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Early-life circumstances and late-life income

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Abstract This paper aims at evaluating and comparing across European countries the influence of early-life circumstances, like childhood disparities and educational attainments, on incomes in later life. Using life-history data from SHARELIFE, country-specific structural relationships among childhood socio-economic status, education and incomes at the first and the last job are investigated by means of recursive models, controlling for individual covariates. Poorer childhood socio-economic conditions are associated with higher differentials in years of full-time education and higher income inequalities. The extent of these results varies across countries.

Key words: Ageing, childhood conditions, income, recursive model

1 Introduction

Intergenerational mobility constitutes one of the key research areas for both economists and sociologists. [3] study the relationship between childhood, schooling and the first income at the first job, providing descriptive evidence that financial and educational background of parental household plays an important role in determining individual socio-economic outcomes at the beginning of the working career: respondents living in better off and better education contexts, on average, remain in full time education longer and exhibit lower income inequality. Countries where individuals remain in full-time education longer present lower income disparities, even after controlling for childhood background.

This paper aims at evaluating and comparing across many European countries the influence of early-life circumstances (childhood disparities and educational at-

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tainments) on incomes in later life, i.e. at the end of the working career, by means of the specification and estimation of country-specific structural relationships.

2 Data

The sample of this analysis comes from the SHARELIFE survey and it is composed by 6984 respondents born between 1940 and 1959, living in 10 European countries (Belgium, Denmark, France, Germany, Greece, Italy, Spain, Sweden, Switzerland and the Netherlands). SHARELIFE is the third wave of SHARE (Survey of Health, Ageing and Retirement in Europe) and constitutes its retrospective survey focusing on the life histories of the European population aged 50 and over across several European countries. Data were collected in 2008 and 2009 [2].

Childhood resources are captured computing at the age of 10: number of rooms per capita (as a proxy of childhood financial status); availability of books in the respondent's accommodation (as a proxy of childhood socio-economic status); type of occupation of household's main breadwinner (as a proxy of childhood socio-economic status). Educational attainments are measured as the difference between the individual year of end of full-time education and the compulsory year of education in the country at the time of starting schooling. Incomes are meant as both the first income of the first job (the monthly wage or earnings after taxes when respondent started doing her first job after the end of continuous full-time education) and the last income of the last job (the monthly wage or earnings after taxes at the end of the final job of her career, if the respondent had stopped working, or the current monthly wage or earnings after taxes, if the respondent was still working at the time of the interview). Real incomes in pre-Euro currencies using consumer price indices (base 2006) are computed. Changes in currencies, such as old versus new currencies (e.g. France, Greece), or the Euro introduction, are taken into account. Amounts in East Germany marks were excluded from the final sample, because product price formation was centrally controlled in all Soviet bloc countries until the 90s.

The set of individual covariates is completed by some job characteristics, such as the age at which the first (last) job was started, whether the first (last) job was as a self-employed, whether it was full-time, the type of occupation (high, medium, skilled or low qualification), the sector of occupation (agriculture, manufacturing, services, etc.), the total number of jobs in the working career and whether the respondent was still working at the time of the interview. Four different cohort groups are created according to the year of birth of the respondent.

3 Main Results

The statistical solution adopted in this study is the estimation of country-specific recursive models with observed variables [1]:

$$y = By + \Gamma x + \zeta \quad (1)$$

where y is the vector of endogenous variables, x is the vector of explanatory variables, ζ is the vector of errors in the structural equation (uncorrelated with x) and B , Γ are matrixes of parameters to be estimated. In particular, B is a lower triangular matrix and $E[\zeta\zeta'] = \Psi$ is a diagonal matrix. In the final specification, Γ includes some exclusion restrictions which lead to estimate overidentified models.

The set of endogenous variables is composed, respectively, by the educational attainments, first incomes and last incomes, according to the definitions provided in the previous section. Childhood conditions as well as cohort dummies are defined as explanatory variables affecting all of these endogenous variables (see Figure 1).

