market demands are critical steps for Croatia and Greece.

8 CONCLUSION

Our analysis revealed a declining trend in upward educational mobility in both Croatia and Greece. Research into intergenerational occupational mobility has investigated high occupational persistence between generations when focusing on skill levels. This is problematic because family background determines whether children end up in well-paying or low-paying jobs. The significance of education is further underscored: individuals with more highly educated parents are more likely to complete tertiary education and achieve upward occupational mobility. Although educational inequalities in access to tertiary education have decreased in both countries, they remain present. However, in both countries completing tertiary education significantly increases the likelihood of a person experiencing better occupational status than the previous generation.

This study suggests that the expansion of formal public education is not capable of reducing inequalities if it is unaccompanied by policies offsetting the families' background deficits. Such measures include longer school days (to support families in which both parents are in the labour market), smaller class sizes (in order to ensure quality), and financial aid supporting the education of disadvantaged groups (covering costs for accommodation, transportation and study materials). Even though education is free in both countries, households are still required to invest heavily in their children's education. Families are often faced with lack of funds, restricting their ability to experience upward mobility. Household educational investments are thus an important parameter of social mobility and it is the state's responsibility to reduce barriers for those who receive less support from the educational system. In order to lessen the influence of parental income on educational achievement and promote greater mobility, the states need to adopt policies

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ensuring equal opportunities, starting from the early stages (additional support for parents) and continuing to all stages of education. Universal access to individual tutoring and support seem to be essential for the prevention of the stratification of the advantages of access to and success in higher educational levels and programs.

Furthermore, to achieve this goal, from a policy perspective, it is important to emphasize the need to compensate for the impact of a family's financial background on access to prestigious educational opportunities, and to eliminate barriers to entry into certain occupations. Discretionary expenses on education targeting disadvantaged households may be the appropriate policy. The most realistic scenario for increasing social mobility is through the institutions of pilot and experimental schools, already operating in Greece and other countries. In our opinion, these are not operating appropriately: socio-economic criteria are not taken into consideration in enrolment, resulting in the underrepresentation of vulnerable groups. These schools are units of secondary public education that aim to cultivate and promote excellence within the education system. They employ teachers with advanced formal qualifications and teaching experience. Admission requires annual entrance exams, and many parents invest significant resources in preparing their children for these tests. As a result, the process mirrors the inequalities seen in university entrance exams, another issue that should be addressed. The schools could select their students in a different way in order to mitigate the educational inequalities that our research revealed and give opportunities to students from vulnerable groups.

Finally, future research should extend the current analysis by: (i) employing longitudinal data to capture multi-generational patterns in more southern European countries, (ii) exploring regional disparities (urban-rural, coastal-inland) in mobility, (iii) combining quantitative evidence with qualitative studies of family networks and cultural capital, and (iv) assessing the impact of overeducation on graduate underemployment and skill mismatch in these countries. These directions would provide a more comprehensive understanding of social mobility in Southeast Europe.

Disclosure statement

The authors have no conflicts of interest to declare.

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APPENDIX

Table A1

Descriptive statistics of education mobility (%)

Variables	Croatia	Greece
Gender		
Male	49.47	48.52
Female	50.53	51.48
Age		
30-39	18.6	22.25
40-49	29.79	31.00
50-60	41.07	39.07
Highest level of education for children		
Primary	1.61	13.27
Secondary	78.03	56.33
Tertiary	20.36	30.41
Highest level of parental education		
Primary	49.17	66.23
Secondary	40.68	22.76
Tertiary	10.15	11.01
Number of observations by ad-hoc module		
2011	6,701	5,642
2019	7,771	15,473
2023	7,744	9,075
Total number of observations	**22,216**	**30,190**

Source: Authors' own calculations based on the EU-SILC data.

Table A2

Descriptive statistics of occupational mobility (%)

Variables	Croatia	Greece
Gender		
Male	51.41	53.85
Female	48.59	46.15
Age		
30-39	20.24	22.49
40-49	30.85	32.22
50-60	40.79	38.57
Highest level of occupation for children		
1	11.10	8.65
2	58.24	61.19
3	15.28	10.92
4	15.38	19.25
Highest level of parental occupation		
1	24.04	5.32
2	53.63	81.15
3	9.93	1.80
4	12.40	11.72
Total number of observations	**12,282**	**24,214**

Source: Authors' own calculations based on the EU-SILC data.

