Social origin and educational outcomes

The role of gender and family type as mediating factors

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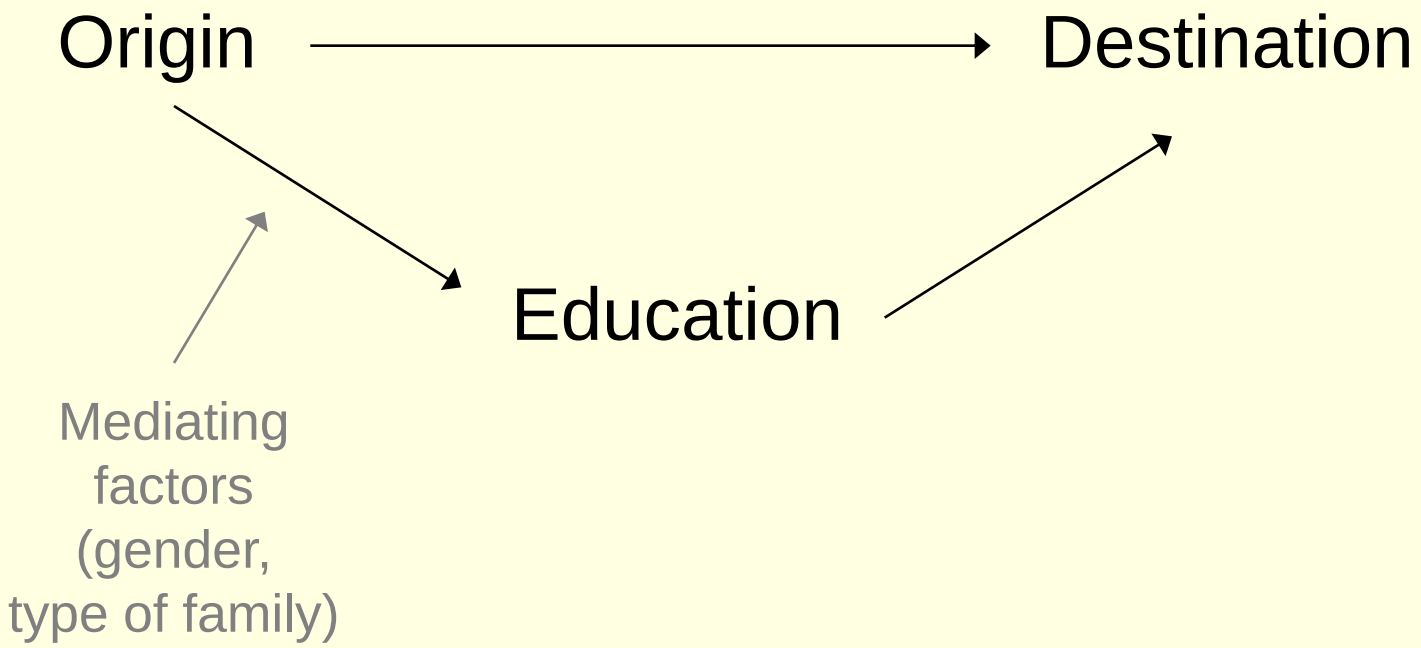
The O-E-D link


Origin
Destination
Education
Mediating factors (gender, type of family)

The O → E link

- Education as a factor of either change or stability
- Persistent vs. non-persistent inequalities
  - Shavit and Blossfeld 1993
  - Breen et al. 2009
- A special case: Italy
  - Unclear picture, also due to methodological factors
    - Measurement of O, E and T
    - Data used
    - Technique of analysis
    - W and M vs. W+M

How social origin is measured

- Father's occupation: always
- Mother's occupation: sometimes
  - Most often ignored, or subsumed in dominance-like approaches
  - Very few times used as a variable in itself
- This is because:
  - Working mothers are a minority (~33%)
  - Then considering mother's occupation would mean discarding 2/3 of valid cases

Current options

- The choice is between two alternatives:
  1. Social origin = father's occupation/dominance
     $\rightarrow$ use all valid cases
  2. Social origin = father's and mother's occupation
     $\rightarrow$ use only 1/3 of the valid cases
- In both cases we face some troubles:
  1. Can we do as if the sole type of family (of origin) is the male breadwinner?

     or
  2. Can we generalize the results we get using only 1/3 of the cases to the rest of the sample?

A shift of perspective

- Gender inequality within couples affects the process of socio-economic stratification (Blossfeld 2007)
  - The male breadwinner and the dual-earner model derive from the gendered division of labour (inside and outside the household) between women and men
  - From a family wage economy to an individual wage economy
- The type of family respondents lived in at the age of 14 may matter for assessing the influence of class origin on educational attainment

How so?

- Male breadwinner and dual-earner families represent different types of social environment which can affect respondents' educational attainment in many ways
  - Due to increasing educational homogamy, male-breadwinner and dual-earner families differ in terms of resources (income and cultural capital) that can be allocated to children's education
  - They also differ in terms of time spent with children, role modelling, role attitudes, power structure within the family (Sorensen and McLanahan 1987; Nock and Kingston 1988; Zuo and Tang 2000; Crompton et al. 2007; Yodanis and Lauer 2007; Cunningham 2008; Lewis et al. 2009; Cha 2010; Milkie et al. 2010)

Research questions

- Substantive
  1. Does the trend of IEO over time vary according to the type of family of origin?
  2. Is the trend different for women and men?
- Methodological
  3. Are conditional association models with linearly constrained scores better than the standard version?

The strategy of analysis

- A 2 × 2 design
  - Two groups according to the type of family of origin (male-breadwinner and dual-earner)
  - Two groups according to gender

- Due to the way the technique of analysis has been used (see later), the four groups have been analysed separatedly (and not using indicators)

Measurement

- Post-harmonization of original variables
- Education (E)
  1. Primary (in/complete) + illiterate + incomplete low sec.
  2. Lower secondary + incomplete high sec
  3. Higher secondary (2-3 yrs voc. + 4-5 yrs)
  4. Tertiary (lower + higher + post graduate)
- Class origin (O)
  - Father's and/or mother's class
  - EGP 5 classes: I+II, IIIab, IVab, V+VI+VIIa, IVc+VIIb
- Birth cohorts (T)
  - 1899-1920, 1921-35, 1936-45, 1946-55, 1956-65, 1966-70, 1971-1984

