

# Like Father, Like Son

## Intergenerational Transmission of Social Inequality in Switzerland

Benita Combet and Ben Jann

Institute for Sociology  
University of Bern

6th International Conference of Panel Data Users in  
Switzerland  
University of Lausanne, June 8/9, 2011

# Outline

- 1 **Introduction**
- 2 **State of Previous Research**
- 3 **Our Project**
  - Research Objective
  - Methodological Approach
  - Data
  - Results
- 4 **Conclusions**

## Introduction

- Mobility is usually understood as “equality of opportunity” – the outcomes may be unequal, but everyone, regardless of starting point, can have the same opportunity to get a good result. (Hout 2004: 970)
- This gives us a good reason why the study of intergenerational mobility is important.

## Current State of Research concerning intergenerational mobility in Switzerland (selection)

- Hadjar and Berger (2010): Dauerhafte Bildungsungleichheiten in Westdeutschland, Ostdeutschland und der Schweiz.
  - **dataset:** SHP (1999 and 2004)
  - **method:** Logit models
  - **focus on:** education
  - **results:** slightly increasing mobility
- Joye, Bergman and Lambert (2003): Intergenerational Educational and Social Mobility in Switzerland.
  - **dataset:**
    - electoral investigation by the Universities of Geneva and Zurich (1971)
    - Department of Political Science at the University of Geneva conducted another electoral study (1975)
    - Les Suisses et leur société (1991)
    - SHP (1999)
  - **method:** Loglinear model
  - **focus on:** Education and class
  - **results:** - Education: first increasing mobility, then decreasing
    - Class: increasing mobility

## Current State of Research concerning intergenerational mobility in Switzerland (selection)

- Bergman, Joye and Fux (2002): Social Change, Mobility, and Inequality in Switzerland in the 1990s.
  - **dataset:** Les Suisses et leur société (1991) and ISSP (1999)
  - **method:** Loglinear Models
  - **focus on:** Education
  - **results:** Slightly increasing mobility (probably non-significant)
- Levy, Joye and Kaufmann (1997): Changement structurel et mobilité sociale en Suisse.
  - **dataset:** Les Suisses et leur société (1991)
  - **method:** Loglinear models
  - **results:**
    - Education: after a minimum around 1950 increasing mobility
    - Class: decreasing after a maximum around 1980

## Current State of Research concerning intergenerational mobility in Switzerland (selection)

- Buchmann, Charles and Sacchi (1993): The Lifelong Shadow. Social Origins and Educational Opportunity in Switzerland.
  - **dataset:** Occupational Careers and New Technology (1989)
  - **method:** OLS- and Logit model
  - **focus on:** Education
  - **results:** Increasing for men, decreasing for women

### Conclusion:

Mixed results, probably due to the use of

- different datasets
- different timepoints

## Research Objective

- Description of intergenerational mobility in Switzerland with focus on ...
  - ① change over the time
  - ② multiple dimensions of social status: education, class, occupational prestige ...
  - ③ validating findings by comparing results from as many different datasets as possible

## Research Objective

- Problem: Information on parents, which is required for our analysis, is only available in few datasets.
- Possible datasets are:
  - Swiss Household Panel (1999/2004)
  - European Social Survey (2002, 2004, 2006, 2008)
  - European Values Survey (2008)
  - ISSP (1987, 1999)
  - Swiss Labor Market Survey (1998)
  - Les Suisses et leur société (1991)
  - Un jour en Suisse (1960)
- If you know more, please tell us!
- In this presentation we will focus on SHP and ESS.



## Methodological Approach

- Research on intergenerational mobility often employs loglinear models.
- Loglinear models, however, are not so well suited for multivariate analysis (e.g. if we want to take into account several variables describing parent's status simultaneously).
- Hence, our analyses are based on techniques of the “fourth generation of stratification research” (Treiman and Ganzeboom 2000)
  - multinomial logistic regression for child's education and class
  - linear regression for child's Treiman prestige

## Methodological Approach

- How do we know from such models whether intergenerational mobility increased or decreased?
- In general: The stronger the effects of parent's status on child's status, the less intergenerational mobility.
- "Strength of effect" may be a simple concept if applied to a single coefficient. However, things are more involved if we want to evaluate the overall strength of a relation, possibly including dozens of parameters.
- The approach we follow here is based on the PRE principle (Proportional Reduction of Error).
- That is, we ask to what degree the knowledge of the parent's status reduces the predictive uncertainty about the child's status.

