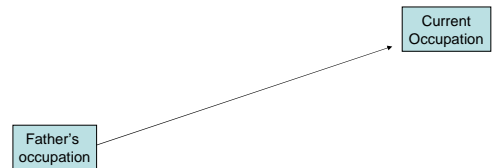


Ascription and Achievement in Occupational Attainment in Comparative Perspective: a comparison of 42 nations, 1900-2000

Harry B.G. Ganzeboom  
Donald J. Treiman

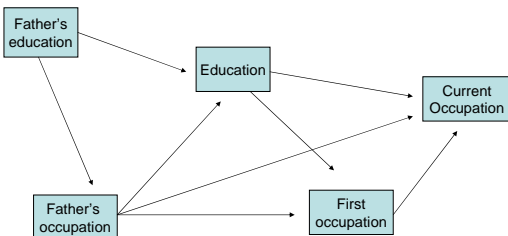
Russell Sage University Working Group on Social Inequality  
University of California-Los Angeles  
January 25-26 2007

## Social mobility / reproduction



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## Blau-Duncan's SAT model - I



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## BD's theoretical contributions

- Decompose social reproduction into different stages.
  - Different parts of the model can be expected to follow different trends
    - There is no expectation about trends in social reproduction
  - Contextual influences are most likely to have their impact at career beginnings.
    - Look at first job or career beginnings for comparative analyses

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## (Early) comparative hypotheses: modernization

- BD: Trends show decreasing ascription and increasing achievement
- Lenski/Treiman: Similar expectations for industrializing (modernizing) societies:
  - Shift towards employment with skill requirements
  - Shift from property owning occupations
  - Increased communication
  - Increased international and internal migration
  - Value change towards meritocracy
  - Increased wealth → resource equality

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## Comparative hypotheses: Institution arrangements

- Political intervention by communism:
  - Limited accumulation of and transfer of property.
  - Direct discrimination against 'class' backgrounds in education and labor market.
  - Organized education/occupation link.
- Welfare state provisions:
  - Free education, equalized income distribution lowers ascription
- Educational arrangements:
  - Higher dispersion of education, in terms of level (duration) and specificity (vocational tracks) promotes achievement
  - Educational expansion raises age of entry into the labor market and lowers ascription

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## Why large-scale comparative studies are so rare

- High quality data were first produced in the late 1970's, but they have become available in great numbers in the 1990's
- Immense work to harmonize these data.
- Stratification research has turned away from continuous variable representation and OLS, and turned towards loglinear models for 'class' reproduction
  - Return to (detailed, complicated) bivariate analyses.

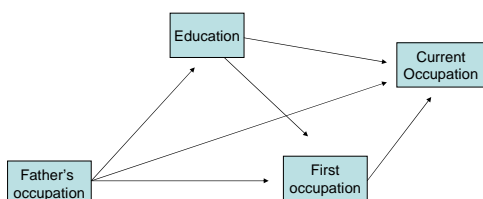
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## Our approach

- As many data sources as we can get: high N, high number of countries.
- Replicated studies per country: allows for separating cohort and experience effects.
- Combine over-time and cross-national comparisons (XT) → NDF.
- Reduced (elementary) three-variables SAT model.
- Model SAT in such a way that we look primarily at effects at career beginnings.
- Continuous measures, OLS estimation of micro-model.
- Meta-analysis of estimated OLS coefficients using XTGLS.

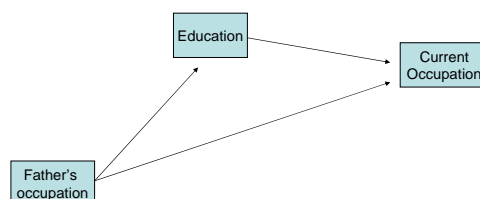
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## The SAT model – II (reduced)



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## The SAT model – III (elementary)



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## Data

- International Stratification and Mobility File [ISMF]:
  - 331 sample surveys from 42 countries, collected 1947-2003.
  - 36 nations have replicated studies (with different years).
  - Only men, 21-64, with valid occupation, education, father's occupation codes.
  - N=374.093.
- More to come: see website.

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## Design

- Data are arranged by 1047 contexts:
  - Nation (42)
  - Entry cohort (1900..2000), five year wide (21)
  - Experience group (5..45), ten year wide (5)
- Micro-model estimated in each context:
  - $ISEI = B_0 + B_1 * EDUC + B_2 * FISEI$
- The micro-model coefficients are subjected to a macro-level meta-analysis, using  $(1/se^{**2})$  as weights.