Models are estimated using the LISREL software [4]. Suitable model fit criteria assess a good fit of the data to the theoretical model for all countries.

Briefly summarizing the main results, there is evidence that, *ceteris paribus*, the socio-economic status at the age of 10 has:

- strong direct effects on educational attainment in all countries;
- weak direct effects on incomes a few countries;
- strong indirect effects on incomes in many countries, even though with differences between first job and last job.

Education has strong direct effects on incomes in many countries (exceptions are Italy, Spain, Denmark and Sweden), particularly on incomes from the first job, and no indirect effects on incomes of the last job, apart from Belgium, France and the Netherlands, *ceteris paribus*. In all countries but Denmark, Germany, Greece and Switzerland, first job income has direct effects on last job income, *ceteris paribus* (see Table 1).

Highlighting the results on last job incomes only, *ceteris paribus*, in all countries females have lower incomes than males, being self-employed in the last job is not statistically significant and the sector of occupation of the last job is basically not correlated with these incomes. Then, *ceteris paribus*, in all countries but...

- Switzerland, the age of starting the last job is significantly (and positively) correlated to income;
- Italy and Greece, the type of occupation of the last job is significantly (and positively) correlated to income;
- Greece, the total number of jobs is not a statistically significant variable;
- Italy and France, being still working is not a statistically significant variable.

Cohort effects are present in Sweden, France, the Netherlands, Spain and Greece (the lower the age class, the lower the income).

Findings suggest that, even with respect to later-life incomes, childhood conditions and education may play a role in explaining the observed differences across countries (individuals living in financially and educationally better off contexts, on average, remain in full time education longer and exhibit lower income inequality throughout life). As argued by [5], social, educational and health policies may increase intergenerational income mobility and modify the equality of opportunity.

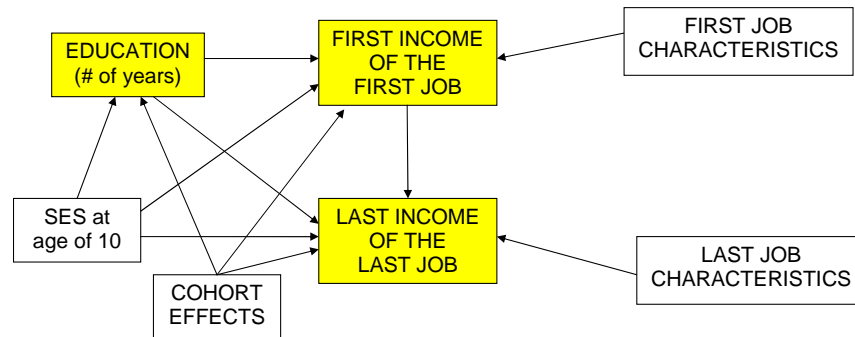


Fig. 1 Path diagram of model (1) estimated for each country (the yellow boxes identify the endogenous variables)

Table 1 Estimates of direct effects (*B* matrix). S.e. in parentheses

Country	Education on first job incomes	Education on last job incomes	First job incomes on last job incomes
Belgium	0.101 (0.012)	0.014 (0.010)	0.277 (0.027)
Denmark	-0.007 (0.007)	0.006 (0.004)	0.016 (0.021)
France	0.040 (0.015)	0.018 (0.009)	0.113 (0.021)
Germany	0.046 (0.009)	0.016 (0.008)	0.054 (0.038)
Greece	0.059(0.017)	0.034 (0.010)	0.024 (0.023)
Italy	0.015 (0.011)	0.017 (0.010)	0.198 (0.030)
Spain	0.031 (0.016)	0.009 (0.010)	0.147 (0.027)
Sweden	0.002 (0.009)	0.002 (0.002)	0.026 (0.011)
Switzerland	0.025 (0.021)	-0.060 (0.027)	0.054 (0.054)
The Netherlands	0.027 (0.008)	-0.008 (0.008)	0.138 (0.032)

For instance, policies fostering the access to education of students from disadvantaged households have the potential to weaken their financial dependence from parents and loosen the persistence in socio-economic conditions across generations.

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