## Methodological Approach

- A PRE measure can be expressed as follows:

$$PRE = (E_0 - E_1)/E_0 = 1 - E_1/E_0$$

where  $E_0$  are prediction errors we make under restricted information, and  $E_1$  are the prediction errors under unrestricted information.

- Different error rules lead to different PRE measures. In the case of multinomial logit sensible (information theoretic) error rules are:

$$E_0 = - \sum_{i=1}^N \log_2(\widehat{P}_0(Y = y_i)) \quad \text{and} \quad E_1 = - \sum_{i=1}^N \log_2(\widehat{P}_1(Y = y_i))$$

where  $y_i$  are the observed values and  $\widehat{P}_0(Y = y_i)$  and  $\widehat{P}_1(Y = y_i)$  are the prediction probabilities of  $y_i$  under restricted and unrestricted information, respectively.

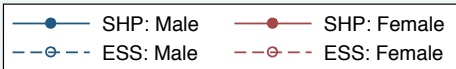
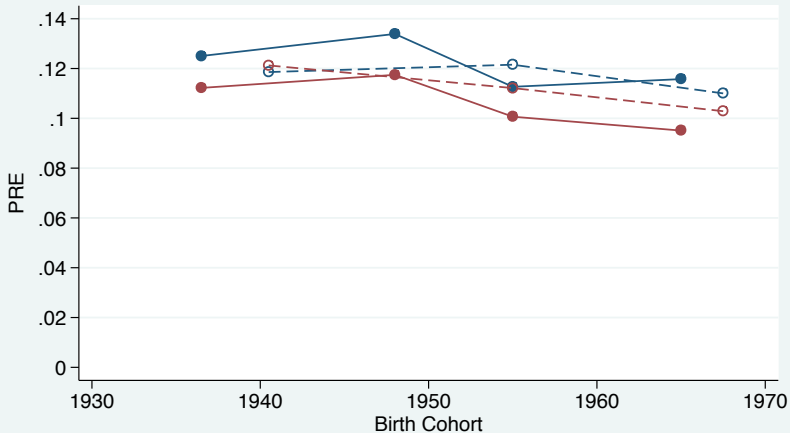
## Methodological Approach

- Such PRE measures can be computed for different dependent variables (child's education, class, prestige) for different time points or cohorts.
- A decrease in PRE over time/cohorts would indicate an increase in intergenerational mobility (because information on the parent's status has less and less predictive power for the child's status).
- We will now apply this concept using the entropy formulas above for categorical dependent variables and squared errors for continuous variables.
- All analyses separately for men and women. Age range 35–70.