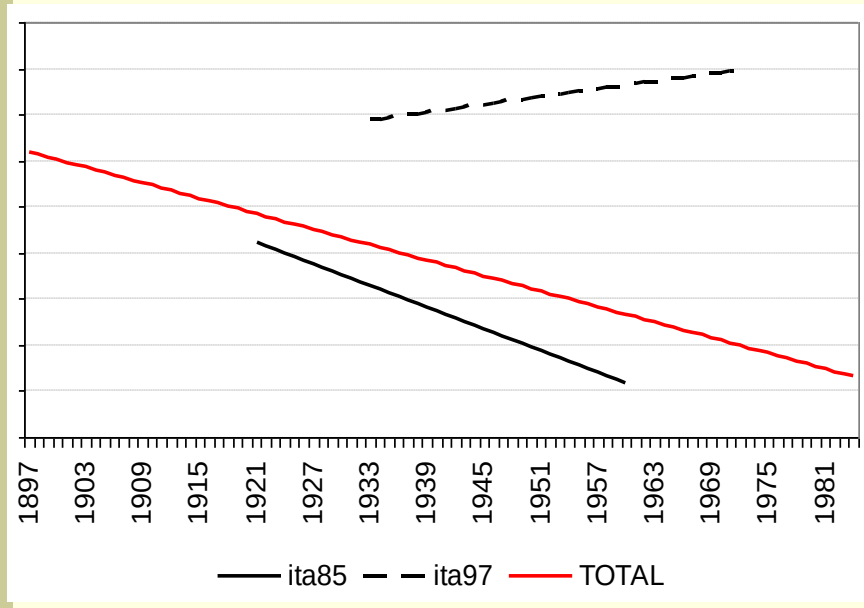
Data

- Previous studies on IEO in Italy used rather small data sets (except for Barone et al. 2010)
- Weakness of conclusions (Breen et al. 2009)
- This data set:
  - 18 surveys, 1985-2008
  - Cohorts 1900-1984
  - Age: 25+
  - Male-breadwinner family of origin: N=48070+49088 (W+M)
  - Dual earner family of origin: N=25600+23610 (W+M)

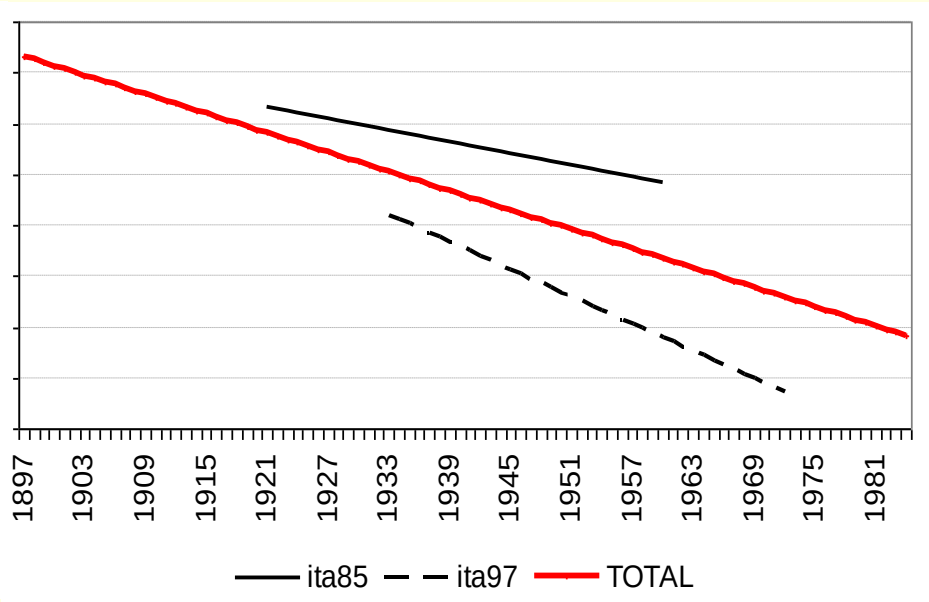
Data sources

Year	*Acronym*	*Survey*	*Archive/Available at*
1985	NSMS	National Social Mobility Survey	ADPSS (www.sociologiadip.unimib.it/sociodata)
1993, 1995, 1998, 2000, 2002, 2004	SHIW	Survey on Household Income and Wealth	Bank of Italy (www.bancaditalia.it/statistiche/indcamp)
1997, 1999	ILFI	Longitudinal Study of Italian Households	University of Trento (www.soc.unitn.it/ilfi)
1998, 2003	IMS	Istat *Multiscopo* Survey	National Institute of Statistics (Istat) (www.istat.it)
2001	IS	*Itanes* Survey	Italian National Election Studies (Itanes) (www.itanes.org)
2003, 2006	ESS	European Social Survey (ESS)	ESS (www.europeansocialsurvey.org)
2005	ONO	Osservatorio Nord Ovest Barometer	ONO (www.nordovest.org)
2005	PS	Social Evaluation of Occupation Survey	University of Eastern Piedmont (sides05.unipmn.it)
2006	IPS	Isfol Plus Survey	Isfol (www.isfol.it)
2008	ISSP	Issp 2008 Religion III	Issp (www.issp.org)

How important are data?