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## Measurement

- Occupation: FISEI and ISEI, derived from ISCO-68 and ISCO-88 (average).
- EDUC: level of education, expressed in 'virtual' years of education.
- Macro: Socio-economic LEVEL using 14 / 10 macro-indicators.
- Macro: communist regime.

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## LEVEL: socio-economic development

- Multiple indicator measure of socio-economic development.
- Sources:
  - Bank's Social and Political Indicators 1815-1973.
  - World Bank World Development Indicators 1960-2005
- Indicators:
  - Urbanization
  - Share of farm, industrial employment
  - Energy consumption, GNP/GNI
  - Roads, telephones, newspapers, radio's, mail
  - Literacy, school enrollment at primary, secondary, tertiary level.
  - Physicians

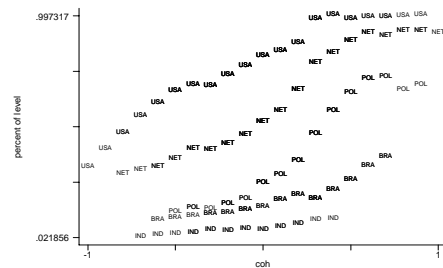
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## LEVEL - construction

- Each indicator interpolated for missing information in time series (war years, incomplete series).
- Match between Banks and WB data made at indicator level, by calibrating the mean and standard deviation in overlapping interval (1965-1973).
- Composite expressed in 0..1 rank score (no outliers). 0: India in 1940, 1: US in 1995.

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## Socio-economic development in five countries



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## XTGLS-Model

- Macro-level analyses with XTGLS panel-model that takes into account:
  - Panel: country
  - Time: cohorts
  - Heteroskedasticity between panels allowed
  - Weights (variable within panels) allowed
- When conditioning upon experience
  - Common serial correlation between panels

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## Hypotheses

- Ascription (direct effect of FISEI → ISEI)
  - Declines over cohorts
  - Declines with socio-economic development
  - Is smaller in communist countries, in particular in orthodox times.
- Achievement (direct effect of EDUC → ISEI)
  - Increases over cohorts
  - Increases with socio-economic development
  - Is stronger in communist countries

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### Analysis: XTGLS B\_fisei

B0	.315 (34.7)	.305 (31.1)	.340 (23.2)
EXP/10			-.011 (3.2)
EYR/10		-.010 (5.0)	-.017 (5.8)
LEVEL	-.190 (14.6)	-.168 (11.5)	-.175 (11.9)
COMM	-.063 (9.9)	-.115 (10.1)	-.113 (5.9)
COMM_EXP			.015 (1.9)
COMM_EYR		.038 (6.4)	.048 (5.9)

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### Analysis: XTGLS B\_educ

B0	1.281 (23.9)	1.361 (24.0)	1.613 (17.8)
EXP/10			-.153 (5.7)
EYR/10		.085 (5.8)	-.004 (0.2)
LEVEL	1.818 (21.4)	1.648 (17.6)	1.613 (17.4)
COMM	.587 (11.7)	.842 (10.7)	.857 (4.4)
COMM_EXP			.016 (0.2)
COMM_EYR		-.249 (5.4)	-.249 (4.0)

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### Results: Ascription

- Effect declines by almost 2/3:
  - Between lowest and highest level of development.
  - Over 100 years
- Communism has reduced ascription considerably, by almost 1/3 at its start, but the effect has dampened over history.
- Communism at labor market entry remains important over the life cycle, level of development at career beginnings loses its effects later.

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### Results: Achievement

- One century of socio-economic development had doubled the achievement effect.
- Communism had increased the achievement effect as well, but to a lesser extent.
- Again, communism had a sharp effect at its beginnings, but this has much softened over cohorts (history).
- The influence of communism at career beginning persists during the life-cycle, but the effect of economic development at career beginning withers away.

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### Problem 1: serial correlation

- Data are longitudinal in two dimensions: (labor market entry) cohort and life-cycle (experience)
- At present serial correlations can only be estimated when conditioning by experience,-- but they are found to be small.

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### Problem 2: continuous versus discrete

- Micro-model pays no attention to discrete turn in stratification analyses.
- Possible solution: conditional logit model at the micro level.

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### Problem 3: Paucity of macro-level measures

- To be added:
  - Social democratic regimes, welfare regimes
  - Immigration
  - Income inequality
  - Educational arrangements
    - Early selection
    - Dispersion
- Hard to find complete time-series for so many countries.

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