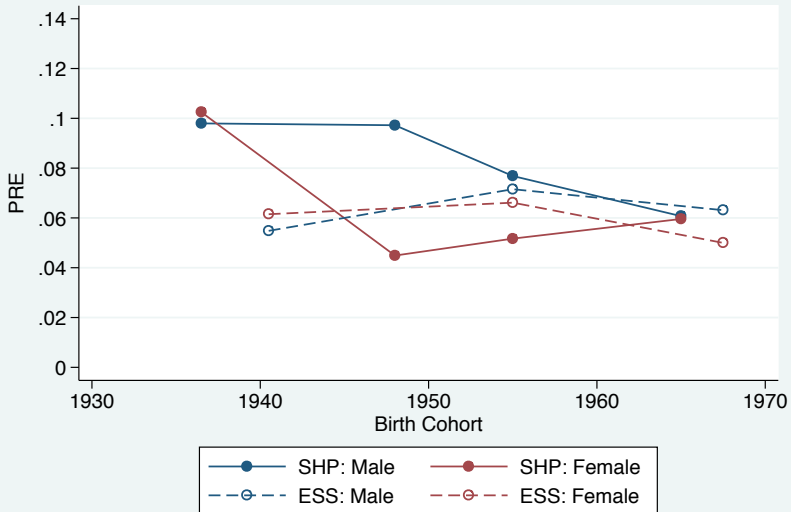
## Data

- Swiss Household Panel
  - pooled sample: SHP I from and SHP II from 2004
  - dependent variables (child): education (5 categories), simplified EGP (5 categories), Treiman occupational prestige score
  - independent variables (parents): education (5 categories), EGP (8 categories), Treiman occupational prestige score
  - four cohorts: 1929-1943, 1944-1951, 1952-1959, 1960-1969
  - sample size per cohort and sex: around 700
- European Social Survey
  - pooled sample: 2002, 2004, 2006, 2008
  - dependent variables (child): education (5 categories), simplified EGP (5 categories), Treiman occupational prestige score
  - independent variables (parents): education (3 categories), EGP (7 categories)
  - three cohorts: 1932-1948, 1949-1960, 1961-1973
  - sample size per cohort and sex: around 700

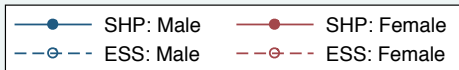
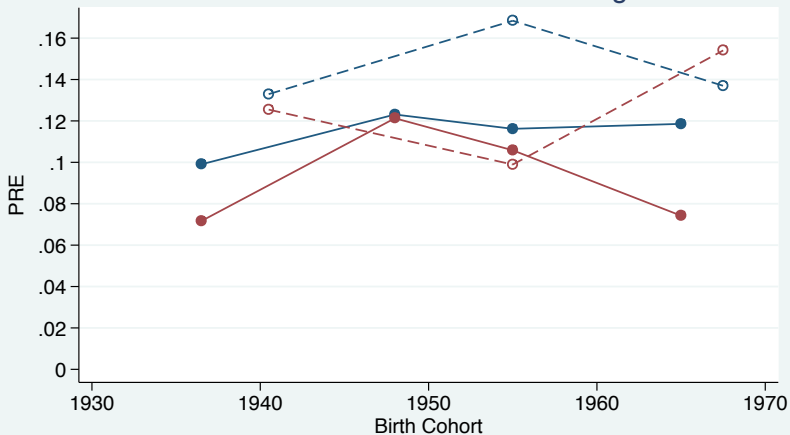
## Effect on Child's Education



## Effect on Child's EGP



## Effect on Child's Treiman Prestige





## Conclusions

- The results seem to indicate that there is a slight increase in intergenerational mobility with respect to child's education.
- For child's EGP we find similar results for men, but results for women are inconclusive.
- No clear pattern emerges for occupational prestige.
- Some problems:
  - The changes might partially be driven by respondents' age. Analysis of additional datasets from different time points may shed light on this issue.
  - The PRE measures depend on data quality (in fact, any statistical measure for intergenerational mobility does). Different measurement quality in different datasets leads to different results.
  - Statistical inference for PRE measures.

## Literature

- Bergman, M. M., D. Joye, B. Fux (2002). Social Change, Mobility, and Inequality in Switzerland in the 1990s. *Swiss Journal of Sociology* 28(2), 267–295.
- Buchmann, M., M. Charles, S. Sacchi (1993). The Lifelong Shadow. Social Origins and Educational Opportunity in Switzerland. Pp. 177–192 in: Y. Shavit, H.-P. Blossfeld (eds). *Persistent Inequality. Changing Educational Attainment in 13 Countries*. Boulder: Westview Press.
- Treiman, D. J., B. G. Ganzeboom (2000): The Forth Generation of Comparative Stratification Research. Pp. 123–150 in: S. R. Quah, A. Sales (eds). *The International Handbook of Sociology*. London: SAGE.
- Hadjar, A., J. Berger (2010). Dauerhafte Bildungsungleichheiten in Westdeutschland, Ostdeutschland und der Schweiz. Eine Kohortenbetrachtung der Ungleichheitsdimensionen soziale Herkunft und Geschlecht. *Zeitschrift für Soziologie* 39(3), 182–201.
- Hout, M. (2004). How Inequality May Affect Intergenerational Mobility. Pp. 969–987 in: K. M. Neckerman (ed). *Social Inequality*. New York: Russel Sage.
- Joye, D., M. M. Bergman, P. S. Lambert (2003). Intergenerational Educational and Social Mobility in Switzerland. *Swiss Journal of Sociology* 29(2), 263–291.
- Levy, R., D. Joye, V. Kaufmann (1997). Changement structurel et mobilité en Suisse. *Swiss Journal of Sociology* 23(3), 463–490.