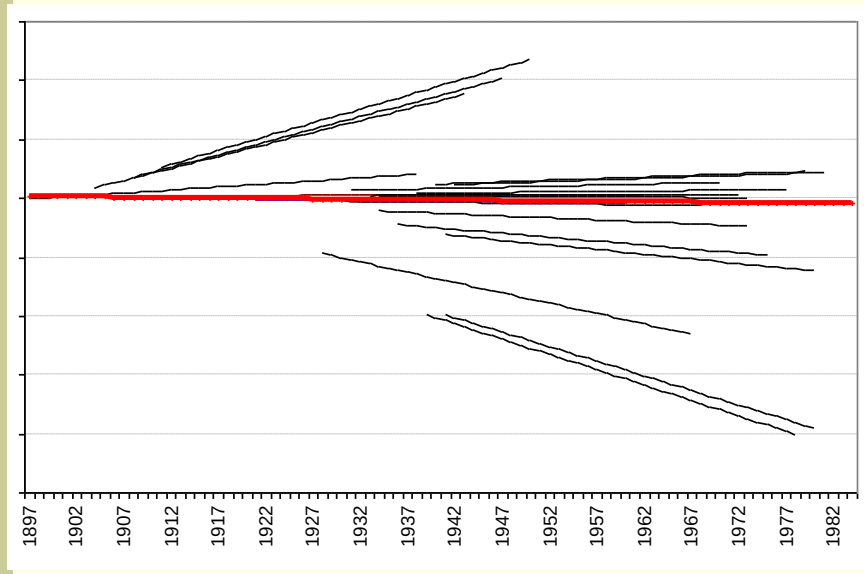
Men, 1985 & 1997



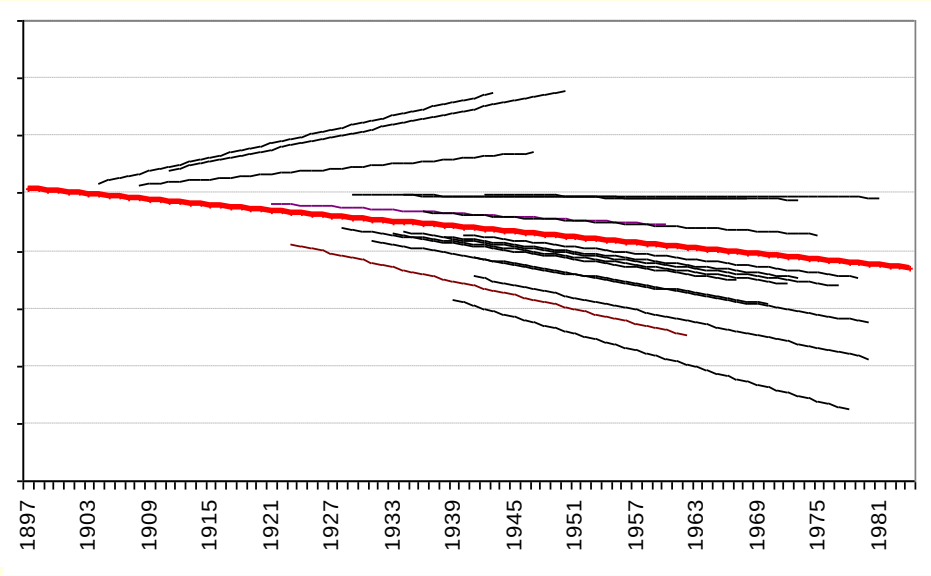
Women, 1985 & 1997

Meraviglia C. and Ganzeboom H.B.G. (2012), Long term trends in inequality of educational opportunity in Italy. An analysis using conditional association models with linearly constrained scores, *under revision*

How important are data?



Men, 1963-2008



Women, 1968-2008

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Technique of analysis

- Conditional association models (Goodman 1979), aka log-multiplicative models (Clogg 1982)
  - How the row-column association varies according to a layer variable (time)
- No information on ordering and spacing between categories of row/column/layer variables is available $\rightarrow$
- Estimation of row/column/layer scores (O, E and T; respectively, ϕ_{ik} , φ_{jk} , β_k)

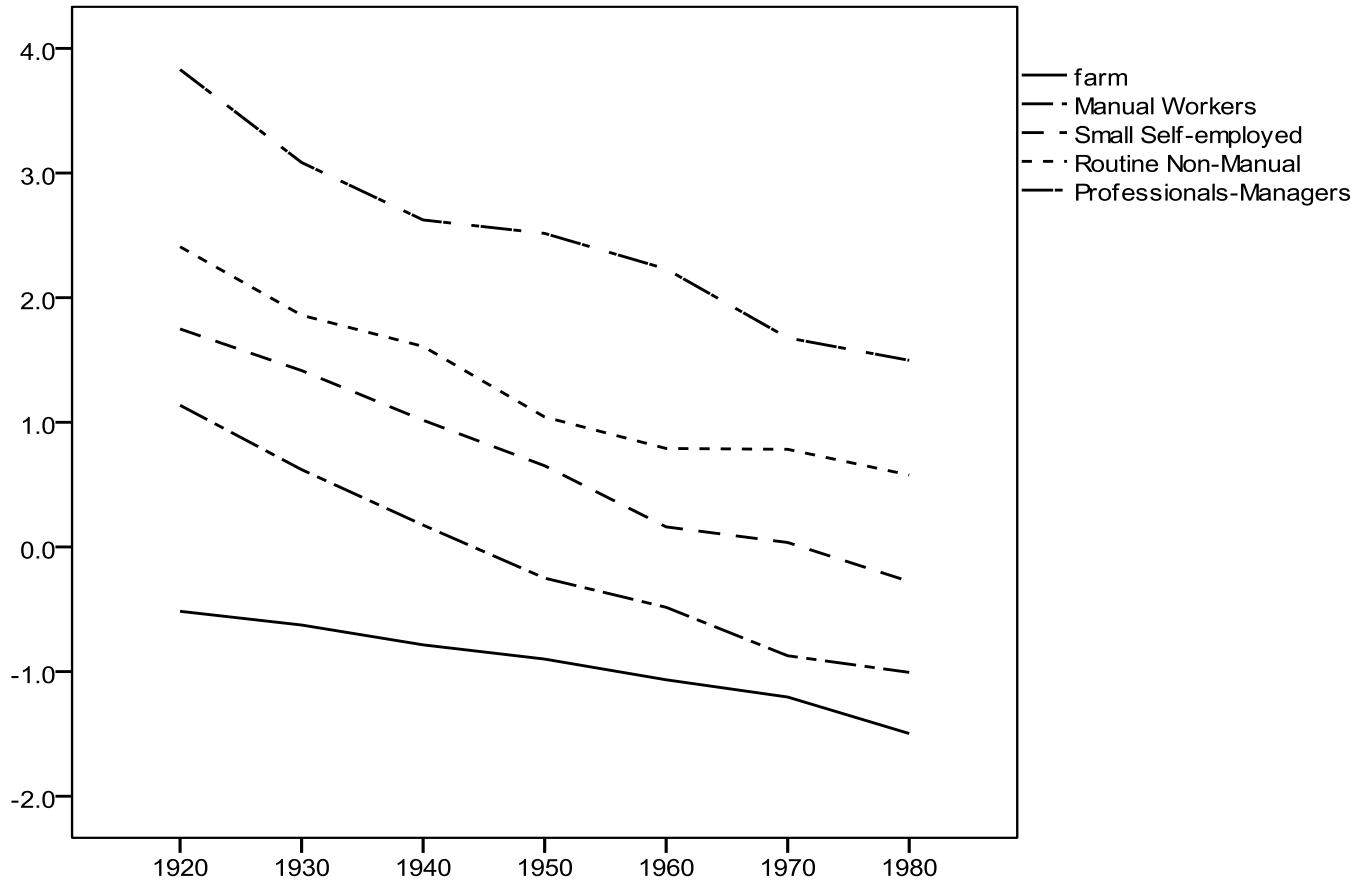
Interpreting the parameters

- β_k = trend of IEO over time
- ϕ_{ik} = relative distance between class origins as for educational opportunities of the offspring over time (which class has been advantaged /disadvantaged over the years in terms of EO)
- φ_{jk} = relative distance between educational grades (which transition has been harder to make, and how this changed over time)

