

# Intergenerational mobility of status in Germany and United Kingdom

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## INTRODUCTION

- Intergenerational mobility is mostly measured with income mobility by economists and with occupational mobility by sociologists.
- The premises of the paper are that the **status is unobserved**, therefore it is analyzed through latent variable and factor analysis models, and that the **transmission of economic status is a multidimensional phenomenon**.
- The **dimensions** selected for the status measurement are the resources detained, the occupation performed and the level of education.
- What is the level of mobility when multiple dimensions are taken into account for both the generations?

## MOBILITY MEASUREMENT

- The intergenerational elasticity (**IGE**) is the coefficient of a linear regression between the log of the outcome of the child on the log of the outcome of the parent.  $\log(Y) = \alpha + \beta \log(X) + \epsilon$
- Intergenerational correlation (**IGC**) is equal to the IGE rescaled by the standard errors.  $\rho = \beta (\sigma_X / \sigma_Y)$
- Transition matrices take into account non-linearities.

## METHODOLOGY

- The adopted methodology for the combination of the variables that constitute the status' proxies is the **factor analysis model (FA)**.
- The primary aim of the factor analysis is that of discovering common unobservable factors underlying observable variables.
- We have two models, (A) and (B), one for each generation. In (A),  $x_1, x_2$  and  $x_3$  are observed variables,  $x_s$  is the unobserved **latent variable** (or factor score),  $\lambda_{01}, \lambda_{02}$  and  $\lambda_{03}$  are the loadings and finally  $\alpha_i$  and  $\epsilon_i$  are respectively the intercepts and the errors.  
**A : parental generation**  
 $x_1 = \alpha_1 + \lambda_{01} x_s + \epsilon_1$   
 $x_2 = \alpha_2 + \lambda_{02} x_s + \epsilon_2$   
 $x_3 = \alpha_3 + \lambda_{03} x_s + \epsilon_3$ 
**B : adult child generation**  
 $y_1 = \delta_1 + \lambda_{11} y_s + \eta_1$   
 $y_2 = \delta_2 + \lambda_{12} y_s + \eta_2$   
 $y_3 = \delta_3 + \lambda_{13} y_s + \eta_3$
- The key assumptions concerning the relationships is that the error term  $\epsilon_i$  are independent of one another.
- Determination of the loadings by principal component method:
- Estimation of factor **scores**,  $x_s$  and  $y_s$ , is made through the estimates of the underlying factor values for each observation.

## STATUS INDICATORS

1. resources detained: individual labour earnings
2. occupation performed: Treiman prestige scale
3. education attained: years of education

## DATA

- German **SOEP** data and the British **BHPS-UKHLS**.
- observations: couples of fathers-adult sons; no. = **294** in Germany and **235** in UK.
- **Selection criterion**: children born in the first generation are still included in the study.
- **Sampling procedure** takes into account occupational position of the individuals, the earnings observations, the age and the gender.
- The **descriptive statistics** display standard outcomes for intergenerational analysis: the sons sample is younger, slightly poorer and with more singles.

## RESULTS (1): REGRESSION ESTIMATES

- The first set of results show the IGE for Germany and United Kingdom based on the log of earnings.
- The **results in terms of IGE are comparable with the previous literature** in Germany and UK, Schnitzlein (2015) for Germany and Ermisch and Francesconi (2004) for UK.
- Controls used are: age of fathers and adult sons, age squared, household size of fathers, household size of adult sons

Country	Germany		United Kingdom	
controls		X		X
$\beta$ coeff.	0.279***	0.269***	0.209***	0.223***
s.e.	(0.184)	(0.080)	(0.059)	(0.051)

## RESULTS (2): CORRELATION ESTIMATES

- The second set of results show the IGC for Germany and the United Kingdom based on the level of earnings and the status, computed as the scores extracted from the factor analysis models.
- The results in terms of IGC are that the **correlation of status is severely larger than the correlation of earnings** in both the countries, and the mobility is reduced by approximately the 30% when adopting multiple dimensions.

Country	Indicator	
	Earnings	Status
Germany	0.266	0.454
United Kingdom	0.184	0.435

## ROBUSTNESS CHECKS

- Use of **other techniques** for the combination of the status' proxies such as the one based on Lubowsky and Wittenberg (2006) or other models such as structural equation models.
- Verify the extent of the results when using **fathers-adult daughters** couples.
- Check for non linearities with the **transition matrices**.
- Use **household income** as an indicator of the resource detained.

## CONCLUSIONS

- The major contribution of this paper is the evaluation of the existence and extent of an additional source of bias, defined as **latent status bias**, in the measurement of intergenerational mobility
- The results demonstrate that the adoption of a multidimensional approach to the mobility phenomenon reduces the estimates of mobility with respect to the unidimensional approach.

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