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Table A3

Absolute mobility indices for sons

Sons	Immobility	Upward	Downward	Observations
		Croatia		
1950-1959	0.246	0.730	0.024	1,159
1960-1969	0.271	0.698	0.031	3,483
1970-1979	0.410	0.532	0.058	3,092
1980-1989	0.523	0.401	0.076	2,236
1990-1999	0.554	0.354	0.092	1,020
		Greece		
1950-1959	0.323	0.660	0.016	913
1960-1969	0.298	0.674	0.028	4,679
1970-1979	0.292	0.671	0.038	4,640
1980-1989	0.354	0.589	0.056	3,222
1990-1999	0.484	0.423	0.093	1,195

Source: Authors' own calculations based on the EU-SILC data.

Table A4

Absolute mobility indices for daughters

Daughters	Immobility	Upward	Downward	Observations
		Croatia		
1950-1959	0.289	0.687	0.023	1,279
1960-1969	0.274	0.701	0.025	3,779
1970-1979	0.396	0.561	0.043	3,216
1980-1989	0.459	0.502	0.040	2,117
1990-1999	0.471	0.472	0.057	835
		Greece		
1950-1959	0.442	0.535	0.023	1,018
1960-1969	0.322	0.646	0.033	5,201
1970-1979	0.283	0.677	0.040	4,975
1980-1989	0.324	0.641	0.035	3,255
1990-1999	0.392	0.539	0.069	1,092

Source: Authors' own calculations based on the EU-SILC data.

Table A5

Odds ratios for the whole sample and per gender

		Odds ratios for both genders	Confidence intervals (95%)	Odds ratios for sons	Odds ratios for daughters
Croatia	1950-59	8.72	5.87 – 12.95	8.26	9.19
	1960-69	9.81	8.03 – 11.98	8.22	11.5
	1970-79	7.37	6.25 – 8.71	6.85	8.12
	1980-89	5.61	4.7 – 6.71	5.83	6.42
	1990-99	3.83	3.01 – 4.88	4.51	3.64
Greece	1950-59	8.43	5.3 – 13.44	12.3	6.89
	1960-69	6.77	5.75 – 7.97	7.59	6.13
	1970-79	6.53	5.67 – 7.54	7.46	5.81
	1980-89	5.79	4.98 – 6.75	5.82	6.27
	1990-99	4.23	3.46 – 5.19	4.82	3.85

Source: Authors' own calculations based on the EU-SILC data.

Table A6

Absolute mobility indices per ad-hoc module – Croatia

Module		Parental education			UM	DM	IM	Odds ratios
		1	2	3				
2011	Child's education 1	0.921	0.073	0.004	0.605	0.042	0.353	7.74
	2	0.605	0.345	0.048				
	3	0.233	0.489	0.276				
2019	1	0.831	0.156	0.012	0.605	0.044	0.351	7.67
	2	0.589	0.357	0.053				
	3	0.222	0.478	0.300				
2023	1	0.742	0.228	0.028	0.543	0.045	0.411	6.92
	2	0.497	0.445	0.057				
	3	0.131	0.572	0.296				

Source: Authors' own calculations based on the EU-SILC data.

Table A7

Absolute mobility indices per ad-hoc module – Greece

Module		Parental education			UM	DM	IM	Odds ratios
		1	2	3				
2011	Child's education 1	0.972	0.019	0.008	0.661	0.033	0.306	6.41
	2	0.796	0.151	0.051				
	3	0.503	0.278	0.218				
2019	1	0.950	0.042	0.007	0.640	0.034	0.326	7.82
	2	0.741	0.210	0.048				
	3	0.431	0.323	0.245				
2023	1	0.903	0.062	0.033	0.616	0.053	0.331	5.01
	2	0.656	0.267	0.076				
	3	0.364	0.361	0.274				

Source: Authors' own calculations based on the EU-SILC data.