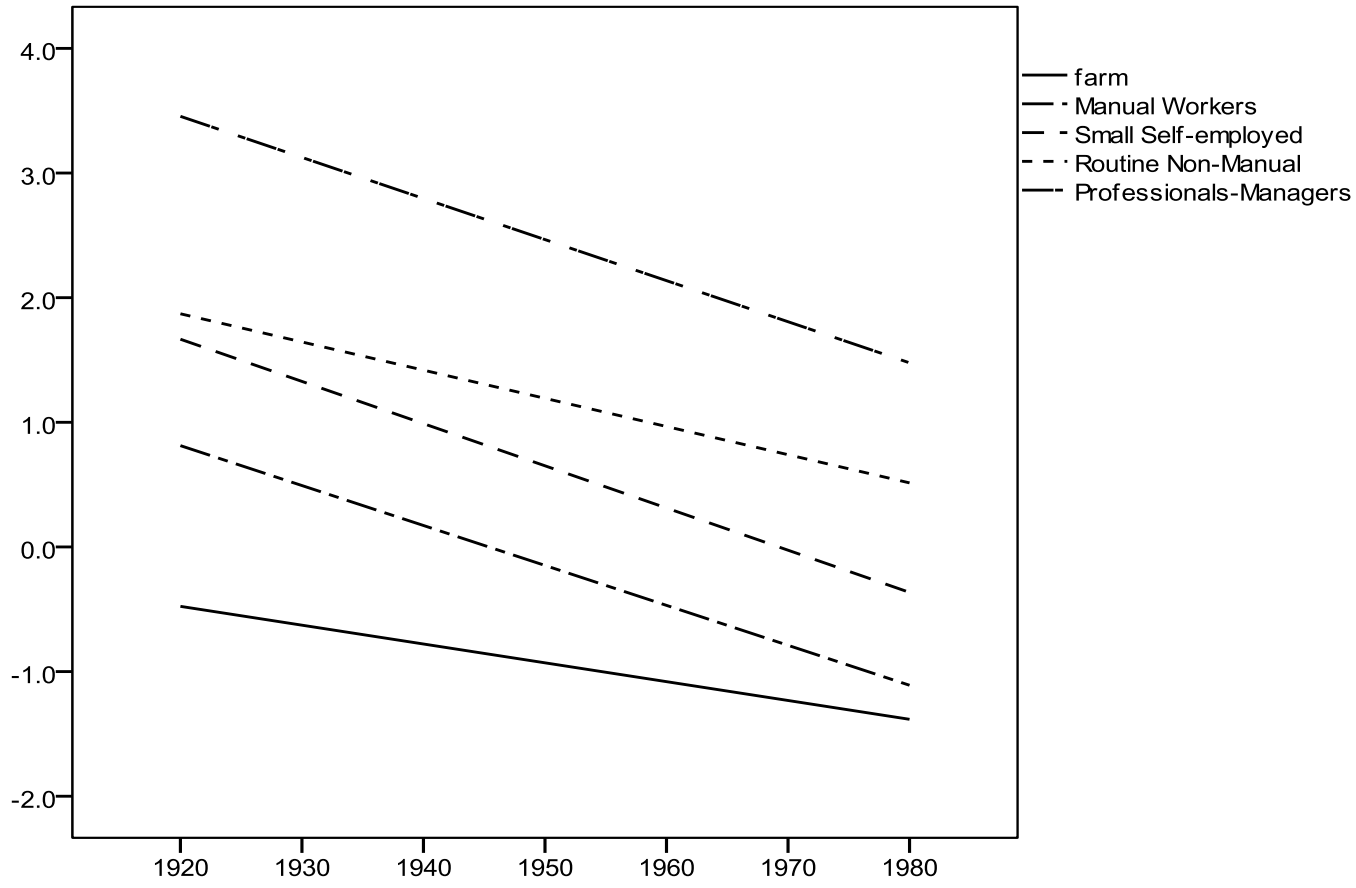
Modelling time

- Standard conditional association models:
  - Heterogeneous: ϕ_{ik} , φ_{jk} , β_k are free to vary over time
  - Uniform: ϕ_{ik} , φ_{jk} , β_k are constant over time
- Linearly constrained conditional association model:
  - Continuation of Clogg (1982) (see paper)
  - Constraints on the overall IEO parameter, β_k (Wong 2010)
    - Heterogeneous, linear, quadratic
  - Linear constraints on O and E parameters, ϕ_{ik} , φ_{jk}
    - Linear heterogeneous
    - Linear and parallel
    - Mixed linear heterogeneous and parallel

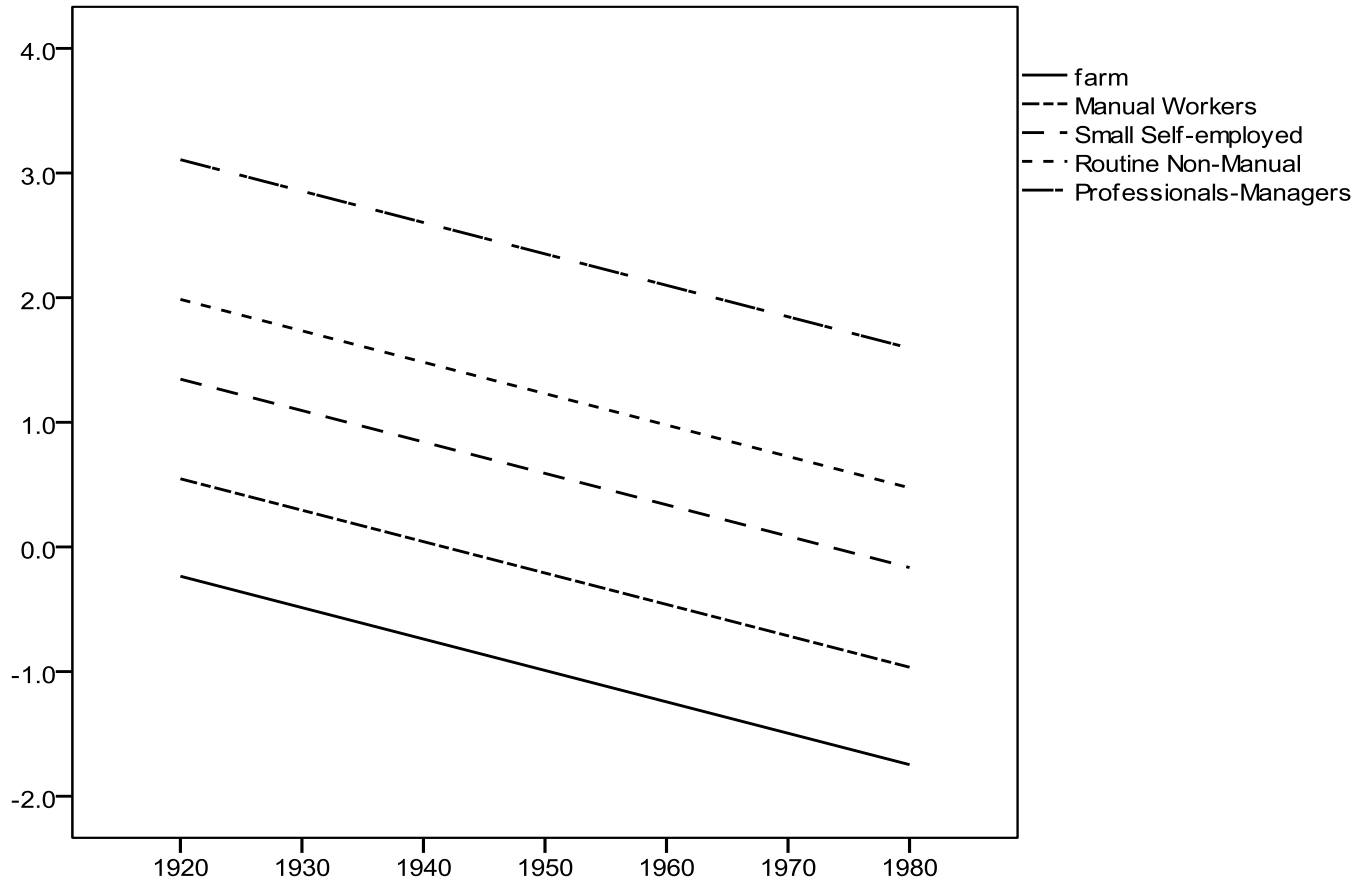
Modelling time: Heterogeneous
(standard conditional association model)



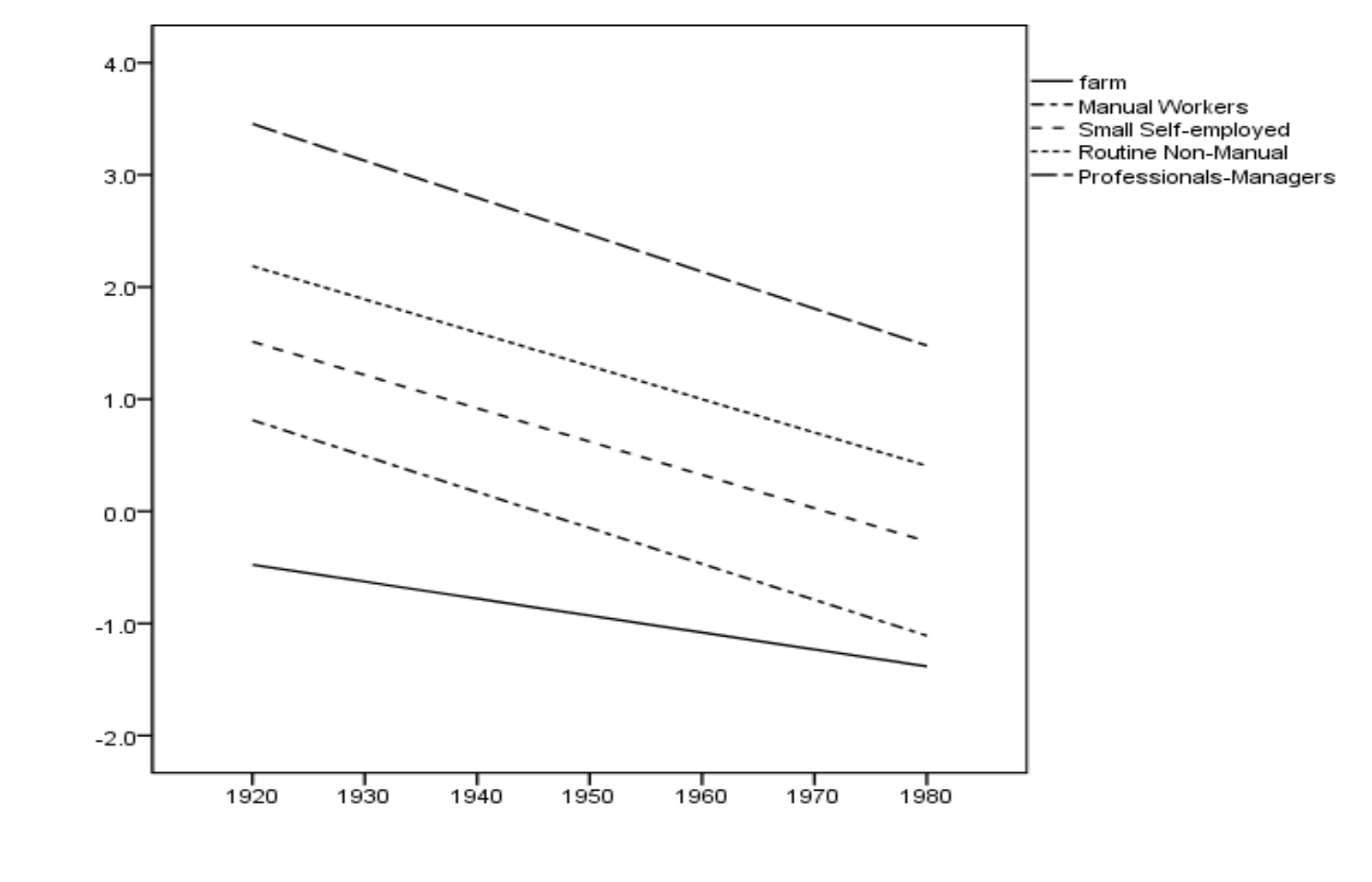
Modelling time: Linear heterogeneous



Modelling time: Linear and parallel



Modelling time: Mixed linear



Research questions

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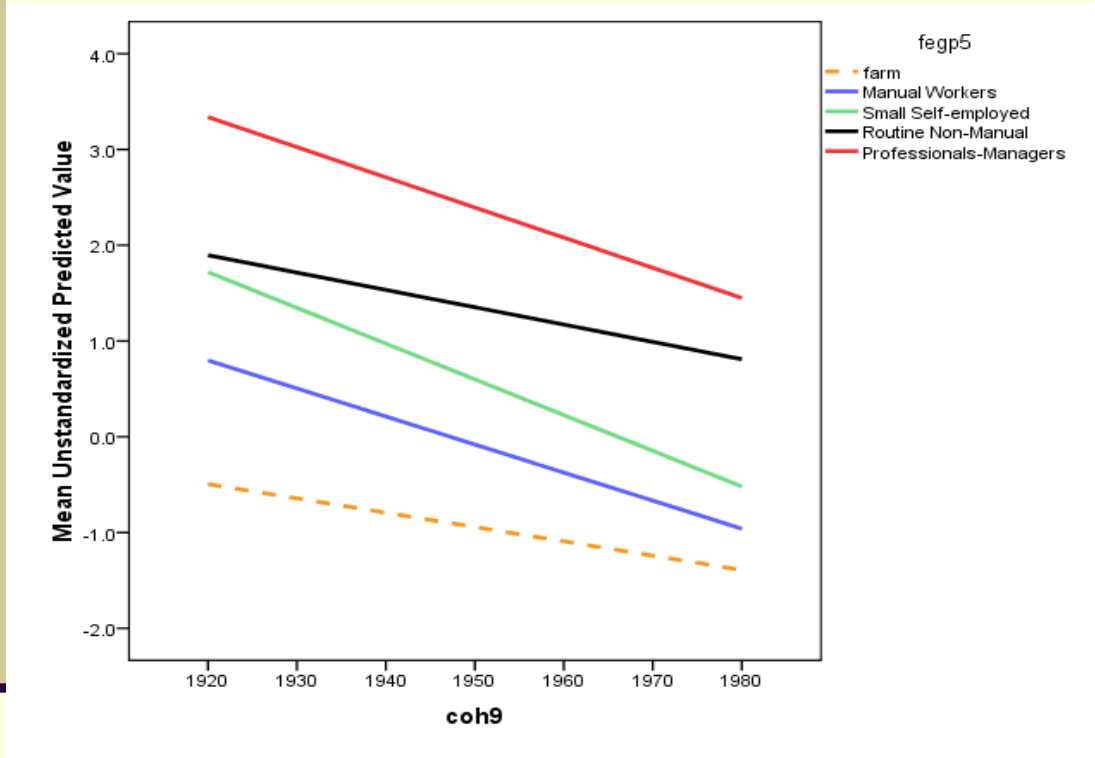
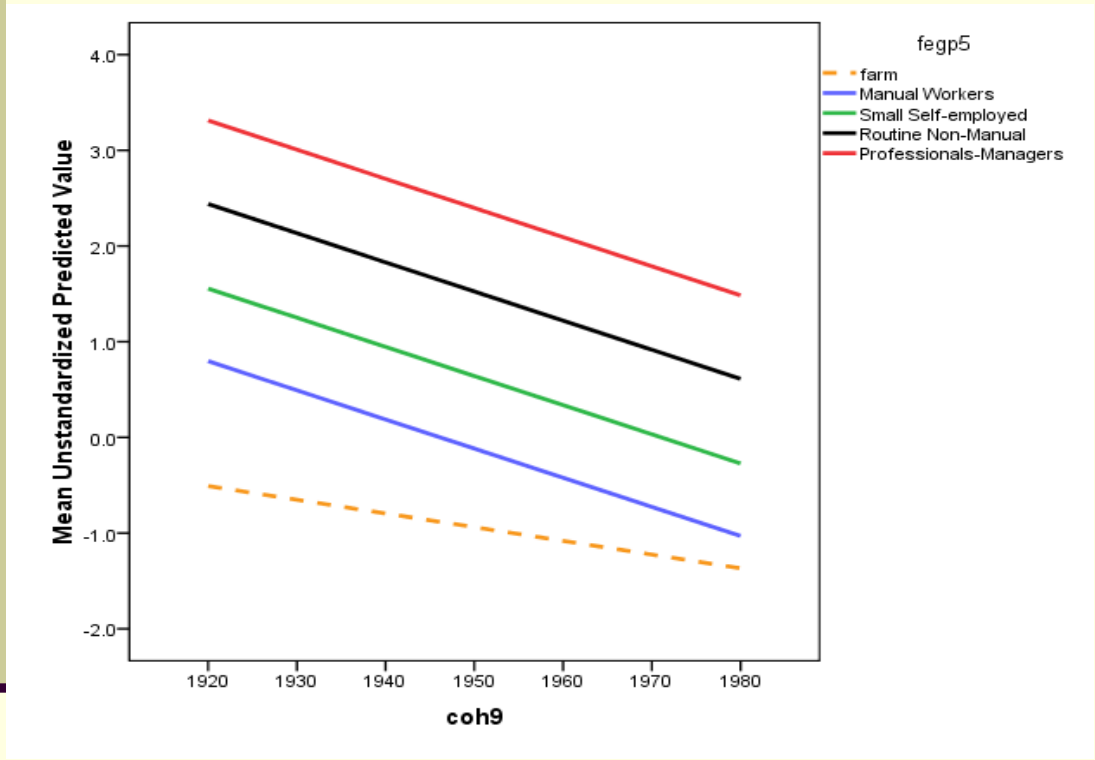
Results: Origin scores, Men



- Farm (IVc+VIIb) and routine nonmanual (IIIab) origin – parallel lines – are associated to a lesser decrease of IEO than in the case of the other classes
- The other classes (I+II, IVab, V+VI+VIIa) experienced greater a reduction of inequality
- Valid for both male-breadwinner and dual-earner family of origin

Farmers/farm lab.
Manual wrkrs
Small self-empl.
Routine non man.
Professionals/managers

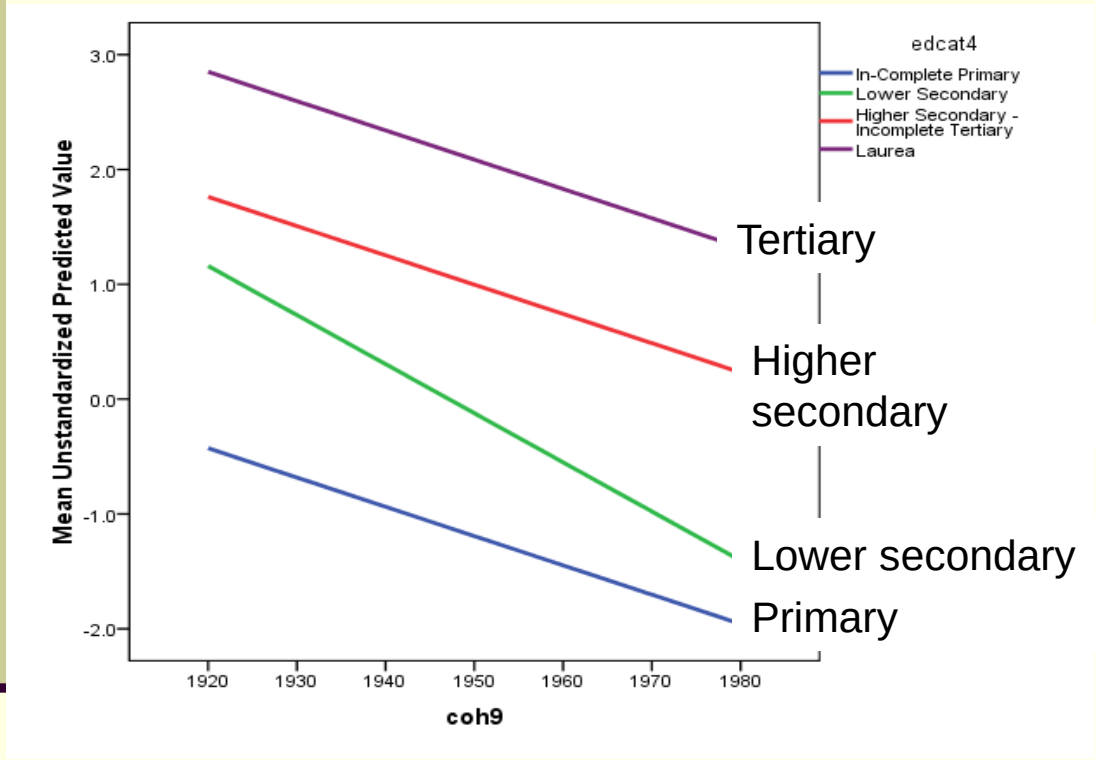
Results: Origin scores, Women



- IEO decreased for all classes alike (parallel lines)
- However farm origin experienced a lesser decrease
- Valid for both male-breadwinner and dual-earner family of origin

Farmers/farm lab.
Manual wrkrs
Small self-empl.
Routine non man.
Professionals/managers

Results:
Education scores, Men = Women

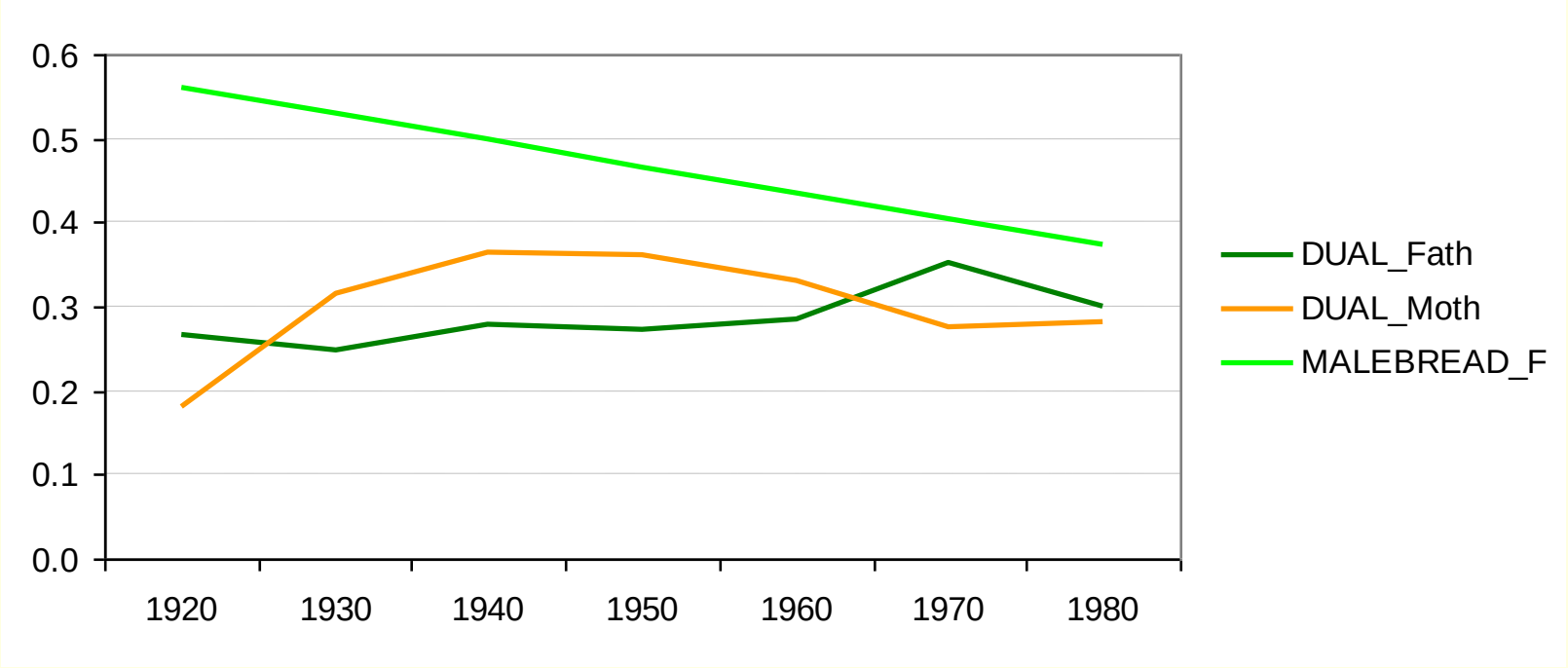


- The most unequal transition used to be between primary and lower secondary school (see Mare 1981)
- Younger cohorts faced more inequality in the transition from lower to higher secondary school
- Making the primary-to-lower secondary school transition has become easier over time
- Major reform in 1962, which however fostered an already existing trend

Results: Fit measures, Men

Trend (β_k)		*Model*	*Male-breadwinner*			*Dual-earner*		
			df	L^2	*BIC*	*df*	L^2	*BIC*
Hetero-geneous	6d	OT, ET, O_TE_TT	42	347.5	-106	532	1206.3	-4150
	15a	**OT, ET, $O_{Tpar(1,4)}E_{Tpar(1,3,4)}T$**	68	453.0	-281	**584**	**1317. 2**	**-4563**
Linear	6e	OT, ET, O_TE_TT_lin	47	365.4	-142	540	1225.5	-4212
	15b	**OT, ET, $O_{Tpar(1,4)}E_{Tpar\ (1,3,4)}T$_lin**	**73**	**469.0**	**-319**	572	1341.4	-4418
Quadratic	6f	OT, ET, O_TE_TT_quad	46	365.4	-131	538	1209.5	-4208
	15c	OT, ET, $O_{Tpar(1,4)}E_{Tpar\ (1,3,4)}T$_quad	72	467.7	-310	570	1325.7	-4414
Uniform	6g	OT, ET, O_TE_T	48	450.8	-68	542	1229.9	-4227
	15d	OT, ET, $O_{Tpar(1,4)}E_{Tpar\ (1,3,4)}\ \beta$	74	551.8	-247	574	1347.0	-4433

IEO over time by type of family, Men

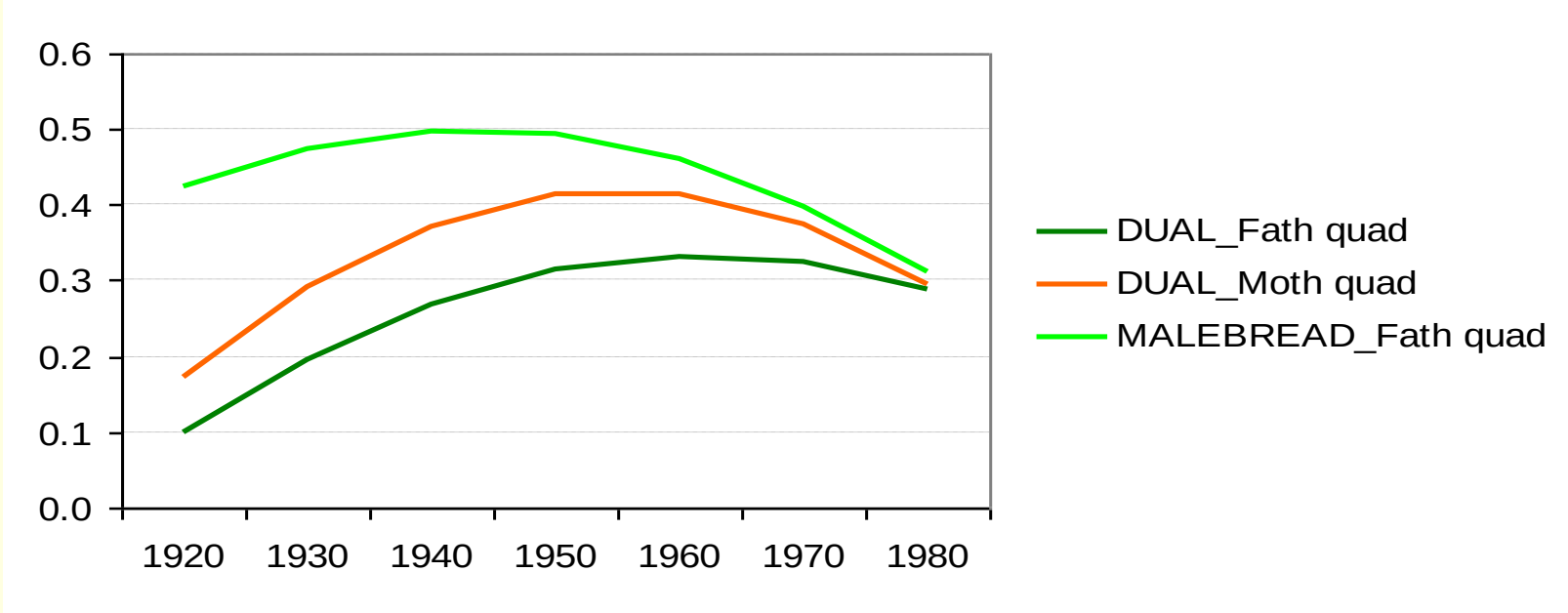


- Men raised in male-breadwinner families of origin experienced a constant and linear reduction of IEO over time
- For men raised in dual-earner families, mother's and father's influence are heterogeneous and (almost) offset

Results: Fit measures, Women

Trend (β_k)		*Model*	*Male-breadwinner*			*Dual-earner*		
			df	L^2	*BIC*	*df*	L^2	*BIC*
Hetero-geneous	6d	OT, ET, $O_T E_T T$	42	256.0	-196.8	532	922.8	-4434
	15a	OT, ET, $O_{Tpar(5,3)} E_{Tpar(1,3,4)} T$	68	338.7	-394.4	*584*	*1014.7*	*-4866*
Linear	6e	OT, ET, $O_T E_T T$_lin	47	309.7	-197.0	540	1101.4	-4336
	15b	OT, ET, $O_{Tpar(5,3)} E_{Tpar\ (1,3,4)} T$_lin	73	401.5	-385.5	572	1179.7	-4680
Quadratic	6f	OT, ET, $O_T E_T T$_quad	46	260.3	-235.6	538	935.4	-4482
	15c	**OT, ET, $O_{Tpar(5,3)} E_{Tpar\ (1,3,4)} T$_quad**	**72**	**342.0**	**-434.2**	**570**	**1027.3**	**-4813**
Uniform	6g	OT, ET, $O_T E_T$	42	256.0	-196.8	532	922.8	-4434
	15d	OT, ET, $O_{Tpar(5,3)} E_{Tpar\ (1,3,4)}$ β	68	338.7	-394.4	584	1014.7	-4866

IEO over time by type of family, Women



- For women raised in male-breadwinner families, father's class increased its influence up to the 1940s cohort, then it decreased quite rapidly
- For women raised In dual earner families, both parents' influence on daughters' educational attainment increased over time for cohorts born no later than the Fifties, then declining
  - The decline of mother's influence starts when women's participation in the educational system begins to increase (before reform in 1962)

Conclusions

1. Does the trend of IEO over time vary according to the type of family of origin?
   - Yes: the gendered division of labour brings different outcomes in terms of educational opportunities for the offspring
   - The often reported conclusion of no decrease of IEO in Italy over the 20th century comes from blurring the differences between respondents living in different types of family at the age of 14
   - If we consider respondents living in dual-earner families, and model their social origin using only father's class (current default choice), the influence of the latter on respondents' educational attainment is spurious

Conclusions

2. Is the trend different for women and men?
   - Yes: the interplay between type of family and class origin leads to different dynamics of IEO over time
     - It is true that IEO for the two genders and the two types of family converge to the same level
     - Were we to take a picture of the Italian society at the end of the 20th century, we would conclude that IEO is the same for all groups
     - However the interplay of factors leading to this outcome is very different for women and men living in male-breadwinner and dual-earner families

Conclusions

3. Are the linearly constrained conditional association models better than the standard version?
   - Yes. This version of conditional association models:
     - Allows a more parsimonious representation of the trend of IEO over time
     - Gives a more detailed picture of the processes that took place over the period considered

Thank you!